

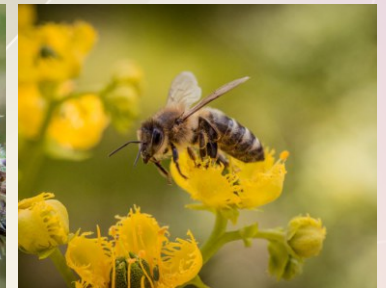


PRAKRITI SANRAKSHAN

Newsletter

Volume 6, Issue 1, Jan.-Mar., 2025

TYPES OF RHINOS FOUND IN THE WORLD



ABOUT US

Save the Environment (STE)

SAVE THE ENVIRONMENT (STE) is the organization that aims to spread awareness to the society about environment, health and water. It was founded and registered on 19th November 1990. STE has collaborated with various organizations in the past 33 years such as All India Institute of Hygiene & Public Health, AIIH&PH and India Canada Environment Facility, DRDO, Ministry of Defence, Department of Science and Technology (DST),

Indian Institute of Management (IIM), Ahmedabad to mitigate the effects of arsenic and provide arsenic-free drinking water.

The vision of the society is to protect present and future generations from various Environmental Hazards. The NGO has been actively organizing various interactive sessions such as conferences (National and International), workshops, seminars and awareness programs including poster competitions, quiz competitions, science exhibitions and webinars among the future generations.

HUMBLE APPEAL for CSR FUNDS

To continue your Kind support for clean water supply and sanitation facility project at the STE adopted village Bankanali, Block Pancha, Distt. Purulia

Save The Environment (STE) extends its gratitude and thankfulness for your benevolent support which has made possible the installation of a drinking-cum-wash water unit at the cost of about Rs four and a half lakh (Rs. 4.5 Lakh only) in the first phase of the subject project at STE adopted village Bankanali, Pancha Block, Distt. Purulia, West Bengal. Many households, in dire need of proper water facilities, are somewhat benefitting from the same.



However, a long path remains ahead of us in order to complete the pursuit undertaken. In this endeavour, we plan to provide various water supply units in adjoining areas, rejuvenate and restore the available ponds, create the rain water harvesting systems, reuse of waste water, plantation, Electrification in the village using Solar energy and also to install toilets in the school and other places to be used by people. Looking forward for your kind support to complete the above project.

In this regard, we at STE, earnestly request all the citizens, corporates, life members of STE and patrons to kindly come forward and support for this noble cause. Your generous donation will be a pillar for us and will certainly enable us to bring a smile to several underprivileged persons.

Details of the proposed project are :

ACTIVITIES

Restoration of ponds
Installation of Rain Water Harvesting Systems
Solar Electrification in the Houses and roads
Distribution of drinking water by pipe line in the village
Constructions of toilets in school, houses and other public places and plantation etc.

Looking forward to receiving your generous support.

Contact details:

Phone: 9871372350; 9830779260 Email: info@stenvironment.org

Account details for donating funds:

ONLINE PAYMENT:

Name of the Account: **SAVE THE ENVIRONMENT**
Account Number: **38041963371**
Bank and Branch: **State Bank of India, Lake Town, Kolkata**
IFSC Code: **SBIN0001506** OR
GOOGLE PAY to: **Mrs. Chhanda Basu; Mobile 9830779260**



The Nation's Pride

On this day of January's dawn,
A new era of hope was born.
Seventy-six years and counting strong,
India stands where hearts belong.

The Constitution, our guiding light,
Framed with wisdom, just and right.
From freedom's cry to democracy's play,
We honor thee, Republic Day.

The tricolor flutters, bold and free,
A symbol of unity, harmony, and decree.
Saffron for courage, white for peace,
Green for growth that will never cease.

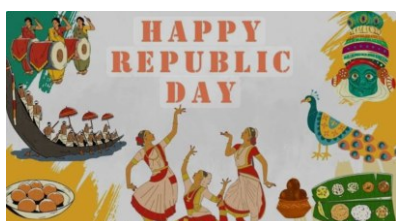
The echoes of sacrifices past,
Teach us lessons meant to last.
From Gandhi's dream to Nehru's voice,
A republic built by a people's choice.

Our soldiers brave, our farmers true,
Each citizen plays a role to pursue.
Together we rise, together we stay,
For India, our mother, come what may.

O India, may your glory soar,
A land of culture, rich and pure.
On Republic Day, we pledge anew,
To cherish and serve you, through and through.

S. K. Basu

PFS, Lethbridge, Alberta, Canada;
Email: saikat.basu@alumni.uleth.ca



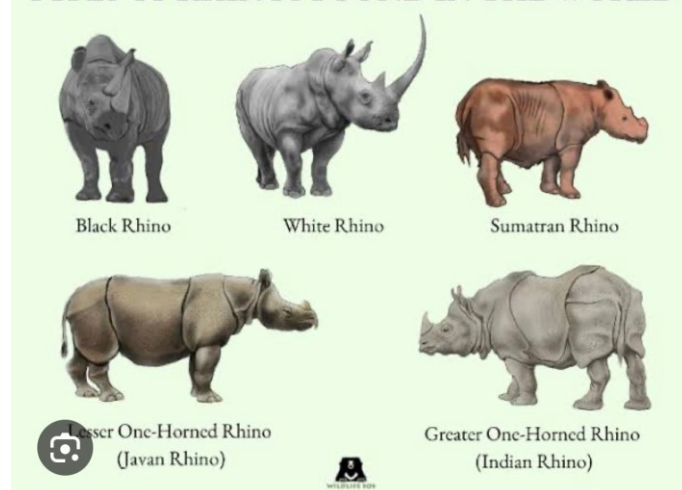
RHINOCEROS: THE MAJESTIC GENTLE GIANT STRAIGHT FROM THE JURASSIC PARK

Saikat Kumar Basu

PFS, Lethbridge, Alberta, Canada

Email: saikat.basu@alumni.uleth.ca

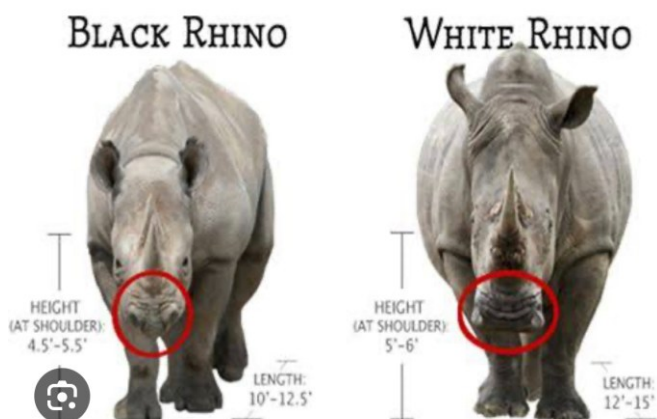
TYPES OF RHINOS FOUND IN THE WORLD



A rhinoceros, often referred to as a "rhino," is a large, herbivorous mammal characterized by its thick, protective skin and one or more horns on its snout. Rhinos belong to the family Rhinocerotidae and are known for their massive size and distinctive appearance.

