



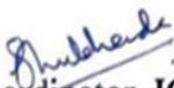
Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

DECLARATION

This is to declare that the information, reports, true copies of the supportive documents, numerical data, etc. submitted/presented in this file is verified by Internal Quality Assurance Cell (IQAC) and is correct as per the records. This declaration is for the purpose of NAAC accreditation of HEI for third cycle period 2018-19 to 2022-23.


Co-ordinator, IQAC


Principal

PRINCIPAL
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Vikhroli (E), Mumbai - 400 033.

Date:- 10/11/2023

Place: - Vikhroli, Mumbai.





Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

INDEX

1. Botanical Garden	3
2. Green Club	8
3. Solar Energy Project	12
4. Seminar on Conservation of Mangroves	15
5. National Webinar On Biodiversity Conservation, Sustainability And Energy Transition Report	18



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

REPORT OF BOTANICAL GARDEN

1. Introduction:

Nestled within the grounds of Vikas College of Arts, Science & Commerce, the Botanical Garden, established in 2004, is a vibrant and diverse treasure trove of plant life. Located on the right side of the college's main building entrance gate, the garden is a harmonious blend of medicinal and common plants, presenting a picturesque and aesthetically pleasing environment for all. The Botany Department's unwavering dedication and continuous efforts have led to the garden's renewal and subsequent maintenance. This report explores the garden's significance as an educational and research resource while also adding a touch of natural beauty and relaxation to the college premises.



2. Botanical Diversity and Layout:

The Botanical Garden at Vikas College boasts an extensive collection of approximately 50 herbs, shrubs, and vital medicinal plants. Within this wide space, tall trees gracefully form the boundary, sheltering the garden, while smaller herbs and shrubs flourish in the central area. This thoughtful layout ensures both diversity and accessibility for students, staff, and visitors alike.



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED



3. Medicinal Plants with Healing Properties:

The garden's impressive array of medicinal plants offers valuable insights into traditional herbal remedies and their uses. Derived primarily from Angiosperm plants, some notable medicinal plants include:

- Asparagus (*Asparagus Officinalis* – Family: Liliaceae): Treasured for its tuberous roots, beneficial for general weakness, diarrhea, and retinal cell visibility improvement.
- Korphad (Aloe vera – Family: Liliaceae): Revered for its healing properties, used for scars, burns, cuts, digestion improvement, and detoxification. Aloe gel is valued for its cooling effects, blood purification, and radiant skin.
- Brahmi (*Bacopa monnieri* – Family: Plantaginaceae): Employed to alleviate anxiety, hysteria, nervous breakdowns, and inflammatory conditions.
- Betel leaf (*Piper betel*—Family: Piperaceae): Used in treating stomach ailments, infections, and as a general tonic.
- Catharanthus / Periwinkle (*Catharanthus roseus*—Family: Apocynaceae): Respected for its role in diabetes management, purgative effects, and as a key ingredient in Ayurvedic preparations.
- Lemon Grass (*Cymbopogon citratus* - Family: Poaceae) is a plant used in Aromatherapy to make oil. It is also used as a natural pesticide and preservative.
- Canna indica (*Canna indica* - Family: Cannaceae) is a type of plant.
- Ashwagandha (*Withania somnifera* - Family: Solanaceae) is a medicinal plant used as a sedative, diuretic, and anti-inflammatory. It is also used to reduce stress.



