



# SHIVALIK

## THE ANNUAL MAGZINE



2023 - 24

DEPARTMENT OF GEOGRAPHY  
SHIVAJI COLLEGE  
UNIVERSITY OF DELHI  
(Accredited by NAAC with 'A' Grade)

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Department of Geography  
Shivaji College, Delhi University  
New Delhi, 2024

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**PUBLISHER**

Department of Geography  
Shivaji College, University of Delhi  
Ring Road, Raja Garden  
New Delhi-110027

**PRINTED AT**

.....  
New Delhi, India

# Principal's Message



It brings me great joy to extend my thoughts for 'Shivalik-2024', the annual magazine crafted by the Department of Geography at Shivaji College, University of Delhi. Plutarch once remarked, "The mind is not a vessel to be filled, but a fire to be kindled." Indeed, Shivalik ignites the imaginative spark within our budding geographers. I extend my heartfelt congratulations to both the faculty members and students who have utilized diverse mediums to articulate their ideas. For in the expression of ideas and the kindling of thoughts lies the essence of true learning, as every endeavour originates from a single idea.

I commend each student who has contributed to the magazine and engaged in extracurricular pursuits that have infused learning with joy. As an educator, I recognize the significance of providing a platform for the expression of ideas, and Shivalik serves as a beacon for such expression. I am convinced that the Geography Department transcends the conventional boundaries of learning; it serves as a nurturing ground for growth, equipping students with the tools they need to strive for excellence.

Warm regards,

Prof. Virender Bhardwaj  
Principal

# Department of Geography



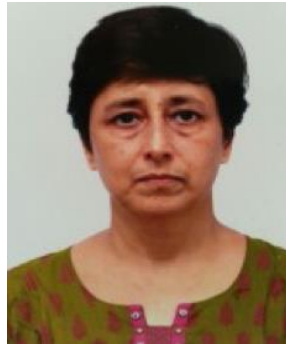
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2. Mr. Jaideep Singh

# From the Desk of the Teacher in Charge



Dear Colleagues and Students,

It is with great pleasure and pride that I welcome you to the latest edition of our department magazine: *SHIVALIK'24*. As the teacher in charge, I am continually impressed by the dedication, creativity, and scholarly pursuits of our departmental community. This magazine serves as a testament to our collective commitment to excellence in academia and beyond. Within its pages, you will discover a tapestry of ideas, research findings, and artistic expressions that reflect the rich diversity of our department.

I am particularly inspired by the collaborative spirit that permeates our department. Across disciplines and departments, we come together to tackle complex challenges, share insights, and foster a sense of community and belonging. It is through this collective effort that we are able to achieve remarkable feats and make meaningful contributions to our field and society at large.

I extend my heartfelt thanks to all who contributed to this publication, as well as to our readers for your continued support and engagement. Together, let us continue to cultivate excellence and inspire one another to reach new heights of achievement.

With warmest regards,

Dr. Rajender Singh  
(Teacher in Charge)

# Message from the Student Advisor



It is with immense pleasure and pride that I extend a warm welcome to you all to the latest edition of our department's annual magazine: *SHIVALIK'24*. As your student advisor, it is my privilege to witness the growth, development, and achievements of every one of you.

This magazine is not just a collection of articles and artwork; it is a testament to the dedication, passion, and creativity that define our departmental community. Within these pages, you will find the voices and perspectives of students who are making their mark on the world in profound and meaningful ways.

As you scan through the pages, it will enlighten you with the important milestones that department has achieved this year. As students, you are at the forefront of this intellectual journey, exploring new ideas, pushing boundaries, and expanding the horizons of knowledge. Your curiosity, passion, and thirst for learning inspire us all, and it is through your diverse perspectives and experiences that we are able to cultivate a culture of innovation and excellence within our department. Together, let us celebrate the power of dialogue, the beauty of collaboration, and the transformative impact of education.

I extend my deepest gratitude to all who contributed to this publication, as well as to our readers for your ongoing support and engagement. May this magazine serve as a beacon of inspiration and a testament to the incredible talent and passion that define our department.

With warmest regards,

Dr. Prabuddh K. Mishra  
(Student Advisor)

# From Alumnus' Pen

Shivaji College Geography Department is the place where we spend the most precious moments of our lives. Our faculty members' accessibility crafted our college lives quite different from our school lives. They give more exposure to us and strengthen our self-belief. Our college teaches us independence and strengthens us to fight our own battles. They give us the initial push towards our career paths.

Our teachers were more like instructors in school, however once we got to college, our professors turned into best pals, a bond they've still maintained even after 25 years of college. Our lecturers offered us the power to make choices which could have a considerable effect on our future.

On behalf of all batches from 1988 to 2023, I want to personally salute all our faculty members for their commitment to helping us all be better humans and professionals.

Accept our profound thanks for hosting such a beautiful reunion to relive our college days. A simple thanks may not be adequate, but I'm still sending this note to express my heartfelt appreciation. We all appreciate the family-like atmosphere that has been created for us, with the clear message that college still cares about us. This is the Place of civility, friendship and good cheer.

Mr. Ajay Khosla

Alumnus of Department of Geography (1990-93 Batch),

Shivaji College, University of Delhi.

# Student Editorial Board



**Ayush Yadav**

(Student Editor)



**Srishti Maini**

(Co-Editor)



**Manohar Kumar**

(Co-Editor)



# Message from Student Editor

I am thrilled to welcome you to the latest edition of our magazine. It's an honour to serve as your student editor and to have the opportunity to showcase the diverse talents and achievements within our academic community.

This magazine celebrates the power of collaboration, as faculty, staff, and students come together to tackle complex problems and push the boundaries of knowledge. As you peruse these pages, I encourage you to reflect on your own journey and the role you play in shaping the future of our department. Together, we can embrace change as an opportunity for growth and transformation.

Thank you to all who contributed to this magazine, and to our readers for your ongoing support. I would also like to thank the faculty and council members for their support in bringing this publication to life. This magazine is a testament to the depth of talent and expertise within our department. I hope you find inspiration and insight within these pages, and I look forward to the exciting possibilities that lie ahead.

Fond Regards,

Ayush Yadav  
(Student Editor)

# Message from Student Co-Editors

I feel honored to be part of Shivalik's magazine editorial board for the 2023-24 session! Editing the magazine immersed me in the world of words, which sounds like a truly enriching experience.

First and foremost, I want to express my gratitude to my teachers for providing me with this opportunity. Their guidance has not only expanded my knowledge but has also helped me discover my potential. I also want to extend my thanks to each of my colleagues who contributed to this magazine. Without their dedication and support, the successful launch of this publication would not have been possible.

To all the readers, I hope you enjoy the magazine! Happy reading!

Regards

Srishti Maini

(Co-Editor)

It has been a great honor for me to contributing as Co- Editor and the Council member of 'Shivalik 2023-2024' the geography Department of Shivaji college, University of Delhi.