There are five species of rhinoceros:

- 1. White Rhinoceros (*Ceratotherium simum*):** Despite their name, white rhinos are not actually white but rather gray. They have a wide mouth adapted for grazing on grasses and are the largest species of rhino.
- 2. Black Rhinoceros (*Diceros bicornis*):** Black rhinos are smaller than white rhinos and have a pointed upper lip suited for browsing on leaves and branches. They are critically endangered due to habitat loss and poaching.
- 3. Indian Rhinoceros (*Rhinoceros unicornis*):** Also known as the greater one-horned rhinoceros, they are native to the Indian subcontinent and have a single horn. Their skin has numerous folds.
- 4. Javan Rhinoceros (*Rhinoceros sondaicus*):** The Javan rhino is one of the rarest and most endangered large mammals in the world. They are native to Southeast Asia and have a single horn.



5. **Sumatran Rhinoceros (*Dicerorhinus sumatrensis*)**: This is the smallest rhino species and is found in Southeast Asia. They have two horns and are covered in hair, making them unique among rhinos.

Rhinoceroses are known for their horn, which is made of keratin, the same protein found in human hair and nails. Unfortunately, the demand for rhino horns in traditional Asian medicine and the illegal wildlife trade has led to poaching and a severe decline in rhino populations. Conservation efforts are in place to protect and preserve these magnificent creatures, including their ecosystem and habitat conservation, anti-poaching initiatives, and breeding programs in captivity.

What are the factors responsible for the global decline of rhinoceros populations?

The global decline of rhinoceros populations can be attributed to several interconnected factors, primarily driven by human activities:

1. **Poaching**: Poaching for rhino horns is the most immediate and significant threat to rhino populations. Rhino horns are highly sought after in illegal wildlife markets, primarily in Asia, where they are believed to have medicinal properties and are used for ornamental purposes.
2. **Habitat Loss**: Habitat destruction due to human activities, such as agriculture, logging, and infrastructure development, has reduced the available range for rhinos. This leads to habitat fragmentation and isolation of populations.
3. **Human-Wildlife Conflict**: As human populations expand and encroach into rhino habitats, conflicts between humans and rhinos occur. Crop damage and occasional human fatalities due to rhino encounters can lead to retaliatory killings.

4. **Inadequate Law Enforcement**: Weak law enforcement and corruption in some countries enable poachers to operate with impunity. Insufficient penalties for wildlife trafficking also contribute to the problem.
5. **Demand for Traditional Medicine**: Rhino horns are erroneously believed to have medicinal properties in some traditional Asian medicine practices, even though they are made of keratin, the same substance as human hair and nails. The demand for horns in this context drives poaching.
6. **Lack of Awareness**: Lack of awareness and education about the importance of rhinos in ecosystems and the consequences of poaching can result in apathy and insufficient public support for conservation efforts.
7. **Illegal Trade Networks**: Organized crime networks are involved in the illegal trade of rhino horns, making it a challenging problem to combat. These networks often have international connections.
8. **Limited Genetic Diversity**: Some rhino populations have become so small and isolated that they suffer from reduced genetic diversity, which can weaken their ability to adapt to changing environmental conditions.

Conservation organizations, governments, and international bodies are actively working to address these challenges. Efforts include anti-poaching patrols, habitat conservation, community engagement, and demand reduction campaigns aimed at changing consumer behavior. While progress has been made in some areas, the fight to protect rhinos and ensure their survival remains an ongoing global conservation priority.

What strategies need to be adopted to make successful rhino conservation action around the world ?

Successful rhino conservation action around the world requires a multi-faceted approach involving various stakeholders. Here are key strategies that need to be adopted:

Anti-Poaching Efforts: Strengthen anti-poaching units with well-trained personnel and adequate resources. Utilize modern technology, such as drones and camera traps, for monitoring and surveillance. Implement intelligence-led operations to disrupt poaching networks.

Habitat Protection and Restoration: Establish and maintain protected areas and wildlife reserves with



suitable rhino habitats. Restore and reconnect fragmented habitats through conservation corridors. Manage habitats to ensure they can support healthy rhino populations.

Community Engagement: Involve local communities in conservation efforts and provide incentives for supporting rhino protection. Develop alternative livelihoods for communities living near rhino habitats. Promote education and awareness about the importance of rhino conservation.

Law Enforcement and Legal Measures: Enforce strict penalties for wildlife trafficking and poaching. Improve legislation related to wildlife protection and enforce international agreements. Collaborate with law enforcement agencies at regional and international levels.

Demand Reduction: Conduct public awareness campaigns in consumer countries to reduce demand for rhino horn. Engage with traditional medicine practitioners to promote alternatives to rhino horn. Encourage governments to enforce bans on rhino horn trade.

Translocation and Genetic Management: Implement translocation programs to establish or augment populations in suitable habitats. Monitor and manage genetic diversity within rhino populations to maintain healthy gene pools.

Research and Monitoring: Continuously monitor rhino populations and their health. Conduct research on rhino behaviour, genetics, and disease to inform conservation strategies.

International Cooperation: Collaborate with other countries and international organizations to combat wildlife trafficking. Share information and best practices for rhino conservation on a global scale.

Sustainable Tourism: Promote eco-tourism as a means to generate income for local communities and fund conservation efforts. Ensure that tourism activities are well-managed to minimize disturbance to rhinos.

Capacity Building: Train and equip local rangers, conservationists, and law enforcement personnel. Build the capacity of local institutions and organizations involved in rhino conservation.

Political Will and Funding: Garner political support and commitment at national and international levels for rhino conservation. Allocate sufficient funding to support conservation efforts effectively.

