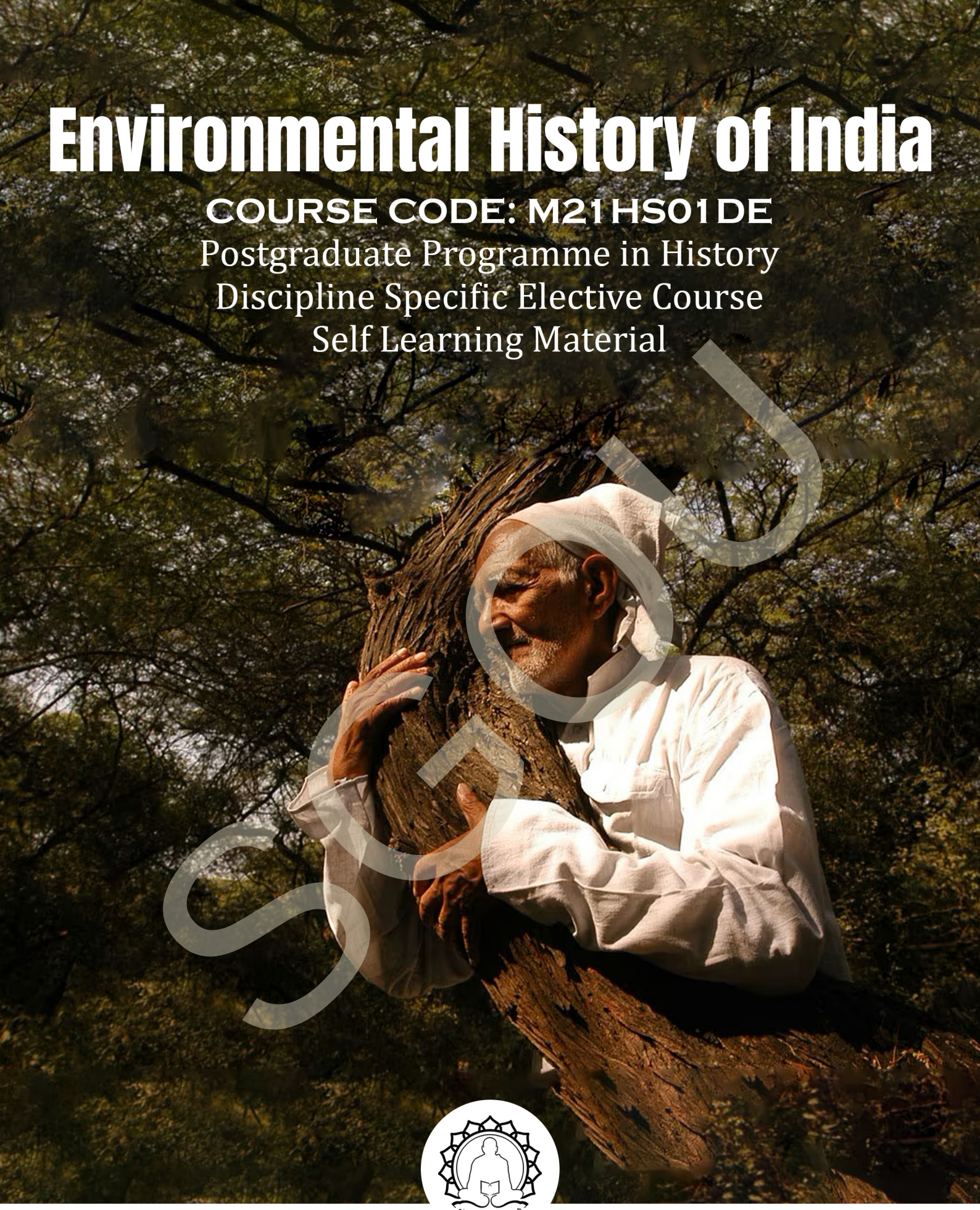
Environmental History of India

COURSE CODE: M21HS01DE

Postgraduate Programme in History
Discipline Specific Elective Course
Self Learning Material



SREENARAYANAGURU
OPEN UNIVERSITY

SREENARAYANAGURU OPEN UNIVERSITY

The State University for Education, Training and Research in Blended Format, Kerala

SREENARAYANAGURU OPEN UNIVERSITY

Vision

To increase access of potential learners of all categories to higher education, research and training, and ensure equity through delivery of high quality processes and outcomes fostering inclusive educational empowerment for social advancement.

Mission

To be benchmarked as a model for conservation and dissemination of knowledge and skill on blended and virtual mode in education, training and research for normal, continuing, and adult learners.

Pathway

Access and Quality define Equity.

Environmental History of India

Course Code: M21HS01DE

Semester - III

Discipline Specific Elective Course
Postgraduate Programme in History
Self Learning Material

(With Model Question Paper Sets)

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MA History

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MESSAGE FROM VICE CHANCELLOR

Dear learner,

I extend my heartfelt greetings and profound enthusiasm as I warmly welcome you to Sreenarayanaguru Open University. Established in September 2020 as a state-led endeavour to promote higher education through open and distance learning modes, our institution was shaped by the guiding principle that access and quality are the cornerstones of equity. We have firmly resolved to uphold the highest standards of education, setting the benchmark and charting the course.

The courses offered by the Sreenarayanaguru Open University aim to strike a quality balance, ensuring students are equipped for both personal growth and professional excellence. The University embraces the widely acclaimed "blended format," a practical framework that harmoniously integrates Self-Learning Materials, Classroom Counseling, and Virtual modes, fostering a dynamic and enriching experience for both learners and instructors.

The University aims to offer you an engaging and thought-provoking educational journey. The Master's program in History aims to familiarise learners with the complexities of historical research and facts through courses on historiography and research methodologies. Learners will develop skills to analyse historical dynamics, allowing them to step deeper into the nuances of historical narratives and reexamine past events with an appropriate outlook. The curriculum's interdisciplinary nature is evident in its incorporation of concepts from various fields. The Self-Learning Material has been meticulously crafted, incorporating relevant examples to facilitate better comprehension.

Rest assured, the university's student support services will be at your disposal throughout your academic journey, readily available to address any concerns or grievances you may encounter. We encourage you to reach out to us freely regarding any matter about your academic programme. It is our sincere wish that you achieve the utmost success.

Warm regards.
Dr. Jagathy Raj V. P.

01-09-2024

Contents

Historiography and Perspectives

BLOCK-01

UNIT 1

Concepts and Approaches

Learning Outcomes

Upon the completion of this unit, the learner would be able to:

- understand the notion of Environmental History
- contextualise interdisciplinary and multidisciplinary approaches
- trace various theoretical foundations of Environmental History
- familiarise the emergence and growth of Environmental History as a discipline

Background

The intention of the unit is to critically acclaim the emergence and spread of Environmental History as a discipline in a global context. The study of the relationship between nature and society lies at the heart of environmental history. The purpose of this unit is to offer a broad overview of significant works on global environmental history. Environmental elements received little attention in the early works in this discipline, which focused mostly on human history. But as the scientific revolution and European Enlightenment took place and the importance of environmental influences on evolution started to be acknowledged, historical writing underwent a change. Geographical influences on historical developments were not taken into account in historical texts until after World War I. The French Annales School, which placed a strong emphasis on studying history in the larger context of environmental factors, invented this methodical technique. Growing anti-pollution movements in America helped to further incorporate environmental issues into historical fiction. Notwithstanding these advancements, environmental history has only been a recognised field of study in the last 25 years due to historians' persistent pursuit of a methodical investigation of the interaction between humans and their natural surroundings.

Keywords

Environment, Environmentalism, Anthropocene, Political Economy, Political Ecology, Presentism, Economic Determinism

Discussion

1.1.1 Environment History Defined

♦ *Interconnection of humans and nature*

What is environmental history and why should we study it? Environmental history is a distinct branch of historical inquiry that uniquely emphasises the intertwined roles of humans and the natural world. Unlike conventional historical studies that often treat nature as a passive backdrop to human events, environmental history examines how both human actions and natural environments actively shape one another throughout time. Scholars like Donald Worster characterise it as an interdisciplinary exploration of the relationships among culture, technology, and nature over epochs. Meanwhile, Richard Grove and Mark Elvin frame it as the documented narrative of societies and species, focusing on their interactions with their surroundings.

♦ *Materialist and cultural perspectives*

Environmental history is a field that is characterised by a variety of viewpoints. Materialist or structuralist perspectives emphasise the material conditions that shape human history, while cultural perspectives highlight the beliefs, values, and symbolic meanings associated with the environment. Within the area, there are disagreements over everything from the meaning of "nature" to whether or not natural order can be understood by scientific investigation. In order to dispel myths and misconceptions about the wilderness, academics also examine the historical responsibilities played by indigenous peoples in regulating and forming their surroundings.

♦ *Debates on nature's influence*

The ongoing controversy regarding the degree of nature's effect on human affairs is central to environmental history. While some argue that human cultures are somewhat influenced by natural conditions and support limited environmental determinism, others assert that cultural forces ultimately determine all outcomes. Worster promotes a nuanced strategy, contending that studying the ecological effects of human culture is just as important as comprehending the cultural history of nature.

♦ *Holistic view of history*

Fundamentally, environmental history provides a crucial perspective for comprehending human history in relation to the natural world, rather than in isolation from it. By demonstrating the mutual effects and co-evolution of Civilizations and their environments over time, it deepens our understanding of the past.

1.1.1.1 Emergence and Growth of the Discipline

Academics that study environmental history disagree about its beginnings. Historians in North America typically date its origins to

the 1960s and 1970s, frequently citing Roderick Nash as a trailblaser. Despite the dearth of available literature, Nash began teaching one of the first undergraduate courses on environmental history in 1970. A number of notable historians, including Carolyn Merchant, Donald Worster, and William Cronon, were influenced by this early work and are still active in the area today. Through their scholarly work, graduate student mentoring, and collaboration at conferences like the American Historical Association, they established the groundwork for the field now known as environmental history.

♦ *North American origins*

Outside of North America, environmental history has its roots in older, less distinct scholarly traditions. Referred to as the intellectual forebears, European and colonial scholars employed fields including historical geography, natural history, and landscape history. These disciplines, which began to emerge in the second half of the 1800s, are now recognised as forerunners of environmental history. These early narratives place a strong emphasis on European and colonised regions, in contrast to their American concentration.

♦ *Field formalised and globalised*

Although its exact origins are still up for question, environmental history started to gain recognition as a field of study after 1970. The American Society for Environmental History, which organises well-attended annual conferences and publishes the prestigious journal *Environmental History*, and the creation of special chairs in environmental history are testaments to the institution's significant contribution to its growth. With the help of academic associations and specialised publications, environmental history has become more popular outside of the US in regions such as Europe, the Caribbean, Latin America, and East Asia. Thus, although environmental history was formalised in the 1970s by North American historians such as Roderick Nash, its roots are more extensive and deeper, going back via a number of European and colonial intellectual traditions. Environmental history is a thriving international field today, supported by numerous academic institutions and a wide range of intellectual representation.

♦ *Interdisciplinary and evolving discipline*

The methods and subjects matter by environmental historians are significantly more varied than the origins of the field itself. Because of its scope, environmental history is now seen by many as an interdisciplinary project rather than just a separate academic field. Many writings have analysed and reflected on the field's evolution during the last forty years, emphasising how it is always evolving and adapting.

♦ *Always evolving and adapting.*

1.1.1.2 Changing Perspectives

Between materialist and idealist perspectives, environmental history saw a notable split in the 1990s during the larger cultural

♦ *Split between materialist, idealist views*

movement in historiography. Beyond this contradiction, though, researchers have taken different paths in a variety of fields at different rates. The wide range of subjects covered in conferences such as the 2014 World Congress of Environmental History, whose papers covered everything from economics and art history to ecological studies and historical fluvial morphology, demonstrates the richness of the subject matter.

♦ *Diverse research enriches environmental history*

It is this diverse array of research that has prompted some, like Harriet Ritvo, to characterise environmental history as a "unevenly spreading blob." Research ranges from big-data reconstructions of historical temperatures to in-depth textual investigations of cultural views of particular flora and fauna. However, methodological pluralism, which characterises the field's vibrancy and vigor, is enhanced by this variation. Today, environmental history is a vibrant field with hybrid energy that surpasses that of its predecessors in the field.

1.1.1.3 Approaches to Environmental History

♦ *Methodological pluralism drives field's vibrancy*

In response to its broad breadth, a number of academics have attempted to provide frameworks for doing environmental history. According to Donald Worster, environmental history should be studied from three key perspectives: the first is how nature affects society; the second is how social and economic ties are formed as a result of environmental adaptations; and the third is how culture and thought engage with nature. According to J. Donald Hughes, there are three main themes: how the environment has shaped human history, how human activity has altered the environment, and how society views the environment. Environmental history is divided into three categories by John McNeill: political, cultural and intellectual, and physical factors.

♦ *Carolyn Merchant's five frameworks described.*

Carolyn Merchant contributes five approaches to environmental history: examining biological interactions between humans and the natural world; analysing different levels of interaction (material conditions, production, reproduction, and representation); studying environmental political movements; exploring ideas about nature; and analysing the narratives of environmental change. These frameworks demonstrate the diverse methodologies and emphases within environmental history. While some parts of the field prioritise social and cultural research, others focus on different dimensions, illustrating the interdisciplinary and multifaceted nature of environmental history.

The idea of "environments" is currently valued more highly by environmental historians than the more conventional idea of "nature." Although the majority of early environmental history

was concerned with nature, modern research acknowledges that ecosystems differ because human activity shapes them. Influential works by Clarence Glacken, such as *Traces on the Rhodian Shore,* continue to be fundamental to environmental history's examination of nature. But the difference is that, as Sverker Sorlin and Paul Warde point out, habitats are made by humans through interaction and awareness of their surroundings, whereas nature persists without human intervention.

♦ *Shift from nature to environment focus*

This viewpoint contests Raymond Williams's distinction between "natural" and "man-made" environments, contending that all habitats—moors or coal mines—are the result of human interaction with the outside world. Societies are always "environment-making," reshaping their surroundings via intricate interactions. By exposing natural elements inside cultural contexts and cultural influences within natural landscapes, environmental historians seek to disentangle the complex relationships that exist between the natural and cultural domains.

♦ *Human interaction shapes all environments*

This view is reflected in environmental history narratives, which begin and end with humanity situated within its environment, as opposed to beginning with nature and adding human agency. This method emphasises how people and their environment shape one other dynamically, highlighting the complex relationships between natural and cultural forces throughout history.

♦ *Dynamic human-environment relationships emphasised*

A viewpoint that sees ecosystems as intricate webs of human interaction with their surroundings has challenged the conventional focus of environmental history, which has centered on humans and the "natural world". This change has expanded environmental history's focus beyond what might seem like obvious topics. Previous researchers mostly studied subjects such as national parks, rivers, and forests, presuming that they are naturally occurring. On the other hand, modern environmental historians are studying a greater range of topics that might not typically be considered environmental.

♦ *Expanded focus on diverse environmental topics*

Reevaluation proponent Ellen Stroud contends that environments must no longer be viewed through the constrained lens of "naturalness." Instead, she recommends looking into ordinary aspects of nature found in unusual places. For instance, rather than focusing solely on the parks' natural condition, study on national parks should consider the non-human elements that comprise the park, such as the plants, animals, and soil, and how these have affected the park's history. Similar to this, one would wonder what role soil, plants, and animals play in urban infrastructure like sewer systems, public housing complexes, and even locations like golf courses where business deals are conducted.

♦ *Reevaluation of environmental history approach*

♦ *Worster's broader environmental history method*

The viewpoint of Donald Worster supports this method by arguing that environmental history may be studied in a variety of locations, including supermarkets in industrial districts and high plains cow ranches, as well as inside institutional frameworks like the tax code. This method emphasises the ecological aspect of all human endeavors and highlights the necessity of appreciating the ecological consequences of routine behaviours in order to comprehend environmental history.

♦ *Ecology's evolving influence on historiography*

Because the lines separating the natural and social domains are becoming increasingly hazy, environmental history is becoming less about studying habitats as fixed entities and more about the environments of things. Rethinking the idea of the "natural" and new epistemological ambiguities in ecology, a crucial field of study for early environmental historians, have affected this shift. Ecology, with ideas such as "climax vegetation" and "natural stability," which proposed that nature reached sustainable balance in plant and animal groups without outside intervention, had a significant impact on environmental history during the 1970s. Because of this viewpoint, early environmental histories took on a "declensionist" tone, stressing a gloomy account of pristine nature deteriorating due to human influence. Ecological theories, on the other hand, changed over time, moving from the idea of unchanging laws to the idea of ecosystems being historically contingent and vulnerable to changing circumstances.

♦ *Dynamic, historically contingent ecosystems acknowledged*

Ecology was acknowledged as dynamic and ever-changing, despite earlier being thought of as a solid scientific foundation. Ecologists have come to see plant and animal populations as historically formed rather than as static entities. This change called into question narratives about the degradation of the environment that presumed a peaceful, pre-social state of affairs.

♦ *Multidisciplinary nature of environmental history*

As a result, environmental history is no longer limited to crude comparisons between unspoiled nature and human influence. Acknowledging the historical circumstances that influence environmental narratives, it now examines the intricate interaction between natural and societal forces. This viewpoint emphasises the multidisciplinary nature of environmental history by examining the dynamic interactions between people and their environments over time using historical and ecological techniques.

♦ *Environmental historians' interaction with sciences*

As Geoff Eley points out, environmental historians have actively participated in multidisciplinary interactions, especially with the physical sciences. This reflects a larger trend towards cross-disciplinary collaboration, which is essential to the survival of historical inquiry. Scientists have found that historians are

especially open to incorporating scientific discoveries into their writing. Although Emmanuel Le Roy Ladurie commended climate historians for improving chronological accuracy by using precise dating methods, modern environmental historians frequently use scientific information from geology and climatology.

The assimilation of scientific approaches has been praised for augmenting the analytical profundity and empirical foundation of environmental history. Historians were able to obtain comprehensive environmental data through the use of "bio-" and "geo archives," which supported complex historical interpretations. Though some see this method favorably and argue that it improves objectivity, others warn against the biases and limitations of science in offering a completely objective perspective on the past.To summarise, environmental historians' involvement in the sciences highlights their dedication to interdisciplinary discourse. They use scientific discoveries to improve historical research while managing the challenges and criticisms that come with this methodology.

♦ *Interdisciplinary Discourse*

1.1.2 Relations with Other Discipline

Environmental history is the study of the historical relationships between human societies and their natural environments. The phrase originated with American historians in the 1970s and quickly expanded throughout Europe and beyond. The first World Congress in Environmental History, which took place in Copenhagen, Denmark in 2009, highlighted its global reach. Numerous academic fields, including geography, anthropology, ecology, ecological economics, and environmental philosophy, are incorporated into this multidisciplinary area. Environmental history began as geographic writings and has developed into a broad field that crosses conventional historical divides. It acts as a critical voice, opposing prevailing environmental theories that are focused on the future with a sophisticated awareness of the past.

♦ *Study of historical human-environment relationships*

Political, cultural/intellectual, and material are the three basic categories into which environmental history can be generally separated.

1. ***Material environmental history*** focuses on changes in biological and physical environments and how these changes impact human societies, emphasising the economic and technological aspects of human affairs. It deals with the history of the past two hundred years, especially industrialisation and consequent changes.

2. ***Cultural/intellectual environmental history*** emphasises representations and images of nature in arts and literature, examining how these have changed and what they reveal about the people and societies that produced them.

3. ***Political environmental history*** considers law and state policy as they relate to the natural world.

While environmental historians tend to specialise in one of these areas, some are versatile enough to navigate all three, even within a single context.

♦ *Rural-urban divide in environmental history*

Material environmental history has its own divisions, with perhaps the most notable being the distinction between rural and urban subjects. Rural themes cover agro-ecosystems, pastoral and grasslands ecology, and forests. Urban environmental history initially concentrated on pollution and sanitation but later broadened to include the development of technical systems, as well as the provisioning and metabolism of cities. While it is possible, and some argue logically necessary, to consider urban and rural environments together, environmental historians have typically treated them separately.

1.1.3 Themes of Environmental History

♦ *Origins of environmental history*

The phrase "environmental history" became widely used in the 1970s; it was first made popular by social scientists and historians in the United States, and it subsequently gained significant traction in Europe and other places. The inaugural World Congress in Environmental History, which took place in Copenhagen in 2009, was a major turning point in this field's understanding of the historical interaction between humans and the environment. Because of its wide range, environmental history has never been restricted to one field of study. Relatively late in this multidisciplinary endeavor, history itself joined. Environmental history has its roots in geographical literature, but it also incorporates ideas from environmental philosophy, ecology, anthropology, and ecological economics. As a sort of environmental consciousness, this field has emerged to challenge the dominant liberal conception of the environment, which looks only forward.

1.1.4 Different Approaches

Environmental history fills gaps in traditional research by offering new perspectives, especially in studies of the empire. Richard Grove argues that the rise of environmental awareness among Western Europeans in the 17th and 18th centuries, particularly among naturalists and administrators in the tropics, led to a better understanding of the environmental damage they caused. Grove's work has reshaped the history of the empire, and studies of the empire now incorporate environmental history. Both Grove and Worster argue strongly for the need to think globally about environmental history. Donald Worster notes that "one

♦ *Worster's global environmental perspective*

♦ *Impact of capitalism on environment*

needs to take an all inclusive view to study the planet as a single integrated system that has been radically reorganised by a single, integrated economy, technology and culture a point in history when people on every continent began to experience the same reality and to satisfy their personal needs by drawing bon the most remote parts of the earth''. He notes that it's hard to pinpoint exact dates for this era because it's ongoing, but key events include the discovery of the Western Hemisphere, advances in communication and transportation, and the rise of global markets. Importantly, the history of the global environment must address capitalism, which has been the main force behind the new global economy.

♦ *Post war environmentalism influences history*

Environmental history emerged in Europe and America partly as a result of the post-war wave of environmentalism that began in the 1960s. Rachel Carson's books *The Sea Around Us* (1952) and *Silent Spring* (1962) were pivotal in inspiring both environmentalism and environmental history. In 1967, Clarence Glacken's *Traces on the Rhodian Shore* marked a shift from historical geography to environmental history. The 1970s saw environmental history gain strength in the US with influential books by authors like Roderick Nash and Donald Worster. The book marks a shift from historical geography to environmental history, offering a unique study of environmental and cultural change. By the 1980s and 90s, more books by Richard Grove, Carolyn Merchant, William Cronon, Donald Hughes, and John McNeill followed. Most reviews suggest that environmental history was primarily rooted in the US and had limited influence elsewhere, including Europe. The author highlights Worster and Grove's work, which has shaped the fields of environmental and global environmental history. Worster emphasised the importance of thinking globally about environmental history, transcending national boundaries to understand how global connections formed and their impacts. Meanwhile, Grove's pioneering work focused on moving away from American debates, exploring the origins of environmental history in the colonial tropics within the Dutch, French, and English maritime empires.

Worster then looks at Charles Darwin and Thoreau. Darwin viewed the discovery of the Galapagos Islands as a contrast to Thoreau and Gilbert White's idealised view of nature. He observed how European settlers and their livestock drastically altered the natural environment in the Argentine pampas, especially along the La Plata river. Darwin noted that the vast herds of horses, cattle, and sheep not only changed the vegetation but also drove away native animals like the ostrich, deer, and guanaco. Darwin gathered enough evidence to believe that the current animal species were not the first to inhabit the land and that entire ecological systems could face

♦ *Pioneers in environmental history studies*

extinction, just like individual species. This realisation contributed to his understanding of the powerful forces threatening life. Unlike the peaceful qualities of Arcadia, Darwin saw "universal signs of violence" everywhere. His main influences included Lyell's *Principles of Geology* (1830) and Humboldt's *Personal Narrative* (1807), which was a pioneering work in ecological biology.

♦ *Worster's Anglo-American focus criticism*

This is fascinating and informative, but Worster overlooks that Alexander Beatson, an Indian army engineer, might have written one of the most important books Darwin brought on the *Beagle.* Beatson's 1816 work, *Tracts related to the Island of St Helena*, included William Roxburgh's list of the island's native plants and observations on their rapid extinction. This was crucial in shaping Darwin's theory of natural selection. When Worster explores the beginnings of ecology, he ignores the knowledge of nature in the tropics and concentrates solely on the Anglo-American viewpoint. In order to understand this, we need to look at Richard Grove's research from the 1980s and 1990s, when he examined the early emergence of environmental consciousness in the colonial periphery rather than in urban areas. Climate concerns were typically the driving force behind this awareness. A fundamental element in Grove's work, the historical influence of climatic anomalies is increasingly examined in contemporary global environmental history, a topic the author now wants to address.

♦ *Grove's environmental studies in colonies*

Grove contends in *Green Imperialism* that growing understanding of the world and the effects of human activity on the environment led to the specific historical development of global environmental awareness. The capacity to travel great distances, change the planet, and learn about the environment were all associated with this consciousness. There were two essential elements: first, the emergence of capital-rich marine commercial firms backed by the government, and second, the colonial immigrants' colonisation of unoccupied tropical and subtropical islands. These businesses' profit-driven practices, particularly those of the East India Companies, resulted in widespread plantation cultivation and deforestation for shipbuilding, fuel, and agriculture.

♦ *Alfred Crosby's Ecological Imperialism*

Alfred Crosby's *Ecological Imperialism* echoes Grove's claim regarding Europe's burgeoning resource frontier. According to Crosby, numerous ecological processes were profoundly impacted by imperial expansion, whether it was through outright conquest in "neo-Europes" or indirect consequences from trade and military actions. Local habitats were altered by the introduction of horses to the Americas, rabbits to Australia, and potatoes from the Americas to Europe. The globe has been affected by agriculture and animal domestication for a very long time, but from the 15th century,

developments have changed remarkably quickly and dramatically. But Crosby ignores the larger colonial tropics and concentrates primarily on white settler colonies.

1.1.5 Environment Determinism

Environmental determinism is not a new idea; it was introduced by Thomas Robert Malthus (1766–1834) in 1798. Malthus argued that tropical climates tended to foster degenerative societies, whereas the variable weather of middle and northern latitudes led to stronger work ethics and more civilised societies. In the 1950s, environmental determinism resurfaced through Eugenicists and Neo-Malthusians, particularly in the concept of "Carrying Capacity."

♦ *Malthus' theory of environmental determinism*

Ancient Greek philosopher Plato, in his renowned work "Republic," similarly explored the notion that societies resemble living organisms, with inherent cycles of existence and decline. Plato emphasised that social organisation, justice, and culture are crucial factors for the flourishing of societies.

♦ *Plato's societal cycles concept*

Environmental determinism, a school of thought, is widely regarded among scientists as positing that the physical environment influences the development trajectories of societies and states. Recently, this concept has evolved into a holistic approach to understanding world history. In his book *A Green History of the World: The Environment & the Collapse of Great Civilizations*, Poline explores the extent to which the environment has shaped human history. His work has inspired numerous researchers who now investigate similar themes. In the early 20th century, well before climate change theories gained popularity, Ellsworth Huntington linked the decline of Civilizations to changes in climate. Many studies now attribute past social collapses to factors like climate change and deforestation. Current research also explores how deforestation correlates with future projections of world population growth.

♦ *Civilization-climate relationship*

1.1.6 Presentism

Presentism is the doctrine that only the present is real. However, since ordinary language and thought frequently involve references to non-present objects, presentists often find themselves in a familiar predicament. In their unreflective moments, they seem to commit to far more than their ontological principles permit. A presentist believes that everything exists in the present and, more broadly, that it is always true that everything is (at that time) present. Presentism is the temporal counterpart of the modal doctrine of actualism, which holds that everything is actual. The opposing view in the

♦ *Presentism and its philosophical aspects*

philosophy of modality is possibilism, which posits the existence of non-actual things. Its temporal counterpart is eternalism, which asserts the existence of entities that are merely past or merely future.