Shivalik the Geographical society of Shivaji college is here again with Departmental Magazine. This magazine tells the great effort of faculty, staff, and the students. Being students of Geography, it becomes our responsibility to show our talent to make the world green and safe.

All the contributions regarding here, i am thankful to all the contributions that made the magazine possible.

Regards

Manohar Kumar

(Co-Editor)

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# Effects of El Nino on Indian Climate

-- Anshumita

[B.A.(Hons.) Geography, 1<sup>st</sup> year]

While reading today's news headlines, I came across an interesting headline that caught my attention. The headline stated that India had recently experienced El Niño, which had an impact on the country's climate conditions. This piqued my curiosity and I decided to conduct some research to learn more about it. After delving into the topic, I discovered the following information.

El Nino is a fascinating climatic phenomenon that has a significant impact on weather patterns across the globe. It is caused by the warming of surface waters in the eastern equatorial Pacific Ocean, which can lead to both positive and negative effects on different regions. While it can cause droughts and disrupt ecosystems, it can also bring rainfall to arid areas and benefit agriculture.

The fishermen of Peru were the first to take note of this event, which is characterized by warmer-than-average ocean temperatures in the equatorial Pacific. Spanish immigrants who had migrated to the

region named the phenomenon "El Niño" as it often transpires around the Christmas season. The name "El Niño", which means "the boy child" in Spanish, was given as a nod to the birth of Jesus. Over time, it has become a widely accepted term for this weather event worldwide.

In a typical monsoon year, the atmospheric pressure at the coast of Peru is higher than the region near northern Australia and Southeast Asia. This pressure difference creates a gradient that causes air to flow from the high-pressure area to the low-pressure area. In this case, since the Indian Ocean is warmer, it creates a low-pressure system in the region. As a result, the moisture-laden winds get diverted from the western Pacific towards the Indian Ocean. The landmass in the region heats up faster than water, creating a stronger low-pressure system. This, in turn, causes the winds to move further inland. The movement of these winds is responsible for the monsoon rains in India. Now El Nino represents a significant meteorological occurrence

impacting climate patterns in multiple regions worldwide. The warm and negative phase of El Nino southern oscillation (ENSO) triggers atmospheric circulation changes causing reduced precipitation in Indonesia, India, and Northern Australia. Conversely, the tropical Pacific experiences an increase in rainfall and tropical cyclone formation. During the El Nino phase, the low-level surface trade winds that conventionally blow from the east to west along the equator weaken or reverse direction, resulting in a unique weather phenomenon.

### **Effects Of the Phenomenon on India**

India has faced a total of 13 droughts since 1950, with 10 of them occurring during El Nino years. The monsoon season plays a vital role in Indian agriculture, as it accounts for over 70% of the country's annual rainfall. The arrival of the monsoon is eagerly awaited by farmers across the country, as it provides the much-needed water for their crops. However, during El Nino years, the monsoon is usually weak, resulting in reduced rainfall and drought conditions in many parts of India.

The impact of El Nino on Indian agriculture is significant, as crops such as paddy, groundnut, maize, and castor suffer greatly from drought conditions. These crops require adequate water for their growth and development, and the absence of rainfall during the monsoon season can lead to lower yields and poor-quality produce. This, in turn, affects the food supply chain and can lead to higher prices for consumers.

India's economy is highly dependent on agriculture, with the sector accounting for around 18% of the country's GDP. Therefore, any adverse impact on agriculture can have a significant impact on the overall economy. The El Nino period also causes economic losses, as farmers face reduced yields and income, leading to lower economic growth and increased poverty.

The strongest episode of El Nino experienced by India was in 2015-16, which led to widespread drought conditions across the country. However, traces of El Nino were also seen in 2023, which affected the monsoon season and led to reduced rainfall in many parts of India. According to the latest projections by the National Oceanic and Atmospheric Administration Climate Prediction Center, the northern



hemisphere may experience a historically strong Cupertino, which could again impact the Indian monsoon and lead to drought conditions in many regions.

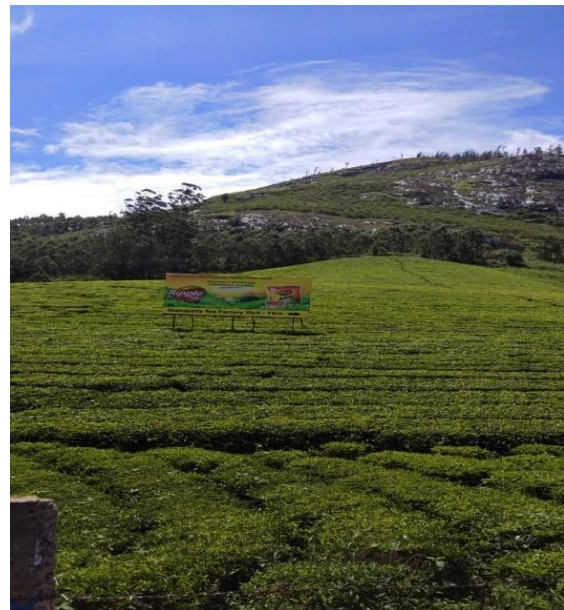
# Tea Gardens of Munnar

-- Srishti Maini

[B.A.(Hons.) Geography, 2<sup>nd</sup> year]

This piece of writing is no article, no formal travelogue but a mere experience that I, being a travel enthusiast, wanted to share. I call myself a travel enthusiast, but the irony is my last trip happened to be in 2019. Funny right? But things were unfair after that, and I never really got a chance to travel again. One after the other, disasters kept on happening first, 10<sup>th</sup> class board examination. Before I could complete my examination, Covid-19 happened. All of us were shut inside the four walls of homes for around 2 years. 2 years later, 12<sup>th</sup> class board examinations happened and after that life is running at such a pace that I never saw back. But recently when I was going through the old pictures in my gallery, I found one that had lush green tea gardens and majestic sky where sun was shining bright through dark clouds and the picture took me right back to Kerala trip of June 2019. Kerala is a wonderful state, topping the list when it comes to literacy rate. Not just that, Kerala is more than its high literacy rate. Right from its metropolitan city of Kochi to its Hill

station Munnar, everything about Kerala is magical but one thing that captivated me the most was the Tea gardens of Munnar.



**Fig.** Tea Garden in Munnar

Nestled in the lush hills of Kerala, the Tea Gardens of Munnar paint a breathtaking landscape and I consider myself blessed to have experienced them in the most wonderful weather where the sky was full of dark clouds and then sunlight peeping through them was giving them a silver lining. The air carries the soothing aroma of freshly brewed tea leaves, while the gentle mist veils the surroundings,

enhancing the ethereal beauty. Munnar's tea estates showcase the legacy of British colonial influence where hillsides are transformed into a canvas of tea cultivation. I still remember my dad scolding me for spending a little too much time observing and admiring the gardens because we were already running behind. I'm already planning a visit to Munnar in case I'd ever get a chance to visit Kerala again.

