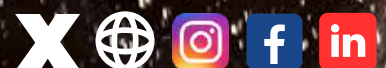


# EARTH ROOT

Volume **37**  
JUNE, 2024

"A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people." —Franklin D. Roosevelt



# About E-magazine

“Earth Root” is an open access e-magazine in the discipline of Environmental sciences published by Earth Root Foundation. The aim of the e-magazine is to provide information and upgradation of knowledge about environmental issues on wider scale and to share ideas and resources to the readers. Using essential knowledge people can lead a healthy life, which is more sustainable and can connect with ongoing efforts for stopping catastrophically the climate change. E-magazine caters to all related environmental aspects ranging from big issues like climate change, renewable energy and pollutants in the atmosphere to the health of human and living beings on Earth. We also take topics of water resources and efforts and measurement to provide optimum use of it; including large scale atmospheric circulation linked with oceans and ecology.

<b>Title -</b>	Earth Root
<b>Frequency -</b>	Monthly
<b>ISSN -</b>	2583-6013
<b>Publisher -</b>	Earth Root Foundation
<b>Chief Editor -</b>	Dr. Vivek Panwar
<b>Copyright -</b>	Earth Root Foundation
<b>Starting Year -</b>	2021
<b>Subject -</b>	Environment
<b>Language -</b>	English
<b>Publication Format -</b>	Online
<b>Phone No. -</b>	011 49064364
<b>Email ID -</b>	<a href="mailto:info@earthrootfoundation.org">info@earthrootfoundation.org</a> <a href="mailto:vivekpanwar@earthrootfoundation.org">vivekpanwar@earthrootfoundation.org</a>
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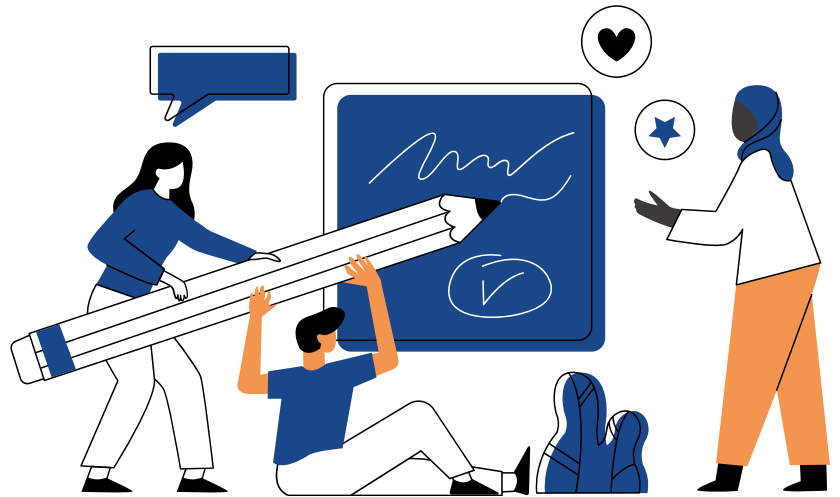
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# DELHI'S ECOLOGICAL AND CULTURAL NEXUS: UNVEILING CITY OF DJINNS

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This article delves into the intricate relationship between ecology and culture in the vibrant city of Delhi, India, through a narrative analysis of William Dalrymple's renowned work, "City of Djinns." Through the lens of Eco criticism and cultural studies, the narrative vividly portrays Delhi's ecological challenges, particularly focusing on the degradation of the Yamuna River and the impact of urbanization on the city's natural environment. Additionally, Dalrymple intricately weaves together narratives of Delhi's cultural heritage, showcasing its multicultural essence and resilience amidst historical upheavals. Through a multidisciplinary approach, encompassing ecological, social, and cultural dimensions, the narrative invites readers to contemplate the complex interplay between human society and the natural environment.

Delhi is not merely a geographical location but a space woven with intricate threads of ecology and culture. As Sharma emphasizes in "Ecology and Environment," understanding the environmental dynamics of urban spaces like Delhi requires a multidisciplinary approach that considers ecological, social, and cultural factors

(Sharma). In this article, we embark on a journey to explore the ecological and cultural dimensions of Delhi through the lens of William Dalrymple's "City of Djinns."

Delhi's ecological narrative is a complex mosaic of urban development, environmental challenges, and conservation efforts. Jean Arnold, in Introduction to Ecocriticism, suggests that literature can serve as a powerful tool for understanding and addressing environmental issues, providing insights into the human-nature relationship (Arnold). Dalrymple's City of Djinns exemplifies this notion, offering readers a window into Delhi's environmental history and the impacts of human activity on its ecological landscape. In City of Djinns, Dalrymple vividly portrays the ecological challenges faced by Delhi, stating, "The river was dead: the Yamuna, a lifeline of the city, a goddess to Hindus, was just a sewer, a drain for the city's waste" (Dalrymple xx). This stark depiction highlights the severe degradation of the Yamuna River, underscoring the detrimental effects of pollution and urbanization on Delhi's natural environment. Furthermore, Dalrymple delves into the

historical and cultural dimensions of Delhi's ecological landscape, intertwining narratives of human activity and environmental change. He writes, "Amidst the chaos of urbanization, Delhi's ancient trees stood as silent witnesses to the city's ever-changing skyline, their roots deeply embedded in the soil of history" (Dalrymple xxii). This passage emphasizes the symbiotic relationship between Delhi's cultural heritage and its ecological resilience, illustrating how the city's natural environment has shaped its cultural identity over time.