1.1.7 Political Economy Theory

A key theoretical framework that emphasises the impact of capital on politics and policymaking is political economy. This effect is especially noticeable in urban settings, where capital—which includes both financial and real estate resources—plays a major role in determining the nature of governance. The dynamics of capital, however, differ greatly among local contexts. Within urban governance, capital is activated through a variety of processes, ranging from financial investments to real estate developments. From Adam Smith in the seventeenth century to Karl Marx in the nineteenth, academics have studied these dynamics in great detail, adding to the continual analysis and development of political economy as a theoretical ideology.

♦ *Political economy's role in governance*

A glossary of economic terms defines "political economy" as the study of wealth, emphasising the activities of people to meet needs and fulfill preferences. Raymond Williams contends that concepts take their meaning through actual social actions, emphasising an etymology based in both intellectual and social history. Political economy originated in the social norms, practices, and knowledge guiding home and community administration before it developed into a science characterising systems of production, distribution, and trade. This viewpoint is fifteen years older than Adam Smith's *Wealth of Nations*; Steuart himself made a comparison, saying, "Political economy is in a state, what economy is in a family." Thus, the administration of political and familial houses gave rise to the political economy in the first place.

♦ *Economic activities shaping governance outcomes*

Political economy investigates the intricate relationship between politics and economics by looking at how political institutions impact economic systems and vice versa. An economy's primary focus is on the production and distribution of goods and services. Property rights and the market are two significant entities that influence this process. Political economy looks at economic growth and development as well, highlighting the reasons for and barriers to riches. It also looks at how countries interact economically by examining the international commerce system.

♦ *Political economy's historical and social roots*

The function of the state and government in the economy is one of political economy's main concerns. It looks at how laws, taxes, and spending by governments affect economic activity and how these interventions affect various social groups and general well-being. Political economy, in contrast to classical economics,

♦ *State's influence on economy policies*

raises important issues regarding the causes, arguments, and effects of economic institutions and policies, especially with regard to underprivileged groups.

♦ *Political economy's interdisciplinary approach*

Political economy takes an interdisciplinary approach, incorporating ideas from fields such as sociology, political science, history, anthropology, and philosophy. It raises issues regarding who gains and loses from economic decisions, dispelling myths about economic structures and promoting a more thorough comprehension of their ramifications. Political economy recognises the limitations of market systems and, while recognising the importance of markets, also examines alternative economic models, such as socialist, feminist, and ecological perspectives.

Political economy, at its essence, provides a thorough framework for examining power relations both among individuals and inside institutions, illuminating the ways in which these dynamics influence economic results and structures.

1.1.7.1 Political Environment/Ecology

♦ *Focus on power dynamics*

An increasingly interconnected world is driven by structural forces, such as capitalist economic processes and power dynamics. Political ecology/environment, a critical research topic in anthropology, geography, and allied disciplines, has gained attention for its examination of these power dynamics and other structural forces. Political ecology, which emerged during the global neoliberalisation of the 1970s and 1980s, emphasises the importance of outside forces, such as international development and economic modernisation programs, in transforming regional habitats and means of subsistence in the Global South. The field is frequently linked to multidisciplinary research that looks at how transnational mining, logging, agriculture, and conservation programs in developing nations affect the environment and livelihoods.

Political ecology gives special attention to how state policies and capitalist markets contribute to localised dispossession and environmental disturbance. It refutes previous Malthusian theories that placed the whole blame for food insecurity and environmental deterioration on population growth exceeding sustainable resource utilisation. Since its founding, political ecology has broadened the scope of its study to encompass environmental politics and socio-ecological dynamics in urban and industrialised contexts, in addition to rural areas. Political ecologists frequently investigate issues like whose interests, assertions, or environmental views are dominant and why in these various contexts. This investigation aims to decipher the intricate connections between socioeconomic marginalisation,

♦ *Impact of state policies and capitalism on the environment*

environmental deterioration, and the root causes of conflicts brought on by changing access to and control over resources. In addition, political ecology studies the basic connections among location, identity, and social movements with the goal of understanding how these elements influence environmental dynamics and social reactions. All things considered, political ecology offers a crucial prism through which to view the relationships between political-economic forces and environmental changes, illuminating questions of justice, authority, and sustainability in international settings.

♦ *Power dynamics in environmental conflicts*

Political ecologists frequently investigate issues like whose interests, assertions, or environmental views are dominant and why in these various contexts. This investigation aims to decipher the intricate connections between socioeconomic marginalisation, environmental deterioration, and the root causes of conflicts brought on by changing access to and control over resources. In addition, political ecology studies the basic connections among location, identity, and social movements with the goal of understanding how these elements influence environmental dynamics and social reactions. All things considered, political ecology offers a crucial prism through which to view the relationships between political-economic forces and environmental changes, illuminating questions of justice, authority, and sustainability in international settings.

♦ *Political ecology*

While the phrase "political ecology" is not used once in Wolf's 1972 paper, it became well-known in his later works, including 1982's *Europe and the People Without History*. These studies played a key role in illustrating the enormous effects of global capitalism processes on regional human cultures and surroundings. Wolf described how the search for lucrative raw commodities propelled European colonial development into the Global South, creating a global economic system that affected even the most isolated areas and people.

♦ *Connections between identity and environment*

Anthropologists such as Sidney Mintz (1985), William Roseberry (1983), and June Nash (1993) added to Wolf's contributions. When taken as a whole, they highlighted how different groups are interdependent in a global economy that is driven by competition for limited resources. The Structural political ecology' theoretical framework, which developed in the 1980s and aimed to explain environmental disruptions and degradation via the prism of political economics, was largely shaped by this viewpoint. Scholars that study the social relations of economic production and the dynamics of resource access and control have applied basic questions to the field of structural political ecology. These investigations served as the foundation for models for sustainable alternatives, conservation, and environmental rehabilitation. As a result, the field expanded

from its beginnings to include a wider range of socio-environmental interactions in the framework of international economic systems.

♦ *Marxist influences on early political ecology*

Marxist ideas like Immanuel Wallerstein's world-system theory and dependence theory were major influences on the first wave of political ecology. Underdevelopment as a stage of transition towards sophisticated consumer capitalism and democracy was rejected by critical intellectuals such as Immanuel Wallerstein and Andre Gunder Frank. Rather, they maintained that underdevelopment was an enduring state required to maintain the contradictions present in the contemporary capitalist world order.

♦ *Role of developing nations in capitalism*

This view held that developing nations were essential to the functioning of global capitalism. They served as markets for manufactured goods, suppliers of strategically important or inexpensive raw materials, locations for surplus capital investment, and places where significant profits might be obtained by abusing low-wage labor. As Satellites' in the global economy, these emerging nations carried out menial and frequently unsustainable economic tasks for the gain of wealthier metropole nations.

♦ *Critique of structural political ecology*

The underdevelopment was sustained by this structural integration, which made these satellite economies dependent on outside markets and finance to survive. Their underdeveloped position was thus preserved by their place in the global economy, which increased their reliance on and susceptibility to changes in global markets and financial flows. Critics pointed out that many early political ecologists, perhaps unintentionally, did not fully adhere to the methodological principles articulated by Blaikie and Brookfield (1987), particularly when it came to the importance of local-level analysis and the diversity of beliefs and interests among individuals within local communities regarding economic development and socio-ecological changes. In the 1990s, the initial framework of structural political ecology came under critique for portraying global capitalism, state actions, and multinational development processes as unchecked and intentionally driven forces.

♦ *Reevaluation of the power of state and capitalism*

It became clear that local communities could also influence their surroundings and economies through self-initiated initiatives and political conflicts; socio-ecological revolutions were not only imposed from the outside. Michael Dove, for example, shows how generations of shifting cultivators in Borneo voluntarily embraced commercial rubber production in order to support their customary land claims and continue to support their subsistence lifestyles. These illustrations show that neither capitalism nor government involvement are all-powerful systems. Rather, local players manage

these dynamics depending on their own values and objectives, sometimes rejecting and other times aiding these processes as global market forces interact with and impact them.

♦ *Anthropocene and ecological challenges*

This change in viewpoint questioned the previous representation of state action and global capitalism by highlighting the agency and complexity of local actors in forming socio-ecological processes within the larger framework of political ecology. By 2020, the world will have seen unparalleled social and ecological difficulties, a period of time known by scientists as the "Anthropocene" in which human activity has a dominant influence on Earth's natural processes. Wide-ranging ecological and climatic changes have been brought about by decades of fossil fuel usage, industrial growth, population increase, and the pollution that follows. Steffen and associates have identified these changes, which include increasing precipitation, warming temperatures, deforestation, loss of biodiversity, and increased storm activity. The implication is stark: there could be permanent effects as we approach a global ecological tipping point. In response, anthropologists have investigated a wide range of topics, such as the increasing frequency and consequences of natural disasters, the effects of melting polar ice caps on communities in the Arctic, and the growing risk of sea level rise-induced displacement for populations living along coasts and islands.

♦ *COVID-19's socioeconomic and environmental effects*

The COVID-19 epidemic has also provided a striking example of the complex interactions that exist between the environment, the economy, and public health. The epidemic quickly caused a recession in the world economy, which was based on the exploitation of workers and the extraction of natural resources, bringing severe socioeconomic inequality to light. It brought to light long-standing economic disparities and social divides by emphasising the sharp contrast between vital workers, who are frequently paid cheaply, and non-essential workers, who receive greater salaries. Amidst these difficulties, attempts to address urgent global concerns are made more difficult by the backdrop of rising nationalism, authoritarianism, and social instability.

Now more than ever, the study of political ecology needs to map out a future. How can political ecologists make sure that decision-makers and the general public are more receptive to their theories and empirical findings? Some support increased interaction with corporate and governmental organisations because they recognise their critical role in determining the course of events. Others contend that indigenous knowledge systems and regional environmental viewpoints should receive more attention because of their significant contributions to our comprehension of and

♦ *Future directions for political ecology*

response to ecological issues. Furthermore, there is a demand for further cooperation between medical anthropology and political ecology, especially in light of a pandemic that highlights the relationship between health, politics, and economic inequality. There is more room for improvement in this multidisciplinary discussion with insights from catastrophe anthropology regarding patterns of susceptibility and resilience. Political ecology has to keep developing cooperation, honing socio-ecological analysis, and improving intervention tactics. By doing this, the field can help pave the route for just and sustainable global coexistence in the ambiguous Anthropocene and beyond.

Summarised Overview

This unit has examined the development of environmental history as a field of study and the varied interpretations of the field by historians. In the 1970s, environmental history became a recognised field of study in the United States of America. It quickly extended throughout South Asia and Europe, affecting a wide range of academic disciplines. Environmental History's use of multidisciplinary and interdisciplinary methods is one of its key features. This field provides a critical lens through which human history can be seen as an ongoing interaction rather than as existing in isolation from the natural environment.

In order to contextualise how theoretical frameworks such as environmental determinism, presentism, and political economy/ecology aid in the interpretation of environmental history, the unit expounds on these critical viewpoints.

Assignments

1. Analyse the emergence and growth of environmental history as an academic discipline.
2. Explain the different perspectives within the field of environmental history.
3. Critically engage with the concept of environmental determinism and its implications.
4. Examine multidisciplinary approaches within environmental history and their contributions.
5. Evaluate political economy theory concerning ecology and environmental interactions.

Reference

1. Carolyn Merchant, The Death of Nature, Women, Ecology and the Scientific Revolution, Harper, 1990.
2. Donald Hughes, *Ecology in Ancient Civilizations*, New Mexico Press, 1975,
3. Ravi Rajan, *Modernising Nature, Forestry and Imperial Eco-Development,* Oxford, 2008.

Suggested Reading

1. Alfred, Crosby, Ecological imperialism; The biological Expansion of Europe, 900-1900, Cambridge, 2004
2. Arnold, David, *The Tropics and the Traveling Gaze: Ohio India, land scape and Science ,* 1800-1856, University of Washington Press, 2014
3. Grove R and Damodaran,V. "Imperialism, Intellectual Networks and Environmental Change, Origins and Evolution of Global Environmental History, 1676-2000" Economic and political weekly, Parts 1 and 2, October,2006.
4. Grove R, Damodaran V. and Sangwan S., Nature and the Orient; the Environmental History of South and Southeast Asia, Oxford 1998.
5. Richard Grove, Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmental Consciousness, 1600-1860, Cambridge, 1995.

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 2

Global Perspectives

Learning Outcomes

Upon the comptetion of this unit, the learner will be able to:

- gain an understanding of environmental history from a global perspective
- analyse the relationship between imperialism and ecological changes
- explore the role of colonialism and science in driving imperial development
- develop a detailed understanding of eco-socialism and eco-feminism

Background

Globally, environmental history developed in two ways. But because of national and international conversations about the planet's future in the 1970s, it started to take shape in other parts of the world. It wasn't until the advent of modern environmentalism in the 1960s and 1970s that historians' understanding of the environment became more relevant. The environmental makeup of colonies was significantly impacted by the Industrial Revolution. The need for a steady stream of coal, wood, and other raw materials for technology-driven industrial production transformed colonies into vital resources for mining, forest extraction, and the establishment of enormous agribusinesses. Scientific discoveries made it possible for "green revolutions" to occur in the colonies by extensively commercialising and privatising waterways, meadows, hills, and valleys. Indigenous farming methods and their commercial applications were systematically appropriated, destroyed, or eliminated in the process of expanding scientific knowledge.

Keywords

Colonialism, Imperialism, Ecological Imperialism, Exploitation, Conservation-Ecosocialism, Ecofeminism

Discussion

1.2.1 Global Environmental History

♦ *Environmental history explores human-nature interaction*

The study of environmental history, which began to take shape in the 1970s, looks at how people interact with the natural world. The nineteenth century saw a surge in the understanding of the environment as a potent force. This change is reflected in the natural selection theory of Charles Darwin, which holds that natural selection influences how life evolves, and in the spiritual outlook of Henry David Thoreau, which is summed up in his statement that "in wilderness is the preservation of the world."

♦ *Environmental history's global evolution in the 1970s*

Environmental history evolved in two directions on a global scale. It was a byproduct of environmental movements in the United States, but it began to take shape in other areas of the world during the 1970s as a result of national and international discussions about the planet's future. The previous ecologically focused research of Walter Prescott Webb and Frederick Jackson Turner, as well as the work of American political and intellectual historians like Samuel P. Hays and Roderick Nash, served as the foundation for this emerging discipline.

♦ *Foundation laid by early environmentalists*

The 1959 release of Samuel Hays's *The Conservation and the Gospel of Efficiency* and the 1967 publication of Roderick Nash's *Wilderness and the American Mind* heralded the advent of a new historical outlook that emphasised the need of protecting the environment. Hays's research, which is mostly political history, concentrates on the administration of Theodore Roosevelt's utilitarian conservation programs, particularly those of Chief Forester Gifford Pinchot. *Wilderness and the American Mind,* on the other hand, is an intellectual history that explores how the idea of wilderness has changed across time and space, with heroes like John Muir and preservationist Henry David Thoreau. The disparity between these two poles of environmental thought—around which the majority of environmental movement histories have centered—is brought to light by these texts taken together. These classic books, though, do not constitute environmental histories in and of themselves. The environment is only used as a setting for the human tale in both studies, which concentrate on the advancement of environmentalists.

Historians' understanding of the environment did not become more pertinent until the 1960s and 1970s with the rise of modern environmentalism. The pollution that envelops American cities and the pesticide hazards brought to light in Rachel Carson's book *Silent*

Spring have drawn attention to the effects of human activity on the environment. Richard White stated that "environmental history as a self-proclaimed new field emerged on the academic scene deeply involved with, if not married to, modern environmentalism." In the foreword of the 2001 version of *Wilderness and the American Mind*, even Nash admitted that he was "indisputably lucky" to have "caught the wilderness wave as it began to crest," so benefiting from the intellectual upheaval he wrote about.

♦ *Early environmentalist perspectives*

Inspired by the goal of comprehending "the role and place of nature in human life," historians started expanding upon the theories of famed wilderness advocate and conservationist Aldo Leopold. Leopold claimed that "soils, waters, plants, and animals, or collectively: the land" form an interdependent community of which people are only one member. Environmental history, according to Donald Worster, "rejects the common assumption that the human experience has been exempt from natural constraints, that people are a separate and uniquely special species, and that the ecological consequences of our past deeds can be ignored." This new field adopted Worster's later structure.

♦ *Leopold's interdependent land community*

♦ *Worster's rejection of human exceptionalism.*

Despite having different viewpoints, American historians have significantly contributed to environmental history. Regarding the importance of ecological and social elements, their conclusions differ. While Judith A. Carney emphasises the significance of taking into account the ethnic and gendered elements of indigenous knowledge, Crosby stresses the significance of ecological advantages. These considerations are vital for the substantial biological and ecological interchange that has taken place. Cronon contends that despite ecological change's crucial significance throughout history, human decisions and conflicts continue to be crucial.

♦ *American historians' diverse environmental history contributions*

Academics are also concentrating on how governmental sovereignty over forests has changed since 1900. Donald Hughes looks at the intellectual forces that influenced people's conceptions of nature as well as the economic and environmental factors that affect how people use and perceive their surroundings in the West and Asia. African historians have extensively examined the disastrous impact of colonial control on African forests in their environmental history studies. Their research provides important new insight into the nuanced interactions between the colonial state and its subjects. These historians look into things like native perspectives on animal hunting and conservation. Social scientists have been investigating ecofeminist viewpoints in human-environment interactions lately.

♦ *Global sovereignty over forests since 1900*

♦ *Braudel emphasised environmental impact in history.*

The interest in geography and ecology among French historians has been noteworthy even in the absence of environmental movements. In his study of the Mediterranean region, for instance, Fernand Braudel placed a strong emphasis on nature and contended that environmental trends—which he saw as happening gradually and repeatedly—had an impact on the development of human history. Environmental history is a relatively new field in Australia, having developed from the historical geography subfield.

♦ *Donald Worster's four-level environmental history model*

Donald Worster, one of its main proponents, defined environmental history as the study of nature's place and influence in human existence. Its main objective is to make clear the connections between human behavior and environmental changes. Nature is acknowledged as an active player in history, not just a background against which human activities are conducted. According to Worster's ambitious model, historical research is typically conducted at four levels in order to fully understand the intricacies of the human-environment relationship:

1. Understanding the dynamics of natural ecosystems over time.
2. Examining the interactions between nature and the socio-economic realm.
3. Enquiring into environmental policy and planning.
4. Exploring and challenging cultural values and beliefs about nature.

In today's global society, the dominant political perspective on the environment is that it is an issue area that encompasses a number of distinct concerns. Global warming, the destruction of forests, toxic pollution, and biodiversity loss are some of these worries. When taken as a whole, these problems demonstrate the rise of an ecological worldview.

1.2.2 Imperialism and Environment

♦ *Global environmental issues dominate modern politics*

The political and military dominance that advanced capitalist nations impose on less developed nations in order to gain political and economic advantages is known as imperialism in the modern sense. The term "imperialism" for contemporary society historians describes the enormous effects of unequal interactions on colonial cultures and ecologies. Harvesting natural resources for European cities was the main goal of European colonists in Asia, Africa, Australia, and Latin America. As a result, colonial countries' lifestyles and the ecosystem underwent profound changes as a result of European dominance. In order to maximise their profits, European planters, miners, and businesspeople spent their cash in

colonies, transforming rich land, lush forests, minerals, animals, and plants into commodities for sale in European marketplaces. The large-scale transformation of the natural environment had tremendous social impacts, including:

A. The impoverishment of indigenous peasantry

B. A remarkable increase in the number of landless poor

C. Long-distance migration of workers seeking new livelihoods

D. The overseas slave trade

1.2.3 Ecological Imperialism and Its Crisis

Historians use the phrase "ecological imperialism" to describe the social and economic effects of turning colonial natural resources into commodities and raw materials for urban industry. One of the foremost environmental historians in the United States, Alfred Crosby, wrote a book titled *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*, in 1986. In it, he detailed the damage that European colonisation frequently caused unintentionally to native surroundings. The introduction of Old World plants and animals into New World habitats led to population expansions that negatively impacted indigenous species.The subtitle of the book implies that Crosby's historical theory was primarily concerned with "biological expansion" and did not specifically discuss imperialism as a political-economic phenomena. It did not examine how ecology might be related to the competition between various capitalist forces or to the center's hegemony over the periphery of the global capitalist economy. According to this theory, ecological imperialism functioned as a purely biological force, much as the infectious diseases that wiped off tens of millions of indigenous peoples following Columbus' arrival in the Americas. It was based on 'encounters' between parts of the Earth that were separated by distance. The social relations of production were mainly left out of this historical account.

♦ *Imperialism's environmental impact on colonial societies*

Because of the complexity of the ecological issue under capitalism, a worldwide examination is necessary. On this global scale, ecological deterioration is associated with splits within the global capitalist system. There is just one global economy, yet it is split up into many nation-states that compete with each other directly and through their firms. It is also split hierarchically into the center and the periphery, with countries holding essentially distinct roles in the global system of dependency and dominance as well as in the international division of labour.

♦ *Ecological imperialism turned nature into commodities*

♦ *Crosby's biological expansion theory in colonisation*

Crosby observed that the impact of European colonial expansion differed markedly between the Old World and the New World (Crosby, 1986). He argued that in New World regions like Canada, Australia, and New Zealand, European colonialism primarily had an ecological impact, causing significant changes in the complex of diseases, plants, and animals, which led to the destruction of indigenous socio-ecological life. In contrast, Europeans failed to create Neo-Europe in Asia and Africa due to high population density and the power of centralised states. However, Europeans were able to establish political dominance to exploit indigenous knowledge and commercialise rich landscapes.

♦ *Crosby's theory critiques and complexities*

♦ *Grove's 'Green Imperialism'*

Historians have critiqued Crosby's approach of viewing ecological imperialism as a watershed moment in environmental history. Richard Grove, an environmental historian of the early modern world, argued that the hypothesis of purely destructive environmental imperialism as a complete break from the pre-colonial past does not hold up well. Instead, Grove introduced the concept of 'Green Imperialism' to address the Asian and African contexts of European colonial expansion. Rather than viewing ecological imperialism as a one-sided imposition of European plants, animals, and knowledge, Grove considered it a two-way process of interaction and exchange. By examining the early colonial development of imperial botanical gardens and the growth of botany as a modern scientific discipline, Grove demonstrated that indigenous knowledge influenced European ideas about nature. For example, Grove noted that Alexander von Humboldt, the renowned 18th-century European botanist and explorer, studied Indian indigenous botanical knowledge.

♦ *South Asian studies on colonial ecological transformation*

Over the past four decades, environmental historians of South Asia have conducted significant studies to explain the concept of green imperialism. They have examined how colonialism desecrated forest and pastoral economies, irrigation techniques, shifting cultivation patterns, hydraulic environments, and fisheries in colonised regions. It is crucial to recognise that the ecological transformation of colonies was closely linked to the industrialisation of production in metropolitan regions. Large-scale monocropping of cash crops, capitalist extraction of mineral resources, and the extensive development of railway infrastructure in colonies allowed European capitalists to supply raw materials, food, and energy sources to metropolitan industries. Colonial entrepreneurs and planters altered colonial landscapes through the creation of sugar, indigo, cotton, rubber, and tea plantations, as well as mines. The commercialisation of natural resources under colonial rule led to the massive extinction of endemic plant and animal species. Monocropping of marketable crops such as cotton, tea, sugar, and

hemp resulted in the loss of biodiversity and traditional livelihood resources for farmers, pastoralists, and fishers. The dispossessed people were often enslaved or forced to work under precarious conditions on plantations. Additionally, transformations in ecosystems contributed to the spread of epidemics like cholera and malaria. Environmental historians use the term 'ecological imperialism' to assess the overall social and ecological impact of European domination.

1.2.4 Colonialism and Environment

♦ *Colonial rule led to biodiversity loss*

European colonial expansion into Asia, Australia, and America, initiated by great European sailors in the 15th century, marked a turning point in the history of capitalism and modern imperialism. In 1487, Bartolomeu Dias embarked on a long sail to the southern tip of Africa, opening possibilities for entering the Indian Ocean. In 1492, Christopher Columbus traveled west and reached the West Indies. In 1498, Vasco da Gama set sail from Lisbon to Asia, reaching Kappad near Calicut in Kerala, the southern part of India. Ferdinand Magellan reached the Philippines in search of spices. These explorations generated an enormous body of knowledge about sea routes, winds, and opportunities to accumulate wealth, as well as transforming environmental aspects across global societies.

♦ *Environmental historians analyse European ecological imperialism*

During the 15th and 16th centuries, European visitors to New sealand and Austria encountered natural goods that were scarce in Europe. Initially, their activities were confined to coastal areas, but soon European ships began transporting farmers to the New World to expand the cultivation of wheat and other food crops. The settlers viewed the natural riches of the New World as marketable commodities. They considered indigenous people as potential cheap labour, a perspective endorsed by European intelligentsia, who saw the indigenous populations as people without history. By the mid-16th century, mercantile companies, supported by the Portuguese, Dutch, and British governments, had established trading posts along the coasts of the Indian Ocean, Atlantic, and Pacific.

1.2.4.1 Colonising the Nature

♦ *European colonial expansion transformed the world*

European colonial expansion to various continents during the early modern period (1500s to 1800s) marked the greatest imperial expansion in human history. This era saw a massive emigration of European settlers, who brought their plants and animals to new colonies, resulting in the most radical human-made transformation of the biosphere since the Neolithic Revolution (a term coined by Gordon Childe). The expansion significantly redrew the world map, as European powers annexed subcontinents and islands

located thousands of miles away. Portuguese, Italian, Spanish, British, French, and other European farmers, along with capitalists, sailed to the New World with hopes of becoming wealthier through investments in agriculture, mining, and trade.

♦ *Settlers introduced new animals globally*

European settlers brought their domesticated animals to the colonies, introducing horses, cattle, pigs, goats, sheep, asses, chickens, and cats to the New World. In 1493, Columbus transported cattle from the Canary Islands to Hispaniola, as settlers relied heavily on cattle for milk, meat, fiber, and leather. Pigs were also brought due to their remarkable ability to convert large amounts of food into proteins and carbohydrates for human consumption. As a result, colonies like Australia became major centers for meat production.

♦ *Animal imports spread diseases rapidly*

However, the introduction of these animals, along with plants, also brought a host of microscopic organisms to the New World. This led to the spread of diseases such as smallpox, measles, green-sickness, and malaria, which, coupled with significant changes in the ecosystem and the extinction of indigenous species, made local societies more vulnerable to epidemics. For example, Crosby noted the rapid spread of honeybees from Iberia to other colonies and their significant role in altering ecosystems previously maintained by native insects.

♦ *Colonists commodified and deforested lands*

The transformation of the physical environment profoundly impacted people's relationships with nature. Colonists viewed the lands they "discovered" as commodities, leading to widespread deforestation for timber export and food crop cultivation. This commercial exploitation, especially the cultivation of crops like sugar, caused severe problems, including topsoil erosion, flooding, famine, and a gradual decrease in rainfall. Despite these issues, European ships continued to transport large quantities of wheat, sugar, and timber from the colonies to England, France, Italy, and other mainland European cities for centuries. The expansion of cultivation by white settlers also significantly altered the population of the New World, as slave traders brought indigenous Africans to work as slaves on colonial plantations of sugar, cotton, and other crops.

♦ *Flora and fauna transfers reshaped colonies*

The history of plant and animal transfer is an elaborated historical process. Crosby, one of the prominent environmental historians, argued that European settlers were able to establish farms in Australia, New Zealand, South Africa, Argentina, and various countries in Asia through a careful process of species transfer. By replacing indigenous plants and animals with commercially endorsed varieties, they transformed these regions into Neo-

Europes. Crosby also examined the global migration of various crops such as maise, potato, bean, and manioc. The list of flora and fauna that were circulated globally included rice, wheat, oat, barley, cattle, sheep, chicken, and horse.