# Iceland's Fiery Spectacle

-- Ashish Kumar

[B.A.(Hons.) Geography, 3<sup>rd</sup> year]

Iceland, known for its stunning landscapes and geological marvels, recently captivated the world once again with a powerful display of nature's forces: a volcanic eruption. Located on the Reykjanes Peninsula, southwest of Iceland's capital, Fagradalsfjall, the eruption occurred in the Geldingadalur valley near Mount Fagradalsfjall, marking the first eruption in this area in over 800 years.

The eruption commenced on March 19, 2021, igniting the night sky with fiery bursts and sending plumes of smoke and lava into the air. The initial eruption was relatively small-scale, characterized by lava fountains and lava flows spreading gradually across the surrounding terrain. The eruption lasted six months. The first six weeks were characterized by multiple fissure openings, and the remainder was dominated by effusive activity from a single crater. During the eruption, lava and low-level gases propagated over the complex terrain: a hyaloclastite massif with mountain peaks up to about 350 m asl with

valleys in between. The area is uninhabited, but easily accessible at about 30 km distance from Reykjavík. Despite its intensity, the eruption posed minimal risk to populated areas, allowing locals and visitors alike to witness this awe-inspiring phenomenon up close.



**Fig.** Fagradalsfjall Volcanic eruption in Iceland

Source: Visiticeland.com

## **Geological Significance:**

Geologists and volcanologists closely monitored the eruption, seizing the opportunity to study the geological processes at play. Iceland sits atop the Mid-Atlantic Ridge, where the Eurasian and North American tectonic plates diverge. This geological hotspot makes

Iceland highly susceptible to volcanic activity, with eruptions shaping the island's landscapes over millennia.

The Fagradalsfjall eruption provided scientists with valuable insights into Iceland's volcanic activity, aiding in the understanding of magma movement, volcanic gas emissions, and lava composition. Such research contributes to the broader field of volcanology and helps improve volcanic hazard mitigation strategies worldwide.

### **Impact on Tourism:**

Iceland's volcanic eruptions have long attracted tourists seeking to witness nature's raw power firsthand. The eruption has been described as a "tourist eruption," a term commonly used by Icelanders for minor eruptions that can easily be accessed. Of course, the usual thing to do when a volcano erupts is to get as far away as possible. But in Iceland, the "usual" response is the opposite. So, Icelanders started flocking to the eruption site to look at the spectacular show nature was offering. The eruption site turned out to be pretty safe with the proper precautions of avoiding the hot lava and gas. The Icelandic voluntary search and rescue teams also immediately showed up to ensure safety at the site, and their valuable

work continues while the eruption is ongoing.

The Fagradalsfjall eruption was no exception, drawing visitors from around the globe eager to witness the spectacle. While the eruption site required hiking to reach, enthusiasts were undeterred, flocking to the area to observe the flowing lava and glowing vents.

Tourism operators capitalized on the event, offering guided tours and helicopter rides for a bird's-eye view of the volcanic activity. The eruption sparked renewed interest in Iceland's geological wonders, with travellers adding volcano watching to their itineraries alongside the country's famed waterfalls, glaciers, and geysers.

### **Environmental Considerations:**

While volcanic eruptions are a natural part of Iceland's landscape, they also pose environmental challenges. Lava flows can disrupt ecosystems, altering soil composition and affecting plant and animal life in the region. Additionally, volcanic gases emitted during eruptions, such as sulphur dioxide, can pose respiratory hazards and contribute to air pollution.

However, Iceland's sparse population and proactive monitoring

efforts mitigate the immediate environmental impact of volcanic activity. Authorities closely monitor air quality and issue warnings as needed to safeguard public health. Furthermore, Iceland's unique ecosystems have adapted to periodic volcanic disturbances, demonstrating nature's resilience in the face of adversity.

### **Conclusion:**

The Fagradalsfjall eruption serves as a reminder of Iceland's dynamic geological makeup and its profound influence on the island's landscapes and culture. While volcanic eruptions can be unpredictable and disruptive, they also offer invaluable opportunities for scientific inquiry

and awe-inspiring experiences for visitors. As the Fagradalsfjall eruption continues to unfold, it reinforces Iceland's status as a premier destination for nature enthusiasts and researchers alike. Whether observing from afar or venturing to the eruption site, witnessing Iceland's fiery spectacle is a testament to the enduring power and beauty of the natural world.

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# GEOGRAPHER TO BE

-- Sonia Borana

[B.A.(Hons.) Geography, 2<sup>nd</sup> year]

Navigating changes, embracing the geographer within, comparing life to geographical features. Understanding myself is as vast as grasping the discipline. Gazing at the sky, I set dreams beyond the exosphere, inspired by the Moon's unwavering phases.

Just as the Himalayas proudly crown India's map, I learn to nourish like rain nurtures soil. Estuaries teach resilience; Kallada River blending into Ashtamudi Lake mirrors adapting distinctive identities. Uncharted Paths beckon exploration, aligning with my journey into human geography.

Diagnosed with the geographer's perspective, I emulate the fjords', carving selflove into my essence.

Personifying geography aids my emotional wellness, understanding that beauty arises from intrinsic and extrinsic factors, much like personal growth through chaos.

From a plant to a tree, a cub to a lion, nature's inexplicable yet palpable. I aim to be understood, not justified. Recognizing destruction's beauty, I transform like rivers merging into deltas. Distinct like an ostrich, unable to fly but unmatched in speed.

Firefly light illuminates surroundings; I aspire to illuminate mine. Amidst discussions, like rivers merging into the ocean, I pause—much like the largest Indian delta, the Sundarbans, concludes our conversation.

# Impact of Climate change on Agriculture and Food Security

— Ayush Yadav

[B.A.(Hons.) Geography, 3<sup>rd</sup> year]

**Food security** can be defined as “access of sufficient food to all for an active and healthy life.”

Worst food crisis since 1974 broke out in 2007 – 08. Higher World market prices of food commodities sparked an unprecedented increase in the number of hungry people. Despite moderately low prices since 2008, the number of hungry people continued to increase in 2009. This food crisis has placed hunger on world agenda. Since March 2008 governments, UN agencies and many social movements have adopted positions on the cause of crisis and to address it. One of the major causes of such type of crisis is the **Climate Change**.

We are beginning to experience the consequences of the global warming of the planet, and this will intensify over the coming decades. The momentum behind climate change is unstoppable, even if greenhouse gasses are reduced Substantially. Climate change directly and indirectly impacts many aspects of

food security, particularly in the agricultural and livestock sectors. Agriculture is the main source of income and employment for 70% of the world’s poor in rural areas.

Agriculture is therefore the sector most vulnerable to climate change, directly impacting the economic activity of countries and increasing the risk of hunger and malnutrition. However, the agricultural development is also the most effective tool against Hunger and poverty, as it is two to four times more effective than other sectors at increasing the income of the poorest.