Delhi's cultural heritage is as diverse and vibrant as its ecological tapestry. Mark C. Long, in *Introduction to Ecocriticism*, argues that culture and nature are deeply intertwined, shaping and reflecting each other in complex ways (Long). Through Dalrymple's narrative, readers are transported through Delhi's cultural epochs, from ancient civilizations to colonial rule, experiencing the city's rich tapestry of traditions, languages, and beliefs. For instance, Dalrymple vividly portrays the multicultural essence of Delhi, stating, "Delhi's multiculturalism had been hard won. It was the result of centuries of invasions and migrations, of numerous coexisting faiths and ethnicities" (Dalrymple xxii). This passage illustrates the cultural richness of Delhi, emphasizing the city's role as a melting pot of civilizations. Moreover, Dalrymple delves into the historical significance of Delhi's cultural heritage, providing insights into its evolution over time. He writes, "Amidst the ruins of ancient civilizations, Delhi stood as a testament to the resilience of human creativity and adaptability" (Dalrymple xxv). This observation underscores the enduring legacy of Delhi's cultural heritage, transcending centuries of political upheaval and social change. Through Dalrymple's narrative lens, readers gain a deeper appreciation for the intricate interplay between ecology and culture in shaping the identity of Delhi. As Long suggests, culture and nature are not isolated realms but interconnected facets of human experience, each influencing and shaping the other (Long). In this context, Dalrymple's *City of Djinns* serves as a captivating exploration of Delhi's cultural

landscape, inviting readers to delve into its rich tapestry of traditions and histories.

The interplay between ecology and culture is a central theme in Eco critical discourse. Arthur Lovejoy, in *Eco criticism: The Nature of Nature in Literary Theory and Practice* explores how literature can illuminate the connections between human culture and the natural world, fostering a deeper understanding of ecological issues (Lovejoy). In "City of Djinns," Dalrymple masterfully intertwines ecological and cultural narratives, illustrating how Delhi's environmental history has shaped its cultural identity and vice versa. For instance, Dalrymple reflects on the significance of Delhi's historical monuments, stating, "These monuments were a testament to Delhi's enduring cultural heritage, standing as silent witnesses to the city's tumultuous history" (Dalrymple xxv). This observation underscores the intrinsic link between ecology and culture in shaping Delhi's identity. Moreover, Dalrymple delves into the historical significance of Delhi's cultural heritage, providing insights into its evolution over time. He writes, "Amidst the ruins of ancient civilizations, Delhi stood as a testament to the resilience of human creativity and adaptability" (Dalrymple xxv). This observation underscores the enduring legacy of Delhi's cultural heritage, transcending centuries of political upheaval and social change. Through Dalrymple's narrative lens, readers gain a deeper appreciation for the intricate interplay between ecology and culture in shaping the identity of Delhi. As Lovejoy suggests, literature serves as a powerful medium for exploring the complex relationships between human society and the natural environment, offering insights into the ways in which culture and ecology intersect and influence each other (Lovejoy).

The exploration of Delhi's ecological and cultural dimensions through William Dalrymple's "City of Djinns" offers profound insights into the intricate relationship between human society and the natural environment. Dalrymple's narrative vividly portrays the ecological challenges faced by Delhi, such as the degradation of the Yamuna River, emphasizing the urgent need for environmental conservation

and sustainable development.

Additionally, he delves into the historical and cultural complexities of Delhi, illustrating how its cultural heritage is deeply intertwined with its ecological landscape. Through Dalrymple's storytelling, readers are transported through Delhi's cultural epochs, experiencing the city's rich tapestry of traditions, languages, and beliefs. His portrayal of Delhi as a melting pot of civilizations underscores the multicultural essence of the city, highlighting its resilience amidst centuries of political upheaval and social change. Furthermore, Dalrymple's exploration of Delhi's cultural heritage sheds light on the intricate interplay between ecology and culture, echoing the sentiments of ecocritical discourse. As Jean Arnold, Mark C. Long, and Arthur Lovejoy suggest in their works on ecocriticism, literature serves as a powerful medium for understanding the connections between human culture and the natural world. Through Dalrymple's narrative lens, readers gain a deeper appreciation for the symbiotic relationship between ecology and culture in shaping Delhi's identity. In essence, "City of Djinns" serves as a captivating exploration of Delhi's ecological and cultural landscape, inviting readers to contemplate the complexities of urban life and the importance of preserving both the natural environment and cultural heritage for future generations. As we navigate the challenges of the 21st century, Dalrymple's work reminds us of the interconnectedness of ecology and culture and the need for holistic approaches to environmental conservation and cultural preservation. In addition to Dalrymple's poignant depiction of Delhi's ecological challenges, "City of Djinns" offers further insights into the city's environmental narrative and cultural fabric. Throughout the narrative, Dalrymple navigates Delhi's bustling streets, bustling with life yet overshadowed by the looming presence of pollution and urbanization. He vividly describes scenes of overcrowded markets, congested roads, and smog-filled skies, painting a vivid picture of the environmental pressures facing the city. One striking aspect of Dalrymple's exploration is his