Adaptive Management: Be flexible and adaptive in conservation strategies, taking into account changing circumstances and emerging threats.

Rhino conservation is a complex and ongoing challenge, but with concerted efforts from governments, conservation organizations, local communities, and the public, it is possible to secure the future of these iconic and endangered species.

Photo credit: Saikat Kumar Basu

STE MEMBER RECOGNIZED IN KOLKATA

Tumpa Sen

All India Institute of Hygiene and Public Health (AIHH & PH), [110, C. R. Avenue, Kolkata 700003](https://www.aiihs.org/)

Email: worldsanskriti@gmail.com

A two-day (18-19 January, 2024) International Conference on 'Sustainability, Global Diversity, Inclusion and Culture; Interdisciplinary Perspectives' was organized under the convenorship and leadership of Prof. Santoshi Halder, Department of Education, Calcutta University funded by the Indian Council of Social Science Research (ICSSR) in collaboration with National Library of India, Ministry of Culture, Government of India. The conference was conducted at the prestigious Bhasha Bhavan, National Library, Belvedere Road, Alipore, Kolkata. Over 300 scholars reordering 8 countries and 18 states of India participated in this conference.

Around 143 research papers were presented in this prestigious conference. Saikat Kumar Basu, a leading agricultural scientist and environmentalist was one of the recipient of the Best Paper Award in this conference for his research work entitled 'An integrated model for conservation of bees and medicinal plants in rural West Bengal has the potential to help ecology and economy

walk hand in hand: Case Study'. Basu has worked jointly on this project closely with Professor Suparna Sanyal Mukherjee, Head of the Department of Education, Seacom Skills University, Bolpur, Birbhum, West Bengal.

They have worked in close collaboration and support extended by two NGOs, Howrah Suparna (Howrah, West Bengal) and Save the Environment or STE (New Delhi) in

training several rural women in establishing medicinal plant gardens integrated with Pollinator Sanctuaries across 12 districts of West Bengal. The strategy not only helped in ecological conservation of both endangered bees and medicinal plants; but, also generated income for the rural women involving them in both serious conservation initiative and in economic empowerment. The work will continue and will be extended to all the districts of West Bengal state in the future. Basu, has been working tirelessly to promote the integrated conservation of bees and medicinal plants

with a focus on supporting 'Ecology and Economy to Walk Hand in Hand'.

PHOTO CREDIT: Shuvodip Mukherjee



GEOPOLITICS OF CLIMATE CHANGE

S. K. Basu

PFS, Lethbridge, Alberta, Canada;

Email: saikat.basu@alumni.uleth.ca

The geopolitics of Climate Change is a complex and evolving field that examines how global warming influences international relations, security, and economic power dynamics. Here are some key aspects:

Global Power Shifts: Climate Change is reshaping global power structures. Countries rich in renewable energy resources (like solar in the Middle East and wind in Northern Europe) are gaining influence. Nations dependent on fossil fuel exports, such as Russia and Saudi Arabia, face economic and geopolitical risks as the world transitions to cleaner energy.

Resource Competition and Conflicts: Melting Arctic ice is opening new shipping routes and access to untapped oil and gas reserves, leading to competition among powers like the U.S., Russia, and China. Water scarcity, exacerbated by climate change, is intensifying tensions in regions like the Middle East, South Asia (India-Pakistan over the Indus), and Africa (Nile Basin).

Climate Migration and Security Risks: Rising sea levels and extreme weather events are displacing millions, particularly in vulnerable regions like Bangladesh, the Pacific Islands, and parts of Africa. Climate-driven migration is straining borders, fueling nationalism, and increasing the potential for conflict over resources and political stability.

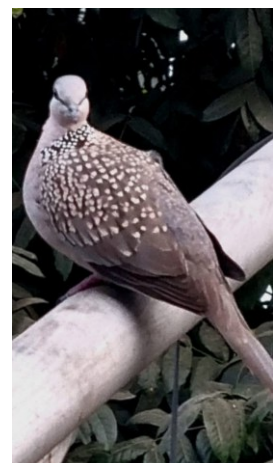
Green Energy Geopolitics: The race for dominance in clean energy technology, including solar panels, wind turbines, and battery production, is driving competition

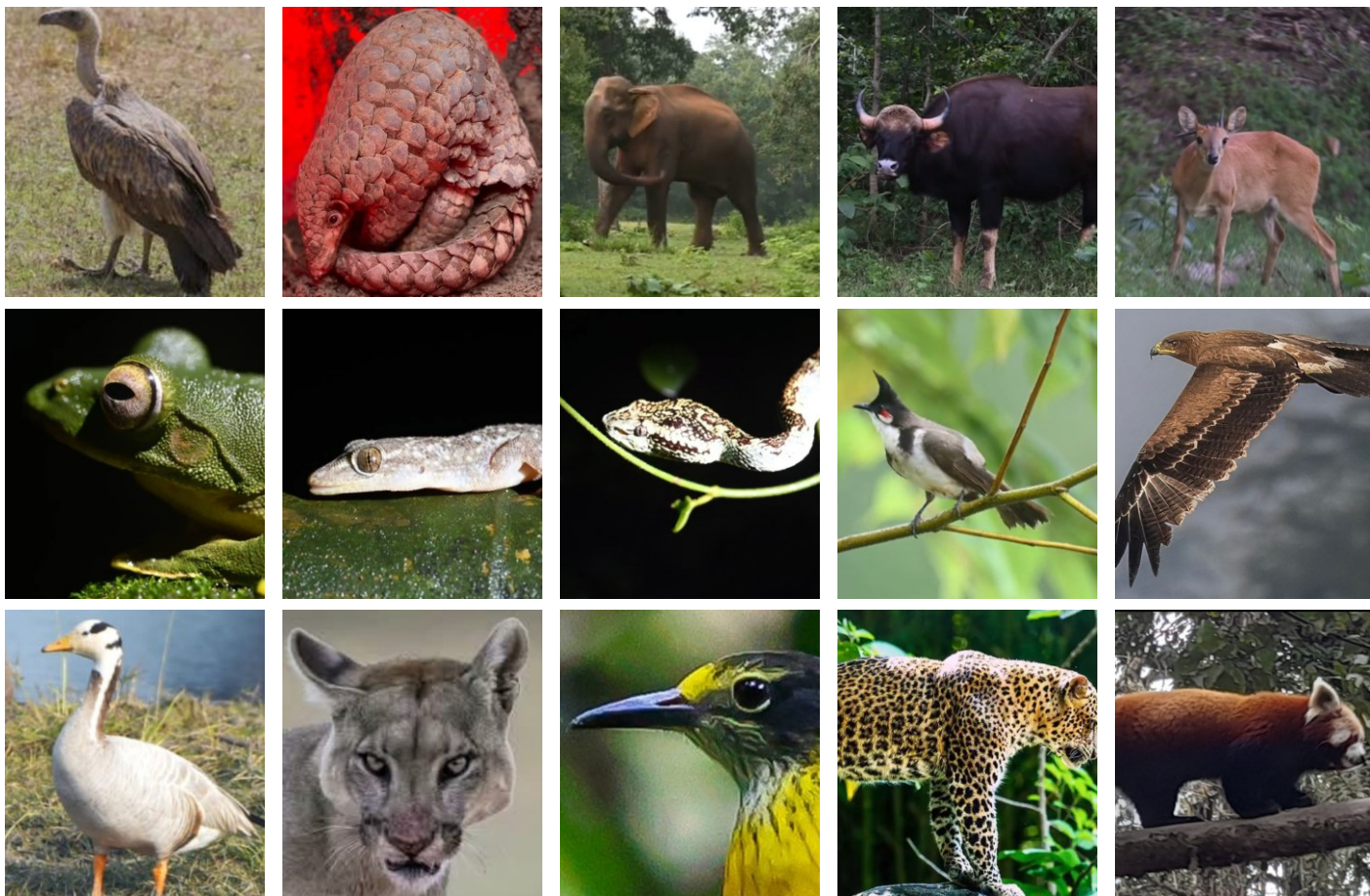
between major economies like the U.S., China, and the EU. The demand for critical minerals (e.g., lithium, cobalt, rare earths) needed for green technology is creating new geopolitical dependencies, especially on countries like China and the Democratic Republic of the Congo.