We can see various **impacts of climate change on the agriculture sector:**

- Due to increase in the level of greenhouse gases in the atmosphere the greenhouse effect is taking place hence the *average temperature of the surface is increasing day by day*. This unusual increase in the temperature of the atmosphere is adversely



affecting the cropping pattern of the world. Crops are becoming more vulnerable to crop failure and leading to famines and hunger.

- Changing rainfall pattern is another impact on agriculture practices. Water is essential for plant life. Any change in rainfall patterns would directly impact on agriculture, 80% of which is dependent on rainfall. There will be an increase in the amount of water falling as torrential rainfall over coming years. Excess water can damage crops, ruining Harvests and flooding can devastate large expanses of cultivated land.
- Tropical cyclones may become more intense over the coming decades, with stronger winds and higher rainfall.

“The phenomena El Nino and la Nina occurring in the tropical South Pacific Ocean play crucial role in changing the climatic condition in South America and Australia and the parts of the world nearby. India also suffers climatic variation due to these phenomena. During El Nino India suffers less rainfall than average and during la Nina India get more rainfall. Recently a South

Korean university conducted a study with the help of a supercomputer and the results were very disappointing. It states that due to increase in temperature and the greenhouse gases like carbon dioxide, the temperature difference between the ocean water will become less in the near future so there will be hindrance in the El Nino and la Nina patterns. This will directly influence the rainfall pattern of various countries.

Climate change is unstoppable, but the sooner this is accepted, sooner the appropriate measures can be taken to adapt and to counter its negative effects and boost its positive effects, which we must also seek to do. Adapting is as, or almost as, important as offsetting these effects. Therefore, adapting farming to this new scenario must be a priority. Those who can adapt best and most quickly will be the most sustainable and the most competitive.

Climate Change Adaptation Policies in the agricultural sector must be followed to ensure food security in the face of climate change and should aim to achieve sustainable and robust agricultural development. Recently in COP26, India had announced that it will attain net zero carbon emission by 2070. Like India several other countries have also

planned to tackle the problem of climate change.

At the end of my article, I would say that there is need of **climate smart agriculture practises**. Investment in the agricultural sector must aim to contribute to food security, considering sustainable development, adaptation to climate change and its contribution to

mitigation. The smart-agriculture concept includes aspects related to improving production Systems, policy coordination locally, nationally and internationally and finance for the transformation needed by agriculture. Government should Allocate fund and open agricultural research labs for the production of climate resistance seed varieties.

# Rising Temperature, Rising Concerns: Marine Heatwaves and The Indian Monsoon

-- Anish Tiwary

[B.A.(Hons.) Geography, 2<sup>nd</sup> year]

Roxy Mathew Koll, Climate scientist at Indian Institute of Tropical Meteorology (IITM), Pune studied and reported how marine heatwaves are increasing in the Indian Ocean and how it is having an impact on Indian monsoon rainfall.

The study was published in the journal JGR Oceans, the researchers and scientists gave voice to a significant increase in marine heatwaves, aided by rapid warming in the Indian Ocean and strong El Ninos. Reduction in the rainfall over the central Indian subcontinent and enhancement of rainfall over the southern peninsula are by-products of it.

## **Marine Heatwaves**

Marine heatwaves are periods of extremely high temperatures in the ocean (above the 90<sup>th</sup> percentile). These events cause habitat destruction due to coral bleaching, seagrass destruction, and loss of kelp forests, affecting the fisheries sector

adversely. An underwater survey showed that 85% of the corals in Gulf of Mannar near the Tamil Nadu coast got bleached after the marine heatwave in May 2020. Though recent studies have reported their occurrence and impacts in the global oceans, they are least understood in the tropical Indian Ocean.

Marine heatwaves lead to coral bleaching, seagrass destruction, and loss of kelp forests, affecting the fisheries sector adversely.

These days the heatwaves have become an annual affair, but they used to be rare in the tropical Indian ocean. The largest increase in marine heatwaves at a rate of about 1.5 events per decade, have been experienced by the Indian Ocean's western part, followed by the north of Bay of Bengal at a rate of 0.5 events per decade. During 1982-2018, the western Indian Ocean had a total of 66 events while Bay of Bengal had 94 events.

Expanding on the mechanism by which the marine heatwaves appear to influence Indian summer monsoon rainfall, Koll explains that the heating of the land in summer creates low pressure over the Indian subcontinent. Therefore, the winds blow from the Indian Ocean to the land, carrying the moisture for the monsoon rains. When marine heatwaves occur, the winds are pulled to these regions over the ocean (instead of land), reducing the rainfall overland.

While there are differences in the way the heatwaves are created in the northern Bay of Bengal and the western Indian Ocean, both influence the monsoon rains. One difference is that ocean currents also play a key role in the formation of marine heatwaves in the western Indian Ocean. A reduced transport of water from the equatorial region towards the north causes warm water to pile up in the western Indian Ocean. Another difference is that while the western Indian Ocean events cover a larger area and are long-lived, the Bay of Bengal events cover a relatively smaller area and are short-lived.

The climatic factors responsible for the marine heatwaves— ocean warming, El Niño, Indian Ocean

Dipole (IOD), and North Atlantic Oscillation (NAO).

### **Impact on Indian monsoon**

The Indian monsoon, a lifeblood for over a billion people, is a complex and delicate dance of wind and water. But this vital rhythm is increasingly being disrupted by a searing threat: marine heatwaves in the Indian Ocean.

It is important to note that the interactions between marine heatwaves and the Indian monsoon is complex, and the specific impacts can vary based on the intensity, duration, and location of marine heatwaves.

Drying conditions over the central Indian subcontinent are found as result of marine heatwaves in the western Indian Ocean and Bay of Bengal. At the same time, the south peninsular India experiences a significant increase in the rainfall in response to the heatwaves in the north Bay of Bengal. This is the first time that a study has demonstrated a close link between marine heatwaves and atmospheric circulation and rainfall.

“We need marine heatwave forecasts dedicated to the Indian Ocean as this is a region with the warmest waters, where marine heatwaves are projected to increase further,” said

study's lead author Roxy Mathew Koll at the Indian Institute of Tropical Meteorology (IITM), Pune. He added that the U.S. government agency National Oceanic and Atmospheric Administration (NOAA), for example, provides a Coral Reef Watch, that monitors global reef environment.

The future of the Indian monsoon remains uncertain, but by understanding the role of marine heatwaves and taking proactive steps, work can be done towards a more resilient future for the entire system.

### **Future challenge**

“Climate model projections suggest further warming of the Indian Ocean in the future, which will very likely intensify the marine heatwaves and their impact on the monsoon rainfall.” Said Koll. “Since the frequency, intensity, and area covered by the marine heatwaves are increasing, we need to enhance our ocean observational arrays to monitor these events accurately, and update our weather models to skilfully predict the challenges presented by a warming world” he said.

Weather and climate extremes researcher Krishna Achuta Rao, says while the present paper is an “a good

preliminary study” to show perhaps that there is an influence but “there will still have to be some teasing out of what is the contribution of marine heatwaves and what is the contribution of other factors in influencing monsoon rainfall.”