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

- Datura (*Datura innoxia* - Family: Solanaceae) is a plant used for various health conditions like piles, rheumatic pains, swellings, and eye diseases.
- Bryophyllum (*Panphuti* - Family: Crassulaceae) leaves are used as a natural remedy for astringent and antiseptic purposes. It can also help with diarrhea.
- Garden Mint (*Mentha spicata* - Family: Lamiaceae) is a plant used as a stimulant and tonic. It helps to lower body heat and relieve pain.
- Lemon (*Citrus Limon* - Family: Rutaceae) is a fruit commonly used for food and drink, like making tea, and also for cleaning purposes.
- Marigold (*Tagetes erecta* - Family: Asteraceae) is an ornamental plant with flowers that are used for wound healing and as an antiseptic.
- Henna (*Lawsonia innermis* - Family: Lytheraceae) is a plant used for hair loss, treating jaundice, sore throat, and leukoderma.
- Touch Me Not Plant (*Mimosa pudica* - Family: Fabaceae) has leaves that are used for conditions like Nephritis and lumbago.
- Black Piper (*Piper nigrum* - Family: Piperaceae) is a plant used for indigestion, diarrhea, and treating stomach pain.
- Neem (*Azadirachta indica* - Family: Meliaceae) is a versatile plant used for various purposes like treating chicken pox and controlling fleas and ticks on pets.
- Chapha (*Plumeria acuminata* - Family: Apocyanaceae) is a plant known for its fragrant flowers, often used in perfumes, soaps, and as an antibacterial agent.
- Mogra (*Jasminium sambac* - Family: Oleaceae) is a plant used for making perfume oil, aromatherapy, and for treating joint and muscle pain.
- China Rose (*Hibiscus rosasinensis* - Family: Malvaceae) is grown for its beautiful flowers and is used in remedies for arthritis and boils.
- Oleander (*Nerium indicum* - Family: Apocyanaceae) is a plant used for skin problems and asthma treatment.
- The Botanical Garden also includes other plants like palms, Coconut trees, *Caesalpinia pulcherrima*, *Cassia* sp., which add to the diversity and beauty of the garden.



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED



4. Educational and Research Opportunities:

The Botanical Garden serves as an invaluable resource for the college's academic community. Students and teachers find ample opportunities for hands-on learning, experimentation, and research on various flora species. Undertaking botanical and biotechnological research using a wide range of plant species, seeds, flowers, and fruits from the garden further enhances the students' educational experience.



5. Biodiversity Conservation and Propagation:



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

The garden also plays a role in biodiversity conservation efforts by promoting the conservation and propagation of diverse plant species. Students and faculty are actively engaged in efforts to preserve and multiply plant diversity, contributing to sustainable ecological practices.

6. Aesthetic Beauty and Recreation:

The Botanical Garden brings a touch of nature's beauty and tranquility to the college premises. Its picturesque landscape offers a serene and relaxing environment for students and staff to unwind, rejuvenate, and find solace amidst the hustle and bustle of academic life.



7. Conclusion:

The Vikas College Botanical Garden is a testament to the college's commitment to education, research, and environmental preservation. Beyond its educational significance, the garden's splendor adds a unique charm to the college campus, inviting students, staff, and the general public to connect with nature. As an educational and recreational retreat, the garden continues to serve as a source of inspiration, fostering a sense of wonder and appreciation for the natural world. Its enduring beauty and potential for research will undoubtedly enrich the lives of generations to come.



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

GREEN CLUB
SUSTAINABLE WASTE MANAGEMENT POLICY
POLICY STATEMENT

- Sustainable and holistic waste management policy is essential for reducing carbon footprint and providing a safe & healthy work environment for teaching, nonteaching employees, students, visitors etc.
- Our College ensure that all the campus wastes are disposed off responsibly by using proper waste segregation at the source and if possible, converting it into value added environment friendly product.
- Furthermore, the solid & chemical hazardous waste should be disposed or managed by government approved, local waste contractors.
- Our college had applied a 'waste hierarchical approach', to reduce, reuse, recycle and recover waste products in preference to the disposal of waste.
- This policy envisages to guarantying the moral, social and legal responsibilities of the institute in creating an environment-friendly and sustainable world devoid of waste & moving towards carbon neutrality and cleaner environment.
- Vikas College of Arts Science & Commerce, Mumbai has taken initiative for its wet waste management. Since 2014 onwards we are managing our canteen and campus organic wastes by segregating them in a separate coloured bins and utilizing it for the preparation of compost.