Climate Diplomacy and Cooperation: Climate agreements like the Paris Accord and COP summits highlight global efforts to mitigate Climate Change, though progress is often hindered by political and economic interests. Developing nations demand more financial and technological support from wealthier countries to adapt to climate impacts, creating tensions in international negotiations.

Military Adaptation and Security Strategies: Military forces worldwide are incorporating climate threats into their strategies, as extreme weather affects bases, operations, and disaster response capabilities. Countries like the U.S. and China are investing in climate-resilient infrastructure for national security reasons.

Impact on Biodiversity: The geopolitics of Climate Change and its impact on biodiversity is a complex and evolving issue, influenced by international policies, economic interests, and environmental concerns. Climate Change affects global stability, with rising temperatures, sea-level rise, and extreme weather events reshaping geopolitical alliances. Resource scarcity, including water and arable land, intensifies conflicts, migration patterns, and diplomatic negotiations. Nations with high carbon emissions face international pressure, leading to power struggles in climate agreements like the Paris Accord. Climate Change accelerates habitat destruction, endangering species across ecosystems. Shifts in temperature and precipitation patterns force species to migrate, leading to ecosystem imbalances. Coral reef





bleaching, deforestation, and desertification reduce biodiversity hotspots, impacting global food chains.

Economic-Political Interest Convergence and Biodiversity Conservation: Countries rich in fossil fuels face dilemmas between economic growth and environmental responsibility. Biodiversity conservation policies often clash with industrial and agricultural expansion. Developing nations demand climate justice, arguing that industrialized countries should bear greater responsibility for mitigating climate change. Global initiatives like the Convention on Biological Diversity (CBD) and UN Sustainable Development Goals (SDGs) aim to balance development and conservation. Some nations lead in biodiversity protection through carbon offset programs and conservation projects. Rising geopolitical tensions over resource access, such as water and fisheries, complicate biodiversity agreements. Future challenges could only be avoided by strengthening global cooperation in biodiversity conservation and climate adaptation. By expanding nature-based solutions, such as reforestation and sustainable agriculture important long

term sustainable aspect of biodiversity conservation can be addressed. It will be also important to find solutions for various environmental refugees and climate-induced displacement around the globe through international policy frameworks.

The Future

The future of geopolitics in the context of Climate Change will be shaped by several key factors, including resource competition, energy transitions, climate-induced migration, and shifting global power dynamics. Here are some major trends and possible scenarios:

Resource Competition and Scarcity

Water Wars: Rising temperatures and changing precipitation patterns will exacerbate water shortages, leading to potential conflicts over transboundary water resources (e.g., Nile, Mekong, Indus).

Arctic Geopolitics: As Arctic ice melts, new shipping routes and untapped resources (oil, gas, minerals) will intensify competition between powers like the U.S., Russia, Canada, and China.

Energy Transitions and New Power Structures

Decline of Fossil Fuel Hegemonies: Countries reliant on oil exports (e.g., Saudi Arabia, Russia) may face economic instability, while those leading in renewables (e.g., China, EU) could gain geopolitical leverage.

Battery and Rare Earth Metal Geopolitics: Control over lithium, cobalt, and rare earth metals (essential for batteries and renewables) will become a strategic issue, potentially shifting power towards countries like China, Australia, and Chile.

Climate-Induced Migration and Security Challenges

Displacement from Coastal Cities and Drought Zones: Rising sea levels and extreme weather events will push millions to migrate, leading to border tensions and social instability (e.g., South Asia, Sub-Saharan Africa).

Conflict over Livability: Climate-related food and water shortages may exacerbate regional conflicts, especially in fragile states like those in the Sahel or parts of the Middle East.

Superpower Competition in Green Technology

China vs. the West: China's dominance in solar panels, EVs, and green tech will challenge Western economic models, potentially leading to trade conflicts or supply chain realignments.

Carbon Tariffs and Trade Wars: The EU's Carbon Border Adjustment Mechanism (CBAM) and similar policies could create economic rifts between industrialized nations and developing economies.

Governance, Treaties, and Climate Diplomacy

Fragmented Global Action: While some countries will lead in climate policy, others (especially those dependent on fossil fuels) may resist, causing fractured international cooperation.

Geopolitics of Climate Finance: Developing nations will demand climate reparations, potentially causing tension between the Global North and South over funding commitments.