“Our understanding of marine waves is still a grey area,” says Bhaskaran, adding that enhanced ocean observations will plug gap areas in understanding marine heatwaves.

The effect of climate change that is already baked into the Earth and the human-caused effects on the characteristics of marine heatwaves and its implication on the food cycle is another research gap that needs to be bridged.

“We need to know who's a small player... who's a big player. If we are to use marine heatwaves as an indicator of what is going to happen to the monsoon rainfall, then the contributions of marine heatwaves will have to be separated out from the influence of the steady long-term warming of the Indian Ocean waters because there are so many elements that influence India's summer monsoon,” Rao, professor and head, at the Centre for Atmospheric Sciences, IIT-Delhi, told Mongabay India.

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# Russia-Ukraine war and its aftermath on Africa

-- Kulvinder Dahiya

[B.A.(Hons.) Geography, 3<sup>rd</sup> year]

As the Russia – Ukraine conflict nears its 3<sup>rd</sup> year its implications stay limited largely to the African continent. The Russia-Ukraine war has had a significant and multifaceted impact on the African economy, causing:

a) Food insecurity in the form of Rising food prices. Both Ukraine and Russia are major exporters of wheat, corn, and sunflower oil, and the war disrupted their production and export. This led to global shortages and price hikes, impacting heavily reliant African countries. For example, countries like Eritrea, Egypt, and Benin import over 70% of their wheat from the region.

Fertilizer shortage was another way of creating food insecurity. Fertilizer imports from Russia, Ukraine, and Belarus have also been disrupted (blocking of the black sea trade route by Russia) leading to higher fertilizer prices and reduced agricultural productivity in

Africa. This threatens food security further, especially for smallholder farmers.

b) Economic slowdown due to Global inflation and disrupted supply chains. The war has contributed to rising global inflation, leading to higher import costs for African countries and reducing purchasing power. This can lead to slower economic growth and increased poverty. The war has also disrupted global supply chains, making it more difficult and expensive for African businesses to import goods and services. This can hamper economic activity and investment.

c) Financial instability via Currency depreciation. The war has caused capital flight from emerging markets, including Africa. This has led to currency depreciation in some African countries, making it more expensive to import goods and service debt.

Reduced foreign investment has also caused the uncertainty caused by the war has made investors hesitant to invest in Africa. This can reduce the flow of foreign direct investment, which is crucial for economic development.

- d) Geopolitical uncertainty in the form of Shifting alliances. The war has led to a reshuffling of global alliances, with implications for Africa. Some African countries have been pressured to take sides in the conflict, while others have tried to remain neutral. This uncertainty can create instability and hinder economic cooperation.

However, it's important to note that the impact of the war varies across African countries. Countries with a high dependence on food and fertilizer imports from Russia and Ukraine have been hit the hardest.

Others, especially those with a strong focus on domestic food production and exports, have been less affected.

Beyond these impacts, some potential opportunities have emerged which have led to the African countries taking new approaches to their priorities.

- Increased focus on food security and Diversification of trade partners by African countries are opening up new market opportunities for other countries.

Overall, the Russia-Ukraine war has had a significant negative impact on the African economy. However, it has also created some potential opportunities for the continent. The long-term consequences of the war for Africa will depend on how African countries respond to the challenges and seize the opportunities that it presents.



# Environmental Issues in India

-- Sahil Jakhar

[B.A.(Hons.) Geography, 3<sup>rd</sup> year]

India is home to more than 1.42 billion people. It is the biggest democracy in the world. India has had enormous growth and a significant improvement in living standards since gaining independence. Even though it is still developing, India has made great progress in its infrastructure, economy, and industrial growth, and it is now a major player on the world stage. India now needs to cope with environmental challenges because of this. We are living in a period of a serious environmental crisis because of the numerous issues that our ecosystem is facing, many of which seem to be becoming worse with time.

India's current main environmental problems include pollution of the water, air, soil, and noise, global warming, population growth, biodiversity loss, inadequate waste management, public health, and the preservation and quality of the country's forests. Some people associate environmental problems to economic progress. There are numerous other elements to consider, but it is also possible to argue that India's increasing

population is the main reason for the country's environmental degradation.

One of the main causes of illness, health problems, and long-term effects on livelihood is related to the environment. One of the main environmental issues of the day is a lack of pure water. Air pollution also contributes to health problems like heart disease and respiratory disorders.

The main causes of pollution in India are the country's fast burning of biomass, such as dried cattle manure, and fuel wood as a primary energy source; the absence of organized waste management and disposal services; the use of large land areas for burial; the highly polluting old public transport vehicles; the country's rapid population growth, which puts additional strain on the environment and its resources; and the city's rapid urbanization, which has led to a build-up of heavy metals.

The most popular ways to address environmental problems include using reusable items instead of disposable ones, avoiding paper use,

sustaining water and electricity, encouraging eco-friendly behaviours, recycling waste to preserve natural resources, choosing public transportation over driving one's own car, and proper waste management, among numerous others. Environmental problems are a sign of impending disaster. There won't be any life on Earth very soon if these problems are not resolved.

The India government has taken several actions to address these problems, such as protecting biodiversity with the Indian Wildlife Protection Act of 1972. Conservation was the fundamental principle of the 1988 National Forest Policy. The Environment (Protection) Act of 1986 and the Foreign Trade (Development and Regulation) Act of 1992 were both passed by the government to control biodiversity. In addition, programmes like the Compensatory afforestation Fund Act (CAMPA), Namami Gange Programme, Green Skill Development Programme (GSDP), Swachh India Abhiyan, and others have helped to conserve the environment and create a sense of accountability in the public.

The notable actions made to address waste management in the nation were recently highlighted by the Ministry of Environment, Forests,

and Climate Change (December 2023). The following waste management initiatives are highlighted: waste processing capacity; Swachh India Mission for Solid Waste Management; Central assistance is provided under Swachh India Mission for Solid Waste Management, including plastic waste management in urban and rural areas; Extended Producer Responsibility (EPR) Mechanism, which aims to reduce the environmental impact of products by changing the financial and physical burden of waste management from authorities and consumers to manufacturers.

In order to promote sustainable disposal practices, the Ministry has implemented numerous sets of waste management rules and guidelines under the Environment (Protection) Act, 1986. These consist of the Solid Waste Management Rules of 2016, the Plastic Waste Management Rules of 2016, the Bio-medical Waste Management Rules of 2016, the Construction and Demolition Waste Management Rules of 2016, the Hazardous and Other Wastes (Management and Transboundary Movement) Rules of 2016, the E-waste Management Rules of 2022.

# THE GEO WORLD

-- Raima Banerjee

[B.A.(Hons.) Geography, 1<sup>st</sup> year]

In the classroom's realm, where minds explore, Geography unfolds, an open door. A subject vast, like the Earth it maps, knitting curiosity, removing the wraps.

Latitude and longitude, a coordinate dance, guiding explorers, giving them a chance. Maps unfurl, a visual guide, Geography's language, worldwide.