portrayal of Delhi's historical monuments and architectural wonders. He delves into the stories behind iconic landmarks such as the Red Fort, Jama Masjid, and Qutub Minar, revealing their significance not only as architectural marvels but also as symbols of Delhi's rich cultural heritage. Through Dalrymple's lens, readers gain a deeper appreciation for the intricate relationship between Delhi's built environment and its cultural identity, as each monument bears witness to the city's storied past and enduring resilience. Moreover, "City of Djinns" delves into the lives of Delhi's diverse inhabitants, from rickshaw drivers navigating the chaotic streets to elderly residents reminiscing about bygone days. Through a series of encounters and anecdotes, Dalrymple captures the essence of Delhi's social fabric, revealing the city's vibrant tapestry of languages, religions, and traditions. In doing so, he highlights the intimate connection between human culture and the urban environment, showing how Delhi's residents shape and are shaped by their surroundings. Dalrymple's narrative also delves into the spiritual dimensions of Delhi, exploring the city's sacred sites and religious practices. From the bustling bazaars of Chandni Chowk to the serene banks of the Yamuna River, he takes readers on a journey through Delhi's spiritual landscape, where ancient rituals and modernity intersect. Through evocative descriptions and personal reflections, Dalrymple illuminates the role of religion and spirituality in shaping Delhi's cultural identity, underscoring their enduring influence on the city's collective consciousness.

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# SCORCHING SUMMERS: THE RISING TOLL OF RECORD-BREAKING HEATWAVES IN 2024

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The summer of 2024 has marked yet another record-breaking season of high temperatures across the globe, emphasizing the urgent need to address climate change and its escalating impacts. From North America to Europe and Asia, heatwaves have gripped cities and rural areas alike, pushing infrastructure to its limits and posing significant health risks to populations.

In North America, the western United States has been particularly hard-hit. Cities like Phoenix and Las Vegas have experienced temperatures soaring past 110°F (43°C) for consecutive days. These extreme conditions have led to a surge in heat-related illnesses, with emergency rooms seeing an influx of patients suffering from heat exhaustion and heatstroke. The elderly, children, and those with pre-existing health conditions are particularly vulnerable. Additionally, the intense heat has strained the power grid, leading to rolling blackouts as air conditioning usage spikes. The persistent high temperatures have also exacerbated drought conditions, heightening the

risk of wildfires. In California, a state already familiar with devastating wildfires, the dry and hot conditions have created a tinderbox scenario, prompting widespread concern among residents and officials.

Europe has not been spared from the scorching summer. Southern European countries such as Spain, Italy, and Greece have faced some of the highest temperatures on record. In Athens, the mercury rose to a blistering 113°F (45°C), causing significant disruptions to daily life. Tourists, a vital part of the local economy, were advised to stay indoors during peak heat hours, leading to a decline in tourist activities and revenue. Agriculture has also suffered, with heatwaves causing heat stress to crops and livestock, threatening food security. Farmers are struggling to keep their crops hydrated, and the long-term impacts on food supply and prices are a growing concern.

Asia has seen some of the most dramatic effects of rising summer temperatures. In India, cities like Delhi and Jaipur recorded temperatures exceeding 120°F (49°C), making



daily life almost unbearable for residents. The extreme heat has led to increased water consumption, putting pressure on already scarce water resources. In rural areas, the heat is causing significant distress to agricultural communities, with crop failures and livestock deaths becoming increasingly common. In China, the government has issued numerous heat alerts, urging citizens to take precautions against the sweltering heat. The heatwaves have also contributed to poor air quality, as high temperatures can exacerbate pollution levels, leading to a rise in respiratory issues among the population.

The reasons behind these record-breaking temperatures are multifaceted but are predominantly linked to anthropogenic climate change. The burning of fossil fuels, deforestation, and industrial activities have increased greenhouse gas concentrations in the atmosphere, leading to a rise in global temperatures. The Intergovernmental Panel on Climate Change (IPCC) has consistently warned that without significant reductions in greenhouse gas emissions, the frequency and intensity of heatwaves will continue to increase.