By tracing the global circulation of plants and animals, Crosby argued that European settlers' interventions in the biospheres of the New World transformed the social and economic relationships within the colonies. White settlers developed a new world where the indigenous population had no rights as citisen-farmers. The new flora and fauna introduced by European colonisers replaced thousands of local species. Additionally, white settlers considered hunting a favorite leisure activity. Planters also engaged in massive deforestation to meet firewood requirements. This massive deforestation eventually led to large-scale erosion of fertile topsoil. The rich topsoil from hill slopes and plains silted rivers and lakes, thereby affecting the underwater ecosystem. This dependence and geographically extended process of ecological conversion had a major impact on the economy, which was based on regional ecological distinctions.

♦ *New species replaced local ecosystems*

1.2.4.2 The Industrial Revolution and Ecological Transformation

The Industrial Revolution, responsible for the fundamental transformation of European countries, dramatically changed the face of England. Land that had been cultivated as open fields for centuries or left as common pasture was fenced off, villages grew into cities, and England became dotted with factories. The Industrial Revolution should be viewed both as a movement and as a period of time. Whenever it occurred—whether in England after 1760, in the United States and Germany after 1870, or in Canada, Japan, Russia, and France in the twentieth century—the character and effects were fundamentally the same. Everywhere, it influenced population growth, the application of science to industry, and a more intensive and extensive use of capital. It universally entailed the conversion of many rural areas into urban communities, giving rise to new social classes and bringing about great transformations in the environment and culture.

♦ *Industrial Revolution transformed landscapes globally*

The Industrial Revolution had a profound impact on the environmental structure of colonies. The demand for an uninterrupted supply of wood, coal, and other raw materials for technology-based factory production turned colonies into essential sources for extracting forests, developing mines, and establishing large agribusinesses. European plantations and capitalists, bolstered by subsidies and land grants from princely states and regional rulers, exploited these natural resources and transformed them into commodities for mass consumption.

♦ *Colonial plantations altered natural resources*

♦ *Sugar became a global commodity*

European planters set up extensive plantations in the Indian Ocean and Atlantic regions to produce sugar, cotton, hemp, teak, rubber, and coffee. This led to a dramatic transformation of landscapes, including mountains, valleys, rivers, coasts, and oceans, converting them into resource bases. Capitalist societies perceived colonised regions as areas to produce cheaper commodities for metropolitan industries.

♦ *Colonialism impacted the global population and economy*

The shift towards plantation agriculture, characterised by large-scale monoculture of commercial crops, redirected the natural resources of colonies into commodities that enriched capitalist countries. Sidney W. Mintz, the very pronounced American anthropologist in his renowned book *Sweetness and Power: The Place of Sugar in Modern History*, detailed how European and American planters turned sugar into a global commodity through the subjugation of indigenous populations and the exploitation of natural resources.

♦ *European imperial expansion*

In the 19th and 20th centuries, over fifty million Europeans migrated to distant colonies in search of cultivable land and forest regions to engage in trade and the commercialisation of plantation crops. Consequently, it can be argued that no region in the world was left unaffected, directly or indirectly, by European imperial expansion. In his notable book, *Ecology and Power in the Age of Empire: Europe and the Transformation of the Tropical World*, environmental historian Corey Ross observed, "at the heart of European imperialism was an attempt to transform forests, savannahs, rivers, coastal plains, and deserts into productive and legible spaces, all of which brought hefty environmental consequences: deforestation, erosion, siltation, pollution, disease, and habitat destruction."

1.2.4.3 Colonialism and Science

♦ *Colonialism fueled scientific exploration and knowledge*

Colonialism played a vital role in the development of science. The primary function of colonial science was to locate and evaluate new resources for imperial development. Botanical science, Geology, cartography, etc developed during the colonial periods. So ideologically there was a strong nexus between science and empire. Not a single action in the realm of science and technology, it is argued, was initiated which did not promise hefty returns. Understanding how the notion of colonial science emerged and evolved over the years is crucial. A significant contribution to this understanding was George Basalla's 1967 article, *The Spread of Western Science,* which had a formative influence on much historical scholarship of British science through the 1980s. Basalla proposed a universal model for the diffusion of Western science, starting with an initial phase of exploration where colonies provided raw data and

materials for scientific analysis in the West, progressing to formal colonial dependence, and ultimately leading to independence.

By the 1970s, Marxist critiques of neocolonialism, particularly from theorists of "dependency" such as Paul Baran, Andre Gunder Frank, and Immanuel Wallerstein, fostered a more critical view of the roots of science in colonial expansion. While Basalla's chronology remained influential, science increasingly came to be seen as an instrument of imperial control rather than a key to development. Dependency appeared intrinsic to the relationship between the imperial "core" (or metropole) and its colonial "periphery." Colonial expansion was crucial to the development of sciences such as botany and geology, in which the collection and comparison of specimens was paramount. .

♦ *Scientists influenced global colonialism deeply*

1.2.4.4 Role of Scientists

Scientists played a remarkable role in the spread and development of colonialism across the globe. From the 16th century onwards, European colonialism was deeply intertwined with scientific advancements. The modern European pursuit of mastering nature was central to the emergence of botany as an important discipline. Beginning in the 15th century, scientists specialised in fields such as agriculture, forestry, natural resource extraction, and conservation.

♦ *Botany flourished through imperial expeditions*

Traveler-scientists like the German explorer and naturalist Alexander von Humboldt (1769-1859) identified, classified, and collected plants during their imperial expeditions. European national governments supported expeditions by natural scientists to Latin America and Asia to identify species with commercial potential, acclimatise them in new environments, and breed them to increase yields. Humboldt made significant contributions to ecology by studying and classifying plant species in Spanish colonies in Central and South America.

♦ *Botanical research revolutionised global agriculture*

Similarly, the *Hortus Malabaricus*, an illustrated epic treatise conceived by the Dutch Governor of Malabar, Hendrik van Rheede, documented the medicinal properties of flora in Kerala, in the southern part of the Indian subcontinent. This work was published in Amsterdam between 1678 and 1693 in 12 volumes of about five hundred pages each. Considering such sources, it can be argued that the 14th and 15th centuries marked a great awakening of botany as a scientific discipline, following the eras of the Babylonian Civilization and Graeco-Roman relics. Scientific inventions **enabled "green revolutions"** in the colonies by massively privatising and commodifying hills, valleys, pastures, fertile slopes, and water bodies. This development of scientific knowledge involved the systematic appropriation, destruction, or elimination of indigenous farming practices and their commercial

♦ *Indigenous knowledge influenced colonial botany*

applications. Supported by colonial states, white supremacist domination led to the dispossession of indigenous people from their land and resources. Consequently, indigenous populations were often forced to work as plantation laborers on colonial plantations.

♦ *Botanical gardens facilitated plant experimentation*

Colonial states significantly contributed to the development of botany as a discipline by encouraging the creation of botanical gardens. The ruling class in Great Britain promoted the establishment of botanical gardens in Oxford, Chelsea, and Edinburgh to test the cultivation of therapeutic plants. Before contemporary botanical research laboratories emerged, Kew Garden in London served as a major hub for botanical research and experimentation.

♦ *Scientific inventions promoted commercial agriculture*

William Turner (1510–1568), the pioneer of English botany, conducted plant development experiments at Kew. Scientific research facilitated the discovery of plants to meet commercial needs, such as fiber and medications. In her 1979 work, *Science and Colonial Expansion* historian Lucile Brockway examined how British garden networks created and dispersed commercially valuable species to various regions worldwide to encourage their cultivation. Imperial botanical networks developed scientific techniques for implant, novel growing methods, and species selection to improve various plants. They worked on accommodating valuable plants to different habitats. For instance, European migrants in Africa could withstand malaria because cinchona crops in South Asia and other colonised regions produced an affordable source of quinine. Agricultural entrepreneurs successfully introduced rubber and cinchona, native to Brazil, to Asia with the help of botanical knowledge. Rubber seeds from Brazil became a significant plantation crop in Malaya, essential to the industrial revolution and the motorisation of transportation. Similarly, colonial planters and botanists experimented with coffee, cinchona, and tea in different colonies to explore opportunities for commercial cultivation.

♦ *Colonialism fueled botanical research advancements*

Environmental historian Richard Grove identified the intricate process of imperial botanists assimilating indigenous knowledge as the driving force behind ecological imperialism. He challenged the Eurocentric assumption that plants, animals, and knowledge primarily spread from Europe to the colonies. Grove argued that early modern geographical explorations and botanical studies significantly altered European conceptions of nature by focusing on the experiences of European natural scientists in tropical regions. The worldwide classification of plants by botanists paved the way for advancements in pharmacology and natural history. Portuguese and Dutch botanists were among the first to establish botanical gardens, linking the medicinal and botanical expertise of regions such as Brazil, West Africa, Asia, and the Caribbean.

♦ *Plantations shifted to monocropping for profit*

The development of botany as a modern science emerged prominently during the colonial period, driven by European naturalists and explorers who promoted botanical research and facilitated the transfer of plants across regions. This era saw significant advancements in agricultural science, revolutionising the agrarian sector with new production methods. Monocropping of crops like indigo, coffee, tea, sugar, banana, and rice became prevalent, transforming these crops into commodity products. European capitalists produced these crops in large quantities, exporting them to Europe and other regions for profit. However, this shift towards commercial crop production for external markets began to replace traditional farming methods and indigenous agricultural knowledge.

1.2.5 Exploitation and Conservation

♦ *Environmental exploitation transformed colonised landscapes*

New insights into the interaction between humans and environment were brought about by the Age of Discovery and the growth of marine travel. There were two main alterations brought about by this. The first to take hold was the idea that human cultures could alter the natural world around them to suit their own preferences. Second, people began to imitate nature more frequently and gave it new meaning. The idea of a botanical garden, for example, originated in the Middle East. A "fundamental displacement of social and symbolic meanings from religious contexts to more secular settings" was observed by the seventeenth century. The more the world grew economically and technically accessible, the less alluring the image of a fallen and imperfect natural world set against a spiritual heaven became. The revelation of the astounding diversity and richness of tropical regions, which was made public through printed literature, also contributed to this change.

♦ *Conservation efforts stemmed from timber shortages*

The colonies' conservation efforts were motivated by a growing realisation that the world's supply of timber supplies was running low. Nevertheless, there was no clear connection between these initiatives and any methodical strategy for allocating resources in the colonies in a way that promotes conservation. The immediate threat to the naval timber supply was the driving force behind the initial conservation push. Nevertheless, the colonial settings kept getting worse in the lack of institutional advancement.

Richard H. Grove explores English colonists' conservation efforts in his book Green Imperialism. He writes: "It is important to place the very early adoption of conservatism as an acknowledged component of the colonial state's mission in India in a larger perspective. Without a doubt, by the 1860s, environmental sensibilities in Britain, for example, were practically as developed

among some groups as they were among scientific services in India. These perceptions were highly distinct from one another and linked to various forms of social criticism. The swift ecological transformation occurring in India was just not seen as a threat to the biota of Europe. Thus, infantile concerns regarding the devastation of rural landscapes and the extinction of animals continued to be the domain of a comparatively powerless minority. Given that the colonists' primary concern was forest resources, it is logical to suppose that environmental conservation was not one of their top priorities. Their perspective was limited by England's diminishing timber resources. Conservation issues received nothing more than cursory consideration until the early twentieth century.

♦ *Limited Conservation efforts focused on forests*

1.2.6 Perspective of Eco-Socialism and Eco-Feminism

1.2.6.1 Eco-Socialism

The last twenty years of efforts to combat climate change have only reinforced a common-sense understanding of the Anthropocene: humans, as a geological force, are heating the planet. Human-induced global warming challenges our fundamental assumptions and puts everything at risk. It calls into question our obsession with "catch-up" development, growth economics, and other notions of modern progress that have shaped our collective imagination. This raises a critical question: has globalised capitalism become any less progressive? Is humanity on a path toward ecocidal devastation in today's fossil fuel-dependent, high-tech, scientific, financialised, and post-Fordist industrial world? How can we resolve the climate crisis?

♦ *Eco-socialism critiques capitalist-driven environmental damage*

The concept of eco-socialism is particularly relevant in addressing the current issues we face. Also known as socialist ecology, green socialism, ecological materialism, or revolutionary ecology, eco-socialism is an ideology that merges socialist principles with those of ecology, green politics, and alternative or anti-globalisation movements. Eco-socialists argue that social exclusion, poverty, conflict, and environmental degradation are products of the capitalist system's expansion through globalisation and imperialism, managed by authoritarian states and transnational bureaucracies. The roots of modern eco-socialism can be traced to the works of various Marxian theorists, including Andre Gorz, E. P. Thompson, Herbert Marcuse, and Erich Fromm. Over the past thirty years, some leftists have become increasingly aware of the environmental impacts of capitalism. In fact, John Bellamy Foster argues in *Marx's Ecology* that Karl Marx recognised the "metabolic rift" between capitalism and nature. The aim of eco-socialism is to critically examine the growth paradigm inherent in capitalism,

♦ *Eco-socialism links capitalism and environmental degradation*

which has been adopted by both historical and contemporary post-revolutionary states, with China being a prime example.

♦ *Marxian view capitalism's environmental impact*

Numerous passages in *Capital* and other texts indicate that Marx and Engels themselves were aware of the negative effects the capitalist method of production had on the environment. Furthermore, they held that the goal of socialism is to provide people the time and space to reach their full potential rather than to manufacture an endless supply of goods. They differ greatly from "productivism," which holds that the unrestricted growth of production is a goal unto itself, in this regard.

♦ *Ecosocialism as an alternative to capitalism's destruction*

The goal of ecosocialism is to offer a radical alternative to capitalism's "destructive progress" from the perspective of Civilization. It promotes an economic strategy based on the non-financial and extra-economic standards of ecological balance and social demands. Based upon the fundamental claims of the environmental movement and the Marxist analysis of political economy, this dialectical synthesis has been attempted by a wide range of writers. A new society founded on ecological rationality, democratic governance, social equality, and the preference for use value over exchange value is the goal of ecological socialism, according to O'Connor.

♦ *Green parties fail to address capitalist expansion*

Ecosocialists argue that the dominant currents in political ecology, embodied by the majority of Green parties, fail to recognise the fundamental conflict that exists between the preservation of the environment and the capitalist dynamics of unrestricted capital accumulation and expansion. This leads to a critique of productivism that is frequently pertinent but does not go beyond a "market economy" that has undergone ecological transformation.

♦ *Hegemony needed for socialist revolution*

Unless the forces devoted to a radical socialist and ecological program attain hegemony, as defined by Gramscian theory, there will be no significant revolution. In a way, time is on our side as we strive for change, as environmental concerns are becoming closer and the state of the environment is getting worse on a worldwide scale. On the other hand, time is running out since the harm might be irreparable in a few years—no one knows how much. There is no cause for hope because the extreme opposition forces are still limited and the system's entrenched ruling elites remain immensely strong. However, they provide the only chance for the "destructive progress" of capitalism to be stopped. According to Walter Benjamin, revolutions are not the historical locomotives but rather people trying to grab hold of the emergency brakes on a train before it crashes into a chasm.

1.2.6.2 Ecofeminism

The impact of environmental degradation is more significant on marginal communities rather than on the rich and privileged. According to Anil Agarwal, a prominent environmentalist, women across rural areas feel the maximum impact of such degradation, particularly women from low-income households. In his opinion, all development activities are primarily anti-women, and the 'progress' is often at the cost of increased work pressure for women. In most parts of rural India, the onus of collecting fuel, fodder, and water for domestic needs is primarily on women. They are supposed to collect it from the surrounding natural resources. The search will be more extended and tedious if the environment is more degraded. In arid and semi-arid regions, women are supposed to spend six to ten hours daily to collect these essential resources. This forage has to be done with other household chores such as cooking, cleaning, tending to livestock, and working in agricultural fields. This adversely impacts all aspects of women's lives, particularly healthcare. They will not get time for medical care or rest during illness. Even pregnant women are forced to do these works until delivery. Even after delivery, within a few days, they have to do these chores again. Thus, environmental degradation has a more direct impact on women than men.

♦ *Environmental degradation impacts marginalised women most*

The forest laws and penetration of the cash economy have also affected the relationship between men and women and their respective relationships with nature. The forest laws severely restricted access to forests and forest resources, which had a detrimental impact on the lives of women who now have to find new ways of collecting basic resources. With the penetration of the cash economy, men became part of it, and women continued to be part of a non-monetised, biomass-based subsistence economy. This led to polarity within the household, as men were often willing to destroy natural resources to earn cash. In contrast, women in their families depend on the same natural resources for household needs, like fuel and fodder. Again, the mass male migration from rural areas to towns and cities to generate cash income leaves already overburdened women with the increased workloads. Without men, women had to take care of the agricultural work. The women's participation in the movements against deforestation is pragmatic.

♦ *Women bear labor burdens due to degradation*

The relationship between gender and environment has been conceptualised mainly in ideological terms under the umbrella of ecofeminism, particularly in the West. Ecofeminism tries to locate the exploitation of nature within the ideological framework of patriarchal social structure. The history of Ecofeminism can be traced in its writings and a wide range of women's involvement

in environmental issues worldwide. Ecofeminism emerged in the mid-1970s and had crucial linkages with the second-wave Feminist movement and the green movement that had begun in the 1960s. Ecofeminists challenged both mainstream feminism and the green movement. According to them, mainstream feminism lacked an environmental perspective, whereas the green movement failed to take into account the gendered nature of humankind's relationship with the environment.

♦ *Ecofeminism connects patriarchy and environmental exploitation*

According to ecofeminists, the feminist movement must align itself with the environmental movement as its struggle against patriarchy becomes an expression of the emancipation of women and nature. According to Bina Agarwal, there are correlations between the oppression of women and the exploitation of nature. In patriarchal imagination, women represent 'nature' while men represent 'culture'. In hierarchical terms, culture is superior to nature; thus, women are considered inferior to men. Owing to this nature-culture binary, women have the responsibility to end the domination over nature. The feminist and environmental movements should work together to evolve a common perspective, as both stand for egalitarian values.

♦ *Ecofeminists advocate joint feminist-environmental movement*

The French author Francoise d'Eaubonne, who founded the Ecologie-Feminisme (Ecology-Feminism) Centre in Paris in 1972, used the term 'ecofeminisme' for the first time in 1974. The same year, geographers Sandra Marburg and Lisa Watkins organised a "Woman and Environment" conference in Berkeley, California. Around the same time, the scholarly works on "women and nature" of eminent authors like Rosemary Radford Ruther, Sherry Ortner, Susan Griffin, Carolyn Merchant, etc., became popular. Ecofeminism as an academic course was developed in 1976 by Ynestra King at the Institute for Social Ecology in Vermont, USA. In 1980, King organised a major conference on "Women and Life on Earth: Ecofeminism in the 80s". It was in 1980 that the Women's Pentagon Action occurred. Around two thousand women encircled the Pentagon to protest anti-life nuclear war and weapons development. All these events shaped a vibrant movement around ideas of ecofeminism. Ecofeminism builds on multiple perspectives of those whose perspectives are typically omitted or undervalued in dominant discourses.

♦ *Francoise d' Eaubonne coined 'ecofeminism' in 1974*

Ecofeminism has varying themes that reflect different positions within the movement itself. They are: -

- Liberal Ecofeminism,
- Cultural Ecofeminism,
- Social and Socialist Ecofeminism.

♦ *Various ecofeminist perspectives critique patriarchy, capitalism*

Liberal Ecofeminism focuses on altering human relations with nature within existing governance structures by passing new laws and regulations. Cultural Ecofeminism analyses the environmental problems within a critique of patriarchy and offers alternatives to liberate women and nature. It has delved more deeply into the woman-nature connection. The social and socialist ecofeminists try to know how patriarchal relations of production reveal the domination of women by men and how capitalist relations of production reveal the domination of nature by men. They have the potential for a more thorough critique of domination and a liberating social justice. They tend to stress the historical and contextual basis of the connection between women and nature. They see the gendered division of labour and power as the key to unsustainable patterns of development that harm both women and nature. Thus, they analyse the 'capitalist patriarchy.' Carolyn Merchant made a historical analysis by tracing shifts over time in which people have imagined nature. According to her, with the coming of the Scientific Revolution and the growth of the European market economy, the way of imagining nature as a feminine entity ended. Now, nature is considered a resource meant to serve the needs of humankind.

♦ *Ecofeminism overlooks non gender societal factors*

There are criticisms that the ecofeminists have failed to consider other aspects of society such as class, race, ethnicity, etc., thus ignoring forms of domination other than gender. Most ecofeminist theories are based on women's experiences in the Western world. They often failed to take into account women in the Third World. As a response, ecofeminists in the non-Western world have attempted to formulate theoretical perspectives based on their cultural contexts. The significant interventions in the Indian ecofeminist context are made by Vandana Shiva and Bina Agarwal in their works 'Ecofeminism' and 'Structures of Patriarchy,' respectively.

Summarised Overview

The field of environmental history is rather new, as we have covered in the previous unit. However, in terms of global environmental history, it emerged as a result of environmental movements and national and international discussions that were directed in certain regions of the world. To put it more clearly, Global Environmental History is more akin to an application of discipline that is both visible and useful. Imperialism exacerbated the environmental damage that colonialism had started. The outcome was "Ecological Imperialism," which provided a clear analysis of the socioeconomic effects of imperialism on the environment worldwide. By methodically analysing the industrial revolution, colonial sciences, resource exploitation, and British conservation efforts, this unit placed greater attention on the effects of colonialism on the environment.

Assignments

1. Discuss the ideological foundations of global environmental history and its key concepts.
2. Critically engage with Alfred Crosby's concept of ecological imperialism and its implications.
3. How did colonialism fundamentally reshape and exploit natural environments worldwide?
4. Analyse how the spread of Western science contributed to environmental degradation globally.
5. Elaborate on how colonial conservation policies transformed conservation into exploitation.
6. Explore the role of women in environmental movements and their contributions.

Suggested Reading

1. Hornborg. A, McNeill, J.R.& J. Martinez-Alier, eds, *Rethinking Environmental History: WorldSystem History and Global Environmental Change,* AltaMira Press, 2007.
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3. Arnold David, *The Tropics and the Travelling Gase: India, Landscape, and Science, 1800-1856*. Permanent Black Delhi:, 2005.
4. Grove Richard H., Vinita Damodaran and Satpal Sangwan, eds, *Nature and the Orient: Essays on the Environmental History of South and South East Asia*. Oxford University Press New Delhi, 2000.
5. Richards, J. F. *The Unending Frontier: An Environmental History of the Early Modern World,* University of California Press, 2003

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1. Worster, D, ed., *The Ends of the Earth: Perspectives on Modern Environmental History,* Cambridge University Press, 1988.
2. Simmons, I. G, *Global Environmental History 10,000 BC to AD 2000,* Edinburgh University Press, 2008.
3. Tainter, J. A, *The Collapse of Complex Societies*, Cambridge University Press, 1988.
4. Wolf, E. R, *Europe and the People Without History,* University of California Press, 1982.

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 3

Debates on Indian Environmental History

Learning Outcomes

Upon the successful completion of this unit, the learner will be able to:

- conduct a detailed study of Indian environmental history and its developments
- examine various perspectives within Indian environmental history and their significance
- explore different approaches in the field of Indian environmental history
- analyse the key debates surrounding Indian environmental history and their implications

Background

The field of colonial India's environmental historiography is controversial. Two primary arguments are made by historians in this topic. The first discusses the destruction of the environment during British rule, whereas the second asserts the wisdom of the environment prior to colonisation. Similar to many facets of Indian historiography, imperial administrative historians shaped the argument at first. They contended that ecological irresponsibility was present in pre-colonial and early colonial India and that these problems were addressed by British rule starting in 1858. Indian historians did not respond until much later, in the late 1970s and early 1980s. They started by criticising the previous iterations of historians who studied colonial administration. This chapter provides a thorough analysis of the arguments surrounding Indian environmental history.

Keywords

Environment- India- Colonial Perspective- Mode of Resource Enviornmental History Forestry

Discussion

1.3.1 Indian Environmental History

♦ *Environmental history influenced by colonisation*

Environmental movements served as a source of inspiration for American environmental history. It began as an academic field in France, where historians from the Annales School valued nature greatly as a source for their studies. Because of European colonisation, environmental history has a strong resonance in South Asia, especially in India. Because India's forests were brutally destroyed during British rule, the history of the country's forests is deeply entwined with the history of the environment. When writing the history of Indian forests, British administrators frequently looked to political history to support their forest management practices. Indian historians, however, disagree with this imperialist viewpoint, viewing colonialism as a critical period in the country's environmental history. Writing about environmental history is done in India according to the American model.

1.3.1.1 Approaches to Environmental History Writing in India

♦ *Ecological recklessness by colonists*

The environmental historiography of colonial India is a fiercely debated field, focusing on two main arguments: the ecological devastation during British rule and claims of ecological wisdom in pre-colonial times. Similar to other aspects of Indian historiography, the debate was initially shaped by imperial administrative historians. They argued that pre-colonial and early colonial India exhibited ecological recklessness, suggesting that British governance from 1858 onwards rectified these issues. Pax Sylvan (peace of the forests) was equated with Pax Britannica (British peace) by imperial foresters and historians. Indian historians started questioning the viewpoints presented by colonial administrative historians in the late 1970s and early 1980s, when they finally responded to these narratives.

1.3.2 Colonial Views

♦ *Colonialism and resource exploitation*

In India's environmental history, colonialism is often seen as a watershed moment, marking the beginning of unparalleled resource exploitation. As natural resources were increasingly focused on satisfying the needs of growing English industries, commercial interests took priority. Communities that had historically depended on sustainable resource-use techniques were marginalised by this shift. Environmental deterioration followed, driven by the intertwined processes of colonisation and industrialisation. During this period, colonial powers developed resource-use policies based

on their own perceptions of the environment, which influenced the exploitation methods that were implemented. However, colonial viewpoints expressed by officials and scholarly organisations mostly blamed precolonial forest reforms for India's environmental degradation, highlighting colonial forest initiatives as beneficial to Indian ecology.

1.3.2.1 First Colonial Perspective

"The Forests of India," authored by E. P. Stebbing and published in three volumes, is a key source for understanding the British Forest Policy's creation and administration in colonial India. Stebbing states that his aim is to document India's forest history under British rule, but his work tries to place this history within a broader context of pre colonial forest activities. His writings reflect an imperialist intent to portray Western scientific forestry principles as a significant achievement of the British, particularly in response to the perceived ecological mismanagement by earlier Indian state systems.

♦ *Stebbing justifies British forest policies*

Stebbing delves into India's political history to understand British attitudes towards forests in the early colonial period. He critiques pre colonial governments and highlights incidents like the burning of the Khundava forests. He draws attention to ancient environmental challenges, citing epic accounts of droughts and famines. He views the Islamic conquest of the subcontinent as a turning point, arguing that the region suffered due to the Sultanate's disregard for forests. Stebbing also argues that the British were not the first to exploit India's timber resources; significant quantities of timber had been sold to Arabia and Persia long before the British arrived. Teak wood, in particular, was used by Arabs for shipbuilding. Stebbings work is a valuable resource for scholars studying Indian environmental history, as it highlights the ecological impact of earlier mismanagement of forest resources. Stebbing systematically argues that the ecological destruction and poor forest management during pre colonial times made British reforms necessary and inevitable. He suggests that neither Islam nor Hinduism showed respect for the natural world. He describes the destruction of forests during the Middle Ages as a "war on the forests," though this is an oversimplification, reflecting an official imperial mindset.

♦ *Critique of pre colonial governments*

♦ *Justifies British forest reforms*

Berthold Ribbentrop, through his research on forestry in British India, also contributed to the colonial argument for the advancement of colonial forestry, which Stebbing later supported. In his work, Ribbentrop traces the history of Indian forests from the Vedic era. He refers to the burning of the Khandava forest as the earliest evidence of forest degradation. According to him, much of the country was

♦ *Ribbentrop supports British policies*

forested during the Brahmanical and Buddhist periods. Nomadic invaders, he argues, decimated the forests without concern for religious principles, leading to further resource depletion through shifting cultivation.