From mountains high to oceans wide, in the textbooks, adventures reside. Cultures woven in the fabric of space, Geography's narrative, a captivating embrace.

Rivers tell tales of their winding spree, deserts whisper secrets, ancient and free. Cities pulse with life's vibrant beat, a global rhythm, a learning feat.

Ecosystems bloom in vibrant hues, Geography's canvas, where knowledge strews. Physical, human, intertwined, In the study of Earth, wisdom we find.

Through geographies, we connect the dots, understanding lands and cultural plots. A subject that bridges, divides, and unites, Geography's journey, a boundless flight.

In classrooms where globes spin on their stand, Geography weaves its intricate strand. Cartography

unfolds, a world to explore, coordinates guiding, curiosity's core.

Regions distinct, with climates varied, Landforms sculpted, where beauties carried. From arid deserts to lush green hills, Geography's allure, a multitude of thrills.

Cultural landscapes, stories untold, languages spoken, traditions unfold. Through geographies vast, a global tale, In every lesson, a vibrant trail.

Trade winds whisper in trade routes old, meridians of commerce, stories bold. Globalization's dance, a connected sphere, Geography's lessons, crystal clear.

Through GIS and satellite's keen eye, mapping futures, reaching the sky. In the realm of knowledge, a compass true, Geography unfolds, perspectives anew.

So, in the classrooms where maps unfurl, a subject dynamic, a captivating swirl. Geography, the lens through which we see, the intricate tapestry of our world's decree.

# Sustainable Development: A Roadmap for a Flourishing Future

-- Inika Garg

[B.A.(Hons.) Geography, 2<sup>nd</sup> year]

Sustainable development is a complex and multifaceted concept, yet its essence is simple: meeting the needs of the present without compromising the ability of future generations to meet their own. It is about balancing economic progress, environmental protection, and social equity to create a world where everyone can thrive.

## Why is Sustainable Development Important?

Our planet faces a multitude of challenges, from climate change and biodiversity loss to pollution and resource depletion. These interconnected issues threaten the very foundations of our societies and ecosystems. Sustainable development offers a roadmap for addressing these challenges and building a more resilient future.

## The Pillars of Sustainable Development

There are three main pillars of sustainable development:

- **Environmental Sustainability:** This refers to preserving and protecting the natural world. It encompasses actions like reducing our carbon footprint, conserving ecosystems, and using resources efficiently.
- **Economic Sustainability:** This involves building strong and resilient economies that provide opportunities for all while respecting the environment. It includes promoting sustainable businesses, investing in renewable energy, and creating green jobs.
- **Social Sustainability:** This means ensuring that all people have the opportunity to live healthy, fulfilling lives. It includes addressing issues like poverty, inequality, and discrimination, and promoting access to education, healthcare, and basic necessities.

## **The Sustainable Development Goals (SDGs)**

In 2015, the United Nations adopted the Sustainable Development Goals (SDGs) as a universal call to action to end poverty, protect the planet, and ensure prosperity for all. The 17SDGs provide a clear roadmap for achieving sustainable development by 2030.

## **Making Sustainable Development a Reality**

Achieving sustainable development requires a collective effort from individuals, governments, businesses, and civil society organizations. Here are some ways you can contribute:

- Reduce your environmental footprint: Choose sustainable products, conserve energy and water, and recycle.
- Support sustainable businesses: Look for companies that are committed to sustainability and buy their products and services.

- Get involved in your community: Volunteer your time or donate to organizations working on sustainable development issues.
- Advocate for change: Contact your elected officials and urge them to support sustainable policies.

## **Conclusion**

Sustainable development may seem like a daunting task, but it is also an opportunity to create a better future for everyone. By working together, we can build a world where people and planet can flourish in harmony. Remember, even small actions can make a big difference.

# Innovations in Climate Change Mitigation and Adaptation: Paving the Way for a Sustainable Future

-- Aman Kumar Yadav

[B.A.(Hons.) Geography, 3<sup>rd</sup> year]

The fight against climate change demands a two-pronged approach: mitigation and adaptation. While mitigation focuses on reducing greenhouse gas emissions and slowing global warming, adaptation equips us to handle the inevitable impacts we're already facing. Thankfully, a wave of innovation is offering promising solutions on both fronts.

## Revolutionizing Renewables

Renewable energy sources like solar, wind, and geothermal are no longer fringe technologies. Advancements in solar panel efficiency and wind turbine design have driven down costs, making them increasingly competitive with fossil fuels. Smart grid integration, which allows for a two-way flow of electricity between utilities and consumers, is crucial for balancing the variable nature of renewable energy sources. Energy storage solutions, like pumped hydro and large-scale battery banks, are

also making significant strides, allowing us to store excess renewable energy and use it during peak demand periods. The rise of electric vehicles (EVs), with their ever-increasing range and decreasing charging times, is further accelerating the shift towards a clean energy future.

## Capturing Carbon: A Negative Emissions Approach

Carbon Capture and Storage (CCS) technologies are emerging as a crucial tool for mitigating emissions from hard-to-decarbonize industries like steel and cement production. These technologies capture carbon dioxide emissions before they reach the atmosphere, often through chemical scrubbing processes. The captured CO<sub>2</sub> is then compressed and transported to be stored underground in geological formations like depleted oil and gas fields or saline aquifers. While CCS is a promising technology,

challenges remain, including the high costs of implementation, the long-term safety of underground storage, and the need for robust regulatory frameworks to ensure effective and responsible deployment.

### **Efficiency on Every Level: From Buildings to Industries**

Energy efficiency improvements are another powerful weapon in the fight against climate change. Smart building technologies, like automated lighting and climate control systems that adjust based on occupancy and weather conditions, are making buildings more energy efficient. Advancements in LED lighting technology have resulted in bulbs that are significantly more efficient than traditional incandescent bulbs, further reducing energy consumption in homes and businesses. In the transportation sector, electric vehicle technology is not the only game-changer. Improvements in internal combustion engine efficiency, lightweight materials, and aerodynamic design are all contributing to more fuel-efficient cars and trucks. The industrial sector is also embracing innovation, with a focus on optimizing processes to reduce energy waste and utilizing waste heat for other purposes.

### **Adapting to a Changing World: Building Resilience**

Innovation isn't limited to mitigation. Climate adaptation strategies are helping communities become more resilient to the effects of climate change, such as rising sea levels, extreme weather events, and shifting precipitation patterns. Flood-resistant infrastructure, including elevated buildings, sea walls, and storm surge barriers, is being developed to protect coastal communities from rising sea levels and storm surges. Early warning systems for storms, droughts, and heatwaves are being implemented using advanced weather forecasting models and satellite monitoring. Climate-smart agriculture practices, such as drought-resistant crop varieties, improved irrigation techniques, and diversified cropping patterns, are helping farmers adapt to changing weather patterns and ensure food security.