One of the most concerning aspects of these high temperatures is their impact on public health. Heatwaves are silent killers, often not receiving the same attention as more immediate natural disasters like hurricanes or earthquakes. However, they can be just as deadly. Prolonged exposure to high temperatures can lead to dehydration, heat exhaustion, and heatstroke, conditions that can be fatal if not treated promptly. Vulnerable populations, including the elderly, young children, and those with chronic illnesses, are at particular risk. In addition to the direct health impacts, high temperatures can exacerbate existing health conditions, such as cardiovascular and respiratory diseases, leading to increased mortality rates. The economic implications of these high temperatures are also significant. Heatwaves can disrupt daily life and business operations, leading to productivity losses and increased costs. In the agricultural sector, extreme heat can damage crops and reduce yields, impacting food supply and prices.

The energy sector also faces challenges, as high temperatures increase demand for electricity for cooling, potentially leading to power outages and increased energy costs. Moreover, the increased frequency of heatwaves can strain public services, such as healthcare and emergency response, leading to higher public spending.

Addressing the challenge of rising summer temperatures requires a multifaceted approach. Mitigation efforts to reduce greenhouse gas emissions are essential to slow the rate of global warming. This involves transitioning to renewable energy sources, improving energy efficiency, and implementing sustainable land-use practices. In addition to mitigation, adaptation strategies are crucial to protect communities from the impacts of high temperatures. This includes improving infrastructure to withstand heat, enhancing early warning systems for heatwaves, and implementing public health measures to protect vulnerable populations.

Urban planning and design also play a critical role in adapting to rising temperatures. Cities can implement measures such as increasing green spaces, which can help cool urban areas through shade and evapotranspiration. The use of reflective materials in building construction can reduce the urban heat island effect, where cities are significantly warmer than surrounding rural areas. Additionally, enhancing public awareness about the risks of heatwaves and promoting behaviors to stay cool and hydrated can help reduce the health impacts of extreme heat.

The summer of 2024 serves as a stark reminder of the realities of climate change and the urgent need for action. As temperatures continue to rise, the impacts on health, economies, and ecosystems will become increasingly severe. It is imperative that global leaders, policymakers, and communities work together to address the root causes of climate change and implement strategies to protect against its effects. The time to act is now, to ensure a livable planet for future generations.



# FIERY FURY: THE VOLCANIC ERUPTION IN ICELAND ON MAY 29, 2024

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Director-

Copper Cross Solutions

On May 29, 2024, the land of fire and ice lived up to its name as Iceland experienced a dramatic volcanic eruption. This event captured the world's attention, highlighting the volatile nature of our planet and the constant interplay between geological forces and human activity. This article delves into the eruption's details, its environmental impact, and offering a comprehensive overview of this natural phenomenon.

## **The Eruption: A Natural Spectacle**

The eruption occurred in the Fagradalsfjall volcanic system, located on the Reykjanes Peninsula in southwestern Iceland. This region has been particularly active over the past few years, with a series of eruptions since 2021. The latest eruption began with a series of powerful tremors, signaling magma movement beneath the surface. As the ground split open, fountains of lava spewed into the air, creating a mesmerizing but perilous display of nature's power.

## **Environmental Impact: Transforming the Landscape**

Volcanic eruptions are both destructive and creative forces. The immediate area around Fagradalsfjall experienced significant changes as lava flows reshaped the landscape. The molten rock destroyed vegetation, altered river paths, and created new landforms. These transformations are a reminder of the Earth's dynamic nature, constantly evolving through geological processes.

The eruption also had a broader environmental impact. Ash and gases released into the atmosphere can affect air quality and climate. In the short term, the ash plume disrupted air travel, with several flights being canceled or rerouted to avoid the hazardous conditions. However, the long-term climate impact remains uncertain. Volcanic eruptions can release large quantities of sulfur dioxide, which can form aerosols that reflect sunlight and cool the Earth's surface. This phenomenon, known as volcanic winter, has been observed after major eruptions in the past. While the May 29 eruption was not on the same scale as historical events like the

eruption of Mount Pinatubo in 1991, it still serves as a reminder of the potential global consequences of volcanic activity.

### **Scientific Insights: Understanding Volcanic Activity**

Every volcanic eruption provides a wealth of data for scientists studying the Earth's interior. The May 29 eruption has offered new insights into the Fagradalsfjall volcanic system and the processes driving volcanic activity in Iceland. Researchers are particularly interested in understanding the movement of magma and the triggers for eruptions. By analyzing seismic data, gas emissions, and the composition of erupted materials, scientists can gain a better understanding of the underlying mechanisms.

One key area of study is the interaction between volcanic activity and the tectonic movements of the Mid-Atlantic Ridge, where the Eurasian and North American plates are diverging. This tectonic setting makes Iceland one of the most volcanically active regions in the world. The data collected from the recent eruption will contribute to ongoing research on plate tectonics, magma dynamics, and the prediction of future eruptions.