Ribbentrop and Stebbing describe pre colonial Indian forest management as "wholesale destruction." As Inspector General of the British Indian Forest Service, Ribbentrop focuses on the destruction of forests during the Muslim era and the resulting ecological imbalances, including the negative impact on India's climate. His views significantly influenced the development of imperial forest laws and reforms. From the earliest days of British occupation, there was a strong emphasis on an aggressive forest policy. This policy culminated in the British Indian Forest Acts of 1865 and 1878, which allowed the colonial administration to maintain its monopoly through the reservation clause. The unnecessary exploitation of Indian state forests came to a halt with the establishment of the Forest Department. Princely governments later adopted the colonial system of forest administration by introducing departmental forest management.

♦ *Forest Acts formalised forest control*

William Schlich's "Manual of Forestry," a foundational text for those working in the Indian Forest Service, offers extensive insight into the workings of the empire's forestry community from 1850 to 1900. The publication of the Manual marked the solidification of the Indian Forest Department's strategy for forest management after forty years. According to the Manual, a forest is defined as an area primarily set aside for the production of wood and other forest products. It can also be expected to have specific climatic effects or protect surrounding areas from harmful influences. These regions are often subject to particular forest laws and regulations. The Manual was written with the Continental Forestry Paradigm in mind, focusing on how to produce specific kinds of wood. This approach mirrored German thinking about conservation. Marsh's ideology, which encouraged human stewardship of the environment, had a significant impact on Schlich and his colleagues in Germany and India. By the late 19th century, this utilitarian conservation mindset became its own development ideology, embraced by colonial foresters and historians chronicling the history of forest management in colonial India.

♦ *Schlich: forestry solidified by 1900*

1.3.4 Concept of Mode of Resource Use

The world's largest colony was established under a traditional capitalist state during the colonisation of India, an event of unparalleled significance. Driven by an environmental perspective that primarily directed resources towards the market, this long

♦ *Colonialism and capitalist exploitation*

historical phase—from the mid-1800s to the early 1900s—was characterised by unprecedented methods of resource extraction. This colonial discourse on the environment has been notably expanded upon by Alfred Crosby in Ecological Imperialism: The Biological Expansion of Europe.

1.3.5 Guha- Grove Debate

♦ *Ecological destruction during British rule*

The central issue in the highly contentious historiography of colonial forestry in India revolves around assertions of ecological caution in pre-colonial times versus the ecological destruction that took place during British rule. This debate, initiated by top forest officials in British India, reflects a broader trend in Indian historiography. These imperial administrative historians claimed that India experienced ecological profligacy before and during early colonial rule, which was corrected by the British after 1858. They associated the concept of Pax Britannica with Pax sylvan.

♦ *Indian historians critique colonial policies*

Indian historians responded to this narrative much later, beginning in the late 1970s and 1980s. Their critiques were driven by the ongoing debates surrounding new forest legislations enacted by independent India, which strongly inherited colonial forest policies. These scholars proposed that colonialism marked a watershed moment in India's ecological history, a theory that has become foundational for many Indian environmental historians.

♦ *Pre-colonial harmony vs. colonial destruction*

The Gadgil-Guha thesis, which argues that harmony existed between humans and nature in pre-colonial times, was not fully accepted by forest historians in India. While they acknowledged that forest destruction occurred in pre-colonial times, they believed that the level of destruction reached unprecedented heights under colonial rule, driven by political and economic motives. They also argued that the colonial state was far more repressive, alienating people's rights over forests to a much greater extent than earlier states, which maintained a symbiotic relationship with forest-dependent communities.

♦ *Desiccationism as a policy*

However, Indian historians faced vigorous opposition from neo-imperialist historians, led by Richard H. Grove, who promoted the ideology of desiccationism. This ideology, embraced by some ecologically conscious officials and scientists in the early colonial period, led to the introduction of scientific forestry in India. Subaltern historians, however, rejected desiccationism, seeing it as a pretext for implementing commercial policies that further alienated forest-dependent populations.

Regional forest histories are also emerging, reflecting the different types of forests and human-forest relationships across India. This

♦ *Emergence of regional forest histories*

growing body of Indian forest historiography provides critical insights into the country's environmental history and remains a significant area of study.

♦ *Railway expansion leads to forest destruction*

Guha challenges the central premise of imperial historians, arguing that colonial forestry practices were mainly driven by the empire's revenue and strategic needs. He highlights the construction of the railway network as a key moment in Indian forestry history. The large-scale destruction of accessible forests during railway expansion prompted the creation of the Forest Department in 1864. The timber shortage, exacerbated by railway construction, led British administrators to regulate the customary rights of forest-dependent communities. This culminated in the enactment of the Forest Act of 1865, followed by the Forest Act of 1878, which established reserved forests.

♦ *Colonialism as an ecological watershed*

Guha's arguments led to a broader critique of colonial forestry. Alongside Madhav Gadgil, Guha proposed that colonialism was an "ecological watershed" in India's history, a thesis that has been widely discussed, supported, and challenged in subsequent historiographical debates on Indian forests.

♦ *Grove critiques Guha's focus*

However, this thesis has been vigorously contested, particularly by Richard Grove. Grove disputes Guha's argument, which assumes that pre-colonial forests were managed as communal property. Drawing on anthropological studies, Grove challenges this assumption and criticises Guha for focusing only on the post-1864 period. According to Grove, Guha overlooks the critical thirty-year period before this, which played a vital role in shaping British conservation ideas. Grove argues that scientists and medical practitioners in early nineteenth-century India developed ecological consciousness even before similar developments occurred in Europe.

♦ *Chronological differences between Grove and Guha*

Despite their disagreements, Grove agrees with Guha that colonial forestry practices after the end of East India Company rule led to significant social conflict in rural India. The key difference between their perspectives lies in their chronological focus: Grove's research concentrates on the early colonial period, while Guha examines the late nineteenth century. Grove highlights divisions within colonial officials, while Guha emphasises the overarching unity of imperial interests.

The Guha-Grove Debate

Ramachandra Guha	Richard H.Grove
Colonialism was a watershed in the ecological history of India	Severe destruction happened to forests in India in pre-colonial times(implication of watershed earlier)
State control of forests initiated in British India	State control of woodlands was a feature of many Indian states
Emphasis on state policy and resultant resistance	Fascinating discourse on desiccation
Pre-colonial common property and customary forest use	They were only attractive assumptions
Focuses on the late 19th century	Concerned with early colonial period
Conservation as a justification for strategic and commercial interests	Emphasis on the ideological commitment of a section of colonial officers to conservation

♦ *Pre-colonial forest destruction examples*

Another significant area of criticism from Grove against the Gadgil–Guha thesis concerns the argument that state intervention and forest destruction were unique to the colonial period. Grove disputes the notion that colonialism was a watershed in India's ecological history, citing examples of pre-colonial forest destruction, such as the burning of the Indo-Gangetic forest for agro-pastoral use. He also highlights pre-existing state forestry systems, suggesting that major ecological changes, or "watersheds," occurred before British colonisation.

♦ *Indigenous systems influenced British forestry*

Grove's critique peaks when he asserts that "the British were basing themselves firmly on an indigenous system, from which the colonial forestry system differed little in detail." He argues that the ideological commitment of some colonial officials to conservation was more significant than mere materialist motivations. According to Grove, these officials were genuinely concerned with agrarian prosperity and stability, not just colonial interests. He also credits East India Company scientists for recognising global environmental changes, highlighting their contributions to human knowledge.

While Grove's examination of historical journals on desiccation provides valuable insights, he admits that his work as a policy history

is less reliable. From a historian of science's perspective, Grove documents European scientists' influence on Indian conservation efforts, placing British scientific and commercial forestry in a more nuanced context. His research suggests a shift in colonial environmentalism from timber and revenue concerns to broader issues like famine relief and agrarian stability.

♦ *Shift in colonial forestry focus*

1.3.5.1 Politics of Desiccationism

Ajay Skaria's Hybrid Histories challenges Grove's ideas on desiccationism and its evolution into scientific forestry. Skaria examines the lives of the Dangis, using oral traditions and textual analysis to explore how their 'wild' spaces were transformed into 'places' in colonial India. He argues that the civilising mission pursued by British officials extended to forest management, leading to a politics of exclusion that subordinated the Dangis.

♦ *Dangis and colonial civilising mission*

Grove had earlier argued that East India Company botanists and surgeons were committed desiccationists. He claimed that the establishment of forest departments in Madras and Bombay in the 1840s was based on desiccationist concerns about ecological catastrophe if trees were not preserved. However, Grove also noted that desiccationist practices became a convenient excuse for exploiting commercially valuable timber, like teak, and that the idea of demarcation led to the alienation of the Dangis from their forests.

♦ *Desiccationism and commercial exploitation*

Skaria disputes Grove's narrative, arguing that desiccationism was not just about ecological conservation but also about civilising the forests and converting them into economic resources. He claims that desiccationist environmentalism evolved into scientific forestry, which excluded forest-dependent communities like the Dangis. This transformation aimed at maximising the efficient use of timber while altering the forests in fundamental ways.

♦ *Desiccationism led to scientific forestry*

Skaria's work represents a new approach in Indian forest historiography, encouraging further studies in the field. His arguments gain strength through the use of oral evidence, recontextualising forest history by emphasising the emotional aspects that are often missing from conventional historiography.

♦ *Oral traditions reshape forest historiography*

1.3.6 Other Critical Views

Building on the debate over the 'ecological watershed,' numerous scholars have expanded the scope of Indian environmental history, advocating for broad and comprehensive studies that go beyond the subcontinent. A South Asian approach is essential for understanding India's forest and environmental history, due to the region's ecological and cultural diversity, which contrasts sharply with environmental histories from regions like France or the United

♦ *South Asian approach essential for forest and environmental history*

States.

♦ *Diverse meanings and uses of Indian forests*

These works have explored diverse historical meanings and uses of India's forests, addressing broader ecological, social, and cultural questions. Researchers have examined how forests provided homes, livelihoods, rebel shelters, housed wild animals, and were associated with disease environments. They have also studied how forests represented the 'primitive' versus the 'civilised,' becoming sites of power and appropriation.

♦ *Bhattacharya on pastoralists and colonial impact on fishermen*

In a fascinating study on pastoralists, Neeladri Bhattacharya investigates why grasers clashed with peasant communities and burned designated forests, revealing the complex dynamics of nomadic life. Another study highlights how colonial regulations stripped local fishermen of their fishing rights, illustrating colonialism's impact on local communities' rights.

♦ *Link between forest history and colonial politics*

These studies contribute to the evolving Indian forest historiography, linking forest history to other forms of colonial power, such as the 'colonial politics of smoke abatement' in Calcutta, which has historiographical roots in timber politics.

♦ *Habib's broader ecological history of India*

Beyond the ecological watershed debates in colonial or pre-colonial India, various studies show that India's ecological history involves more than climatic changes or forest histories. Structural changes deeply impacted both human and non-human health. This broader perspective is reflected in Irfan Habib's Man and Environment: The Ecological History of India, where he examines the human-nature relationship across historical periods, covering topics like soil degradation, disease spread, species extinction, earthquakes, and deforestation.

♦ *Habib on the broader impact of colonialism beyond forests*

Habib critiques most colonial Indian ecological histories for focusing too narrowly on forest impacts. He argues that colonial rule also led to food scarcity, new diseases, industrial pollution, soil degradation, wildlife decimation, and commercial timber exploitation. His work emphasises the continuity of royal hunting from pre-colonial to colonial times and challenges the notion of colonialism as a watershed in ecological history.

♦ *Joseph's study of native state forestry and ecological imperialism*

Sebastian Joseph's Cochin Forest and the British Techno-Ecological Imperialism offers a seminal study of native state forestry, showing its similarities with mainstream Indian forest history. The British colonised these forests using superior technological, administrative, and political methods. One example is the conversion of Kerala's Munnar forests into monoculture crops, a stark manifestation of 'ecological imperialism.'

♦ *Cochin's forestry developments under British influence*

Kerala's environmental history offers further examples of techno-ecological imperialism. The Rajah of Cochin supposedly established a forest tramway with British technical assistance, stemming from Cochin's financial crisis after the subsidiary treaty. Imperial advisors recommended better management of teak, specifically the Tectona grandis in Parambikulam forests. This emphasis on teak extraction had profound consequences for Cochin's natural history.

♦ *Exploitation of Cochin forests for British imperial needs*

Due to extensive forest railway extraction, Cochin's forest wealth was severely depleted, as British needs for shipbuilding, railroads, plantations, and war efforts were prioritised. Although Cochin saw no major resistance, British forestry had a lasting impact, converting the state's forests into British-controlled resources.

Summarised Overview

This unit focused on the discussions surrounding Indian environmental history. The historiography of India's environmental history is marked by two major schools of thought. One argues that British colonial rule caused widespread environmental destruction, while the other emphasises that pre-colonial India had an ecologically harmonious relationship with nature.

Initially, imperial administrative historians shaped the debate, claiming that pre-colonial India suffered from ecological mismanagement and that British intervention after 1858 introduced policies to rectify these issues. They portrayed British rule as ecologically responsible, linking the stability of Pax Britannica to forest conservation efforts. However, Indian historians began to challenge this view in the late 1970s and early 1980s. These scholars, spurred by the independent Indian government's continuation of colonial forestry policies, argued that colonialism was an "ecological watershed" that alienated forest-dependent communities and caused significant environmental degradation.

Prominent historians like Ramachandra Guha criticised colonial forestry practices, suggesting that British policies prioritised revenue and resource extraction, leading to the destruction of Indian forests, especially with the expansion of railways. Madhav Gadgil and Guha's thesis emphasised that colonial rule disrupted the symbiotic relationship between people and forests that existed in pre-colonial times. They argued that British policies imposed restrictions on local communities' customary rights, aggravating deforestation and social conflict.

On the other hand, historians like Richard Grove have critiqued this perspective, suggesting that environmental changes and forest destruction were present even before British colonisation. Grove pointed out that pre-colonial states engaged in forest exploitation and argued that some British officials were genuinely motivated by conservation, not just revenue. Grove's research suggests that colonial environmentalism was influenced by global scientific developments and local ecological concerns.

Assignments

1. Discuss colonial perspectives on environmental history and their lasting implications.
2. What does the concept of 'mode of resource use' entail?
3. Critically examine the Guha-Grove debate and its significance in environmental historiography.
4. Analyse the emergence and characteristics of Indian environmental history as a discipline.

Suggested Reading

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3. Richard H Grove, *Ecology, Climate and Empire: Colonialism and Global Environmental History, 1400-1940,* Cambridge, 1997
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Space for Learner Engagement for Objective Questions

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Environmentalism: The Indian Case

BLOCK-02

UNIT 1

Early India

Learning Outcomes

After the successful completion of the unit, the learner will be able to:

- explore the origins of forest culture in early India and its significance
- analyse the intrinsic connection between religion and nature in early Indian society
- investigate the relationship between early empires and their environmental contexts
- examine the various environmental ideologies that emerged in early India

Background

This present unit, entitled Early India, tries to discuss the origin of the concept of Environment in Early India. It analyses the cultural transformation of the environment through various ages by examining forest culture. At the beginning of human civilization, men were afraid of nature, and people started worshiping God when they started facing the dangers of nature. They regarded 'mother nature' as God who provides all the basic needs of their day-to-day life. During those times, people were benevolent towards nature. When humans started settling in the banks of rivers by engaging in agricultural and pastoral life, there was a changing perception of the environment in the mindset of people that they could easily control nature with the help of certain tools and intelligence. The exploitation of natural resources and destruction of nature comes after this with the expansion of agricultural settlement. The emergence of tribal clans, kingdoms and empires was based on the geographical setting of each region. In India, every region is unique in terms of its culture and traditions, which simply come from the environment and people's response to nature.

Keywords

Environment, Forest Culture, Religion, Vanajathi, Empires, Sangam Age, Buddhism, Jainism

Discussion

2.1.1 The Forest Culture

♦ *Ancient literature and travelers detail India's environment*

The accounts of early Indian environmental conditions are richly documented in ancient Indian literature, providing insights into the management, preservation, and protection of nature. Sources like the Vedas, Puranas, and Jain and Buddhist traditions emphasised ecological harmony, promoting a balanced relationship between humans and the environment. Foreign travelers, such as Megasthenes, Pliny, Ptolemy, Fa-Hien, and Hiuen Tsang, contributed detailed descriptions of India's flora and fauna, enriching the understanding of the environmental conditions in ancient India. This diverse cultural landscape reflects the variation in social customs, religions, languages, and food habits influenced by environmental factors.

♦ *Ancient civilizations flourished along rivers*

India was home to one of the earliest civilizations, the Indus Valley civilization, which developed along riverbanks. Following this, rivers like the Sindhu, Yamuna, Ganga, Brahmaputra, and others became cradles for various cultures and civilizations. These rivers were vital for agriculture, trade, and daily life. Indian civilization's agrarian society depended heavily on rivers for irrigation, drinking water, and transportation. The connection to these waterways not only fostered economic prosperity but also shaped the cultural practices and social structures of the communities that thrived along their banks.

♦ *Indus Valley's fertile land fostered civilization*

The environmental conditions of ancient India, particularly the Indus Valley civilization, were conducive to the development of societies. According to D.N. Jha, the fertile alluvial soil brought by the Indus River sustained this civilization. The Harappans practiced tree worship and had advanced water management techniques, showcasing their deep connection to the environment. The Aryans, who migrated to the Indian subcontinent, further expanded agricultural practices, converting forest land into crop fields and transforming the environment for habitation and cultivation. This transition illustrates the dynamic relationship between human development and ecological adaptation.

♦ *Forests were managed and revered, as seen in Arthashastra*

In Kautilya's *Arthashastra*, the management of forests is thoroughly outlined, using terminologies such as *Aranya, Vana, Atavi, and Kantara* to describe different types of forests. The inhabitants of the forests were referred to as *Vanacharas, Aranyavasins, and Atavikas*. This text not only reflects the significance of forest resources but also provides a framework for sustainable management practices. Additionally, in Kalidasa's

Abhijnana Shakuntalam, the concept of Tapovanam (sacred groves) is depicted as peaceful sanctuaries, though the narrative begins with a hunting expedition, symbolizing the tension between human activity and environmental preservation. This duality reveals the complexities of human interaction with nature in ancient times.

Overall, the relationship between ancient Indian societies and their environment was multifaceted, characterised by a deep understanding of ecological systems and a strong spiritual connection to nature. This intricate interplay shaped social norms, agricultural practices, and cultural expressions, laying the foundation for sustainable practices that resonate in contemporary environmental discussions. The legacy of ancient Indian environmental thought serves as a reminder of the importance of maintaining balance between human activities and the natural world, a lesson that remains relevant today.

♦ *Ancient Indian societies understood ecological balance*

2.1.1.1 Environment in Early South India

The Sangam Age, a remarkable period in early Tamil literature and culture (approximately 300 BCE to 300 CE), significantly influenced the environmental and cultural landscape of South India. This era is characterised by its rich literary tradition, particularly the Sangam literature, which provides valuable insights into the ecological and cultural framework of the time. Below is a detailed explanation of the ecological regions described in Sangam literature and their implications for culture and society.

The Concept of *Tinai*

According to Sangam literature, the landscape of South India is divided into five distinct ecological regions known as Tinai. Each of these regions is characterised by unique geographical and environmental features, shaping the lives and cultures of the people who inhabited them:

- **Kurinji (Mountain Region):** This region represents the hilly and mountainous terrains. It is often depicted as a place of natural beauty, where the environment supports diverse flora and fauna. The Kurinji landscape is associated with love and longing, often serving as the backdrop for romantic narratives in Sangam poetry.
- **Mullai (Forests and Grasslands)**: This area comprises dense forests and grasslands, rich in biodiversity. The Mullai region is characterised by its pastoral lifestyle, where communities relied on agriculture, hunting, and gathering. The connection to nature in this region is strong, with many references to its wildlife

and vegetation in Sangam literature.

- **Marutham (Pastoral Plains and Agricultural Lands):** The Marutham is the agricultural heartland, known for its fertile plains and valleys. This region played a critical role in sustenance and livelihood, as it provided crops and resources for the population. The poetry from this area often reflects themes of farming and rural life, emphasising the relationship between people and their land.
- **Neithal (Coastal or Seashore):** The Neithal region encompasses coastal landscapes and seashores, marked by its maritime culture. Fishing and trade are prominent in this region, influencing the lifestyle and economy of coastal communities. The coastal imagery in Sangam poetry often symbolises love, longing, and the transience of life.
- **Paalai (Wasteland or Desert):** The Paalai represents the arid, barren landscapes. Despite its harshness, it is home to resilient communities who adapt to the challenging environment. The poetry associated with this region may touch upon themes of struggle and survival, reflecting the harsh realities of life in such ecosystems.
- Sangam literature describes five ecological regions.

The diverse ecological regions of South India significantly influenced the culture, customs, and livelihoods of its inhabitants. Local diets were shaped by the availability of various plants, animals, and resources, resulting in distinct culinary practices across different regions. Similarly, clothing materials, often derived from local flora and fauna, determined traditional attire, with the presence of cotton and other fibers influencing textile production. The sacredness of certain natural elements, such as trees and rivers, became integral to local religious practices and rituals, fostering a spiritual connection between the people and their environment. Additionally, the unique ecological and cultural settings contributed to the development of various dialects and languages, reflecting the region's diversity. Collectively, these factors underscore how geography and ecology molded the cultural identity of South India, creating a rich and varied tapestry of traditions.

♦ *Environment shapes diet, clothing, worship, language*

The Sangam Age exemplifies the intricate relationship between the environment and culture in South India. By recognising the ecological peculiarities of each region, one can understand the foundation of cultural practices and societal norms. This interplay between nature and culture not only enriched the literary expressions

♦ *Sangam Age highlights nature-culture relationship*

of the time but also laid the groundwork for the diverse cultural landscape of contemporary India. The ecological themes embedded in Sangam literature continue to resonate today, emphasising the importance of environmental awareness and cultural preservation.

2.1.2 Religion

♦ *Ecological diversity shapes culture and customs*

There are accounts of integral balance among man, nature, and God in the Vedic literature. *Rig Veda* says that there are five elements in the universe that are the basis of everything: Earth, water, air, fire, and space. It recommends preserving these five elements. In *Atharva Veda*, it considers the earth as Mother and commands not to degrade Mother Nature. It also considered water as the symbol of dignity.

♦ *Vedas promote preserving natural elements*

The concept of environmental consciousness is not a new one; it dates back yearly. The belief that people have an "inborn ecological sense" is ingrained in the philosophy and customs of ancient civilizations, which can be used to trace the beginnings of this awareness back to remote antiquity. Early Indians respected the environment and knew that preserving ecological balance improved quality of life. They built a great tradition of cleanliness and environmental friendliness in order to prevent pollution and the issues it causes. For example, Vedic literature advised against dumping waste into waterways. It forbade the careless felling of trees (Dwivedi 1987:69). Several regulations were also enacted by Smriti writers to preserve the quality of the environment. While *Katyayana* considered damage to trees, shrubs, and creepers to be a major sin, *Yajnavalakya* classified offenses like cutting animal limbs or tree branches as crimes. The classical Indian medical work *Charaka Samhita* emphasised the adverse consequences of natural illnesses and referred to pollution as vikriti. It highlighted the fact that the bio-world's coordination determines how long living things live and addressed problems like sound pollution and odor pollution.

♦ *Symbolism of Trees as Deities*

The beliefs regarding trees and nature in ancient Indian texts, particularly the Puranas and other scriptures, highlight the deep-rooted connection between ecology and spirituality in Hindu philosophy. Below is a detailed exploration of the perspectives presented in these texts concerning trees, animals, and the broader concept of nature: In many Purana texts, trees are revered as symbolic representations of deities, signifying their sacredness and importance in Hindu cosmology. This belief is grounded in the notion that nature and divinity are intertwined. For instance, the *Matsya Purana* emphasises that the act of planting a single tree carries immense merit, equivalent to the virtuous act of leaving behind ten sons. This comparison reflects the cultural value placed on both progeny and ecological stewardship, suggesting that

nurturing the environment can be as significant as lineage.

♦ *Trees and Spiritual Reward*

The *Varaha Purana* asserts that engaging in plantation is a path to attaining heaven. This connection between environmental actions and spiritual outcomes indicates that planting trees is not merely an ecological act but a means of securing a favorable afterlife. The belief in the *karmic repercussions* of one's actions further reinforces the idea that positive interactions with nature can lead to spiritual elevation.

♦ *Respect for Non-Speaking Creatures*

The *Vishnu Purana* extends the ethos of respect for nature beyond trees to all non-speaking living creatures. It states that God will be pleased if individuals refrain from causing harm to these beings. This principle reflects a broader ethical framework, promoting non-violence *(ahimsa)* and compassion towards all forms of life, which is fundamental to Hindu philosophy. Such perspectives encourage a harmonious coexistence with nature and underline the spiritual importance of protecting all life forms.

♦ *The Sacredness of Specific Trees*

The *Padma Purana* identifies certain trees—like the peepal, ber, neem, and bel—as sacred and integral to divine presence. These trees are often associated with various deities and are believed to be abodes of God. The text discourages the cutting of these trees, reinforcing the idea that they hold a vital spiritual significance. Additionally, the condemnation of cattle sacrifice in this text highlights the moral obligation to protect animals, reinforcing the interdependence of life forms within the ecological system.

♦ *Condemnation of Cruelty*

The *Manusmriti* emphasises compassion towards all living beings, including animals, framing cruelty as a moral failing and advocating for non-violence *(ahimsa*) as a key virtue. It outlines ethical guidelines that, while reflecting a hierarchical view of society, also prioritise the welfare of animals. Notably, the text champions the protection of cows and other animals, which hold sacred significance in Hindu culture. Additionally, the *Manusmriti* posits that adherence to *dharma,* the moral order of the universe, is crucial for maintaining societal balance and individual well-being. In this framework, harming living beings is viewed as a violation of dharma, resulting in negative consequences both in this life and potentially in the afterlife.

♦ *Bhagavad Gita's Perspective on Nature*

The *Bhagavad Gita* introduces the concepts of *Para* and *Apara,* representing two components of nature. Para refers to the spiritual or consciousness aspect, while *Apara* pertains to the physical manifestation of the universe. The interplay between these two components suggests that physical existence is infused with consciousness, emphasising a holistic view of nature where every element is interconnected. This perspective encourages individuals to recognise the sanctity of both the spiritual and material worlds

and to act responsibly towards the environment.

♦ *Inter connectedness of Nature and Spirituality*

The overarching theme across these texts is the interconnectedness of nature, spirituality, and morality. The ecological principles embedded within Hindu philosophy advocate for sustainable practices, respect for all life forms, and a recognition of the divine presence within nature. By treating trees and non-speaking creatures with reverence, adherents are encouraged to engage in practices that preserve the environment and promote spiritual well-being.

♦ principle of *Ahimsa* (non-violence)

Buddhism and Jainism, two prominent religions of this period, emphasised a deep respect for nature. Buddhism, rooted in the principle of *Ahimsa* (non-violence), discouraged the exploitation of natural resources and revered elements of nature, such as rivers, forests, and mountains, as sources of spiritual bliss. The practice of tree worship, borrowed from Vedic traditions, was also embraced. Jainism, similarly built on the foundation of Ahimsa, promoted environmental harmony, asserting that spiritual enlightenment could only be attained by following the three precepts of right belief, right knowledge, and right conduct. Both religions advocated for a respectful and balanced relationship with the natural world.

♦ *Deforestation driven by agriculture and development.*

In ancient India, deforestation was largely driven by the need for agricultural land, urban development, and the demand for timber and fuel. As populations increased, forests were systematically cleared to support agricultural practices, particularly evident during the Vedic period. Historical texts, such as the *Arthashastra,* reveal that the expansion of settlements and industries often came at the expense of forests. This widespread deforestation led to significant ecological consequences, including habitat loss, soil erosion, and disruption of local water cycles, ultimately threatening the balance of ecosystems.

♦ *Duality of exploitation and reverence for nature*

This contrast illustrates the complex relationship ancient India had with its environment. While deforestation was a practical response to socio-economic pressures, a strong current of environmental consciousness existed alongside it. This duality reveals an ongoing struggle to balance human development with ecological sustainability, highlighting how both exploitation and reverence for nature coexisted in ancient Indian society.