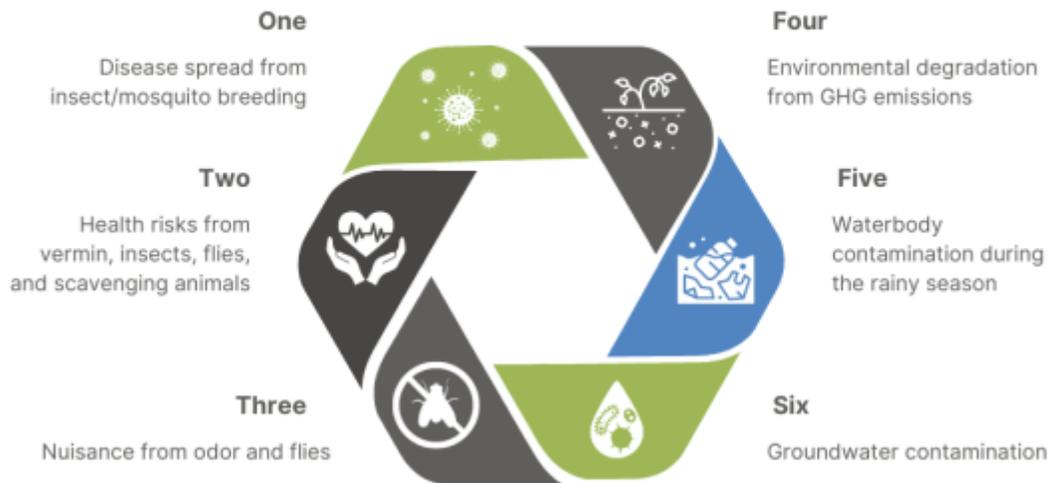


The above photograph is of the “**Composting Pit Installed in our Campus**” and Collecting Bins for and segregation of the types of wastes in the three different coloured bins installed in the campus.

Key impacts of improper solid waste management are depicted in the Infographic



6 Key Impacts of improper SWM



- Waste management is very important in today's life as it's directly impacts the environment and reduces green house gas emissions and improves the public health and quality of air and water.
- It should be practiced since very beginning of anyone's life especially in academic institutions. So that the learners can adopt and accept easily and implement same in future.
- Cleaner the surroundings, cleaner the city and clean city makes clean and green India.
- Waste management refers to the processes involved in managing wastes from its inception to its grave or recycling and transforming and reusing.
- Improperly managed solid waste can have serious environmental consequences. It can contaminate the air, soil and water.
- Effective solid waste management helps reduce the amount of waste.
- Reducing waste will not only protect the environment but will also save on costs for disposal and will minimize the work of municipality.
- Waste can be recycled if collected and managed efficiently.
- Efficient waste management requires proper waste segregation and using different recycling and resource recovery methods.

“ZERO WASTE CAMPUS” - As awareness to environmental responsibility, Vikas College, Vikhroli East, Mumbai is having an eco-friendly proper Sustainable Wet Waste Management System supported by-

1. NGO-SMS-Stree Mukti Sanghatna, Chembur, Mumbai
2. BMC-Brihan Mumbai Municipal Corporation and
3. MPCB-Maharashtra Pollution Control Board



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

Some of the special features of **WASTE MANAGEMENT SYSTEM** of our College are: Our wet waste (food and organic wastes) in our campus is managed by segregating the biodegradable wet waste through our student volunteers and college cleaning staff (Smt. Ramila and co-worker).

- Each classroom is installed with two different coloured bins, GREEN (for biodegradable wet waste) and BLUE (for non-biodegradable waste).
- Canteen food and vegetable wastes was also collected from pre-installed GREEN bins.
- Campus garden leaves and old used flowers are collected and segregated by cleaning staff.
- All are placed in a composting pit and using a proper technology and monitoring by our team we transform them into biofertilizer. This is used in our campus potted plants.
- The segregation of wet waste from the college campus has minimized municipal waste generation and is helpful in maintaining our campus as a clean, green and zero waste generation and its management.
- Therefore, we managed our campus wet waste, recycled and use it. This is how our campus is now **ZERO WASTE CAMPUS**.
- The involvement of our students, staff and other cleaning employees are very must supportive for managing the campus waste, recycling and reusing it as compost. The policy aims to encourage and enable institutions to practice on sustainable waste management, which is a part of **SDG-12** (Sustainable Development Goal-12).
- Under this policy, Vikas College has completed various projects of the undergraduate students and post graduate students from Biotechnology Department.
- Some Minor Research Projects (MRP) are also undertaken by the teaching staff members of Vikas College which are funded by Mumbai University (MU).
- Under this activity few research papers was contributed in various National and International Conferences. Various Seminars and Expert Talk was also organised.