### **Cultural and Economic Impacts: A Mixed Blessing**

Volcanic eruptions have always played a significant role in Icelandic culture and history. The country's unique geological features, including its numerous volcanoes, have shaped the way of life for its inhabitants. While eruptions pose threats, they also bring benefits. The geothermal energy harnessed from volcanic activity is a crucial part of Iceland's renewable energy strategy. Additionally, the volcanic landscape attracts tourists from around the world, contributing to the economy.

However, the recent eruption has also brought challenges. The disruption to air travel and potential impacts on agriculture and fisheries are immediate concerns. Ashfall can contaminate water supplies and damage crops, while volcanic gases can harm livestock. The Icelandic government is working closely with local communities to address these issues and provide support where needed.

### **The Global Perspective: Lessons for the Future**

The eruption on May 29, 2024, serves as a stark reminder of the interconnectedness of natural systems and human societies. As climate change and environmental degradation continue to shape our world, understanding and preparing for natural disasters becomes increasingly important. Iceland's experience offers valuable lessons in resilience, disaster preparedness, and the importance of scientific research.

International collaboration is crucial in addressing the challenges posed by volcanic eruptions. Sharing data and resources can enhance our ability to predict and respond to these events, minimizing their impact on communities and ecosystems. The global scientific community has rallied around the recent eruption, with researchers from around the world contributing their expertise and insights.

### **Embracing the Power of Nature**

The volcanic eruption in Iceland on May 29, 2024, was a powerful reminder of the Earth's dynamic nature. It showcased the destructive and creative forces at play beneath our feet and highlighted the importance of preparedness and resilience. As scientists continue to study the event and its aftermath, we gain a deeper understanding of the processes shaping our planet.

While volcanic eruptions pose significant risks, they also offer opportunities for growth and learning. By embracing the power of nature and investing in research and preparedness, we can better navigate the challenges of living on a constantly changing planet. The story of the Fagradalsfjall eruption is one of both caution and hope, illustrating the delicate balance between humanity and the natural world.



# THE MULTI-FACETED IMPACT OF RISING TEMPERATURES ON HUMAN HEALTH

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## Introduction:

In recent decades, the Earth's climate has undergone unprecedented changes, leading to a global rise in temperatures. This phenomenon, primarily attributed to human activities such as burning fossil fuels and deforestation, has profound implications for various aspects of human life, including health. As temperatures continue to climb, understanding the intricate relationship between rising temperatures and human health becomes increasingly crucial. This article aims to delve deeply into the multifaceted effects of temperature rise on human health, drawing on extensive scientific research, empirical evidence, and the voices of experts in the field.

**Effects on Cardiovascular Health:** One of the most significant impacts of rising temperatures on human health is the exacerbation of cardiovascular conditions. Elevated temperatures can lead to an increase in heart rate, blood pressure, and dehydration, putting additional strain on the cardiovascular system. Research published in the journal *Environmental Health Perspectives* indicates

that each 1°C rise in temperature is associated with a 1.4% increase in cardiovascular-related deaths [1]. Moreover, extreme heat events have been linked to a higher incidence of heart attacks and strokes, particularly among vulnerable populations such as the elderly and individuals with pre-existing heart conditions [2].

## Heat-Related Illnesses:

As temperatures soar, the risk of heat-related illnesses escalates. Heat exhaustion and heatstroke are among the most common health consequences of prolonged exposure to high temperatures. Heat exhaustion, characterized by symptoms such as heavy sweating, dizziness, and nausea, can progress to heatstroke—a life-threatening condition marked by a body temperature exceeding 40°C (104°F), confusion, and loss of consciousness [3]. Vulnerable groups, including children, the elderly, and individuals with certain medical conditions, are at a heightened risk of succumbing to heat-related illnesses.

The impacts of heat on the body extend beyond the immediate physiological responses. Chronic exposure to high temperatures can lead to the development or exacerbation of various health conditions, including renal diseases. Research published in the *American Journal of Epidemiology* suggests that prolonged heat exposure is associated with an increased risk of kidney stones and renal failure [7]. Additionally, rising temperatures can disrupt sleep patterns, contributing to sleep deprivation and its associated health consequences, including impaired cognitive function, mood disturbances, and decreased immune function [8].

#### Impact on Respiratory Health:

Rising temperatures also pose a significant threat to respiratory health, exacerbating conditions such as asthma and chronic obstructive pulmonary disease (COPD). Higher temperatures contribute to the formation of ground-level ozone and air pollutants, which can irritate the respiratory tract and worsen respiratory symptoms. A study published in the journal *Nature Climate Change* suggests that climate change-induced temperature increases could lead to a significant rise in the global burden of respiratory diseases, particularly in urban areas with high levels of air pollution [4].