2.1.3 Empires and Indian Environment

The development of human civilization has always been profoundly shaped by environmental conditions. These conditions influenced the character of different periods, as societies adapted to their surroundings. Natural settings played a significant role in

♦ *Civilization shaped by environmental factors*

human development by providing food and shelter. In the early stages, humans were particularly vulnerable to their environment. To fully understand Indian history, it is essential to incorporate environmental, geographical, and ecological factors. The current environmental crisis makes studying India's environmental history even more relevant.

♦ *Literature and travelers discussed environmental management*

Ancient Indian literature offers various references to the environment and its management. The Jain, Buddhist traditions, Vedas, and Puranas address the need for environmental harmony. Foreign travelers like Megasthenes, Pliny, Fa-Hien, and Hiuen Tsang also documented the environment of ancient India. The country's geographical divisions — the Himalayas, Indo-Gangetic plains, Deccan plateau, and coastal regions — reflect its ecological diversity, which shaped Indian culture and history.

♦ *Mahajanapadas and environment during 6th century BCE.*

A significant turning point in early India's environmental history occurred during the 6th century BCE. This period saw the rise of sixteen Mahajanapadas, most of which were strategically located along rivers or in hilly areas. One of the most notable advancements of this time was the widespread use of iron, which signaled the beginning of a new phase of urbanisation, often referred to as the second urbanisation after the Harappan civilization. This era also witnessed the emergence of a new agricultural economy.

♦ *Magadha thrived on natural resources; early preservation laws*

Magadha, located in the Gangetic basin, flourished between the 6th and 5th centuries BCE, benefiting from rich alluvial soil and abundant natural resources. Mahapadma Nanda, known as India's first empire builder, constructed a canal near Bhubaneswar, which was later expanded by Kharavela. Ancient regulations imposed fines for cutting trees, showing the value placed on environmental preservation.

2.1.3.1 The Mauryan Empire

♦ *Mauryan laws protected trees with fines*

The Nandas were succeeded by the Mauryas, who took significant measures to improve the environment. The *Arthashastra* of Kautilya and the *Indica* of Megasthenes provide detailed insights into this period. The *Arthashastra* contains environmental laws, emphasising that environmental protection should be a moral duty. Kautilya also prescribed specific penalties for damaging trees, with fines for cutting various parts of trees depending on their sise and importance.

Kautilya highlighted the importance of living in a green environment, promoting the creation of gardens, groves, and lakes to enhance city life. This led to the development of a science of arboriculture in ancient India, encouraging the growth and maintenance of greenery. During the Mauryan era, agriculture

♦ *Arboriculture and agriculture were state priorities*

thrived, with a Superintendent of Agriculture *(Sitadhyaksha)* appointed to oversee crop management, seed collection, and the growth of various plants. The *Arthashastra* details irrigation systems, and a dam across the river near Girnar was constructed under Chandragupta Maurya's governance.

♦ *Ashoka promoted nonviolence and conservation.*

Ashoka, the most famous Mauryan ruler, promoted animal protection and nonviolence after the Kalinga War (261 BCE). His policies went beyond aesthetics, reflecting a deeper commitment to environmental and animal conservation.

♦ *Post-Mauryan rulers maintained environmental focus*

After the Mauryan Empire, the Sungas, Kushanas, and Satavahanas continued to prioritise environmental preservation. Post-Mauryan art and sculpture reflected a strong connection to nature, featuring animals, trees, and vegetation. Kharavela of Kalinga expanded a canal for environmental and agricultural benefits, while Kanishka of Purushapura and Rudradaman contributed to projects like repairing the Sudarshana Lake for irrigation. The Satavahanas, known for their maritime ventures, traveled to Southeast Asia, spreading Indian culture and engaging in trade.

2.1.3.2 The Gupta Period

♦ *Gupta era saw growth in agriculture and documentation of nature*

During the Gupta era, often referred to as the classical age of Indian history, the environment played a significant role in shaping society. Chandragupta II's reign (375–415 CE) was well-documented by Fa-Hien, a Chinese Buddhist pilgrim who noted natural and biological features of the time. The Allahabad Pillar Inscription suggests that the emperor Samudragupta subdued forest regions, indicating the vast forest coverage in central India. Agriculture experienced significant growth during this period, becoming a focal point of the economy.

♦ *Rise of feudalism, decline in trade, and urban centers*

In the later Gupta and post-Gupta periods, two significant events occurred: the rise of feudalism and the decline of urban centers. Both were influenced by environmental and agricultural factors. As agriculture expanded, irrigation became a major concern, leading to the heavy usage of river waters, particularly the Ganga. This shift toward land cultivation weakened long-distance trade, leading to the decline of cities. As D.N. Jha states, the growth of agriculture played a key role in the formation of new states, shifting focus from trade to agrarian-based socio-political transformation.

Environmental surroundings also greatly inspired the intellectual and literary achievements of the Gupta period. Kalidas, a poet during Chandragupta II's reign, wrote about the six seasons in *Ritusamhara,* linking them to human emotions like shringara (love).

♦ *Nature-inspired Gupta poets and astronomers*

His famous poem Meghaduta reflects on nature, particularly clouds. The renowned astronomer Aryabhatta revolutionised astronomy by suggesting that the Earth rotates on its axis and orbits the Sun. Varahamihira's work in the *Panchasiddhantika* (6th century CE) detailed five major astronomical systems (siddhanta).

♦ *Early Indians prioritised environmental ethics*

A blend of social consciousness, environmental ethics, and spiritual thought shaped early Indian views toward nature. Ancient Indians prioritised nature preservation, introducing strategies to combat pollution and degradation. The importance of past practices, as outlined by historians such as Chakrabarti is vital for current and future environmental conservation efforts, involving historians in creating new paradigms for sustainable environmental protection.

Summarised Overview

The relationship between ancient Indian societies and their environment is deeply documented in early literature and historical accounts. Texts like the Vedas, Puranas, and works from Jain and Buddhist traditions emphasised ecological harmony, advocating for a balanced coexistence between humans and nature. Early Indian civilizations, such as the Indus Valley civilization, thrived along rivers like the Sindhu and Ganga, which were essential for agriculture and trade, demonstrating how environmental conditions shaped cultural practices and social structures.

The Sangam Age (approximately 300 BCE to 300 CE) further exemplified this relationship, dividing South India into five ecological regions—Kurinji (mountains), Mullai (forests), Marutham (agricultural plains), Neithal (coastal), and Paalai (wasteland)—each influencing local customs, diets, and languages. Ancient texts reflected a strong environmental consciousness, with regulations against pollution and deforestation emphasised in Vedic literature and later legal texts like the Arthashastra.

The Mauryan Empire (c. 322-185 BCE) marked significant advancements in environmental management, with Kautilya advocating for tree protection and the establishment of green spaces. Ashoka, a notable Mauryan ruler, promoted non-violence and animal protection post-Kalinga War. Subsequent dynasties, including the Guptas, continued to prioritise environmental ethics, recognizing nature's influence on agriculture and intellectual pursuits.

Assignments

1. Critically analyse the forest culture of early India and its significance in society.
2. Discuss how the introduction of iron tools transformed the environmental conditions in early India.
3. Write a detailed note on the literary evidence documenting the early forest culture in India

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UNIT 2

Medieval India

Learning Outcomes

Upon the successful completion of this unit, the learner will be able to:

- understand the socio-political and economic significance of forests in medieval India
- analyse the cultural and spiritual dimensions associated with forest management
- assess the administrative strategies employed by medieval Indian kingdoms in resource management
- evaluate the impact of hunting as a royal sport on authority and governance
- examine the environmental transformations in pre-colonial and medieval India

Background

Medieval India witnessed profound interactions between human societies and their environments, particularly through the management and utilisation of forests. These wooded areas were not mere expanses of wilderness; they were deeply embedded in the socio-political fabric, serving as symbols of power, economic resources, and cultural heritage. Kings and emperors exerted control over forest resources, which played a pivotal role in asserting their authority and facilitating trade. Furthermore, the cultural and spiritual significance of forests fostered a sense of community among local populations, often intertwining their livelihoods with the natural landscape. This dynamic relationship highlights the complex interplay between governance, economic practices, and environmental stewardship in medieval India.

Keywords

Royal Realm, Forest Management, Economic Resources, Cultural Significance, Displacement, Irrigation Systems

Discussion

2.2.1 Forest as a Royal Realm in Medieval India

♦ *Forests symbolised power in medieval India*

In medieval India, forests played a crucial role in the socio-political and economic landscapes, functioning as royal realms that were not merely vast stretches of wilderness but were integral to the governance and livelihood of kingdoms. These forests were viewed as symbols of power and prestige, and their management was often intertwined with the authority of the ruling class. Kings and emperors actively controlled and regulated forest resources, establishing hunting grounds and royal retreats that served as both recreational spaces and sources of revenue. The forests thus became a reflection of royal dominance, showcasing the ruler's ability to manage and exploit natural resources.

♦ *Forests were economically vital resources*

The economic significance of forests in medieval India cannot be overstated. Forests provided a plethora of resources, including timber, medicinal plants, and various forest produce essential for daily life and trade. Timber from these forests was vital for building palaces, temples, and ships, while medicinal plants were crucial for traditional healthcare practices. The collection and trade of forest products supported local economies and the livelihoods of forest-dwelling communities. The rulers often imposed taxes on these resources, further emphasising their economic value. This intricate relationship between the state and the forest also facilitated the establishment of local economies dependent on forest produce.

♦ *Forests had cultural and spiritual significance.*

In addition to economic aspects, the forests of medieval India held significant cultural and spiritual importance. Many forests were considered sacred and were associated with various deities and mythological narratives. Temples and shrines were often located within these forested areas, attracting pilgrims and fostering a sense of community around these sacred spaces. Rulers recognised the significance of these cultural ties and often patronised the construction of temples and the preservation of sacred groves. This intertwining of nature and spirituality reinforced the king's role as a protector of both the land and the people's spiritual beliefs, further solidifying their authority.

♦ *Forest management showed administrative sophistication*

The management of forests was also a reflection of the administrative sophistication of medieval Indian kingdoms. Various royal edicts and texts, such as the *Arthashastra,* outline the regulations governing forest use, indicating that rulers implemented structured policies for conservation and resource management. Forest officers and local chieftains were appointed

to oversee these areas, ensuring that resources were harvested sustainably while also serving royal interests. This administrative oversight not only facilitated economic exploitation but also helped maintain ecological balance, demonstrating an early understanding of environmental management in governance.

♦ *Royal hunting reinforced elite power*

Hunting in these royal forests became a prominent pastime for the elite, further embedding the forests within the royal culture. Kings would organise grand hunting expeditions that showcased their prowess and provided opportunities for displaying power and wealth. These hunts often served as occasions for diplomacy and alliances among nobles, where the act of hunting became a social event that strengthened ties among the ruling class. The grandeur of these expeditions, coupled with the symbolic significance of dominating the wild, reinforced the king's position as a formidable leader in the eyes of his subjects and peers.

♦ *Conflicts arose over forest control*

Moreover, the forests were often sites of conflict, both for control and preservation. Local communities, sometimes at odds with royal interests, resisted exploitation, leading to tensions over land and resources. This conflict was often marked by efforts to assert rights over land, as many forest-dwelling communities had developed sustainable practices that were threatened by royal exploitation. The resistance and adaptations of these communities contributed to a complex dynamic between rulers and the populace, highlighting the multifaceted relationship between humans and nature in medieval India.

2.2.1.1 The Mughal State and Hunting

♦ *Forests crucial to Mughal economy*

♦ *Local economies relied on forests*

The Mughal Empire, which flourished from the early 16th to the 18th century, relied heavily on its natural resources, especially forests. These forests were not just vast expanses of wilderness; they were crucial for agriculture, hunting, and construction, playing a significant role in the empire's economy and culture. Forests served as vital economic assets for the Mughal state. They provided timber for constructing palaces, forts, and ships, along with fuelwood for domestic and industrial needs. The state imposed taxes on timber and forest products, contributing significantly to its revenues. Local communities also depended on forests for medicinal plants, food, and other non-timber products, which meant that the Mughal rulers had to maintain a delicate balance between exploitation and conservation of these resources to ensure their sustainability.

Since the establishment of kingship in India, hunting became a symbol of authority and a royal sport. It represented power over both subjects and nature, with rulers keeping detailed records of their heroic hunts, especially as the slaying of fierce beasts was seen

♦ *Hunting symbolised royal authority and power*

as a triumph over evil. The Mughal dynasty, rooted in the agrarian sector, was rich in natural resources and forests, which served both cultivation and hunting purposes. The Shikargah (hunting ground) was a transitional space between cultivated lands and the untamed forest, used for hunting and maintaining imperial traditions.

♦ *Qamargah method depicted rulers as heroes*

Mughal rulers, following their Timurid heritage, believed lion hunting was a ritual to affirm authority. According to tradition, a successful lion hunt was a good omen, while a failed hunt was seen as a harbinger of misfortune for the empire. The Qamargah hunting method, inherited from Mongols, involved encircling animals with beaters and trapping them for a hunt. Artists and court members often accompanied rulers to record the event, showcasing the emperor's heroic image in paintings.

♦ *Hunting reflected governance and valor*

Abul Fazal in *Ain-i-Akbari* emphasised that hunting symbolised good governance, where the emperor's courage on the hunt reflected his ability to capture the loyalty of his subjects. Akbar (1556–1606) was renowned for hunting with trained cheetahs, and he even assigned ranks to them. The Mughals employed various weapons and animals, including composite bows, muskets, falcons, and cheetahs, which symbolised nobility and social status.

Mughal hunting strategies included:

1. Beat Drive: Coordinated hunters driving prey toward a line.
2. Stalking: Approaching prey unnoticed.
3. Mounted Hunting: Chasing fast animals like deer on horseback.
4. Trained Animals: Cheetahs and falcons aiding hunts.

♦ *Hunting expeditions included ceremonies and rituals*

Post-hunt, the Mughals performed elaborate rituals, including music, prayers, blessings from priests, royal feasts, and storytelling. Distinguished hunters were also honored with titles and gifts. Hunting played a significant role in Mughal cultural and artistic expressions, reflecting the empire's wealth, bravery, and sophisticated traditions.

2.2.2 Pre-Colonial Dimensions

♦ *Habib discusses Gujarat's shifting ports*

Irfan Habib, an Indian Marxist historian, explores the ecological and *environmental transformations in precolonial India in his book Man and Environment: The Ecological History of India.* He highlights the impact of shifting seashores on Gujarat's ports during the Middle Ages. Habib notes that Bhrigukachchha, present-day Bharuch, was the earliest port in Gujarat, strategically located near the mouth of the Narmada River. By the late 14th century, due to

silt accumulation, trade shifted to Khambayat (modern Khambhat) at the Gulf of Cambay's mouth. Later, as the sea receded, Gogha on Saurashtra's coast emerged as an anchorage. By the 17th century, Surat, situated near the Tapti River's mouth, became the primary port, thanks to the discovery of the deep underwater hollow known as the Swally Hole.

Habib also examines the changing river systems in northern India, using the Kosi River in Bihar as an example. He points out that rivers on the northern plains have frequently altered their courses due to silt deposition over millions of years. However, there is limited documentation regarding the Kosi's changing routes during the Middle Ages. He further discusses how river channels in the Indus basin have evolved and notes significant modifications to the Jamuna River in Bengal, which was once fed by the Tista River, whose course shifted in 1787, effectively halving its length.

♦ *Kosi River's changes illustrate river dynamics*

David Arnold and Ramachandra Guha stress the importance of considering long-term environmental changes, extending beyond the last century. In their groundbreaking work, This Fissured Land: An Ecological History of India, Madhav Gadgil and Ramachandra Guha describe South Asia as a biodiverse region populated not only by settled agricultural communities but also by hunter-gatherers, shifting cultivators, nomadic pastoralists, and coastal and inland fishermen. This study, which focuses on pre-colonial India, employs a wide array of archaeological and literary evidence to analyse ecological transformations over time.

♦ *Long-term environmental changes emphasised*

Despite their importance, the years before 1800 have been largely overlooked in contemporary research on India's environmental history. According to Rangarajan and Sivaramakrishnan (2012), this neglect arises from the scarcity of materials concerning the environmental history of pre-modern and early modern periods. To address this gap, they published a collection of articles covering prehistoric India to the mid-19th century, integrating ecology, archaeology, and literary texts to create vivid naturalistic imagery.

♦ *Pre-1800 environmental history overlooked.*

Rangarajan and Sivaramakrishnan underscore the significance of studying broader historical contexts, from prehistoric to modern times, in an anthology published in 2014. They argue that while works like E*nvironment and Empire (2007)* and I*mperial Encounters (2012*) chart the interactions between natural processes and British imperialism, they often overlook the deeper histories of specific regions and communities.

♦ *Broader historical contexts are essential*

Irfan Habib points out that there is no comprehensive study of the ecological history of ancient or medieval India in his book *Man and Environment: The Ecological History of India.* However, he

♦ *Kosambi's work vital for environmental history*

emphasises the pivotal role of D. D. Kosambi's *An Introduction to the Study of Indian History (1956)* for environmental historians, as Kosambi analysed historical changes through an ecological lens.

♦ *Ancient texts reveal environmental knowledge*

Sayan Bhattacharya (2014) investigates concepts of forest ecology and sustainable conservation by examining ancient Indian texts such as the *Arthashastra, Vedas, Manusmriti, Ramayana,* and *Mahabharata*, alongside archaeological evidence. He argues that the social structure and urban planning of the Indus Valley civilization reflect a sophisticated understanding of the environment.

♦ *Early agriculture and domestication in India*

Habib notes that rice cultivation in the Ganga basin began around 3000 years after the domestication of wheat and barley, though the area under cultivation remained limited. Evidence from the Indus basin, dating back before 6000 BCE, indicates early cotton domestication and the initial cultivation of wheat. Additionally, Habib discusses the role of pastoralism in the Neolithic Revolution, highlighting the domestication of goats and sheep in the Levant and Mehrgarh (7000–5000 BCE), showing a gradual shift toward domestication.

♦ *Domestication of various livestock discussed*

He also emphasises the domestication of cattle at Mehrgarh, where evidence indicates a transition from sebu cattle to wild oxen. Notably, early buffalo domestication evidence has been found in northwest India, including regions like Kashmir and the Indus cultural sites of Balakot and Dholavira, around 2500–2000 BCE, rather than the anticipated Gangetic basin.

♦ *Shift from archaeology to texts in history*

The second phase of environmental history in India, spanning from approximately 1500 BCE to 700 CE, marks a shift from reliance on archaeological data to incorporating textual sources. Habib (2011) asserts that archaeology became a secondary but significant resource as texts like the Rigveda began to confirm archaeological findings. Later inscriptions bolstered this perspective. He references several works from this period, including the Harshacharita of Bāṇa from the seventh century, which describes the Vindhya forests, Ashoka's Pillar Edict V on animal protection, and the "Ode to AraNyani" from the Rigveda.

2.2.2.1 Medieval Period (700 – CE 1750)

♦ *Rainfall fluctuations affected agriculture*

Irfan Habib argues that fluctuations in rainfall during the Middle Ages significantly impacted agriculture, potentially ruining crops if rains arrived too late or at the wrong time. He suggests that narrative histories allow for a more accurate, albeit incomplete, account of famines during this era compared to earlier periods. In his work Agrarian System of Mughal India, Habib provides a comprehensive table of famines in the 17th century. The narrative

histories from the Mughal period offer valuable insights into India's domesticated animals, wildlife, and irrigation systems.

♦ *Irrigation infrastructure evolved over time*

Habib (2011) notes that stone and earthen dams were constructed in peninsular India, where the geography was favorable for creating various irrigation tanks equipped with sluices and canals to irrigate extensive farmland. He references inscriptions from the Vijayanagara period (14th to 16th century) that discuss the construction and maintenance of these irrigation tanks. Firoz Tughlaq (1351–88) built canals from the Yamuna and Sutlej rivers to irrigate arid areas in Haryana and eastern Punjab. Later, Shah Jahan (1628–1658) constructed the West Yamuna Canal, featuring a complex network of distributaries to irrigate surrounding lands.

♦ *Urbanisation altered local ecosystems*

While irrigation and urban development have a long-standing history in South Asia, David Arnold and Ramachandra Guha (2011) point out that little is known about how these practices have altered local ecologies or led to adverse environmental consequences. They argue that South Asian cities, as major consumers of food, fuel, fodder, and building materials, have significantly impacted the ecosystem over extended periods.

♦ *Pre-agrarian societies seen as endangered*

Some scholars studying pre-colonial India through an environmental history lens focus on narratives depicting pre-agrarian societies as vulnerable to the encroachment of agriculture. Rangarajan and Sivaramakrishnan (2012) highlight the Bengali novel *Aranyak* by Bibhutibhushan Bandopadhyaya, which poignantly captures the conflict between expanding farmland and forests in the early 20th century. They also reference D. D. Kosambi's belief that pre-agricultural cultures would inevitably be absorbed by "advanced" societies, viewing himself as a chronicler of the decline of these earlier ways of life.

♦ *Colonial views misinterpreted pastoral mobility*

♦ *Environmental changes predated colonisation*

Colonial scholars held similar views, misinterpreting pastoral mobility as vagrancy and attempting to impose a "modernizing" approach through stringent law and order. While such articles are becoming less common, environmental history has often focused on forests and agricultural landscapes, with some scholars also examining pastoralism in South Asia's history. In 1991, Professor Shereen Ratnagar and her colleagues at the JNU Centre for Historical Studies organised a workshop to investigate pastoralism as a historical topic. Significant shifts in environmental history have frequently occurred during the Permanent Settlement and colonial rule over forests. However, the decline of pastures, the encroachment of settled agriculture, and subsequent migrations and shifts in social relationships likely began long before colonisation.

Summarised Overview

In medieval India, forests served multiple roles, functioning as royal realms and symbols of power. Kings regulated forest resources for hunting and revenue generation, establishing a link between governance and natural resource management. Economically, forests provided essential materials like timber and medicinal plants, supporting local economies through trade and taxation. Culturally, many forests were sacred, housing temples and shrines, which reinforced the ruler's role as protector of spiritual beliefs. Administrative structures were developed to ensure sustainable resource management, showcasing early environmental governance. Hunting became an elite pastime, reinforcing royal authority and serving as a display of power. However, tensions arose as local communities resisted exploitation, resulting in conflicts over land and resources. Environmental historians like Irfan Habib and scholars such as David Arnold and Ramachandra Guha have explored these dynamics, offering insights into the ecological transformations of pre-colonial and medieval India. Their works reveal the profound impact of human activities on the environment, as well as the significance of understanding historical contexts to grasp contemporary environmental issues.

Assignments

1. Assess the ecological transformations in pre-colonial India as discussed by Irfan Habib.
2. Assess the impact of irrigation practices on medieval Indian agriculture.
3. Discuss the economic significance of forests in the Mughal Empire.
4. Examine the role hunting played in establishing royal authority during the Mughal era.

Suggested Reading

1. Baviskar, Amita, ed. *Contested Grounds: Essays on Nature, Culture and Power.* Oxford University Press, 2008.
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3. Stebbing, E. P. *The Forest of India.* John Lane The Bodley Head Limited, 1922.
4. Worster, Donald, ed. *The Ends of the Earth: Perspectives of Modern Environmental History.* Cambridge University Press, 1988.

Space for Learner Engagement for Objective Questions

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UNIT 3

Modern India

Learning Outcomes

Upon the successful completion of this unit, the learner will be able to:

- understand the ideological foundations of environmentalism in India
- analyse the nature of environmentalism during the rule of the East India Company
- examine the shift in power dynamics and its profound impact on the environment

Background

The roots of environmentalism in India stem from a response to environmental injustice, manifesting as struggles for rights over land, water, and forests. Unlike environmental movements in the West, which often focus on preserving natural beauty, Indian environmentalism centers on survival and livelihoods. The movements have largely been driven by common people fighting against unequal access to resources like forests, water, and fisheries. Various ideologies underpin these movements, including ecocentrism, anthropocentrism, deep ecology, sustainability, conservation and preservation, environmental justice, green politics, anti-consumerism, and climate activism. Each of these ideologies presents a unique perspective on the relationship between humans and the environment.

Keywords

Environmentalism, Conservation, Sustainable Development, Sarvodaya, Green Politics

Discussion

2.3.1 Trends within the Indian Environmental Movement

Madhav Gadgil and Ramachandra Guha identify five primary ideological trends within the Indian environmental movement. The Crusading Gandhians reject modernity, advocating for a moral and religious approach rooted in Eastern culture. Ecological Marxists address environmental issues through a political lens, emphasising the inequalities in resource access while downplaying ethical considerations. Appropriate Technology challenges centralised and environmentally damaging technologies in agriculture and industry. Wilderness Enthusiasts urge government action for wildlife preservation, citing the urgent need to protect declining species and ecosystems. Finally, scientific conservation promotes effective resource management based on scientific principles. Guha asserts that the most impactful perspectives for environmental development in India include Crusading Gandians, appropriate technologists, and ecological marxists.

♦ *Five ideological trends shape Indian environmentalism*

Environmentalism in India emerged from the collective awareness of people reacting against environmental injustices, particularly following the colonial exploitation of natural resources. The first significant environmental protest occurred in 1720 with the Bishnoi movement in Khejarli, where villagers were killed for resisting deforestation by a local ruler. This was followed by the Chipko movement in the late 18th century in Gopeshwar, Uttarakhand, where villagers "embraced" trees to prevent logging. This grassroots activism spread across northern India, marking a pivotal moment in India's environmental history. Other notable movements include the Appiko movement in Karnataka in 1983 and the Silent Valley movement in Kerala, aimed at opposing hydroelectric projects.

♦ *Early movements sparked Indian environmentalism*

Various tribal movements across India reflect the geographical diversity, aims, and issues concerning ethnicity, land rights, political autonomy, and identity. Initially, educated middle-class activists led many environmental movements, but after the 1860s, leadership began to shift toward lower social strata, particularly among agrarian and forest-based communities. Women's participation became increasingly significant during this time. Movements like the Narmada Bachao Andolan emerged as unified fronts against state-led development initiatives, showcasing the environmental consciousness of marginalised groups.

♦ *Tribal movements reflect diverse environmental concerns*

♦ *Indian environmentalism intertwines social justice and ecology*

Overall, Indian environmentalism represents a deeply social and ecological movement, initially championed by middle-class activists and later gaining momentum through grassroots participation. Contemporary studies continue to explore the impact of state development policies on the environment and the active resistance from communities. This evolution demonstrates that environmentalism in India is not just an environmental issue; it intertwines with social justice, equity, and the fight for sustainable livelihoods.

2.3.2 The Company Rule and After

♦ *Colonialism reshaped India's environment and economy*

The history of British colonialism in India can be understood through three major themes: political, socio-cultural, and economic aspects. The interplay between colonial policies and environmental degradation becomes evident when examining the exploitative measures introduced by the British, which had lasting repercussions on India's physical environment. The establishment of the English East India Company in 1600 marked a significant turning point in the Indian subcontinent's history. Initially, the Company functioned as a joint-stock enterprise owned by private individuals without direct involvement from the British government. However, following victories in the Battle of Plassey (1757) and the Battle of Buxar (1764), the Company acquired administrative control and taxation rights over Bengal. This shift allowed the East India Company to exert both political and commercial dominance in India, coinciding with the Industrial and agricultural revolutions that heightened its commercial ambitions. As highlighted in Dadabhai Naoroji's seminal work *Poverty and Un-British Rule in India,* the "drain of wealth theory" elucidates the economic exploitation by the British, emphasizing that the riches extracted were not only monetary but also comprised India's abundant natural resources.

♦ *British laws centralised power in India*

The evolving nature of environmentalism in colonial India is closely linked to British policies. After gaining political power in Bengal, the Regulating Act of 1773 established a framework for British governance in India, including the creation of the Governor-General position. This Act centralised control, placing the provinces of Bombay and Madras under the Bengal Governor-General's authority. Additionally, the establishment of a Supreme Court in Bengal further solidified British legal power. The Pitt's India Act of 1784 introduced a dual governance structure, placing the Company under the British government's oversight. Subsequent Charter Acts, particularly those of 1793, 1813, 1833, and 1853, expanded trade monopolies for the British, facilitating an influx of foreign traders into India and significantly altering the economic landscape.