Possible Future Scenarios:

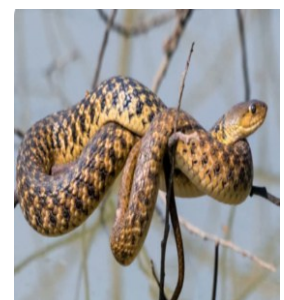
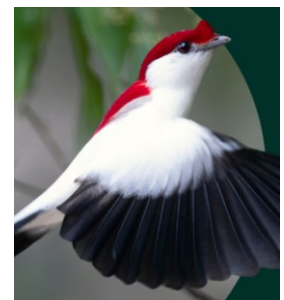
Green Cold War: U.S. and China engage in economic and technological rivalry over clean energy dominance.

Climate Colonialism: Wealthier nations secure green resources in poorer regions, leading to exploitation and resistance.

Eco-Authoritarianism: Some states adopt strict controls to mitigate climate impacts, sacrificing democracy for stability.

Global Climate Cooperation: An optimistic scenario where nations unite under strong international frameworks for a sustainable future.

The geopolitical landscape of climate change will be shaped by both competition and cooperation, with major consequences for global stability and power dynamics. How nations adapt and collaborate will determine whether climate change becomes a driver of conflict or a catalyst for unity.



INTEGRATED CONSERVATION OF MEDICINAL PLANTS AND BEES ACROSS 12 DISTRICTS OF WEST BENGAL, INDIA: A SUSTAINABILITY APPROACH FOR CONSERVATION AND ECONOMIC EMPOWERMENT OF RURAL WOMEN

S. K. Basu

PFS, Lethbridge, Alberta, Canada

Email: saikat.basu@alumni.uleth.ca

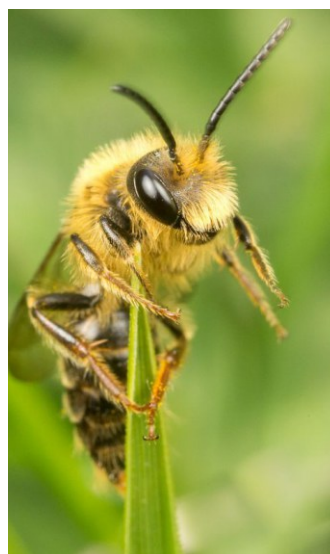
Integrated conservation of medicinal plants and bees in rural areas is an approach that combines the protection and sustainable use of medicinal plant species with the conservation of bees, which play a crucial role as pollinators. A joint initiative of two NGOs, Howrah Suparna (HS) and Save the Environment (STE), a comprehensive integrated conservation of local medicinal plants and commercial beekeeping have been successfully initiated across 12 districts of West Bengal, India (North & South 24 Parganas, East & West Midnapore, Jhargram, Purulia, Bankura, Birbhum, Kolkata, Howrah, Hooghly and Nadia). This integrated approach has successfully achieved the following key components:

Habitat Conservation: Protecting and restoring natural habitats that support both medicinal plants and bee populations. This can include maintaining or creating diverse plant communities that provide food and shelter for bees while preserving areas where medicinal plants naturally grow.

Sustainable Harvesting: Implementing practices that ensure the sustainable harvesting of medicinal plants, so that their populations remain healthy and viable for the future. This includes training local communities on best practices and setting up systems for monitoring plant populations.

Agroforestry and Organic Farming: Encouraging farming practices that integrate medicinal plants and bee-friendly plants within agricultural systems. Agroforestry practices, for example, can create environments where medicinal plants and bees thrive together, enhancing biodiversity and ecosystem services.

Pollinator-Friendly Practices: Promoting practices that protect bees, such as reducing the use of pesticides, providing nesting sites, and planting bee-friendly flowers.



This ensures that bees can continue to pollinate medicinal plants and other crops, which is vital for the plants' reproduction and the production of seeds and fruits.

Community Involvement and Education: Engaging local communities in conservation efforts through education and participation. This includes training on the importance of medicinal plants and bees, sustainable harvesting techniques, and the benefits of conservation for local livelihoods.

Research and Monitoring: Conducting research to better understand the relationships between medicinal plants and bees, and monitoring the effectiveness of conservation strategies. This helps in adapting and improving conservation practices over time.

Policy Support and Advocacy: Working with local and national governments to create and enforce policies that support the conservation of medicinal plants and bees. This includes legal protection for key habitats and species, and incentives for sustainable practices.

Economic Empowerment of Rural Women: Economic empowerment of rural women is crucial for sustainable development and poverty reduction. Providing basic education and training in apiculture and agronomy of medicinal plants to rural women enhances their ability to access information and resources and utilize that to help in both conservation of biodiversity as well as income. Encouraging women to form savings groups can enhance their financial stability and investment capabilities. Creating networks for women entrepreneurs can provide mentorship, market access, and business advice. Providing



access to seeds, tools, and technology can improve yields and incomes by using mobile phones for banking, market information, and supporting rural women's economic participation. Women's self-help groups (SHGs) have successfully mobilized savings and provided loans to rural women to establish them economically. Economic empowerment of rural women is multifaceted and requires coordinated efforts across various sectors. By addressing education, financial access, policy support, and social norms, rural women can achieve greater economic

independence and contribute more effectively to their communities' development.

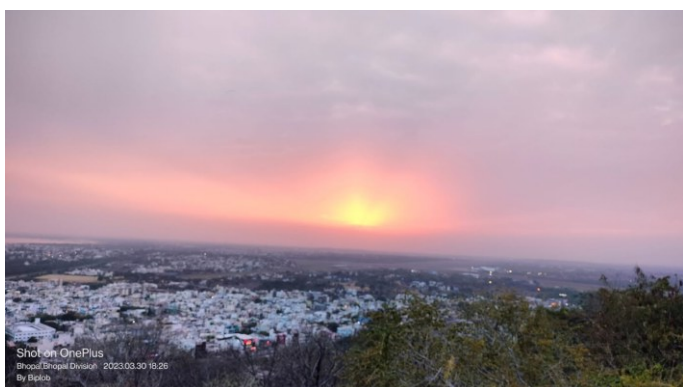
By integrating the conservation of medicinal plants and bees, this approach helps to maintain biodiversity, supports the health of the local ecosystems, and provides economic and health benefits to rural communities. Bees enhance the reproduction of many medicinal plants through pollination, while the conservation of these plants ensures the availability of important resources for both human use and ecological balance.