Below are the Research Activities Under this policy:

(a) Paper published & presented in conference

- Sonal Upadhyay and Rutuja Shilotri: Influence of compost amendment with steel industry effluent on growth rate of Foxtail millet (*Setaria italica*). In: Multidisciplinary International Conference on “Science, Sustainability and Society in the Current Scenario: Challenges & Opportunities” organized by Vikas College, Mumbai. **Feb. 20, 2016**



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

- Sonal Upadhyay: Bioconversion of vegetable & fruit peel biomass into biofuel- a sustainable bioenergy. *In:* National Conference on “Contemporary issues in biosciences” organized by Microbiology Society of India in association with CKT College, Panvel. **Feb., 4-5, 2020**
- Sonal Upadhyay and Harshada Nikam: Sustainable management of organic waste through composting and promoting in rural area. *In:* International Conference in Advances in Material Science, Bio-science & Information Technology Organised by Mahatama Phule Arts, Sci. & Com College Panvel, Dist. Raigad. **Feb. 26, 2022 (Third Prize in Oral Presentation)**
- Sonal Upadhyay: Vegetable Waste Composting & its application in rural farm - A Sustainable Green Technology. *In:* International Conference on “Recent Innovations in Science and Technology” Ismail Yusuf College Jogeshwari (E). **Jan. 10-11, 2023**
- Sonal Upadhyay and Saeeli Tatee: Antioxidant enzyme activity and proline accumulation in pearl millet for sustainable crop cultivation using prepared compost. *In:* International conference “G20 Summit on Environment Sustainability and Bioenzyme” University of Mumbai. **April 21, 2023**

(b) Research project grant:

- MRP: Stree Mukti Sanghatana (**NGO**) in Mumbai on “Solid Waste Management” (Feb., 2014- March 2015). Pit Installed and accessories given from Sanctioned amount Rs. 30,000/-
- **MRP:** “Sustainable approach for municipal wet waste management and to analyse efficacy of the prepared compost by pot culture method” (Minor Research Project Funded by University of Mumbai, July 2019- Dec 2021). Sanctioned amount Rs 25,000/-



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

SOLAR ENGERY PROJECT

Vidya Vikas Education Society's
Vikas College Of Arts Science & Commerce
Report of Solar Energy Project

Introduction:

The Solar Energy Project at Vikas College of Arts, Science & Commerce was inaugurated by Dr. Kirit Somaiya on July 29, 2017. This project marks an important milestone in the college's commitment to harnessing renewable energy and promoting sustainability. During the inauguration, Principal Dr. R.K. Patra provided insights into the project and its benefits, emphasizing the positive impact it will have on the college and the wider community.



Solar Panel Installation and Electricity Generation:

The project involved the installation of 34 solar panels, strategically positioned to capture the maximum amount of sunlight.

We have a 10-kilowatt solar system that generates an average of 35 units per day. Here is a breakdown of the units generated for each year:

Sr.No	Year	Units Generated
1	2018	8,322
2	2019	8,067
3	2020	2,014



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

5	2022	5,672
---	------	-------

In 2018, a total of 8,322 units were generated by the solar system.

In 2019, the solar system produced a total of 8,067 units.

In 2020, the generation decreased to 2,014 units.

In 2021, the solar system produced a total of units.

In 2022, the generation increased to 5,672 units. This sustainable energy source will not only reduce the college's reliance on conventional power sources but also contribute to significant cost savings in electricity expenses.



Financial Support from MPLADS:

It is noteworthy that the Solar Energy Project at Vikas College was made possible through the Members of Parliament Local Area Development Scheme (MPLADS) funds of Shri. Kirit Somaiya. This highlights the commitment of local representatives to supporting sustainable energy initiatives and promoting environmentally friendly practices. The utilization of MPLADS funds for such projects demonstrates the government's recognition of the importance of renewable energy and its potential to benefit educational institutions and the wider community.

Promoting Environmental Responsibility:

The Solar Energy Project at Vikas College of Arts, Science & Commerce showcases the institution's dedication to environmental responsibility. By adopting solar energy as a primary



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

source of electricity, the college reduces its carbon footprint and contributes to mitigating climate change. Additionally, this initiative serves as an example for other educational institutions, encouraging them to explore and adopt renewable energy solutions.

Raising Awareness and Encouraging Sustainability:

The inauguration of the Solar Energy Project not only marks a significant achievement for Vikas College but also raises awareness about the importance of sustainable energy solutions. The project serves as an educational tool, allowing students, faculty, and visitors to witness the benefits of renewable energy firsthand. It encourages a culture of sustainability within the college and inspires individuals to make environmentally conscious choices.