The revolt of 1857 marked a significant chapter in India's colonial

history, driven by rising nationalism and a desire for freedom. The English East India Company faced increasing unrest due to its oppressive policies, which catalysed widespread uprisings. Defined by *The Dictionary of Human Geography,* imperialism creates and sustains unequal relationships, often through domination. Edward Said describes imperialism as a systematic effort to impose metropolitan authority over distant territories, contrasting it with colonialism, which involves establishing settlements in those regions. The concept of ecological imperialism highlights the complex interplay between capitalism and imperialism, asserting that ecological exploitation is rooted in hierarchical global labor divisions. Alfred Crosby's work, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900,* underscores the environmental degradation caused by European colonisation, revealing how imperial practices devastated indigenous ecosystems.

♦ *The 1857 revolt highlighted rising nationalism*

Recent studies have examined the interplay of culture, technology, and nature through environmental history, revealing various perspectives on the relationship between science and colonialism. Pratik Chakrabarti notes that within the British imperial framework, indigenous knowledge of medicinal plants was often ignored and misrepresented as European discoveries. This narrative aligned with the moral justification for colonialism, promoting the idea of European superiority in science and health. Under British rule, Indian forests became a focal point for resource exploitation, leading to the "discovery" of medicinal plants essential for European medical practices. Additionally, European naturalists introduced and exported various species, facilitating the extraction of biological resources from the colonies.

♦ *Colonialism exploited indigenous knowledge and resources*

The establishment of the Geological Society of London in 1807 exemplifies British interests in extracting colonial resources. This organisation mobilised members and resources for a *Geological Survey* in Raniganj, India, focusing on coal extraction from local mines. Coal became a crucial energy source for industries and railways, symbolising the environmental and economic exploitation inherent in British colonialism. The exploitation of India's natural resources during this period not only impacted the environment but also contributed to the broader narrative of ecological imperialism.

♦ *British colonialism exploited India's coal resources*

2.3.3 Environmentalism and the Poor in India

The Environmentalism of the Poor is a concept that underscores the struggles of marginalised communities confronting environmental degradation and resource exploitation. It asserts that these groups, often disproportionately affected by ecological

♦ *Poor communities resist corporate exploitation*

harm, advocate for their rights and livelihoods while promoting social justice. This movement highlights the interconnectedness of environmental issues and social equity, showcasing grassroots activism that challenges dominant economic practices. By prioritising the voices and experiences of those at the forefront of environmental crises, the Environmentalism of the Poor advocates for sustainable and equitable solutions that benefit both people and the planet.

♦ *Indigenous harmony disrupted by exploitation*

According to Ramachandra Guha, environmental movements in India are intrinsically linked to social justice. The Environmentalism of the Poor reflects the resistance of marginalised communities against dominant social groups. Indigenous peoples in India traditionally lived in harmony with nature, and their impoverishment is attributed not to inherent poverty but to external forces that have historically plundered their resources and livelihoods. During colonial times, extensive deforestation occurred to support the plantation economy, forcing local populations into low-wage labor on plantations. These wages were often insufficient, plunging these communities into deeper poverty.

♦ *Environmental justice linked to global movements*

In the United States, this movement arose in response to environmental racism in the late twentieth century. Environmental injustice can be both global and local. Globally, capitalism, colonialism, and imperialism have perpetuated the extraction of raw materials from colonised or impoverished countries, leading to the exploitation of natural resources and an unequal distribution of wealth. For instance, during colonialism in India, the British government implemented administrative measures that facilitated tax-free exports and imports under the Free Trade Policy, resulting in a significant outflow of raw materials to British industries and contributing to ecological imbalance and debt in India.

♦ *Local movements advocate for environmental justice*

In a local context, environmental movements in India serve as powerful examples of grassroots activism. Movements like the Chipko Movement, which protested against commercial forestry, and the Narmada Movement, an anti-dam initiative, exemplify the push for social justice and ecological sustainability. These movements illustrate the disparities and injustices fostered by globalisation, which often prioritises profit over environmental concerns and the grievances of marginalised populations.

♦ *Globalisation challenges local environmental efforts*

Globalisation, characterised by the promotion of free trade and the creation of a global market, poses significant environmental challenges, particularly for indigenous populations. Localised investments can lead to immediate environmental actions from aware communities, but failuress to address these issues may result in organised environmental movements. The Chipko and Narmada movements serve as prime examples of how local communities

can mobilise to resist environmental degradation and advocate for their rights.

2.3.5 Gandhian Philosophy

♦ *Gandhi emphasised sustainable village life*

Mahatma Gandhi's philosophy underscores the principle that "the earth has enough resources for our needs but not for our greed." Gandhi believed that India's strength lay in its villages, which were largely self-sufficient agricultural communities during colonial times. While environmental issues were not a primary focus of Gandhi's activism, Ramachandra Guha posits that Gandhi can be viewed as an early environmentalist based on his critiques of industrialisation, urbanisation, and mechanisation.

♦ *Gandhi critiqued urbanisation and pollution*

♦ *Grassroots movements embody Gandhian ideals*

In his seminal work *Hind Swaraj*, Gandhi warned of the dangers of environmental destruction and the erosion of rural livelihoods. He expressed concern over urbanisation and the decline of cottage industries, which he believed were vital to maintaining India's cultural and ecological integrity. He recognised the importance of clean air and the detrimental health effects of industrial pollution, advocating for the preservation of rural life and industries. Movements like the Chipko and Narmada Bachao Andolan were inspired by Gandhian principles, emphasising grassroots participation and environmental conservation. The Chipko Movement, for instance, involved local communities hugging trees to prevent deforestation, demonstrating a direct action rooted in cultural values and a commitment to environmental stewardship.

♦ *Sarvodaya emphasises harmony and sustainability*

♦ *Non-violence links peace and environmentalism*

Gandhi's vision of Sarvodaya aimed to foster a harmonious existence among all living beings, promoting small-scale eco-friendly industries that would not deplete local resources. He believed in the importance of sustainable agricultural practices and local trade to ensure self-sufficiency and environmental health.Furthermore, Gandhi's principle of non-violence extends to environmentalism. He argued that preserving natural resources is essential to achieving peace, as environmental destruction often leads to conflict. By reducing the carbon footprint associated with war and military production, his ideas resonate with modern environmental ethics, emphasising the interconnectedness of social justice, environmental conservation, and global peace.

♦ *Sustainable development contrasts with Nehru's views*

For Gandhi, sustainable development meant utilizing natural resources without depleting them. His perspectives contrast sharply with many Indian nationalists, including Jawaharlal Nehru, who argued that India's economic subjugation by the British was due to its backwardness. They believed that India could only revitalise by adopting modern science and large-scale industrialisation.

Summarised Overview

Indian environmentalism has its roots in the struggle against environmental injustice, focusing on survival and livelihoods rather than aesthetic preservation. Movements such as the Chipko and Narmada Bachao Andolan emerged as grassroots responses to colonial exploitation and resource depletion, driven primarily by marginalised communities advocating for their rights over land, water, and forests. Influential ideologies include ecocentrism, environmental justice, and deep ecology. Scholars like Madhav Gadgil and Ramachandra Guha highlight five ideological trends within this movement, notably the Crusading Gandhians and Ecological Marxists, emphasising the intertwining of social justice and environmental issues.

Colonial policies significantly impacted India's environment, leading to widespread exploitation of resources and indigenous knowledge. Environmentalism of the Poor critiques the inequitable distribution of ecological goods and advocates for social justice, aligning with global movements against corporate exploitation. Gandhi's philosophy promotes sustainable living and critiques industrialisation, aligning with the principles behind many contemporary environmental movements. Ultimately, Indian environmentalism reflects a complex interplay of ecological, social, and economic concerns, embodying the fight for equitable resource access and environmental sustainability.

Assignments

1. Define the concept of 'Environmentalism of the Poor' and discuss its significance in contemporary society.
2. Evaluate the principles of Gandhian ideology concerning environmentalism and their relevance today.
3. Analyse the environmental policies implemented by the British East India Company and the Crown, highlighting their ecological consequences.

Suggested Reading

1. Guha, Ramachandra, T*he Unquiet Woods: Ecological Change and Peasant Resistance.* Oxford University Press, New Delhi 1989.
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1. Bullard, R.D. (Ed.), *Confronting Environmental Racism*: Voices from the *Grassroots,* South End Press, Boston, 1993.
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3. Davey, I., *Environmentalism of the poor and sustainable development: an appraisal, Journal of Administration & Governance 4, 2009.*
4. Martinez-Alier, J., *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation.* , Oxford University Press New Delhi, 2005.

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Colonialism and Environment

BLOCK-03

UNIT 1

Exploitation of Nature

Learning Outcomes

Upon the completion of this unit, the learner would be able to:

- understand the exploitative nature of colonialism and its long-term consequences on Indian Society
- analyse colonial policies regarding India's natural resources and their implications for communities
- examine the environmental impact of imperial policies on ecosystems and resource sustainability

Background

Colonialism and imperialism have been prominent themes in historical scholarship, significantly impacting the political, socio-cultural, and environmental atmosphere of the Indian subcontinent. While most historians have focused on the socio-political and cultural implications of colonialism, the environmental impact has only recently become a primary concern within the discipline. The industrial and agricultural revolutions had far-reaching effects on Britain's colonies, with the commercial greed of the West disrupting India's ecological balance.

Keywords

Environmental Degradation, Commercialisation, Plantation Economy, Industrial Revolution, Pollution

Discussion

When analysing colonialism, historians traditionally focus on its economic and political impacts. However, a deeper examination reveals that cultural and environmental consequences are among the most far-reaching and visible effects of colonialism. The establishment of the English East India Company in 1600 and its subsequent activities in the Indian subcontinent marked significant changes in India's environmental and ecological history. The Company's primary motive was commercial monopoly, but its political and economic ambitions gradually led to the deterioration of the ecological balance in each colony. India, in particular, stands as a prominent example of environmental degradation resulting from colonialism. To understand the complex relationship between colonialism and the environment, we must critically engage with different dimensions of historical thought and analyse the intricate facts of this period.

3.1.1 Colonialism as Exploitation of Natural Resources

- *Colonialism impacted nature*
- *Territorial expansion shaped history*

The relationship between humans and the environment is shaped by how people perceive and interact with nature. Since the dawn of humankind, there has been an unbreakable bond between humans and nature, which evolved as humans began to control their surroundings. The living environment plays a crucial role in shaping human culture and civilization. Territorial expansion and the quest for wealth and power have left their mark on every region of the world. Colonialism and imperialism, in particular, are seen as some of the greatest blunders of natural resources. Before the advent of colonialism, there existed a more harmonious relationship between people and nature. However, the environment became a global concern as colonial legacies led to mass deforestation, resource extraction, degazetting of land, and other practices that directly impacted the global climate.

- *Revolutions spurred environmental issues*
- *Global struggle for resources*

The population explosion, overutilisation of fertilisers, global warming, mass poverty, rapid industrialisation, deforestation, emission of harmful substances, industrial and synthetic waste, and nuclear hazards all have deep roots in the Industrial and Agricultural Revolutions in the West. These issues are part of a global phenomenon driven by the struggle for trade monopoly and power.

In terms of environmental degradation caused by colonialism, ecological imperialism represents the most extreme form of

plundering and exploitation by dominant countries over their subordinates, transforming the ecosystems of colonised nations into unsustainable environments. According to Mariko L. Frame, ecological imperialism plays a crucial role in capital accumulation and its relation to production. In a capitalist world, capital accumulation occurs when the surplus generated in one stage becomes the investment fund for the next. Alfred Crosby's (1986) work, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900,* highlights how European colonisation devastated indigenous environments worldwide. A prime example in India is the destruction of Himalayan forest ecology due to imperial forest exploitation. George Borgstrom's *Hungry Planet* (1965) introduced the concept of "ghost acres" to illustrate Britain's reliance on food and raw materials from colonial hinterlands to sustain its productive capacity and trade operations.

♦ *Ecological imperialism damages nature*

♦ *Capital accumulation linked to exploitation*

The studies of Mahesh Rangarajan (1996) and Ramachandra Guha highlight how the British indiscriminately cut down forest trees for laying roads, railway sleepers, and shipbuilding, leading to significant deforestation across colonial India. The large-scale replacement of natural forests with commercially profitable tree plantations further deteriorated the natural forest ecology in each colonised country. This artificial ecological system disrupted the natural balance of these forest regions, resulting in commercial benefits for the colonisers and environmental degradation for the colonies.

♦ *Indiscriminate deforestation in India*

♦ *Tree plantations harmed ecosystems*

In the pre-colonial period, forest dwellers, peasants, and cattle grazers used natural resources for their basic needs without harming the local environment. Indian forests were among the most exploited natural resources in colonial India. The growing demand for raw materials, transport, and communication systems led to the establishment of railway lines. Superior quality wood was used in two primary ways: for constructing sleepers and as fuel. According to Dr. Cleghorn, approximately 1,760 sleepers were needed to complete one mile of railway track.

♦ *Forest dwellers were sustainable*

♦ *Railways drove wood consumption*

Railway companies also consumed massive amounts of wood as engine fuel. To reduce expenses, they primarily used firewood, which cost 5 rupees per ton, compared to coal, which cost 20 rupees per ton. This practice led to a significant level of deforestation. Forest woods were classified into five categories: superior, auxiliary, accessory, inferior, and worthless. Among these, the highest quality woods were harvested for commercial purposes. Teak (Tectona grandis) trees in India, in particular, were highly sought after due to their hard, resilient timber, which was ideal for building durable structures capable of withstanding salt water, humidity, and insect-

♦ *Firewood led to deforestation*

♦ *Teak wood was highly prized*

prone tropical climates. This made teak an essential material for ships and buildings. Additionally, local contractors and timber dealers played a significant role in deforestation.

♦ *Colonial hunting impacted animals*

♦ *Medicinal plants were exploited*

Colonial exploitation of forests also extended to hunting as a leisure sport, leading to the unprecedented killing of many animals. During colonial rule, many plants were exploited for various purposes, with one significant use being for medicinal purposes. Indian forests were rich in natural medicinal plants. The establishment of the Public Works Department (PWD) in 1854 further intensified forest exploitation. The PWD undertook the construction of buildings, dams, bridges, canals, and roads, which required a substantial amount of timber extracted from forests.

♦ *Irrigation benefited colonisers*

♦ *Canal issues harmed groundwater*

The British established numerous irrigation projects across India to enhance agricultural productivity, benefiting from increased revenue and raw materials. However, the extensive network of canal irrigation, while advantageous for the colonisers, led to problems such as seepage from unlined canals. Over time, this caused salinisation and disrupted groundwater flow due to rising water tables. The establishment of Thompson Engineering College at Roorkee during colonial rule is particularly notable. This institution trained Indian students in European water engineering. Despite their expertise, the British engineers, with their knowledge of European practices, failed to grasp the unique nature of Indian water resources and overlooked the risks of drought and flooding during seasonal changes. They proceeded with the construction of dams, bridges, and canals without conducting adequate background studies.

♦ *British controlled water resources*

♦ *Water laws impoverished locals*

The colonial government progressively assumed control over surface water through various administrative changes. Following the Queen's Proclamation of 1858, the British government began intervening in the internal affairs of princely states. British colonial water law granted them authority over water resources. The Government of India Act of 1935 further devolved power to provinces, allowing them to make decisions regarding water supply, canals, irrigation, drainage, water storage and hydropower. These measures ultimately led to environmental degradation and the impoverishment of peasants and common people.

♦ *Capitalism caused inequalities*

♦ *Industrialisation worsened ecosystems*

Capitalism has been a driving force behind inequalities both between and within countries. In a capitalist hierarchical system, the top tier of society has benefited from the unprecedented accumulation of global capital. In India, as in other parts of the world, the primary goal of British imperialism was to enrich the Empire through trade and resource exploitation, establishing

one of the foremost global trade monopolies. Britain's capitalist policies led to the devastation of ecosystems and the biosphere, resulting in the loss of flora and the extinction of various plant and animal species. Extensive destruction of tropical rainforests occurred worldwide, and the Industrial Revolution contributed to the accumulation of greenhouse gases in the atmosphere, leading to a gradual rise in global temperatures.

♦ *Deforestation for commercial use*

♦ *Forests cleared for railways*

The term "deforestation" refers to the large-scale disappearance of forests. Under colonial rule, widespread tree-cutting for commercial purposes began. The commercialisation of agriculture promoted the cultivation of cash crops like sugar, jute, wheat, and cotton, which were needed for industrial production in England. The British viewed forests as unproductive and cleared them to extend cultivation. Additionally, timber was exported for the Royal Navy to build ships, especially after oak forests in England were depleted in the early nineteenth century. The establishment of railways in the 1850s further exemplified this exploitation. Wood was required for fuel to run locomotives and for constructing sleepers (wooden planks that support railway tracks). To meet these needs, the government began extensive deforestation. Railways improved transportation and communication, but early lines were often extended into forest regions to access timber resources. The Charter Acts also led to an influx of European planters in India, who cleared natural forests to develop tea, coffee and rubber plantations.

♦ *Civilizations flourished by rivers*

♦ *Water pollution worsened after colonialism*

Most civilisations in the world originated and flourished along riverbanks due to the critical importance of water in daily life. The availability of water resources transformed human settlements from nomadic pastoral communities into settled, organised societies. The Industrial Revolution marked the onset of environmental pollution, with ecological degradation becoming a hallmark of modern civilisation. During both colonial and postcolonial periods, water pollution emerged as a critical environmental issue, leading to widespread waterborne diseases that significantly impacted human populations.

♦ *Industrial waste polluted water*

♦ *Trade caused oil pollution*

In colonial India, the Industrial Revolution had a profound effect on water resources. With the implementation of the Charter Acts, many Europeans arrived in India to establish industries and plantations. Industrial waste, which included pollutants such as petrochemicals, asbestos, lead, and mercury, was discharged into lakes and rivers, contaminating the water supply. Additionally, overseas trade contributed to seawater pollution due to oil spills from ships and tankers. This oil, which did not dissolve in water, formed thick sludge and further polluted marine environments.

♦ *Population growth worsened pollution*

Air pollution was another consequence of colonialism, driven by the rapid growth of industries and the rise of new urban centers. Industrialisation led to dense populations in specific city areas, increasing the likelihood of pollution and creating unhealthy living conditions.

3.1.2 Commercialisation of Agriculture and Plantation Economy

♦ *Company's political power*

♦ *Global trade changes*

The establishment of the English East India Company in 1600 was pivotal for colonial expansion, aiming for a trade monopoly in the Far East. Initially, it faced competition from other European powers and local rulers but, after the Battle of Plassey in 1757, the Company evolved into a political power in India. C.A. Bayly noted that its expansion was driven by fiscal and military needs, not just trade. The Company's control over trade routes allowed it to consolidate power, leading to significant economic changes across the subcontinent. Indian agriculture saw major transformations, especially during the 19th and 20th centuries, as the British restructured the agricultural landscape to serve imperial interests. Globally, key developments such as the opening of the Suez Canal in 1869, the American Civil War, and the invention of the telegraph facilitated the British Empire's trade, further expanding India's role as a supplier of raw materials.

♦ *Railways boosted trade*

♦ *Focus on revenue generation*

By the 1910s, the Indian railway system was the fourth largest in the world, enabling efficient transport for international trade. This extensive railway network facilitated the movement of agricultural produce from rural areas to ports, allowing British merchants to access goods swiftly. The development transformed India's agricultural landscape, increasing the focus on revenue generation for the British Empire. As a result, traditional farming practices were often replaced by the cultivation of cash crops intended for export, creating dependency on global markets rather than local sustenance.

3.1.2.1 Change in Land Ownership and Commercialisation of Agriculture

♦ *Revenue-focused land reforms*

♦ *Shift to cash crops*

The British Empire's expansion led to a focus on revenue generation, primarily targeting agriculture through land revenue policies. These reforms were rooted in European feudal concepts, introducing a new order that prioritised profit over subsistence. Cornwallis introduced the Permanent Settlement in Bengal and Bihar in 1793, which fixed land revenue for zamindars, incentivizing them to maximise output. Other provinces saw the implementation of the *Ryotwari* and *Mahalwari* Settlements, which further altered land tenure systems. These policies marked a significant

transformation of India's agrarian economy, transitioning from a self-sufficient system to one focused on market cultivation. Cash crops, including cotton, jute, and indigo, became more profitable than food crops, pushing peasants towards commercial agriculture.

♦ *Food shortages*

♦ *Jute over food crops*

Irfan Habeeb pointed out that large-scale jute cultivation in Bengal came at the expense of food crops like rice and sugar, which led to chronic food shortages in colonial India. This shift to cash crops not only destabilised local food security but also made rural economies vulnerable to fluctuations in global markets. The prioritisation of export-oriented agriculture underlined the exploitation inherent in colonial policies, where local needs were sacrificed for imperial profits, leading to widespread famine during economic downturns.

3.1.4.3 Plantation Economy

♦ *Global plantation economy*

♦ *Shift to cash crops*

Plantation agriculture began in Brazil in the 16th century and spread to regions like Ceylon and Southeast Asia as European powers sought to exploit tropical commodities. European colonisers, including the British, established plantations as businesses designed to yield profits. This system relied heavily on the cultivation of cash crops, which were in high demand in European markets. According to Edgar T. Thompson, the plantation system shaped land and labour relationships, creating a global financial institution for agriculture. The British East India Company utilised Saint Helena as a model and soon applied this plantation system in India, establishing cash crop plantations aimed at the European market, not for local consumption. This led to a significant shift in agricultural practices, as the focus moved away from subsistence farming towards monoculture cash crops. Plantations primarily produced tea, coffee, and sugar, which were highly lucrative on the global stage, thus reinforcing the extractive economic structure imposed by colonial rule.

♦ *Technological advancements*

♦ *India as raw material supplier*

The colonial plantation economy displaced people and plants on a global scale, as indigenous agricultural practices were replaced by monoculture systems that prioritised profitability. This displacement was not limited to crops; entire communities were often uprooted to make way for plantations. The cultivation of cash crops necessitated large tracts of land, leading to the clearing of vast forested areas. As forests were cut down, the biodiversity that had thrived for generations began to disappear. This not only eliminated natural habitats but also disrupted local ecosystems that relied on these forests for sustenance and resources. Technological advancements in the 19th century reduced labour needs, allowing Britain to dominate the international market. The introduction

of machinery and improved agricultural techniques enabled large-scale production and efficiency, which further accelerated the exploitation of resources. Free trade policies facilitated the importation of raw materials from colonies, with India being a key supplier of commodities such as cotton, tea, and indigo. British botanists discovered that Indian soil was particularly fertile and suitable for growing sugar, tobacco, tea and other lucrative commodities, turning India into a major raw material provider for British industries.

♦ *Plantation capitalism*

♦ *Labour demand and tensions*

John Darwin highlighted the transformations between the 1840s and 1870s, as Britain established a global trade and empire system, expanding trading networks in plantation industries. This period saw significant growth in the plantation economy, with British capital flowing into agriculture in India. In India, this involved botanical and agricultural experimentation, making plantation agriculture highly capitalistic and focused on export. The expansion of plantations created a demand for labour, leading to the importation of indentured workers from regions like India and Africa. Many labourers were subjected to harsh working conditions and low wages, which fuelled social tensions. Geography and climate played critical roles in this economy, determining what crops could be grown where. The focus on cash crops for export meant that vast areas of land previously covered in diverse forests were converted to plantations, further accelerating forest loss.

♦ *Environmental degradation in India*

♦ *Disruption of local ecosystems*

The British centralised power within plantations, which had lasting effects on India's socio-economic and environmental systems. This centralisation led to significant environmental changes, including deforestation and soil degradation due to extensive forest clearing for plantation agriculture. The drive for profit overshadowed the need for sustainable agricultural practices, disrupting local ecosystems and biodiversity. Traditional farming methods, which had been adapted to local conditions over centuries, were often abandoned in favour of monoculture practices that depleted soil nutrients and made crops more susceptible to pests and diseases. The unchecked expansion of plantations not only resulted in the loss of timber resources but also led to the erosion of soil, as tree cover was lost. This erosion made the land less fertile and reduced its ability to support diverse plant life. Additionally, the loss of forests affected local rainfall patterns and microclimates, contributing to broader environmental changes that further compromised agricultural sustainability.

Moreover, the colonial policies promoting plantation agriculture prioritised commercial benefits over ecological sustainability. The introduction of large-scale monoculture systems resulted in

♦ *Commercial policies prioritised profit*

♦ *Loss of biodiversity and resources*

the displacement of indigenous plant species, undermining the ecological balance. The British government often overlooked the long-term environmental consequences in favour of immediate economic gain. Forests that had served as crucial resources for local communities—providing fuel, fodder, and food—were systematically cleared, leading to increased vulnerability among these populations. As forests disappeared, so did the natural barriers that had protected agricultural land from erosion and flooding, increasing the risk of natural disasters. The loss of forest cover also impacted wildlife, as many species lost their habitats, leading to declines in biodiversity.

In conclusion, plantation agriculture in colonial India was a crucial element of the broader exploitative economic system established by British rule. The focus on cash crops for export led to significant socio-economic transformations, including the displacement of local populations and the alteration of agricultural practices. The extensive clearing of forests for plantations not only caused severe environmental degradation but also disrupted local communities that depended on these ecosystems. The focus on profit undermined sustainable land use practices, resulting in a legacy of ecological imbalance that continues to affect India today. Ultimately, this system of plantation capitalism had lasting implications for India's socio-economic structure and environmental health, sowing the seeds of resistance that would later contribute to the struggle for independence.

♦ *Exploitative economic system*

♦ *Resistance and independence movement*

Summarised Overview

In this unit, we have delved into the profound 'colonial effect' on the environment, focusing on how Britain's insatiable commercial greed had extensive, long-lasting consequences for its colonies, particularly India. The relentless exploitation of natural resources under British rule triggered widespread land degradation, deforestation, and contributed significantly to global warming. The colonial policies implemented in India, driven by economic motives, were central to creating severe ecological imbalances.

The introduction of railway systems, while improving transport and communication, also facilitated the extraction and movement of raw materials. The railway expansion was directly tied to deforestation, as large quantities of timber were required for sleepers and fuel. Beyond the railways, the plantation economy that took root displaced indigenous communities and plants on a global scale. Traditional agricultural practices were uprooted to make way for large-scale production of cash crops, meant primarily for

export to Britain rather than for local consumption.

India's environmental exploitation mirrored the impacts of the Industrial Revolution in Britain, as the subcontinent became a major supplier of raw materials needed to fuel British industrial growth. This transformation not only devastated the local ecosystems but also altered India's agrarian landscape, reducing the diversity of crops and making the country increasingly dependent on monocultures tailored to colonial needs.

Assignments

1. Critically examine the environmental degradation following the era of imperialism.
2. Analyse the establishment and impacts of numerous irrigation projects in India.
3. Examine the commercialisation of agriculture and the exploitation of natural resources.
4. Assess how the Industrial Revolution contributed to widespread deforestation in India.
5. Investigate the unique characteristics of the plantation economy in India and its effects.

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 2

Impact of Colonial Policies

Learning Outcomes

Upon the successful completion of this unit, the learner will be able to:

- examine the visible impact of colonial policies on society and economy in British India
- trace the nature and historical background of famines during colonial India
- analyse the condition of native livestock in British India and explore animal husbandry crises

Background

After the Battle of Plassey, the English East India Company emerged as a political power. Ever since then, the nature of colonialism became more visible through the establishment and implementation of colonial policies. The introduction of land revenue policies, enactment of Charter Acts, establishment of various government departments, expansion of railway and road lines, etc, had a direct impact on the economic, social, political, and environmental conditions of the country. During the time of colonialism, India faced severe famines at certain intervals. Following this, people had to risk their lives with absolute poverty and disease caused by colonialism.