MY JOURNEY TO BHOPAL

By Master Tamughnaa Tapan Saikia

Student, Class V

Mount Carmel, Shantiniketan, New Delhi



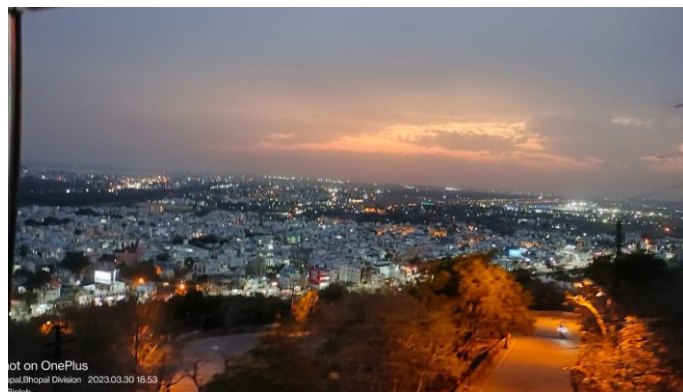
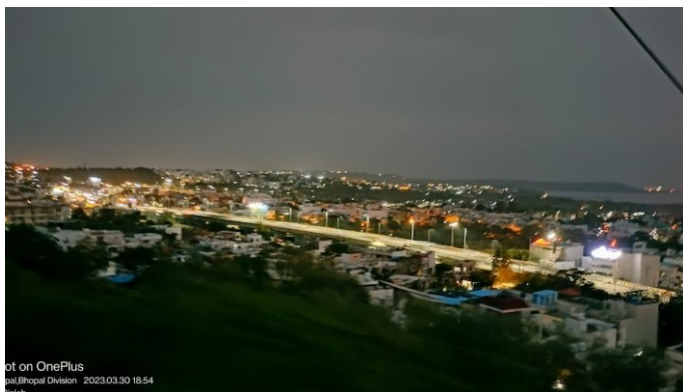
I was excited when I learned that my mother and I were going to Bhopal to meet my elder cousin sister. As the days passed, finally, the day arrived to go to Bhopal. I was very much excited. We reached New Delhi Railway Station (NDLS) by 6:45 pm. We were boarding the AP Express. As the train approached, I

was in a hurry, and we entered the train compartment. We finished our dinner and slept. I woke up at 4:00 am and reached Bhopal Junction at 4:45 am. We got off the train, and immediately my elder sister's family came to pick us up. My elder sister's house is beside the airport. We went to Upper Lake, which is also referred to as Bara Talab. There are other lakes in Bhopal apart from Upper Lake. They are: Lower Lake (Chhota Talab), Kaliyasot Dam, Shapura Lake, Halali Reservoir, Motia Talab, Lendiya Talab, and Munshi Hussain Khan Talab. We also went to Manuabahan/Hanuman Tekri, which is on a hill. We went up by ropeway. From the hilltop, we saw the whole of Bhopal in the night view.

I have written about Bhopal as follows:

About Bhopal

Bhopal is the capital city of the state of Madhya Pradesh. It is located in central India and has a population of 2,564,502. Bhopal is known for its history, culture, and lakes. It is referred to as the *City of Lakes*.



Bhopal's History

The city was founded in the 11th century by Raja Bhoj, who ruled the region at that time. It has been ruled by various dynasties and empires, including the Mughals, Marathas, and the British.

Its Culture

One of the most famous festivals celebrated in Bhopal is Navratri, a nine-day festival dedicated to the worship of the Hindu Goddess Durga.

During this festival, people in Bhopal participate in Garba and Dandiya, traditional folk dances performed in colorful attire.

Bhopal is also known for its cuisine, which is a blend of traditional Central Indian and Mughal flavors. Some of the popular dishes of Bhopal include kebabs, biryani, and korma. The city is also famous for its street food, such as poha jalebi, which is a breakfast dish made of flattened rice and a sweet syrup-based dessert.

I really enjoyed the ropeway ride. From there, I could see the entire city of Bhopal, including Upper Lake.

Thank You.

THE BEE APOCALYPSE

S. K. Basu

PFS, Lethbridge, Alberta, Canada.

Email: saikat.basu@alumni.uleth.ca

Abstract: Bees and other insect pollinators like moths, butterflies, flies, and beetles, which contribute to natural pollination, are globally showing an alarming decline due to a number of anthropogenic factors. Bees (both honey bees and native/wild bees) are important natural pollinators

and essential for the survival of our global agriculture, forestry, and apiculture industries. Among the factors impacting the global bee decline are the extensive and indiscriminate use of synthetic chemical pesticides, fertilizers, pollution, lack of proper bee foraging vegetation (melliferous flora) for collecting nectar and pollen, reduced immunity, the rise in pest infestations of bees and bee hives, other infectious diseases, Colony Collapse Disorder (CCD), changes in land use patterns, global



warming, and climate change, to mention only a few. Hence, it is absolutely important to conserve and protect highly vulnerable pollinator insects like bees, which have been most severely impacted. Bees have now been designated as the most important animal species on the entire planet. All kinds of bees are suffering, but the worst impact is on our native/wild bees. Honey bees can still be replaced as they are produced commercially, but there is no commercial production of native bees to replace the ones we are rapidly losing. Contrary to our common perception that all bees make hives, it is actually not true. Several native bee species survive in nests within holes made in the soil. Irrigation water, with huge surface runoff carrying all kinds of residual insecticides and synthetic chemical fertilizers,

percolates down into the soil, killing entire critically endangered bee colonies along with the queen bee. Around 95-99% of native bee populations have decreased over the past two decades. Particularly, seed canola and seed alfalfa are heavily dependent on pollinators like bees for maintaining their yield. Bees are primary pollinators integrated with agriculture, forestry, and apiculture industries that employ millions of people around the planet, irrespective of whether the nation is developed, developing, or underdeveloped. Unless great emphasis is laid upon bee conservation, the current insect apocalypse may wipe out both bees and humanity from our planet. We need to think about sustainable solutions towards helping the economy and ecology work hand in hand.

Report on STE Prerana Samman, 2025

The United Nations this year set the appreciable theme for International Women's Day as 'Accelerate Action: Equal Rights & Empowerment for All'. This very pertinent theme, in the context of the rising participation of women in education and work opportunities, was the main focus of STE Prerana Samman, 2025.

The occasion this year was organized by **Save The Environment** in collaboration with **Km Mayawati Government Girls' College (KMGC), Badalpur, Uttar Pradesh**, at KMGC campus, on 8th March, 2025.