Conclusion:

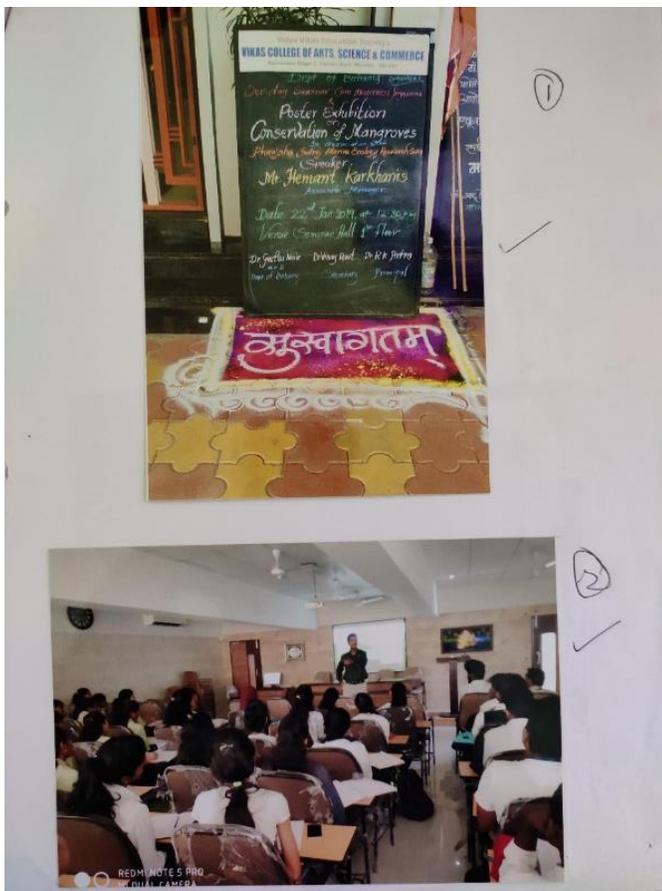
The Solar Energy Project inaugurated by Dr. Kirit Somaiya at Vikas College of Arts, Science & Commerce on July 29, 2017, is a commendable initiative. By harnessing solar energy to generate electricity, the college promotes sustainability and reduces its dependence on traditional power sources. The financial support provided through MPLADS underscores the government's commitment to renewable energy projects. This solar project exemplifies the college's dedication to environmental responsibility, sets an example for other institutions, and raises awareness about the importance of sustainable energy solutions. Overall, it serves as a significant step toward a greener and more sustainable future.