The relationship between rising temperatures and respiratory health is complex and multifaceted. Climate change not only exacerbates existing respiratory conditions but also increases the risk of respiratory infections. Research published in the *International Journal of Environmental Research and Public Health* highlights the impact of temperature changes on the transmission dynamics of respiratory viruses, including influenza and coronaviruses [9]. Additionally, wildfire smoke, exacerbated by hotter and drier conditions, poses a significant respiratory health risk, with studies linking exposure to wildfire smoke to an increased incidence of respiratory symptoms and hospital admissions [10].

#### Vector-Borne Diseases:

Changes in temperature and precipitation patterns influence the distribution and behavior of disease vectors, such as mosquitoes and ticks, thereby impacting the transmission of vector-borne diseases. Warmer temperatures can accelerate the reproductive rates of these vectors, prolong their active seasons, and expand their geographical range. This has implications for the spread of diseases like malaria, dengue fever, Zika virus, and Lyme disease. A meta-analysis published in the journal *The Lancet Planetary Health* highlights the complex interplay between climate change and the global burden of vector-borne diseases, emphasizing the need for adaptive strategies to mitigate public health risks [5].

In addition to vector-borne diseases, rising temperatures also influence the incidence and distribution of waterborne diseases, further exacerbating public health challenges. Changes in temperature and precipitation patterns can affect the quality and availability of water resources, leading to contamination and the proliferation of waterborne pathogens. Research published in *Environmental Health Perspectives* underscores the vulnerability of communities to waterborne diseases in the face of climate change-induced temperature rise, particularly in low-income and marginalized populations [11]. Addressing the interconnected challenges of vector-borne and waterborne diseases requires integrated approaches that encompass surveillance, vector control, water sanitation, and hygiene interventions.

#### Mental Health Implications:

Beyond the physical health consequences, rising temperatures also take a toll on mental well-being. Prolonged heatwaves and extreme weather events can induce stress, anxiety, and depression, particularly among individuals experiencing socioeconomic hardships or displacement due to climate-related disasters. A systematic review published in the journal *Current Opinion in Psychiatry* underscores the psychological impact of climate change-related heat exposure, underscoring the importance of

community resilience and mental health support mechanisms [6].

#### Conclusion:

The evidence is unequivocal: rising temperatures associated with climate change pose a significant threat to human health across multiple fronts. From cardiovascular complications and heat-related illnesses to respiratory problems, vector-borne diseases, and mental health implications, the ramifications of unchecked climate change are dire. Urgent action is needed to mitigate greenhouse gas emissions, enhance public health infrastructure, and implement adaptive measures to safeguard vulnerable populations. Addressing the health impacts of climate change requires a concerted effort at the global, national, and local levels, guided by scientific evidence and a commitment to protecting human well-being.

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## INTERVIEW ON AIR POLLUTION AND HEALTH WITH DR. PALAK BALYAN - RESEARCH LEAD, CLIMATE TRENDS

**Interviewer:** Good day, Dr. Balyan. Thank you for joining us to discuss the critical issue of air pollution and its impact on health. To begin, could you explain what air pollution is and what are its primary sources?

**Dr. Palak Balyan:** Good day, and thank you for having me. Air pollution refers to the presence of harmful substances in the atmosphere that can affect human health and the environment. These pollutants can be in the form of gases, particulate matter, or biological molecules. The primary sources of air pollution include industrial emissions, vehicle exhaust, burning of fossil fuels, agricultural activities, and natural sources such as wildfires and volcanic eruptions,

**Interviewer:** What are the main health effects associated with exposure to air pollution?

**Dr. Palak Balyan:** Exposure to air pollution can lead to a variety of health issues, ranging from minor irritations to severe diseases. Short-term effects include respiratory infections, allergic reactions, and eye irritation. Long-term exposure can contribute to chronic respiratory diseases such as asthma and chronic obstructive pulmonary disease (COPD), cardiovascular diseases, lung cancer, and can even affect brain function, leading to cognitive impairments. Vulnerable populations, such as children, the elderly, and individuals with pre-existing health conditions, are particularly at risk.

**Interviewer:** How does air pollution specifically affect respiratory health?

**Dr. Palak Balyan:** Air pollution affects respiratory health in several ways. Pollutants like particulate matter (PM2.5 and PM10) can penetrate deep into the lungs, causing inflammation and exacerbating conditions such as asthma and bronchitis. Ozone and nitrogen dioxide can irritate the airways, leading to symptoms like coughing, throat irritation, and shortness of breath. Long-term exposure to these pollutants can reduce lung function and increase the risk of developing chronic respiratory diseases.

**Interviewer:** Are there any specific pollutants that are particularly harmful to human health?

**Dr. Palak Balyan:** Yes, certain pollutants are especially harmful. Particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) is known to cause serious health issues due to its ability to penetrate deep into the respiratory tract. Ground-level ozone, formed by chemical reactions between volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight, is another major pollutant that can cause respiratory problems. Additionally, carbon monoxide, sulfur dioxide, and lead are harmful pollutants that can cause various health problems, including cardiovascular and neurological issues.