The event was inaugurated amid a divine Saraswati Vandana, in the kind presence of **Dr. Laxman Prasad Sir, Guest of Honour, Group Advisor, RKGIT & Former Advisor, Department of Science & Technology, Government of India**; **Prof. Dr. Divya Nath, Chief Guest & Former Principal, KMGC**; **Prof. Dr Anita Rani Rathore, Principal, KMGC Badalpur**; **Dr. Kshipra Misra, Convener, President, STE & Former Additional Director, DIPAS (DRDO), Delhi** and **Prof. Asha Rani, Convener & Professor, KMGC**. Esteemed guests apprised the gathering of the need for equality and equity for women empowerment as a major facilitator towards nation-building.

Prof. Mamata Upadhyay, Professor, KMGC and **Dr. Jigni Mishra, Treasurer, STE & Project Associate, IARI, New Delhi** were Organizing Secretaries of the event. **Prof. Mamata Upadhyay** moderated the proceedings with her enticing words.

The dais was graced by this year's STE Prerana Samman honour recipients:

1. **Prof. Indu Tucker Sidhwani, Former Associate Professor, Gargi College, University of Delhi**: Prof. Sidhwani enlightened the audience about the experiences of her illustrious career, sharing many interesting anecdotes. Her talk highlighted the importance of Green Chemistry and its impact on environment.
2. **Dr. Sandhya Verma, Scientist 'F' & Clinical Psychologist, Defence Institute of Psychological Research (DIPR-DRDO)**: Dr. Verma's words emphasized the importance of mental health and counselling on one's education and career. Her salient research on Cognitive Drill Therapy and application of this technique on Indian Army personnel was admired by one and all.
3. **Ms. Kritika Bhatt, Content Head, Catalys & emerging legal advisor**: Ms. Bhatt elucidated how artificial intelligence can be an effective tool in bridging marketing and law. She drew



attention on how students should take interest in interdisciplinary sciences and explore co-curricular activities for personal growth.

Knowing about their inspirational work motivated all in the gathering.



Prof. Indu Tucker Sidhwani superannuated as Associate Professor from Department of Chemistry, Gargi College, University of Delhi, and is a stalwart in the field of Green Chemistry. During her illustrious career,

Prof. Sidhwani has mentored several students in the aspects of greener alternatives and interdisciplinary innovation. She has authored numerous research publications and books.

Prof. Sidhwani's contribution to science and teaching has been recognized with many laurels and honors.



Dr. Sandhya Verma, Scientist 'F' and Clinical Psychologist, Defence Institute of Psychological Research, Delhi is highly acclaimed as an eminent scientist, especially in the fields of customization of Cognitive Drill Therapy for Indian Army personnel as well as in various wellness campaigns and initiatives.

Dr. Verma's ground-breaking innovation in development of psychometric tests, and behavioural and personality profiling are noteworthy and immensely inspirational.

Dr. Verma's workshops and training programmes on stress and anxiety management are exemplary, and her work has been published in many journals of repute.



Ms. Kritika Bhatt, Content Head, Catalys and Council Member in Delhi Anti-Sexual Harassment Council, is an emerging legal advisor and innovative content creator in impactful advertisements.

Ms. Bhatt is actively engaged in bridging law and strategic content marketing. Her acumen in market research and studies on applicability of artificial intelligence in legal technology is highly commendable.

The felicitation ceremony followed soon after, with wide applause from the audience.

At the end of the auspices, **Dr. Jigni Mishra** proffered the vote of thanks, expressing gratitude to the entire organizing committee and all the enthusiastic staff and students of Km Mayawati Government College, Badalpur, for the wonderful organization of STE Prerana Samman 2025. Special thanks were extended to STE life members **Dr. Neelam Bhalla**, Retired Senior Scientist, DRDO, Ministry of Defence; **Ms. Tripti Srivastava**, Hindi Editor, *Prakriti Sanrakshan* & Retired Sanskrit/Hindi Teacher, Vasant Valley School, New Delhi, and **Dr. Sushil K. Singh**, Scientist 'F', SSPL (DRDO), Delhi for accentuating STE's presence. **Mr. Gian Kashyap** was acknowledged for the admirable technical support.

The event concluded with the National Anthem, in anticipation of meeting all once more at the upcoming EWASH & STE Annual meet.



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Glimpses of STE Prerana Samman 2025



Glimpses of STE Prerana Samman 2025



From the Editor's Desk

January – March 2025 Issue

Dear Readers,

Thank you for journeying with us through another inspiring edition of *Prakriti Sanrakshan*, where we have explored the pressing environmental issues of our time, and honored the silent heroes working tirelessly to protect our planet.

Our issue began with *The Nation's Pride*, a heartfelt poem that captured the spirit of our land and its people—an ode to resilience, unity, and pride in our shared heritage.

We also honored the rhinoceros—the majestic, gentle giant that roams our floodplains like a relic from Jurassic Park. Its continued survival stood as a powerful testament to the strength of conservation and the dedication of local communities.

This quarter, we were proud to share that an STE member was recognized in Kolkata for their outstanding contributions to biodiversity preservation. Their work remained a shining example of what passionate individuals can achieve.

In our feature on the geopolitics of climate change, we examined how environmental challenges are shaping global diplomacy and driving new alliances.

We also presented a detailed report on the integrated conservation of medicinal plants and bees across 12 districts of West Bengal—a powerful sustainability initiative that not only supports biodiversity but also empowers rural women economically.

You may recall our piece on the *Bee Apocalypse*, which brought attention to the alarming decline of pollinators and what it means for our ecosystems and food security.

We then took you on a journey in *My Journey to Bhopal*, a reflective narrative exploring grassroots environmental action in one of India's most eco-conscious cities.

Finally, we concluded with the *Report of STE Prerana Samman*, honoring the changemakers and visionaries shaping a greener tomorrow.

As we close this issue, we invite you once again to stay engaged, stay aware, and stay committed. The planet needs all of us—not just today, but always.