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

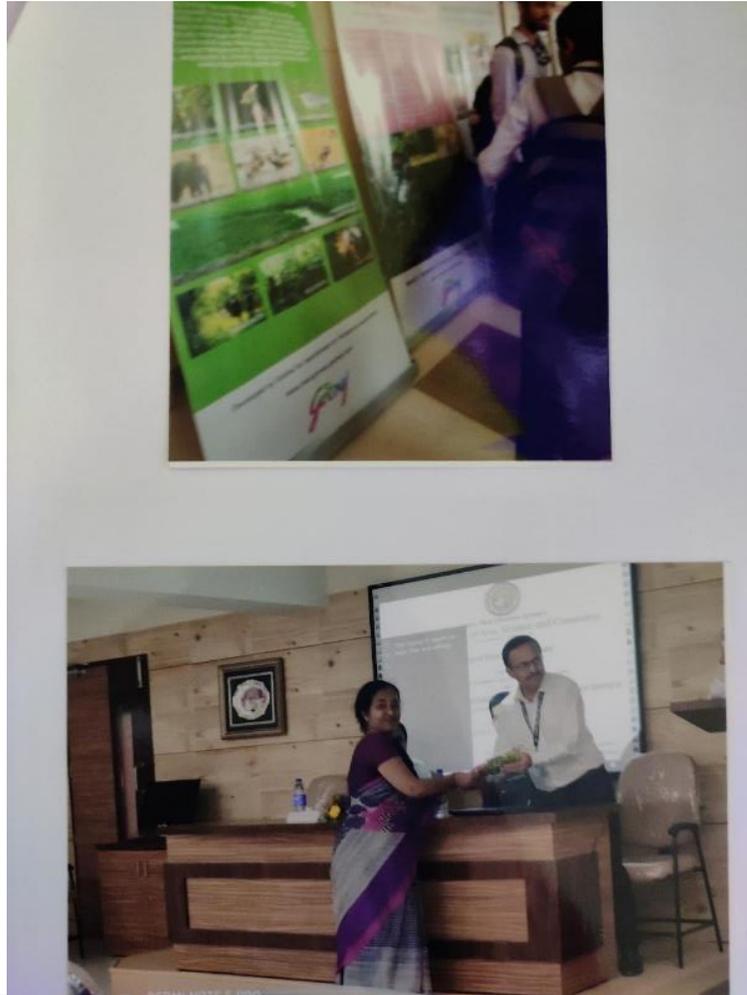
ONE DAY SEMINAR CUM POSTER EXHIBITION AND CONSERVATION OF MANGROVES

This was arranged on 22nd January, 2019 to know about the mangroves. The western bank of the Thane creek is the single largest mangrove belt in Mumbai. A substantial tract of mangrove land is adjoining the Godrej Township in Vikhroli.





Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED





Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED





Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

**NATIONAL WEBINAR ON BIODIVERSITY CONSERVATION, SUSTAINABILITY
AND ENERGY TRANSITION REPORT**

As the largest democracy in the world, and the fastest growing economy, India's G20 presidency will play a crucial role in building upon the significant achievements. Having accepted the G20 Presidency, India is on a mission to bring about a shared global future for all and thus aims to promote environmentally- conscious practices and a sustainable way to living.

The Internal Quality Assurance Cell of Vikas College of Arts, Science & Commerce in association with the Dept. of Biotechnology, organized National Webinar on Biodiversity Conservation, Sustainability and Energy Transition on Wednesday, 17th May, 2023 as an attempt to contribute to the universal mass movement of Life Style for Environment under G20 agenda.

Prin. Dr. R. K. Patra introduced the objective and theme of the seminar. The resource person for the first technical session was Prof. Sahir Q. Mansuri from R. D. & S. H. National College and S. W. Science College, Mumbai.

He delivered the lecture on 'Mangrove Ecosystems: Exploring Methods and Roles Contributing to Climate Change Mitigation Strategies'. Mangroves are the interest study part of Prof. Mansuri, particularly mangroves from coastal region of Mumbai. The main focus area of lecture was on the role of mangroves in strategies for the climate change mitigation. The resource person in his lecture gave some basic important information about mangrove plants, their characteristics and significance in ecosystem particularly the estuarine ecosystem. Prof. Mansuri then explained the concept of carbon sequestration means the process of capturing and storing atmospheric carbon dioxide. It is one method of reducing the amount of carbon dioxide in the atmosphere with the goal of reducing global climate change. The mangroves plants shows rich content of organic carbon which makes mangrove plants significant in pollution reduction. In the last section of lecture, he explained the methods of GIS Mapping of mangrove plants as though the mangroves play significant role in ecosystem still under great threat due to human activities and other reasons. Hence effective restoration of mangroves is the need of the time to tackle the climate change threats and achieve the sustainable development.

Second technical session was by Dr. S.G. Tyagi, Professor, Energy Science and Engineering, IIT, Delhi on 'Agro Wastes to Clean and Green Energy for Rural India'.



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
Affiliated to University of Mumbai
ISO 9001:2015 CERTIFIED

Farmers in Haryana and Delhi region burns the agricultural waste, the stubble (Parali in local language), which are the remained stalks after harvesting of crop. This burning practice increases the air pollution across all the neighboring states; this has resulted in worsening of the air quality index.

Dr. Tyagi being the expert in this field along with his team of researchers had worked on the problem to manage generated stubble waste. He explained in his presentation how they got the success in managing to convert the agro waste in fine size and made pellets from the waste, these pellets are combustible like traditional dung cakes. But unlike common combustion methods, team members designed a stove which limits the emitting pollutants. The aim was to generate green energy sources from waste to achieve neutral carbon emission. The team trying best to reach to the rural area with this simple technology along with the stove for the optimum production of pellets and utilization of pellets.

This technology has been patented by Dr. Tyagi but in the interest of farmers and environment concern some industries are involved in the production process. During presentation the demo video was shown of how this entire process works. The most important advantage of this technology is it limits the use fossil fuels, its cost effectiveness and useful management of agro waste.