Keywords

Land Degradation, Famines, Diseases, Famine Commission, Animal Husbandry, Capital, Enviornmental degradation

Discussion

3.2.1 Famines in Colonial India

♦ *Severe Bengal Famine*

♦ *Social dislocation and violence*

The Bengal famine of 1770 is considered one of the most severe during British rule, causing the death of about 10 million people, or one-third of Bengal's population. This catastrophic event was driven by a confluence of factors, including a series of poor monsoons that led to crop failures, exorbitant revenue demands imposed by the British East India Company, and widespread economic distress. As a result, rural communities faced severe food shortages. British policies prioritised the extraction of revenue from agriculture, pushing many farmers into debt and forcing them to sell off their lands. The scale of suffering was profound, leading to widespread devastation and social dislocation as families lost their livelihoods and homes. The famine also resulted in a breakdown of social order, with reports of starvation, looting, and violence against those hoarding food supplies.

♦ *High death toll in Guntur*

♦ *Malnutrition and disease outbreaks*

Similarly, around one-third of the inhabitants of the Guntur district in the Madras Presidency perished during the 1832-33 famine. This famine was compounded by the British focus on cash crops, which led to a decline in food production. The area's agrarian economy was disrupted, and the British government's failure to provide adequate relief further exacerbated the crisis. Reports indicated that local populations faced dire shortages of food and were often forced to resort to extreme measures, including eating grass and tree bark to survive. During this time, many families were displaced, leading to a rise in mortality due to malnutrition and associated diseases.

♦ *Famine in northwestern provinces*

♦ *Inadequate government response*

In the northwestern provinces, including Punjab, Rajasthan, and Kutch, the famine of 1860-61 claimed the lives of 1 million people, exacerbated by poor harvests and inadequate relief measures. The British government's failure to understand local agricultural practices and the socio-economic dynamics of the region contributed to the crisis. Reports from this period highlighted how the prioritisation of railway construction and military expenditure over agricultural investment led to a lack of infrastructure that could have supported farmers during times of crisis.

By 1800, famine had spread across most Indian princely states, including Bombay, Bengal, the Central Provinces, Madras, Rajasthan, and Hyderabad. The Bengal Famine of 1770 was the first major famine in colonial India to gain both domestic and international attention, serving as a grim testament to the devastating

♦ *Famine spread across India*

♦ *Pattern of British neglect*

impacts of colonial policies. Its severity was exacerbated by British administrative failures, including inadequate response systems and a lack of understanding of local agricultural practices. The Madras Famine of 1783 and the famine in North India in 1784 were similarly caused by a combination of natural factors and British mismanagement, illustrating a pattern of neglect towards the Indian populace.

♦ *Inadequate famine relief efforts*

♦ *Long-lasting impact on communities*

Famine relief efforts were sporadic, often reactive rather than proactive. The establishment of a relief system during Cornwallis's administration in response to the Madras and Bombay Famine of 1792 was a notable development, yet it still fell short of addressing the root causes of famine. Relief measures typically included the establishment of temporary food distribution centers, but these efforts were often insufficient and poorly managed. Furthermore, the British authorities often preferred to provide relief in cash rather than in food, which did little to alleviate hunger. However, the loss of life remained significant, indicating the government's prioritisation of commercial benefits over people's welfare. This neglect led to enduring consequences, including a lack of trust in the colonial government and a long-lasting impact on rural communities.

3.2.1.1 The Famine Commission

♦ *Grain and money famine*

♦ *Famine Relief Fund*

The Famine Commission Reports stated that the primary cause of famine in British India was not the lack of food but its inadequate distribution. This insight challenged prevailing notions that famine was simply due to agricultural failures or natural disasters. The Commission distinguished between grain famine and money famine, explaining that the former arose from food shortages, while the latter stemmed from insufficient capital to purchase available food. The implications of these findings suggested that improving food distribution could alleviate famine conditions without necessarily increasing food production. The Smith Committee, Campbell Commission, and Strachey Commission each proposed different recommendations, including improved irrigation systems and famine relief camps. Strachey's initiative led to the establishment of the Famine Relief Fund, which aimed to provide immediate aid to affected populations. The McDonnell Commission in 1900 emphasised the need for transport improvements, modern agricultural practices, and the establishment of Provincial Drought Commissions to enhance food security.

3.2.1.2 Famines in Colonial India: How and Why?

Colonial India experienced over 20 episodes of famine during the late 18th and 19th centuries, causing around 22 million deaths. The widespread devastation of these famines was exacerbated by British

land revenue settlements, which severely impacted land ownership and agricultural practices. The focus on cash crops over food crops promoted widespread poverty among peasants, undermining local food systems. Karl Marx, in his critique of capitalism, used colonial India as a key example to demonstrate the destructive impact of British rule on India's self-sufficient agrarian society. The commercialisation of agriculture resulted in the prioritisation of export crops like indigo and opium, which were later replaced by tea, jute, and other raw materials for British industries. Between 1859 and 1906, India's export value rose by over 500%, reflecting the shift towards a colonial economy heavily reliant on cash crops. The percentage of land used for cash crops grew significantly, with traditional food production being sidelined. British commercial policies, poor irrigation management, and the expansion of railways all contributed to worsening the famine situation in India, as they prioritised profits over the sustenance of local populations.

♦ *22 million famine deaths*

♦ *Shift to export crops*

3.2.2 Diseases and Disasters

The 19th century in colonial India was marked by devastating epidemics, including cholera and the plague, which killed thousands across the country. The construction and spread of railways played a major role in transmitting these diseases. The railways connected distant regions of India, accelerating the movement of people, animals, and goods, which in turn facilitated the rapid spread of infectious diseases. Unfortunately, this connectivity also meant that infectious diseases spread more rapidly across previously isolated areas. The lack of proper sanitation measures on trains and at stations worsened the situation, making railways a significant vehicle for the spread of epidemics. The movement of soldiers and migrants, often packed into unsanitary conditions, further intensified the transmission of these diseases throughout the subcontinent.

♦ Railways spread diseases faster

♦ Poor sanitation worsened situation

Rapid urbanisation also contributed to the spread of epidemics. The commercialisation of agriculture and the onset of industrialisation in colonial India led to the migration of people from rural areas to urban centers in search of work. However, the cities were ill-prepared to handle such an influx, leading to overcrowding and the development of large urban slums. These densely populated and unhygienic environments became breeding grounds for epidemics, with cholera and plague particularly rampant in these urban areas. The lack of adequate housing, sanitation, and healthcare facilities exacerbated the spread of infectious diseases, creating a cycle of suffering for urban dwellers.

♦ *Urbanisation spurred disease outbreaks*

♦ *Unsanitary slums became hotspots*

The Epidemic Diseases Act of 1897 was passed in response

♦ *Epidemic Act aimed at control*

♦ *Focused on European protection*

to these outbreaks, particularly in an effort to control the plague epidemic. This act empowered local authorities to impose quarantines, restrict movement, and take drastic measures to prevent the spread of disease. However, the act primarily aimed to protect Europeans in India, who were seen as the main priority, and also sought to safeguard Britain's international trade interests. There was growing concern that unchecked epidemics could affect British commerce, and controlling the disease was seen as essential for maintaining trade routes. Local populations, particularly the poor, received little attention in these measures, as the focus remained on protecting the interests of the British Empire.

♦ *The poor were neglected*

♦ *Public health initiatives inadequate*

In addition to legislative measures, the British colonial government took steps to systematically track and record deaths caused by epidemics by the end of the 19th century. This marked the beginning of more organised public health efforts in India, although the primary motivation was to monitor diseases that could affect European settlers and British commercial interests. Tracking epidemics helped in making informed decisions about implementing control measures, but these actions often neglected the needs and welfare of the Indian population, particularly the poor. Public health initiatives were often underfunded and inadequately staffed, leading to limited effectiveness in combating diseases.

3.2.3 Crisis in Animal Husbandry

♦ *Cattle symbolised wealth*

♦ *British policies risks to cattle*

In ancient India, animal husbandry was regarded as one of the most profitable professions. During the early Vedic period, cattle symbolised wealth, and people primarily practiced pastoralism rather than settled agriculture. The term "Gavishti," meaning "war for cattle to gain wealth," highlights the importance of cattle in Vedic times. With the advent of British in India, however, significant risks were posed to the health and survival of both humans and animals. Various diseases, such as the Cattle Plague, Anthrax, and Hemorrhagic Septicemia, became prevalent, leading to the high mortality rate of cattle during famines and outbreaks.

♦ *Rinderpest devastated cattle*

♦ *Commercial policies worsened disease*

The introduction of British policies significantly exacerbated the crisis in animal husbandry during colonial rule. The Rinderpest, or cattle plague, swept through the Indian countryside in the 1860s, resulting in the tragic loss of approximately 100,000 cattle annually. By 1870, the situation deteriorated further, with mortality rates exceeding 1 million cattle and buffaloes each year. This crisis was particularly severe during the famine of 1898-99, where over 1 million cattle succumbed to the disease, as documented in the Imperial Gazetteer of India. Colonial economic policies, including the commercialisation of agriculture, prioritised cash crops over

subsistence farming, undermining traditional practices and increasing vulnerability. Moreover, the expansion of railways not only facilitated the transportation of goods but also unwittingly aided the rapid spread of livestock diseases across regions.

The colonial economic policies not only promoted large-scale commercialisation but also facilitated the enclosure of forests and grazing lands. British forest policies placed these vital areas under colonial control, severely restricting local communities' access to them. The implementation of the "fencing forest" system hindered the free movement of cattle, significantly limiting available grazing grounds. This restriction directly contributed to the decline in both cattle health and numbers, as animals could not access the forage they needed for sustenance. This restricted access placed a burden on local pastoralist communities, who heavily depended on these lands for their livestock.

♦ *Restricted grazing lands*

♦ *Communities lost access*

Additionally, the British emphasis on cash crops further contributed to the decline in animal husbandry. During the colonial era, the commercialisation of agriculture transformed forest lands into agricultural plots dedicated to cash crops, effectively eliminating vital pastures needed for cattle grazing. British policies prioritised maximising land revenue, resulting in widespread deforestation and the expansion of farmlands at the expense of pastoral lands, thereby undermining traditional practices and livelihoods.

♦ *Cash crops replaced pastures*

♦ *Land revenue policies harmful*

Scientific cross-breeding and the export of Indian cattle were significant factors contributing to the decline of livestock in the country. The colonial government embarked on cross-breeding experiments aimed at improving cattle breeds to enhance productivity. However, many of these initiatives proved counterproductive, as Indian cattle were naturally well-adapted to local environmental conditions, demonstrating resilience to diseases and climatic challenges. In contrast, the cross-bred cattle often struggled to thrive under these conditions, leading to increased mortality rates. Additionally, the export of high-quality Indian cattle breeds to international markets deprived local communities of their best livestock. This practice not only diminished the genetic diversity essential for sustainable animal husbandry but also undermined the livelihoods of rural populations who relied heavily on their cattle for work, milk, and sustenance.

♦ *Cross-breeding failures*

♦ *Export harmed local livestock*

Summarised Overview

The environmental degradation in India is closely tied to the legacies of colonial environmental policies, which had lasting effects on the landscape and communities. The commercialisation of agriculture and the push for industrialisation in the late 19th century spurred rapid urban development, often at the expense of rural areas. During this time, colonial India faced around 20 episodes of famines, which claimed the lives of approximately 22 million people. These famines were exacerbated by British commercial policies that prioritised cash crops over food production, severely impacting land quality and agricultural sustainability.

As a result, poverty, unemployment, and widespread diseases became prevalent issues, defining the harsh reality of colonial life. Additionally, the 19th century saw outbreaks of epidemics, further compounding the struggles faced by the population. This combination of environmental degradation, economic exploitation, and health crises painted a grim picture of colonial India.

Assignments

1. Evaluate the statement: 'Famines and diseases were the product of colonial policies.'
2. Examine the Causes for the establishment of famine commissions in colonial India?
3. Examine how the shift in land ownership marked the way for the outbreak of major famines?
4. 'The environmental impact of British rule contributed to the spread of cattle diseases'. Substantiate.

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5. Sumit Guha, *Environment and Ethnicity in India, 1200-1991.* Cambridge: Cambridge University Press, 1999.

Space for Learner Engagement for Objective Questions

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UNIT 3

Colonial Forest Policies in India

Learning Outcomes

Upon the successful conclusion of this unit, the learner will be able to:

- analyse the consequences of colonial forest policies in India
- understand how the colonial government systematically exploited India's natural resources
- gain a comprehensive understanding of colonial scientific forestry
- examine how imperial policies contributed to the process of deforestation

Background

The colonial forest policies were the outcome of a systematic and detailed study done by the colonial government over various years. India became a prime example of British imperialism, characterised by the exploitation of labour and natural resources. The colonial forest policies were initiated during the latter half of the 19th century. Imperial forest policies had a far-reaching impact on the local communities of colonial India. It led to displacement, loss of livelihood, cultural upheaval, and unsustainable exploitation of resources.

Keywords

Colonialism, Imperialism, Scientific Forestry, Deforestation, Criminal Tribal Acts, Ecological Imperialism, Exploitation

Discussion

3.3.1 State became the Property Owner of Forest

Since ancient times, forests in India have been considered communal resources, not private property or entirely state-owned.

♦ *Forests were communal resources*

♦ *Colonial laws marginalised communities*

Indigenous people, often referred to as tribal communities, used these vast natural resources without interference from local governments. However, colonial rule disrupted this practice by implementing laws that marginalised these communities. The British aimed to legalise forest areas to facilitate their control over India's natural resources.

♦ *Free trade policy introduced*

♦ *Demand for forest resources rose*

The latter half of the 18th century and early 19th century saw significant administrative changes by the British, including the Charter Acts. The Charter Act of 1813, for example, introduced a free trade policy in India, which opened the country to European traders and commercialists. This policy allowed them to reside and conduct business throughout India. The Industrial Revolution further heightened England's presence in the international market, increasing demand for raw materials. Recognising that Indian forests were rich in resources essential for their industries, the British sought to exploit these resources. The need for an uninterrupted supply of coal, wood, and other materials for machinery-based factory production during the Industrial Revolution intensified the demand for Indian forest products.

♦ *Survey departments established*

Immediately following the revolt of 1857, the colonial government recognised the need to improve communications, leading to the expansion of railway lines. This expansion increased the pressure on forest resources, with more than 2 million sleepers being used for railway construction by the end of the 19th century. The establishment of the survey department in India allowed the British to conduct detailed studies of forests, rivers, roads, mountains, and other settlements. Concurrently, there was a rise in the construction of military and civil buildings.

♦ *Imperial rule restructured policies*

In 1858, the Queen's Proclamation transferred administrative power from the East India Company to the Crown and the English Parliament, revealing the true imperial nature of British rule. This shift marked a period of significant changes, including in forest policies, reflecting the broader impact of British imperialism.

3.3.1.1 Colonialism, Imperialism and Forest Laws: Transition to Ecological Imperialism

♦ *Imperialism: exploitation of resources*

British colonialism reached its peak during the 18th and 19th centuries, culminating in the direct imperial rule over the Indian subcontinent following the transfer of power from the British East India Company to the Crown. As Lenin noted in his work *Imperialism, the Highest Stage of Capitalism (1917),* India became a prime example of British imperialism, characterised by the exploitation of labour and natural resources.

♦ *Imperialism's three stages*

♦ *Free trade intensified exploitation*

Imperialism, according to Lenin, evolved through three stages: Mercantilism, Free Trade or laissez-faire capitalism, and Finance Capitalism. Mercantilism, the initial stage, aimed at establishing a trade monopoly in India, leading to a significant drain of wealth from India to the British economy. The second stage began with the Charter Acts of 1813 and lasted until the 1860s, marking a period of Free Trade or laissez-faire capitalism. The third stage, Finance Capitalism, saw an increase in foreign investments and accelerated industrialisation through scientific advancements.

♦ *Construction projects fuelled timber demand*

♦ *Buildings reflected imperial ideology*

During this final phase, British imperialism extended its influence to every aspect of Indian society, and the British implemented policies, such as those affecting forests, that were deeply intertwined with economic exploitation. When examining imperialism, it is crucial to consider its cultural elements. For instance, the British embarked on extensive construction projects in the latter half of the 19th century. The rapid building of civil, military, and public structures increased the demand for timber, which was used for architectural purposes. These constructions not only required substantial resources but also reflected the visibility of imperial ideology through their design and function.

♦ *Ecological imperialism reproduced distinctions*

♦ *Columbian exchange reshaped biospheres*

The 'ecological imperialism' or 'green imperialism' gives a critical perspective on how human-made environmental transformation reproduced social distinctions, including class, gender, caste, ethnicity, and nationality. An American environmental historian, Alfred Crosby, introduced the term "ecological imperialism" to explain the successful colonisation of temperate regions such as North America, South America, New Zealand, and Australia due to European colonisation. He used another term, "Columbian exchange," to denote the large-scale transfer of flora and fauna from Europe to colonial countries, referring to the expeditions by Christopher Columbus and other early modern European mariners who dramatically reshaped the biosphere of the land in favor of wealthy European countries.

♦ *Green Imperialism by Richard Grove*

♦ *Colonialism disrupted local economies*

In the context of colonial expansion in Asia and Africa, Richard Grove, a prominent figure in environmental history, introduced the concept of 'Green Imperialism.' Grove viewed ecological imperialism as a two-way process of interaction and exchange, rather than a one-way imposition of European plants, animals, and knowledge. Environmental historians in South Asia focused on how colonialism disrupted forest and pastoral economies, as well as traditional patterns of cultivation and irrigation techniques in the colonised regions.

The arrival of European planters transformed the indigenous landscape of colonial India by introducing large-scale plantations of

cotton, indigo, sugar, rubber, and tea. This shift led to the extensive extinction of native plant and animal species and negatively impacted traditional farming livelihoods. The drastic changes to the ecosystem also contributed to the spread of epidemics such as malaria and cholera. Overall, colonial forest policies profoundly altered the social, economic, environmental, and political conditions in colonial India.

♦ *Large plantations altered ecosystems*

3.3.1.2 Colonial Scientific Forestry as the Legalised Exploitation

Colonial Scientific Forestry aimed to enhance forest productivity and regeneration through advanced forestry practices. The colonial government's forest conservation efforts included seed technology, seed budding, pest control, fire protection, and tree rearing.

♦ *Conservation through advanced practices*

Indian forests gained significant attention when the British recognised their potential for building ships, which was crucial for competing with rival European powers and supporting colonial expansion. Additionally, these forests were essential for expanding railway lines, which facilitated communication and resource transportation. The implementation of Scientific Forestry practices ensured a steady supply of forest resources tailored to British needs and placed the Indian forest landscape under strict techno-bureaucratic management, reinforcing the symbolic power of the colonial state over its subjects.

♦ *Forests crucial for shipbuilding*

♦ *Railways increased resource demand*

To Marxist historians, Scientific Forestry is seen as an exploitative tool crafted and implemented by colonial states to exploit India's forests. This approach not only led to the exploitation of forest resources but also contributed to the alienation of forest-dependent communities from their natural environment (Guha, 1985; Gadgil, 1992). According to neo-colonialists such as Drayton (2005), Grove (1995), and Barton (2002), the introduction of Scientific Forestry in India was driven by several factors. These included the moral conviction of the colonial scientific community to protect the fragile ecosystems essential to the Empire's survival, and the colonial belief in advancing humanity through Scientific Forestry. They argue that Scientific Forestry in India represents a foundational aspect of modern environmentalism.

♦ *Marxist view: Scientific Forestry exploitative*

♦ *Colonialists: Forestry necessary for survival*

The post-structuralist perspective, influenced by Michel Foucault's concepts of knowledge and power, suggests that Scientific Forestry was a codified and hegemonic practice serving multiple purposes. According to this view, colonial policies were not designed for the benefit of the colonies, but instead oriented towards advancing specific political, administrative, and cultural interests of the British government.

♦ Foucault: knowledge and power dynamics

3.3.1.3 Colonial Forest Policies: Conservation to Domination

♦ *Agrarian society drove revenue*

♦ *Teak demand prompted forest policies*

Colonial India was primarily an agrarian society, and one of the significant sources of income for the State was land revenue through agriculture. Initially, the British policy focused on expanding agriculture to increase revenue, and the forest and its natural resources only became a concern when demand for timber for shipbuilding increased. The British navy depended on teak from Malabar and Burma for their ships, which prompted the appointment of Watson as the first conservator of forests in the Malabar and Travancore regions in 1807.

♦ *Forest Act VII of 1865 introduced*

♦ *Dehradun institute marked change in 1906*

The Forest Act VII of 1865 reserved and protected forests in colonial India, except the Madras region. Another act passed specifically for the Madras region in 1882, known as the Madras Forest Act of 1882, established reserved forests and lands. A significant change came in 1906 with the establishment of the Imperial Forest Research Institute in Dehradun, which marked the institutionalisation of forest management.

♦ Conservators became the controllers of the forest

The colonial forest policies were the outcome of a systematic and detailed study done by the colonial government over various years. Like any other policies of Britain, the true nature of forest policies came out when the Indian forest came under the complete governance of colonial authorities. The term' Imperial' in Imperial Forest Research Institute embodies imperial ideology in India. Forest conservation needs no more explanation than the material interest of the colonial State. Gradually, the so-called conservators became the controllers of the forest by implementing various forest policies.

3.3.2 Policies of 1865 and 1878

♦ *Colonial forest policies initiated*

♦ *Dalhousie's memorandum issued*

The colonial forest policies were initiated during the latter half of the 19th century. It was when Governor General Dalhousie issued a memorandum on forest conservation in 1855. His memorandum suggested that teak timber should be regarded as state property and that trade in teak should be restricted and regulated. The following year, Dietrich Brandis, a German botanist, was appointed the first Inspector General of Forest to the government. With his guidance, the Forest Department was established and organised in 1864. It laid the foundation for the enactment of Indian Forest Acts.

3.3.2.1 The Indian Forest Act of 1865

Until 1865, India had no uniform rule for controlling and preserving forests. It was limited to specific regions for their regional administrative purpose. The Forest Department was

formed in 1864. Shortly after this, the first Forest Act was enacted in 1865. This Act mainly emphasised acquiring such forest areas to supply timber to the railways. The Governor General of India and the Council passed the Indian Forest Act of 1865. According to this Act, "Government Forest" shall mean land covered with trees, bushwood, or jungle. This Act was meant to give effect to rules for managing and preserving government forests. It suggests that every part of British India should operate this Act. The Forest Act of 1865 legalised forest administration in various provinces of colonial India. The Indian Forest landscape was divided into reserved forest and unreserved forest. This Act made certain restrictions but ignored forest management principles, such as fencing protection.

♦ *Indian Forest Act enacted*

♦ *Reserved and unreserved forests defined*

3.3.2.2 Forest Act of 1878

The Background The Forest Act of 1878 was introduced to compensate for the defect of 1865's Act. In 1869, the Forest Department was reorganised. The Forest Officers were categorised as Conservators, Deputy Conservators, and Assistant Conservators, except in Bombay and Madras presidencies. Under the new law, arrest without a warrant is essential for the critical violation of forest laws. In the Act of 1865, a forest region was protected only when that government declared it. So that the British officials concluded that for better management, the State should have the power to preserve any forest in anticipation. One of the defects of the previous Act was that it provided only the provisions of prohibition and needed more rules regarding fire protection, fencing, etc. The serious discussions and debates by the colonial bureaucracy itself concluded that the customary use of the forest by the Indian villagers was based on 'privilege', not 'right'.

♦ *Forest Act of 1878 introduced*

♦ *Customary use seen as privilege*

Main Provisions of the Act According to the Forest Act of 1878, the forests were classified into three. Reserved forest - under this category, the government owns the forest. Hunting, grazing, and entry by local people were restricted unless the forest officer permitted them to do so. Protected - the restriction was minimal compared with the reserved forest. Also, the government had full authority to use natural resources. Thus, it was a highly exploited forest area in colonial India. Village - the village forest areas were the least protected or least reserved areas. The ordinary people had all the right to access it. At the same time, the government held the records of each village forest with the help of local authorities. The Forest Act also made provisions for the following: - The Revenue and Forest Department had the right to regulate most forest and grazing land. The government imposed a duty on timber and other forest produce. Made control of wood and other produce in transit. The forest officers were given certain powers and protection while

♦ Forests classified into three types

♦ Government control emphasised

executing their duty. At the same time, the punishment and penalty for forest offences were made specific. It also gave power to the local government to make subsidiary rules.

3.3.2.3 Policies of 1865, 1878 and After

Imperial forest policies had a far-reaching impact on the local communities of colonial India. It led to displacement, loss of livelihood, cultural upheaval, and unsustainable exploitation of resources. Under the colonial government, a lot of indigenous people were displaced from their natural livelihoods. It also changed the traditional land use patterns. Earlier in pre-colonial India, forests were managed and used by local communities. However, the implementation of colonial forest policies disrupted these practices, leading to significant socio-economic changes in those indigenous communities. According to Berthold Ribbentrop (1900), enacting the Indian Forest Act of 1878 marked a pivotal moment in Indian colonial history. This Act initiated the conservation process that significantly impacted rural communities across India. This law removed the ancestral right to lands and forests from the Indigenous people.

- *Policies caused displacement*
- *Indigenous rights diminished*

With the effect of the 1878 Act, tribal people's customer rights regarding the use of forests were abolished. These two acts were meant to prioritise the commercial interests of the Empire. On the other hand, the colonial forest policies were reactionary and made far-reaching resistance and recognition among native people. The reason was simple: for them, the resources were necessary for economic and cultural survival. Meanwhile, colonial rule exploited resources in favour of commercialisation and trade monopoly.

- *Tribal rights abolished*
- *Commercial interests prioritised*

3.3.3 Impact of Timber Trade and Deforestation

Ever since the geographical expeditions, India has been viewed as one of the vast natural resource reserves. Timber has always been considered the main crop of a forest. Numerous other products, such as bamboo, grasses, gums, fibres, raisins, essential oils, etc., have multiple uses. Historians like Madhav Gadgil and Ramachandra Guha pointed out that the relationship between man and nature in pre-colonial India was cordial. However, it does not mean that pre-colonial India never exploited natural resources. Because hunting was considered a royal sport throughout ancient and mediaeval times. However, the advent of the British made a paradigm shift in natural exploitation. The Industrial Revolution in the West marked a new beginning of environmental exploitation. The fine supply of natural resources was necessary for the sustainability of fast-growing industries. Dadabhai Naoroji, through his outstanding

- *India viewed as resource reserve*
- *Timber considered main crop*

work Poverty and Unbritish Rule in India, systematically pointed out how millions of wealth drained from India to the British market. There was an increased demand for fuels, including coal and wood, besides raw materials.

♦ *Indian timber quality noted*

♦ *Railways increased wood demand*

Scholars like EP Stebbing stated that Indian soil was fertile to produce the most durable timber in the world. The quality of Indian timber made a permanent timber supply for the Royal Navy. Establishing railways to improve transport and communication increased the demand for wood to build sleepers for quality railway tracks. The maximum durability of the timbers used for railway sleepers was around 5 to 6 years. So, an equal number of faunal resources was needed to replace the older ones. The British agricultural policies expanded agriculture by clearing forest areas.

♦ *Forest cover declined*

♦ *Deforestation led to crises*

Forest policies in colonial India resulted in the visible signs of transition in the decline of forest cover in India. For example, analysing the condition of forests in colonial India before 1850, it covered about 30% of its land area. However, by the beginning of 1900, it dramatically declined to 16%. In short, commercial greed, developmental policies, agricultural reforms, and forest policies caused large-scale timber trading and deforestation in colonial India. It made drastic environmental changes in India, resulting in famines, drought, diseases, and crop failure due to land degradation.