Divya Bhardwaj
Chief Editor

Editors

Dr. Vaishali Mishra

Editor (English) Save The Environment,
HOD Chemistry ITL Public School Dwarka, New Delhi
Email: drvaishalimishra2019@gmail.com
Phone: +919868490662

Ms. Tripti Srivastava

Hindi Editor, Save The Environment NGO,
Sanskrit/Hindi Teacher (Retired) from
Vasant Valley School, New Delhi.
Email ID tripti1179@gmail.com
Mobile No +919899224654

Dr. S. K. Basu

Editor (English and Bengali)
Save The Environment NGO
PFS, Lethbridge Alberta Canada;
Email: saikat.basu@alumni.uleth.ca
Mobile No: +1 (403) 894-4254

Editorial Board Members

Dr. Kshipra Misra

President, Save The Environment,
Former Additional Director, DRDO, Delhi
email kmisra99@yahoo.com; Mobile No. 9871372350

Ms. Madhu Sharma

International Education Consultant - freelancer working for
British companies in the Middle East, particularly UAE
since 2009 as Lead and team inspector.
Founder Gyan Global Consultancy.
Website <https://ggcindia.org>. Mobile-9849077963.
madhusharma227@gmail.com:
Madhu. Sharma@education-consultant.in

Dr. Jigni Mishra

Research Associate, Save The Environment
Email: jignimishra@gmail.com
Phone: +918447522389

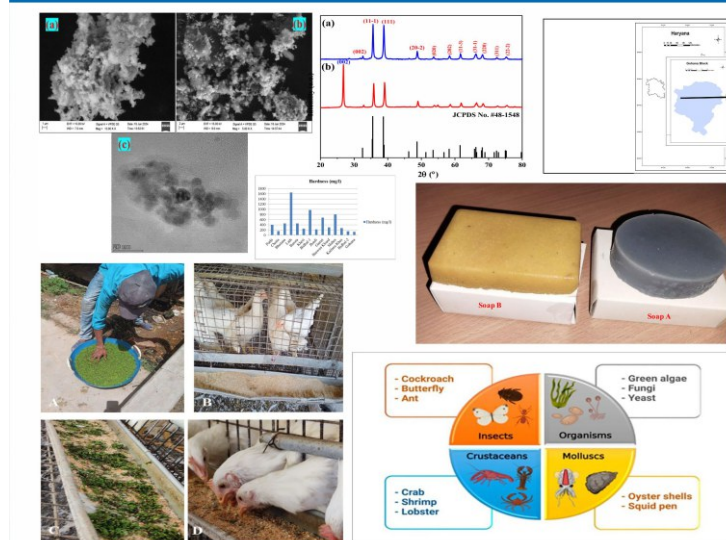
Dr. Anuja Bhardwaj

Life Member, Save The Environment, Gurugram, India.
Email: anujabhardwaj75@gmail.com
Contact no.: +91-9971544026

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For further details, please contact
Chief Editor at:

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STE Annual Awards 2025

(NOMINATION AND APPLICATIONS ARE INVITED)

LAST DATE 30th June, 2025

Annual Awards of STE are the tangible symbol to signify eminence of contributions made by a person or institution. This boosts the enthusiasm of the contributors who have contributed in different fields of science and social service with their excellence, expertise and approach towards achieving certain goals for the society. Recognition of such extraordinary activities is eventually very important to boost their confidence and to honour them for what they have done for the science and society. STE confers following categories of awards and honours to such eminent personalities.:

STE Dr. APJ Abdul Kalam Award

STE Dr. Praloy O Basu Life Time Achievement Award

STE International Achiever Award

STE Fellowship Award

STE Green Excellence Award

STE Meritorious Award For Excellence in Academics and Research

STE Water Award

STE Women Excellence Award

STE Best Ideas/Innovations/Technology for Environment Award

STE Young Researcher (Faculty) Award

STE Young Researcher Award

STE Best School Principal Award

STE Best Teacher Award

STE Humanitarian Award for NGOs

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Awards/ recognition received for DART

- Silver Medal for Innovative Technology in Anveshan Competition on 29th June, 2003 at IIM, Ahmedabad
- WATI (Women and Technology Innovation) National Award by Bhartiya Stree Shakti for innovative Technology -2004
- DRDO Spin-off Technology Award- 2007
- NRDC, GOI –Social Innovation Award-2012

Our Collaborators

- ◆ DRDO, Govt. of India
- ◆ DST, Govt. of India
- ◆ AIIHPH, Kolkata
- ◆ Hindu College, University of Delhi
- ◆ Royal Society of Chemistry (London)-North India section
- ◆ CSIR-NEERI, Delhi Zonal Centre
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- ◆ Anchrom Enterprises Pvt. Ltd., Mumbai
- ◆ Indo-Canada Environment Facility
- ◆ NSHM, Durgapur
- ◆ Heritage School, Kolkata
- ◆ Suraksha Diagnostics,
- ◆ Brindaban Matri Mandir,
- ◆ Fight Cancer,
- ◆ Amra Sabai Happy Club,
- ◆ Vidyasagar Park MWA
- ◆ Milan Samity-Hrishikesh Park
- ◆ Swami Rama Himalayan University (SRHU), Dehradun, Uttarakhand

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जब न होगा पीने का नीर, तब सब करेंगे विचार गंभीर

STE is pleased to announce that the STE State chapter of Uttarakhand has been opened and is ready to start activities there. It is requested that those who want to do any programme/ seminar / conference / symposia or any other related activity under the mandate of STE are welcome to come forward and take off for the new journey of STE in the mountains.



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UTTARAKHAND CHAPTER

Shilyakote Malla, Dhari, Nainital, Uttarakhand

Contact details:

E-mail: steuk2020@gmail.com, Mobile: 9971851949, 9359412783

Website: www.stenvironment.org/chapter

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Mrs. Divya Bhardwaj
Chief Editor, STE E-Newsletter
Email: stenewsletter20@gmail.com



Dr. Vaishali Mishra
Co-Editor (English), STE E-Newsletter
Email: vmishraitl@gmail.com



Mrs. Tripti Srivastava
Editor (Hindi), STE E-Newsletter
Email: tripti1179@gmail.com



Dr. S. K. Basu
Editor (English and Bengali)
Save The Environment NGO
PFS, Lethbridge Alberta Canada;
Email: saikat.basu@alumni.uleth.ca
Mobile No: +1 (403) 894-4254

SAVE THE ENVIRONMENT (STE)

(A SOCIETY FOR RESEARCH, AWARENESS & SOCIAL DEVELOPMENT)

Head and Registered Office: 12, Diamond Harbour Road, Kolkata-700 063

Mobile: 9871372350, 9830779260

E-mail: save1990env@yahoo.co.in; info@stenvironment.org

Website: www.stenvironment.org