Dr. Mrs. S.K. Deshpande, Co-ordinator, IQAC, extended vote of thanks. Total 137 delegates attended the webinar.

During interactive session participant students and teachers asked several questions to Dr. Tyagi on various aspects of this technology and overall energy transition concept. Sir answered each and every question in very simple language though the topic was technical.

Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
IQAC in association with Dept. of Biotechnology
ORGANIZES
NATIONAL WEBINAR
ON
Biodiversity Conservation, Sustainability and Energy Transition

Dr. S.K. Tyagi
Professor,
Dept. of Energy Science and Engineering,
IIT, Delhi
TOPIC
Agro Wastes to Clean and Green Energy for Rural India

Prof. Sahir Q. Mansuri
Asst. Prof., Dept. of Biotechnology,
S.D. National and W.A. Science College, Mumbai
TOPIC
Managing Conventional, Emerging Methods and Risks Contributing to Climate Change Mitigation Strategies

On Wednesday, 17th May, 2023 | Time : 5:00 PM
Online Platform: Microsoft Teams

Prof. Yogesh Salvi
Head, Dept of Biotechnology

Dr. Mrs. S.K. Deshpande
Co-ordinator, IQAC

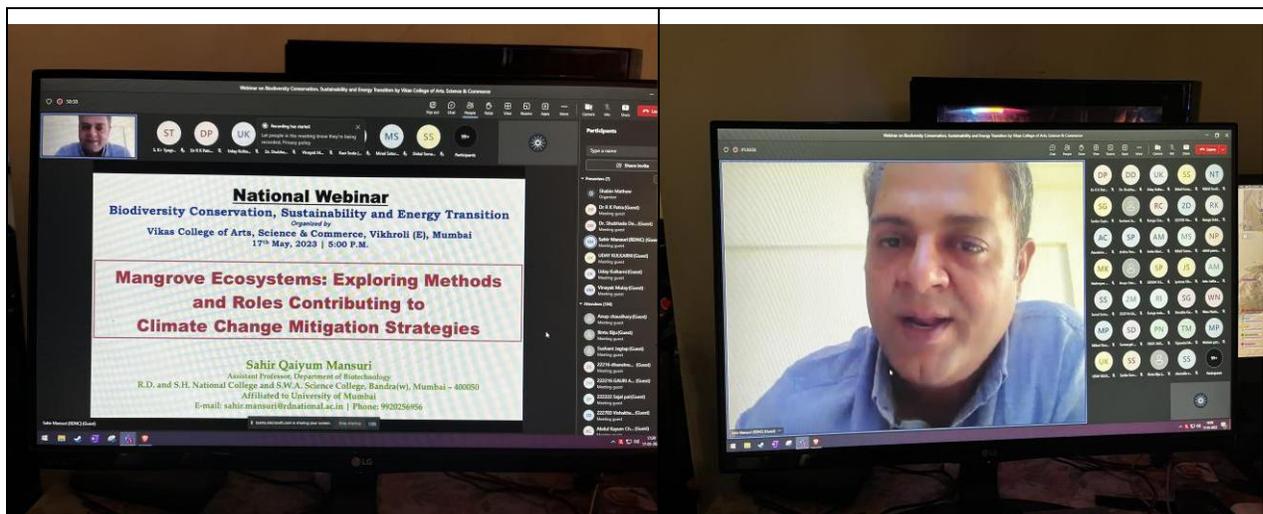
Dr. R.K. Patra
Principal

Dr. Vinay P. Raut
Secretary, VVES

Microsoft Teams interface showing the webinar poster. The poster content is identical to the one on the left. The interface includes a top navigation bar with icons for chat, call, and screen sharing. A list of participants is visible on the right side of the screen.



Vidya Vikas Education Society's
VIKAS COLLEGE OF ARTS, SCIENCE & COMMERCE
 Affiliated to University of Mumbai
 ISO 9001:2015 CERTIFIED



Prof. Sahir Q. Mansuri from R. D. & S. H. National College and S. W. Science College, Mumbai delivering the lecture in Webinar.



Prin. Dr. R.K. Patra addressing the audience



Dr. S.G. Tyagi, Professor, Energy Science and Engineering, IIT, Delhi delivering the lecture in webinar.