**Interviewer:** How does air pollution impact cardiovascular health?

**Dr. Palak Balyan:** Air pollution can have significant impacts on cardiovascular health. Pollutants such as PM<sub>2.5</sub> can enter the bloodstream through the lungs, leading to systemic inflammation. This can contribute to the development of atherosclerosis (hardening of the arteries), increased blood pressure, and can trigger heart attacks and strokes. Long-term exposure to high levels of air pollution has been linked to an increased risk of cardiovascular diseases and mortality.

**Interviewer:** What measures can individuals take to protect themselves from the harmful effects of air pollution?

**Dr. Palak Balyan:** Individuals can take several measures to protect themselves from air pollution. Monitoring air quality reports and limiting outdoor activities during high pollution days is important. Using air purifiers indoors, keeping windows closed during peak pollution hours, and avoiding heavy traffic areas can also help. Wearing masks designed to filter out pollutants, such as N95 respirators, can provide additional protection when outdoor activities cannot be avoided.

**Interviewer:** What policies and actions can governments implement to reduce air pollution and protect public health?

**Dr. Palak Balyan:** Governments can play a crucial role in reducing air pollution through various policies and actions. Implementing stricter emissions standards for industries and vehicles, promoting the use of clean and renewable energy sources, and enhancing public transportation systems can significantly reduce pollution levels. Additionally, raising public awareness, supporting research on air pollution and health, and investing in green infrastructure can further mitigate the impact of air pollution on public health.

**Interviewer:** Finally, what role can healthcare professionals play in addressing the health impacts of air pollution?

**Dr. Palak Balyan:** Healthcare professionals can play a pivotal role by educating patients about the risks of air pollution and advising on preventive measures. They can advocate for policies aimed at reducing pollution and participate in research to better understand the health impacts. Additionally, healthcare providers can track pollution-related health issues and contribute to public health initiatives aimed at improving air quality and reducing the burden of pollution-related diseases.

**Interviewer:** Thank you, Dr. Balyan, for sharing your insights on this critical issue. Your expertise is invaluable in helping us understand the impact of air pollution on health and the steps we can take to protect ourselves.

**Dr. Palak Balyan:** Thank you for having me. It's been a pleasure discussing this important topic with you.



# MOVIE

## RECOMMENDATION

### THE IVORY GAME

Directed by

- Richard Ladkani
- Kief Davidson

Produced by

- Walter Köhler
- Kief Davidson
- Wolfgang Knöpfler

Cinematography

Richard Ladkani

Production

companies

Terra Mater Film Studios

Vulcan Productions

Malaika Pictures

Appian Way Productions

Release dates

- September 2, 2016 (Telluride Film Festival)
- November 4, 2016 (Netflix)

## Synopsis

Tabrizi acts as both the narrator and protagonist of the film, discovering key pieces of information at the same moment as the viewer. This framing device serves to provide narrative momentum and suspense. The film centers early on the collapse of whale, shark, dolphin and sea turtle populations. The film asserts that the focus of environmental groups on comparatively small consumer plastics like straws has obfuscated the larger problem of plastic waste from fishing gear, or ghost nets, as well as the devastation of bycatch. The film also suggests environmental organizations have been unable to define or effectively implement sustainable fishing, sustainable seafood or dolphin-safe products. These criticisms are particularly focused on the Marine Stewardship Council, the Earth Island Institute and the Plastic Pollution Coalition.

The film's settings are global, including the Taiji dolphin drive hunt in southern Japan, whaling in the Faroe Islands, Thai and Chinese fish markets, coastal West Africa, and salmon aquaculture farms in Scotland. At various moments, Tabrizi and his crew appear to face imminent peril from local authorities or corrupt fishing industry players; some of the action is presented through hidden camera techniques, and animation is used to depict scenes of violence. Activities of the Sea Shepherd Conservation Society—an American conservation group focused on direct action at sea—feature prominently in the film, including an extended section documenting illegal fishing practices and worker exploitation in Liberian waters. The film also includes an investigation into modern slavery conditions on Thai fishing vessels, and interviews several survivors.

That the cessation of fish consumption is the solution to collapsing fish stocks and human exploitation remains a consistent message throughout the film. Statistics repeatedly buttress this point, including various fish species listed at >90% wild population loss, and the claim that global oceans could be essentially devoid of fish by 2048. The possibility of fish farming aquaculture is introduced, only to be dismissed after a trip to Scotland. The film suggests that aquaculture is untenable due to the problem of feed for farmed fish and the prevalence of disease and coastal degradation.

SOURCE:- [HTTPS://EN.WIKIPEDIA.ORG/WIKI/THE\\_IVORY\\_GAME](https://en.wikipedia.org/wiki/The_Ivory_Game)



## Dance of the Sun

In the furnace of the summer's blaze,  
The sun reigns supreme in its fiery haze,  
A heatwave descends with relentless might,  
Challenging all in its scorching light.