### **Beyond Technology: Policy, Collaboration, and Awareness**

Technological advancements are a game-changer, but true progress requires a multi-faceted approach. Policy changes that incentivize clean energy development, energy efficiency upgrades, and sustainable practices are essential for driving

large-scale change. Carbon pricing mechanisms, such as carbon taxes or cap-and-trade systems, can create economic incentives to reduce emissions. Fostering international cooperation is equally important. Sharing best practices, facilitating technology transfer, and providing financial assistance to developing countries are all crucial steps in tackling a global challenge. Public awareness campaigns can play a vital role in educating people about climate change, its impacts, and the solutions available. Empowering individuals to make sustainable choices in their daily lives can create a powerful ripple effect.

## **The Road Ahead: A Sustainable Future Within Reach**

Innovation offers a beacon of hope in the face of climate change. By embracing these advancements, coupled with strong policies, international cooperation, and a global commitment to sustainability, we can pave the way for a future where we live in harmony with our planet. This future will be powered by clean energy, built with resilience, and driven by a shared understanding of the environmental challenges we face. The road ahead will require significant effort, but the innovations we see today offer a glimpse of a sustainable future that is within reach.



# The oldest living city in the world – Banaras or Varanasi

-- Khushi

[B.A.(Hons.) Geography, 1st year]

## **Introduction:**

The land of Varanasi (Kashi) has been the ultimate pilgrimage spot for Hindus for ages. Hindus believe that one who is graced to die on the land of Varanasi would attain salvation and freedom from the cycle of birth and re-birth. Abode of Lord Shiva and Parvati, the origins of Varanasi are yet unknown. According to locals of Varanasi, the reason behind the name Kashi is that the city is positioned on the trident of Shiva, the name of Kashi changed several times almost 4 times, they are Varanasi, Kashi, Avimukta, Mahashmashana.

Geographically, Banaras city is located by the two rivers Varuna and Asi as both the rivers meet Ganga here. At one end of the confluence is Rajghat (near Varuna confluence) and at the other end is Assi ghat (near Assi river).

When you walk the streets and Ghats of Banaras you will realise how everyone and everything is

connected with one another through faith, facts and fictions. Banaras teach us the duality of life and death.

DAY: 1

## ***The Ghats of Varanasi:***

### **Dasaswamedh Ghat:**

It is located close to Vishwanath Temple and is probably the most spectacular ghat. Two Hindu legends are associated with it: According to one, Lord Brahma created it to welcome Lord Shiva, the name “Dashaswamedh” translates to “the place where lord brahma sacrifices ten horses”

According to tradition, the Ghat was named after Brahma performed the ten Ashvamedha Yagyas. Some believe that the king of Bharshiva performed the ten Ashvamedha Yagyas on this part of the Ganges in the second century AD.

In 1740 AD: Bajirao peshwa 1 reconstructed the Ghat.

In 1774: Ahilya Bai Holkar, the queen of Indore also constructed the Ghat.

In 1965: The government installed the current stairs.

Dashashwamedh Ghat is one of the holiest ghats in Varanasi. It hosts the biggest and most vibrant Ganga Aarti every day. The aarti takes place at 6:30 PM in the summer and 7:00 PM in the winter, and lasts about 45 minutes.

### **Manikarnika Ghat:**

this is one of the holiest cremation grounds among the sacred riverfronts (ghats), located on the Ganges, in the city of Varanasi. In Hinduism, death is considered a gateway to another life marked by the result of one's karma. It is believed that a human's soul attains moksha, and hence breaks the cycle of rebirth when cremated here, it is said that people who cremated in Manikarnika Ghat are freed from the cycle of birth and death. Varanasi is the only place where death is celebrated due to soul attaining nirvana.

A myth related to the ghat according the locals of Varanasi– that the ear jewel of Lord Shiva fell down while he was dancing furiously, and fell on the earth and thus Manikarnika Ghat was created.

### **Assi ghat:**

The name "Assi" is derived from the Assi River, which meets the Ganges at this ghat. According to Hindu mythology, Assi Ghat is believed to be the spot where Lord Brahma, the creator in Hinduism, performed a ritual to welcome Lord Shiva. The ghat is also associated with the place where Tulsidas, the renowned poet-saint, wrote the epic poem "Ramcharitmanas. "The ghat is a venue for various religious festivals, including Dev Diwali and Shivaratri, which attract large crowds. Like other ghats in Varanasi, Assi Ghat hosts Ganga Aarti ceremonies. While the more famous Dashashwamedh Ghat is known for its grand evening aarti, Assi Ghat offers morning arti.

Hindu pilgrims take a holy bath here during Chaitya and Magha months as well as some notable events like solar/lunar eclipse, Prabodhini Ekadashi and Makar Sankranti.

DAY 2:

### ***Temples of Varanasi:***

#### **Kashi Vishwanath mandir:**

It is stated that the lingas were self-created, they were not created by anybody, they are self-created, they grew out of the earth in the form of a linga. People recognized it and

worked upon it to make it into something else, this is also known as golden temple. The temple is one of twelve **Jyotirlinga** temples in Varanasi for worshipping the holiest of Hindu Gods, Shiva. Seven of the other Jyotirlinga temples are very close to Vishwanath.

### **Markanday Mahadev temple:**

The Markanday Mahadev temple, located at the confluence of Ganga-Gomti, about 30 km from Varanasi. On the occasion of Mahashivratri, millions of devotees from various districts of Purvanchal come here to perform Jalabhishek. On the occasion of Shivratri, there is more crowd here than Kashi Vishwanath temple | A month's fair is also held in Sawan month Markandey Mahadev Temple is one of the religious sites of Uttar Pradesh. People suffering from various types of troubles come here to overcome their grievances.

DAY 3:

### **Sarnath:**

This sacred site, where Lord Buddha delivered his first sermon, holds the key to the origins of Buddhism and radiates an atmosphere of peace and enlightenment. Embarked on the journey of Sarnath, the anticipation of a pilgrimage into the heart of Buddhist history and a serene escape from the world.

The first glimpse of the Dhamek Stupa, standing tall against the clear sky. The town, adorned with lush greenery and ancient ruins, exuded a sense of calm that set the tone for the exploration.

The Sarnath Archaeological Museum - The museum houses a remarkable collection of artifacts, including sculptures, inscriptions, and remnants of the ancient structures that once adorned Sarnath. Each exhibit seemed to narrate a story from the bygone era, adding layers to my understanding of the town's cultural tapestry. Sarnath had not just unravelled the history of Buddhism; it had provided a sanctuary for introspection and a deeper connection with the teachings of Lord Buddha.