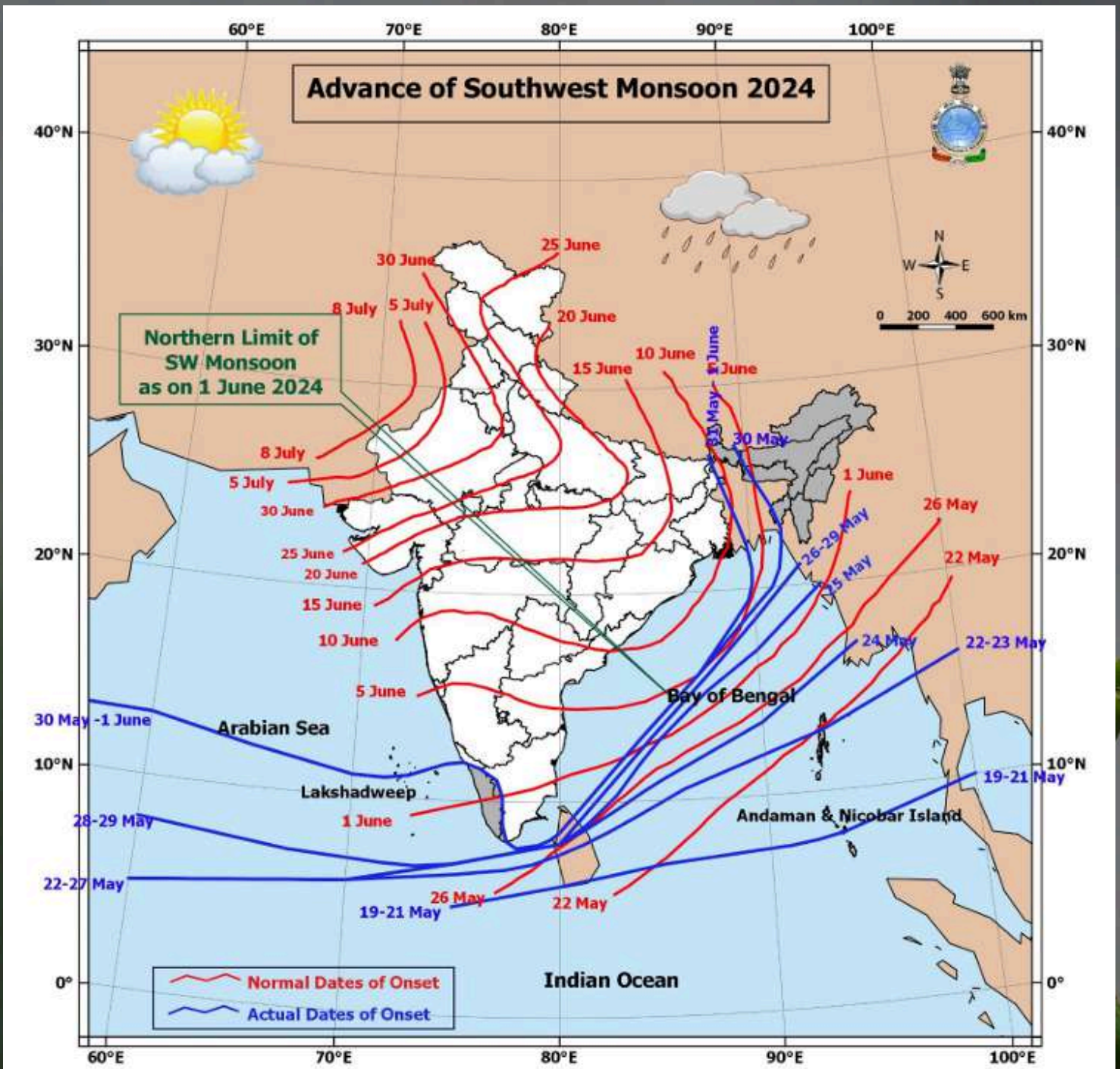
The air shimmers with a relentless heat,  
As nature's pulse slows to a simmering beat,  
The earth parched and thirsty, cries out in pain,  
As drought and desolation mark its terrain.

Beneath the merciless sun's unyielding glare,  
Life wilts and withers, caught in its snare,  
The grass turns golden, the rivers run dry,  
As heatwave's grip tightens, reaching for the sky.

Amidst the sweltering heat, humanity sweats,  
Struggling to endure nature's fiery threats,  
With every breath, a battle for air,  
As the heatwave's fury tests our every care.

But amidst the trials of scorching days,  
Resilience blooms in unexpected ways, Communities  
unite, lending a hand,  
In the face of adversity, together we stand.

So let us face the heatwave's fiery dance,  
With courage and resolve, we'll take a chance,  
For in the crucible of fire, we'll find our might,  
And emerge stronger still, bathed in the sun's light.



SOURCE:- Government of India Ministry of Earth Sciences India Meteorological Department

Associate Editors: Kamaldeep

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