### **Food of Varanasi:**

When travelling Varanasi, we could not miss out on the iconic foods, some of them are mentioned below:

1. Malaiyyo: It is a frothy and creamy dessert made by condensing the dew drops on winter nights. It has a light and airy texture and is flavoured with saffron and cardamom.
2. Thandai: A traditional drink often associated with festivals like Holi, thandai is a cold

beverage made with a mixture of milk, nuts, and spices. It has a distinct flavour and is sometimes infused with bhang (cannabis) during festivals

3. Kachori Sabji: A popular breakfast item in Varanasi, kachori is a deep-fried pastry filled with a spicy mixture of lentils, spices, and sometimes potatoes. It is often served with a side of tangy and spicy potato curry, known as sabzi.
4. Banarasi Pan: It is a popular and traditional digestive snack that originated in Varanasi, India. It is an iconic part of the city's culinary culture and is enjoyed by locals and tourists alike. Banarasi Paan is a preparation of betel leaves (paan patta) filled with a

mixture of various ingredients, offering a unique blend of flavours and textures.

DAY 4:

While bidding farewell to Varanasi we caught a glimpse of NAMO GHAT that is recently built by the government at CHAUKA GHAT.

Varanasi is not just a religious centre for Hinduism but also Jainism and Buddhism, it's a living museum of art and culture. No one could get enough of Kashi, its history itself. The city's enduring legacy as a sacred and cultural centre continues to attract pilgrims, scholars, and travellers from around the world.

# EVENT DETAILS

## Session 2023-24

### 1. ORIENTATION PROGRAMME, 2023

Date: 26/09/2023

The college orientation program aimed to welcome and integrate new students into the academic and social fabric of the institution. The event took place on 26 September, 2023 and involved various activities designed to familiarize students with campus resources, foster community engagement and provide essential information for a successful college journey

### 2. FRESHER'S PARTY 2023

Date: 11/10/2023

On October 11th 2023, Shivalik, The Geography Department of Shivaji College organized freshers party on 11am, Old Auditorium, Shivaji college, University of Delhi. The event was a memorable and exciting occasion to welcome the incoming batch of students to our college. The theme for this year's party was "Masquerade," which added an element of intrigue and sophistication to the festivities. As the Freshers' Party drew to a close, the anticipation and excitement in the room reached its peak as it was finally time to announce the much-anticipated titles which were to be announced by the teachers, they were:-

Mr/Miss Freshers- Rohan Yadav and Kavya Tonk

Mr/Miss Well dressed- Harsh Singh and Shreya

Mr/Miss Talented- Aditya Ashok Rao and Anshumita Gupta

Mr/Miss Popular- Yumnam Dicson Singh and Jaishree



### 3. SEMINAR ON CAREER PROSPECTS IN GIS

Date: 03/11/2023

On 3rd November, 2023, Shivalik, The Geography Department of Shivaji College successfully conducted an insightful seminar on 'Career Prospects In GIS' by DR. Brartati Dey, founding member of Swastik Edustart, New Delhi to enlighten the students about the significance of Geographic Information System (GIS) in today's world and to also acknowledge the students about the broad career prospects it offers. The workshop concluded with a practical session in which Dr. Bratati Dey guided attendees in using the GIS application to create a simple map. The seminar served as a valuable platform for all the attendees and helped them to understand the topic in depth



#### **4. GROUP DISCUSSION ON URBAN ISSUES AND THEIR CURES**

Date: 07/12/2023

On December 7, 2023 a group discussion was conducted by the Department of Geography of Shivaji College on the topic “Urban Issues and Their Cures”. The Group Discussion started around 11 AM. All the students and teachers participated actively in the discussion and the opined their thoughts on the current issues that urban areas face along with measures that can be taken to cure such issues. The issues discussed were:

- Housing and Affordable Living
- Sustainability and Green Spaces
- Social Inclusion
- Infrastructure Development



## 5. EXTEMPORE COMPETITION

Date: 30/01/2024

An extempore competition was organised by the Department of Geography, Shivaji college, University of Delhi on 30 January 2024 at 11:30 AM in room number 213 (cartography lab). The event was aimed to help students to overcome stage fear. 11 students participated in the event. The competition started with the basic introductory speech delivered by Dr. Prabuddh Mishra Sir. The judges for the extempore competition were: Dr. Lalita Rana and Dr. Mukesh Kumar Meena.



## 6. SHIVALIK'24: The Annual Departmental Fest

Date: 6<sup>th</sup> and 7<sup>th</sup> February, 2024

On 6<sup>th</sup> and 7<sup>th</sup> of February, 2024, Shivalik, the Geography department of Shivaji College organised the annual department fest on the occasion on completion of "350th birth anniversary of **Chhatrapati Shivaji Maharaj**". The departmental fest is celebrated for two days i.e. 6th of February, 2024 and 7th of February 2024. While the first day of the fest unfolded as a dynamic celebration of



exploration and enlightenment. The department building was decorated by the collective efforts of the students which also reflected the creativity and enthusiasm. The competitions held on the first day were: movie screening competition, Debate competition and Poster making competition.

The second day began with the introduction of chief guests: Mr. Arun Sapkale and Mr. Anant Vijay. They spoke about water harvesting techniques/practices at Chhatrapati Shivaji Maharaj's fortresses. He delved into the historical forts, caves in Maharashtra, old trade routes during Shivaji's reign, and illustrated the family tree of Shivaji Maharaj. These seminars were followed by the quiz competition. Finally, the fest was concluded after the certificate distribution ceremony. The Vote of thanks was delivered by Prof. Tejbir Singh Rana and Dr. Prabuddh Mishra. Special thanks to the speakers, guests, volunteers, and organizers for making this year's Geography Fest a resounding success.

**SHIVAJI COLLEGE**  
UNIVERSITY OF DELHI  
ACCREDITED BY NAAC WITH "A GRADE"

**DEPARTMENT OF GEOGRAPHY**  
ON THE 350 YEARS OF THE CORONATION OF  
CHHATRAPATI SHIVAJI MAHARAJ

**SHIVALIK 2024**

7th FEB, 2024  
10 AM ONWARDS  
JJABAI AUDITORIUM

**LECTURE ON**  
"WATER HARVESTING PRACTICES IN SHIVAJI'S FORTS"

Dr. Arun Sapkale  
GUEST SPEAKER  
PRINCIPAL ARCHITECT AT GREENARCH, MUMBAI

Mr. ANANT VIJAY  
GUEST OF HONOR  
ASSOCIATE EDITOR DAINIK JAGRAN, DELHI

Events (Day 1) - 6th Feb, 2024

Events (Day 2) - 7th Feb, 2024

Dr. Rajender Singh  
Teacher in charge

Dr. Prabuddh Mishra  
Student Advisor

Prof. Virender Bhardwaj  
Principal





## **7. GEO-GUESSER QUIZ**

Date: 8<sup>th</sup> April 2024

On the 8th of February 2024, the Department of Geography at Shivaji College organized a Geo-guesser quiz in Room 213 as part of its monthly departmental activities. The event attracted a good number of participants and an enthusiastic audience. Both the contestants and the spectators actively engaged in the quiz, making it an engaging affair. The distinguished judges for the event were Dr. Mukesh Meena and Dr. Lalita Rana, adding expertise and credibility to the judging process. The winners of the quiz were announced as follows:

1st Position: Anupal Bordoloi

2nd Position: Srishti

3rd Position: Harsh Singh



Delhi, Delhi, India  
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