3.3.4 Forest Dwellers, Pastoralists and Tribals

♦ *Marginalisation of forest communities*

♦ *Connection to nature emphasised*

Forest dwellers, pastoralists, and tribals are marginalised in our society. They consider the forest their life base and follow a rich forest conservation tradition. Their cultural traits, like beliefs, customs, food habits, dwellings, etc., were more connected to nature. They used the forest to source their needs, such as food, fuel, building materials, and medicines. Before the advent of the British, forest dwellers enjoyed certain privileges. Like forest dwellers, tribals depended on forests for their day-to-day needs. They have practised traditional methods of preserving the forests. However, after British imperialism, the social positions of forest dwellers, pastoralists, and tribals were at stake. Tribals were the most affected among them.

3.3.5 Criminal Tribal Acts

In colonial India, the introduction of laws and administrative reforms propagated as the instrument of modernity. Under colonial rule, a large number of castes and tribes in India came to be legally categorised as criminals. Criminal law was the judicial instrument for transforming specific communities into criminal tribes. The

♦ *Criminal Tribes Act introduced*

♦ *Targeting of specific communities*

government mainly targeted certain people in particular regions of colonial India. The Criminal Tribal Act was originally introduced in 1871 by the British colonial government. This Act was initially implemented in Northern India and extended to the Bengal and Madras Presidency. The concept of a criminal tribe is purely of European origin.

♦ *Lombroso's criminal theory*

♦ *Classification of wandering groups*

It can be well examined with the theory of Cesare Lombroso, an Italian eugenicist and criminologist who founded modern criminal anthropology. He put forward the inherited nature of the criminal mind and how the physical features determine someone's criminal instinct. With the introduction of the Criminal Tribes Act, the colonial government intended to classify many wandering groups into criminal tribes, which is precisely what Lombroso meant by the "inherent" nature of criminals.

♦ *Victorian concept of dangerous classes*

♦ *Caste and class distinctions*

According to Henry Mayhew and John Binny (1968 & 1868), by the mid-19th century, the idea of the dangerous classes who were composed of the unemployed, vagrants, the poor, criminals, drunkards, and prostitutes was firmly ensconced in Victorian thought, and everyday discourse identifies their physical characteristics, habits, and locale. In the Indian scenario, the dangerous classes were determined based on caste and class.

♦ *Connection between Forest Act and Criminal Act*

♦ *Surveillance through criminalisation*

An interesting fact is that the Criminal Tribal Act was enacted only after the implementation of the first Forest Act in India (1865). Colonial forest policies during the early half of the 19th century resulted in tensions and conflicts among Indigenous people. There were rising echoes of active resistance in different parts of India. So, the British government needed to take immediate measures to nip this in the bud. One of their active measures was to oust and displace the indigenous forest settlements through the implementation of laws targeting specific communities of people. Labelling them as criminals helped the colonial government to produce docile bodies so that political surveillance and biopower imposed upon native people made a panopticon (originally used by Jeremy Bentham and later expanded by Michel Foucault to designate a kind of surveillance that made no difference between public and private life) possible.

3.3.5.1 The Criminal Tribal Act of 1871

The British colonial administration became increasingly alarmed by reports of organised crime, particularly associated with specific tribal groups engaged in dacoity (banditry) and other forms of violent crime. To regulate this, the Thuggee and Dacoity Department was created in 1835, and William Sleeman, a civil servant to the British government, became superintendent.

♦ *Emergence of criminal communities*

♦ *Resistance against British rule*

Sleeman's efforts to combat the Thuggee, a group notorious for their ritualistic murders and robberies, were characterised by systematic surveillance and violent suppression. The department not only sought to eradicate these groups but also portrayed them as a significant threat to colonial order. The century also witnessed the emergence of tribal revolts, insurgencies, and rebellions against British imperialism. Ranajit Guha, through his outstanding work Elementary Aspects of Peasant Insurgency in Colonial India, pointed out several rebellions, insurgencies, and uprisings in India from 1783 to 1900. These struggles were often fueled by local grievances regarding exploitative agricultural and forest policies. Tribal and peasant communities led these struggles against the British's exploitative agricultural and forest policies, responding to land dispossession and resource extraction. Imperial authorities saw them as a rising threat; consequently, the government introduced specific legal measures to regulate these communities.

♦ *Purpose of the Criminal Act*

♦ *Definition of criminal tribes*

The Criminal Tribal Act is an act for registering criminal tribes and eunuchs. This Act was passed by the Governor-General of India in Council in the year 1871. The primary purpose of this Act was to provide for the registration, surveillance, and control of certain criminal tribes and eunuchs. It was implemented as part of a broader strategy to exert control over populations deemed troublesome to the colonial state. This Act was first enforced in the North West Provinces, Punjab, and Oudh, areas that had witnessed significant unrest. Later, this Act was extended to other parts of India, including Bombay and Madras, in 1911. According to this Act, a criminal tribe is defined as: "If the local government has reason to believe that any tribe, gang, or class of persons is addicted to the commission of non-bailable offences, it may report that case to the Governor General in Council and may request his permission to declare a tribe, gang, or class to be a criminal tribe." This definition allowed the colonial authorities considerable discretion in labeling groups as criminal, which often reflected prejudiced views rather than actual criminal behavior.

♦ *Extensive classification of tribes*

♦ *Legal consequences for non-reporting*

More than 150 tribes are classified as criminals according to this Act. The implementation of the Criminal Tribes Act required village headmen and watchmen to report any person belonging to a tribe, class, or gang that had been categorised as a criminal tribe. Failure to do so would lead to legal consequences, including penalties for the village authorities. This extensive classification of tribes as criminals created a climate of fear and mistrust within communities, as individuals were stigmatised and marginalised due to their ethnic or tribal affiliations. The Act not only criminalised specific communities but also reinforced a surveillance state where

ordinary citizens were complicit in monitoring their neighbors. This system effectively restricted the movement and social interaction of those labeled as criminals, curtailing their rights and freedoms.

The Criminal Tribes Act is a visible example of the racist or sexist attitudes of the British towards Indian people. The legislation reflected colonial anxieties about control and order, portraying entire communities as inherently criminal. At the same time, the 'othering' process of tribals benefited the British, allowing them to continue exploiting the natural resources of forests by suspending the freedom of Indigenous communities through legal measures. By criminalising these groups, the British sought to legitimise their actions in appropriating lands and resources, often leading to the systematic dismantling of traditional livelihoods. The disintegrated and outcasted tribal groups were no longer seen as a threat to the British government until the outbreak of national movements, which reignited the struggle for rights and autonomy.

♦ *Racist attitudes of British*

♦ *Exploitation of tribal resources*

Furthermore, the imposition of the Criminal Tribes Act resulted in long-lasting socio-economic consequences for the affected communities. By labeling entire tribes as criminal, the colonial administration marginalised them socially and economically, making it challenging for these groups to access resources, participate in local governance, or engage in lawful economic activities. Many members of these communities were driven into poverty, as their traditional means of livelihood were disrupted. The stigma attached to being part of a "criminal tribe" led to widespread discrimination, limiting opportunities for education and employment. This systematic oppression created cycles of poverty and disenfranchisement that continued long after the colonial period.

♦ *Long-lasting socio-economic consequences*

♦ *Cycles of poverty and discrimination*

Additionally, the legacy of the Criminal Tribes Act has had enduring effects on the socio-political landscape of India. Even after India gained independence in 1947, many of the communities previously classified as criminals remained marginalised, facing stigma and discrimination. The historical context of these communities as "criminal" continues to influence contemporary perceptions and treatment by the state and society. Furthermore, the lack of recognition and rights for these groups has led to ongoing struggles for justice and equality, with many communities advocating for their inclusion and recognition as Indigenous peoples. This struggle for identity and rights underscores the long-term impact of colonial policies on modern India.

♦ *Enduring effects on communities*

♦ *Ongoing struggles for justice*

Summarised Overview

Colonial forest policies in India, particularly during the British Raj, marked a profound shift in land management and indigenous rights, primarily driven by economic motives. The state emerged as the primary owner of forests, significantly altering local dynamics. Early colonial attitudes perceived forests as untapped resources, prompting extensive logging, mining, and plantation activities. This exploitation resulted in the extraction of valuable timber, minerals, and other forest products.

However, rampant deforestation and resource depletion led to the enactment of structured laws, most notably the Forest Act of 1878, which formalised state control over forested land. This legislation institutionalised 'scientific forestry,' aimed at maximising timber production through regulated management. While framed as a conservation effort, it often amounted to legalised exploitation, prioritising colonial economic interests over the needs of local communities. The transition to what some termed ecological imperialism saw forests repurposed for colonial profit, disregarding indigenous knowledge and practices of sustainable resource management.

The impact of the timber trade was profound, resulting in widespread deforestation, soil erosion, habitat destruction, and loss of biodiversity—issues that resonate to this day. Additionally, colonial forest policies frequently led to the displacement of indigenous forest dwellers and the dispossession of their lands. The Criminal Tribes Act further marginalised certain tribal communities, stripping them of their traditional rights to forest resources. This confluence of policies fostered an environment of domination, transforming forests into sites of control rather than coexistence. Ultimately, these colonial practices set the stage for ongoing challenges in forest governance and indigenous rights.

Assignments

1. Examine how the colonial state evolved as the primary owner of forest resources.
2. Evaluate the transition to ecological imperialism and its effects in colonial India.
3. Critically assess the impact of colonial forest policies on local communities and ecosystems.
4. Discuss the social and legal implications of the Criminal Tribes Act of 1871.

Suggested Reading

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Space for Learner Engagement for Objective Questions

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Environmental Movements in Modern India

BLOCK-04

UNIT 1

North India

Learning Outcomes

Upon the completion of this unit, the learner would be able to:

- understand the fundamental concepts related to environmental movements
- identify the various types of environmental movements in northern India
- analyse the different strategies employed by these movements
- explore the significance and connections between culture and the environment

Background

The leading cause of environmental movements in India is conflicting needs for natural resources. In most of these movements, there is a conflict between the contemporary capitalist industries' incursion, which started in the guise of progress, and the fundamental human rights of the marginalised group. These disputes and tensions had their roots in the colonial era when significant policy modifications were made to the forest policy to further British colonial objectives. This exploitation hardened in the post-independence era since it was carried out under the guise of "development," "economic growth," or "national interest." Due to this development, communities lost their ecosystems to droughts and floods. This endangered forest-dwelling communities' survival in environmentally delicate areas.

Keywords

Environmental movements, conservation, Bishnoism, Chipko movement, development, displacement, deforestation, Environmental Activism, Gandhian Strategy, Tehri Dam Conflict, Jungle Bachao Andolan

Discussion

4.1.1 Bishnoi Movement

♦ *Movement for eco-conservation, tree protection*

The Bishnoi Movement is regarded as the first organised drive for eco-conservation, wildlife protection, and green living. It originated in the 1700s at the fringes of the Thar Desert in Western Rajasthan. The Bishnoi community, under the leadership of Amrita Devi, aimed to protect trees, particularly the Khejri trees, from being felled. The movement saw participation from Bishnois across eighty-four villages, who used the method of hugging the trees to protect them. The opposition to tree felling was grounded in the Bishnoi faith, which emphasised protecting both trees and animals. Additionally, the people in the region depended on the forest for essential resources like fodder and fuelwood.

♦ *Amrita Devi's defiance, mass sacrifice led to a decree*

In the 1730s, the ruler of Jodhpur, Abhay Singh, ordered the felling of trees in the village of Khejarli for the construction of a new palace. Amrita Devi, a villager, along with her three daughters, opposed this act by hugging the trees in an attempt to protect them. Their defiance attracted widespread support from other members of the Bishnoi community, not only from Khejarli but from nearby villages as well. The conflict resulted in the sacrifice of more than 300 Bishnois. Eventually, this mass sacrifice compelled Abhay Singh to issue a decree that prohibited the cutting of trees and banned hunting in Bishnoi villages.

4.1.1.1 Bishnoism and Its Cultural Credence

♦ *Teachings of Guru Jambhes war founded Bishnoism*

The Bishnoi Movement was deeply inspired by the teachings of Guru Jambheshwar, who founded the Bishnoi faith around 1485. The term "Bishnoi" comes from the combination of the words "Bish" (meaning twenty) and "Noi" (meaning nine), referring to the 29 principles set forth by Guru Jambhaji. Followers of these principles, known as Bishnois, are fundamentally a non-violent and nature-worshipping community, primarily residing in western India, especially Rajasthan. Six of these 29 principles were specifically aimed at preserving biodiversity. Two of the most important teachings of Bishnoism are *Jeev Daya Palani* (be compassionate to all living beings) and *Runkh Lila Nahi Ghave* (do not cut green trees). These teachings were particularly suited to the rural livelihoods of the people and were designed to promote biodiversity and a sustainable way of living in harmony with nature.

The Bishnois are known as India's first environmentalists, owing to their deep-rooted commitment to eco-conservation

that is intertwined with their spiritual beliefs. The combination of ecological awareness with religious devotion has made Bishnoism one of the most relevant orders today in terms of environmental conservation. The Bishnois hold a unique position, as no other religious group has placed as much emphasis on the protection of nature. The religion stresses a balanced and harmonious relationship between trees, animals, and human beings, which is vital for maintaining a healthy ecosystem. Their active protection of endangered species like the Black Buck and Chinkara, as well as their rejection of unnecessary rituals, idol worship, and caste systems, distinguishes them as a community centered around love, peace, and their profound bond with nature.

♦ *Bishnois are first environmentalists, protect species and ecosystems*

The Bishnoi Movement can be considered the first environmental movement in India. It stands as a landmark example of biodiversity conservation and advocacy against deforestation. The movement set an important precedent for later environmental movements in India, most notably the Chipko Movement of the twentieth century. It is also recognised as an early instance of eco-feminism in the Indian context, given the prominent role played by women in the movement. Even today, the Bishnois continue their environmental activism, standing against poachers, court cases, and other threats to the environment, including modern neo-capitalist systems that often favor the wealthy at the expense of nature.

♦ *Predecessor to future eco movements, eco feminism example*

4.1.2 Chipko Movement

Chipko Movement, also known as Chipko Andolan, is a pivotal movement in environmental activism that started with the slogan "We, our nature and us, are one". The term "Chipko" means 'embrace'. After settling the Sino-Indian border dispute in 1963, intense developmental activities occurred in the Garhwal Himalayan regions of Uttarakhand (then Uttar Pradesh). The abundant forest resources of the area attracted numerous foreign logging corporations. By the 1970s, there was rampant deforestation due to government-sponsored commercial logging by outside contractors. The people in this region relied on the forests for subsistence, utilising food and fuel. The massive deforestation led to ecological instability, such as decreased agricultural productivity, soil erosion, depleted water supplies, flooding, landslides, etc. The movement was started in 1973 in the Chamoli district of present-day Uttarakhand to prevent the trees from being hacked. Literally, the women from the Himalayan villages of Uttarakhand, particularly Reni and Mandal, hugged the trees to protect them from commercial loggers. The movement is not the conceptual creation of any individual but an expression of an old consciousness. It aimed to protect forests, ensure ecological balance, preserve culture, and maintain livelihoods.

♦ *Movement opposed rampant deforestation*

4.1.2.1 Colonial Background of the Movement

Uttarakhand was insulated and separated from the rest of the country in pre-British India. The Garhwal division comprises five districts in Uttarakhand: Pauri, Chamoli, Tehri, Uttarkashi, and Dehradun. Almora, Pithoragarth, and Nainital constituted the part of Kumaon. It was a state governed mainly by its indigenous royal groups and least mediated by extraneous power. The kingdoms were split up into several chiefdoms to be ruled by various rulers. During the colonial period, the British forces defeated these local rulers and took over the Garhwal region. The Anglo-Nepalese War (1814-16), popularly known as the Gorkha War, ended with the Treaty of Sugauli in 1816. With this treaty, Nepal became a British protectorate and ceded around a third of Nepal's territory. The British thus occupied the Kumaon region also. The landscape of the state changed to make way for the colonial masters. The state-sponsored monarchy followed a close exit, and the state was literally handed over to foreign rulers. A sudden intrusion by the foreigners, armed with their ideas of extortion and extraction, could not benefit the collective economy of forest conservation and redistribution that the Garhwal people had followed so intently for ages. This eviction from their land and forests created a sense of desperation and pathos.

♦ *British takeover of Garhwal*

After the introduction of railways in 1853 and the Revolt of 1857, the colonial forces triggered changes in the forest ecology. Once the laying of railway lines started, large logs of wood were needed for which giant trees were blatantly slaughtered. The Himalayas were largely affected, especially the Garhwal region, which had harboured tall trees that were sturdy and durable and were most suited for making railway sleepers. The felling of the trees took a drastic form once the Revolt started in 1857. The British forces felt that more railway lines were needed to transport troops to quell the revolt. This created pressure on the forests that were blatantly cut down to build railway sleepers, and power feed the railways. To provide adequate fuel for the railways, the woods were cleared to arrange for the energy supply, especially when the coal supplies tripped. Not just the Himalayas but also the other extensive parts of the northern Indian forests were adversely impacted by the expansion of the railways.

♦ *Expansion of railways triggered deforestation*

The formation of the Forest Department and the Introduction of the Forest Acts imposed restrictions on the forest rights of ordinary men, which they enjoyed till then. They could no longer use the forest products without permission from the Forest Department. Their smooth and tranquil life was trespassed by the new alien forest laws.

♦ *Resistance against colonial forest acts*

The situation got worse when the people turned violent and attacked forest officials camping in 1906. This was the first protest incident in the region against the over-extraction of forest resources. The movement soon changed its course to embrace peaceful resistance instead of taking a violent turn. In 1930, the Garhwal people initiated their non-cooperation movement. Centering decisively around the agenda of forest and its riches. The movement gained momentum from the anti-colonial struggles that were going on then.

4.1.2.2 Post-Independence Situation

♦ *Post independence conflicts over forest resources*

The post-independence period also saw the contention between the state and the marginalised over natural resources. Safeguarding the rights of marginal people and spearheading industrial or commercial development is one of the major crises faced by a developing nation like India. The marginal people often struggle to rescue themselves from such forceful state-sponsored intrusion over resources. In the Garhwal region, tensions started after two decades of independence. People in the area resorted to various strategies to protect themselves from arbitrary encroachments.

♦ *The Chipko Movement*

The Chipko Movement, as an environmental movement, started in April 1973 in Mandal in the Chamoli district of Uttarakhand when the villagers demonstrated against the felling of ash trees in Mandal Forest. In March 1974, under the leadership of Gaura Devi, twenty-seven women saved many trees. After this incident, the government halted the contract system for felling trees and formed the Uttar Pradesh Forest Corporation. Chipko resistance occurred in various parts of the Garhwal Himalayas for the next five years. The movement gained momentum in June 1977 when Sarala Ben orchestrated a meeting of activists in the hill areas of Uttar Pradesh. They reinforced the resistance to commercial feelings and excessive resin tapping from the pine trees.

♦ *Women's leadership and symbolic resistance to felling*

Sunderlal Bahuguna undertook a fast against the auction of the Advani Forests in October 1977. He appealed to the forest contractors and the district authorities to refrain from auctioning the forests. Despite the widespread discontent, the auction was conducted, and the logging was scheduled in December 1977. Large groups of women under the leadership of Bachhni Devi came forward to save the trees. Dhoom Singh Negi supported the women's struggle by undertaking a fast in the forest itself. The women tied sacred threads to the trees as a token of a vow of protection. Finally, the loggers withdrew from the site but later, on 1 February 1978, came back with armed police. However, to their surprise, each tree was guarded by three embracing volunteers, and they had to retreat

hastily.

In March 1978, the authorities planned a new auction, and a large popular demonstration was held against it. In December 1978, the Uttar Pradesh Forest Development Corporation planned a large felling in the Badiyargarh area. Sunderlal Bahuguna started a fast unto death at the felling site. On the eleventh day, he was arrested and taken to the prison. The people remained in the forest and guarded the trees until the contractors withdrew. Finally, Prime Minister Indira Gandhi, after meeting Bahuguna, issued a directive for a 15-year ban on commercial green felling in the Himalayan forests of Uttar Pradesh.

♦ *Prime Minister's intervention led to a 15-year ban on logging*

4.1.2.3 Leaders of the Movement

One of the movement's crucial features was women's extensive participation. The active involvement of women in the movement led Vandana Shiva to hail it as an 'eco-feminist' movement. Even though the noticeable leaders of the movement were men, the strength of the movement was the support from the women folk of the region. The influential leaders of the movement were Ghanashyam Raturi, Chandi Prasad Bhatt, Sunderlal Bahuguna, Gaura Devi, Bachhni Devi, Sudesha Devi, Govind Singh Rawat, Dhoom Singh Negi, Shamser Singh Bisht and so on.

♦ *Women's active involvement hailed as eco-feminist*

Ghanashyam Raturi

Raturi was a folk poet who mobilised the support of the people through his songs. These songs reminded the hill people of their forest-based culture, and they became more aware of the need for forest protection. The most popular folk song by Raturi, written in 1973, identifies embracing the trees as a method of saving them from being cut down. This folk song marked the birth of the Chipko movement.

♦ *Ghanashyam Raturi mobilised support with songs*

Chandi Prasad Bhatt

Chandi Prasad Bhatt is a prominent Gandhian social activist and environmentalist, known for founding the Dasholi Gram Swarajya Mandal (DGSM) in 1964. The organisation aimed to promote sustainable livelihoods and self-sufficiency among local villagers in Uttarakhand. Bhatt played a pivotal role in the Chipko Movement, mobilising communities against unsustainable deforestation through non-violent resistance. He emphasised the deep connection between local populations and their natural environment, advocating for the responsible use of forest resources. His contributions have earned him several awards, including the Ramon Magsaysay Award in 1982 and the Gandhi Peace Prise in 2013.

♦ *Chandi Prasad Bhatt united villagers against deforestation*

♦ *Founded the Dasholi Gram Swarajya Mandal*

Sunderlal Bahuguna

The Gandhian philosophy of non-violence and socialism deeply inspired the leader of the movement, Sunderlal Bahuguna. He organised local communities against deforestation in the Himalayan region. He spread awareness about the importance of forests and mobilised the people to support the cause. He stated that "ecology is a permanent economy." He also campaigned against the Tehri dam, for which he undertook one of India's most prolonged fasts after independence. In the 1980s, he undertook the Himalayan Padayatra from Kashmir to Kohima, covering a distance of 4870 km. He also supported the women-led movements against the liquor mafia. Then he endorsed the "Beej Bachao Andolan," a movement to save Himalayan agricultural biodiversity from being wiped out by the unsustainable chemical-intensive Green Revolution.

♦ *Sunderlal Bahuguna spread awareness on ecology*

♦ *Beej Bachao Andolan*

Gaura Devi

Gaura Devi was a village woman who became the icon of resistance in the Chipko movement. She led a group of women in the village of Reni to confront the loggers. They embraced the trees to prevent them from being felled. With her activities, Chipko became mainly a women-led movement. She inspired women in other parts of the country as well.

♦ *Gaura Devi led women in resisting loggers*

4.1.2.4 Philosophy of the Movement

The Chipko Movement serves as a historical, philosophical, and organisational extension of Gandhian principles, emphasizing non-violence, satyagraha, and harmonious living with nature. It focused on three main issues: (1) forest conservation, (2) women's organisation, and (3) combating the liquor menace. By promoting a more inclusive and participatory approach to forest management, the movement empowered local communities.

♦ *Gandhian principles empowered local communities*

This non-violent agitation heightened awareness of people's rights to forest resources and their responsibilities to safeguard nature. It galvanised civil society in India to advocate for the rights of tribal communities, influencing ecological policy-making and leading to stricter regulations against illegal deforestation. In 1981, this activism resulted in a ban on commercial logging in areas above a 30-degree slope and 1,000 meters above sea level.

♦ *Raised awareness of forest rights and responsibilities*

Ultimately, the Chipko movement is a model for resolving conflicts over natural resources. According to Ramachandra Guha, "Chipko was primarily a peasant movement in defence of traditional rights in the forest, and only secondarily – if at all – an 'environmental' or 'feminist movement.'" It inspired similar

♦ *Influenced ecological policy and regulations*

movements in different parts of India, like Narmada Bachao Andolan, the Appiko movement, the Silent Valley Movement, etc. Internationally, the movement became a symbol of resistance against environmental destruction. It gave way to ecofeminism in India through the collective mobilisation of women to preserve forests.

4.1.3 Tehri Dam Conflict

The Tehri Dam, situated on the Bhagirathi River in Uttarakhand's Garhwal district, stands as India's tallest dam at 260.5 meters. It plays a crucial role in distributing electricity to several states, including Uttarakhand, Rajasthan, Punjab, Haryana, Uttar Pradesh, Himachal Pradesh, and the union territories of Chandigarh, Jammu, and Kashmir. Since its conception in 1949, the dam has been the center of widespread protests. In 1972, despite these protests, the Planning Commission approved its construction with an initial power generation capacity of 600 MW. Although the USSR was initially expected to provide technical and financial support, it later withdrew due to political changes. Consequently, a joint venture between the Central government and the Government of Uttar Pradesh continued the project. In 1990, the Ministry of Environment and Forest conditionally approved an expansion of the project from 600 MW to a 2400 MW multi-purpose initiative. While the Tehri Dam is considered vital for national development, it has sparked significant public debate and civil unrest. The conflict surrounding its construction has pitted the government against local communities, supported by environmentalists and human rights activists. Key issues in the Tehri Dam dispute include:

♦ *Tehri Dam overview and importance*

1. Adequate compensation and resettlement for displaced populations
2. Submergence of towns and forests
3. The seismic risk in the region and concerns over dam safety

In 1978, the 'Tehri Bandh VirodhSangarsh Samiti' (TBVSS) was formed under Virendra Dutt Saklani, Sunderlal Bahuguna (Chipko activist), and many others. This organisation approached the Supreme Court to halt the construction but failed to get a favouring verdict. The movement got further momentum when the Environmental Appraisal Committee (EAC) refused to give clearance to the project, though it did not stay the project. An earthquake measuring 6.6 on the Richter scale hit the region on 20 October 1991, and this caused an intense public debate on the issue of seismicity and dam safety. The first significant protest occurred on 14 December 1991 when the mob took hold of the dam site and halted the work for 75 days. Sunderlal

♦ *Seismic risks and safety concerns*

Bahuguna undertook one of India's most prolonged fasts after independence, over 45 days. This compelled the government to review the project and declare a moratorium on blasting.

♦ *Legal battles lost by the movement*

♦ *Dam construction phases completed over time*

The movement lost all the legal battles against the construction of the Tehri Dam when the Supreme Court in 2003 declared that the construction of the dam was legal and could not be stayed. The protests weakened over time, and the anti-Tehri dam movement was not sustained after 2004. In 2006, the first phase of the dam was completed, and the second phase was completed in 2012. Later, in February 2016, the multi-purpose project was commissioned with the completion of the third phase.

4.1.3.1 The Displaced Population

♦ *Land inundation and displacement*

♦ *Displacement risks highlighted by Michael Cernea*

The first possible impact of a dam on the lives of the people is the inundation of the human settlements and agriculturally productive land, followed by the uncertainty of desired compensations and maintenance of living standards at least at the same level as before rehabilitations. In the book, *Challenging the Prevailing Paradigm of Displacement and Resettlement*, Michael M Cernea points out that "forced displacement and being ousted from one's land and habitat carries the risk of becoming poorer than before." According to him, landlessness, joblessness, homelessness, marginalisation, food insecurity, increased morbidity and mortality, loss of access to common property, and social integration are the eight risks associated with displacement and resettlement.

♦ *Uncertainties lead to opposition from displaced communities*

♦ *Forest land acquisition issues complicate rehabilitation*

The national policy of India stipulates that "the living standards of those displaced should be maintained at least at the same level, if not improved to what they were before their involuntary displacement." In the case of the Tehri dam, there are uncertainties regarding rehabilitation and compensation, which has generated severe opposition from the common masses. They also have to suffer on the part of their domestic needs, which earlier were available within the village itself. Initially, the project authorities proposed to acquire forest land for rehabilitation purposes. However, with the promulgating of the Forest Conservation Act 1980, forestland earmarked for the project was no longer available. Thus, there was a sense of uncertainty in the minds of the displaced people as to where they would be rehabilitated.

4.1.3.2 The Seismic Risk

The most discussed argument on the Tehri dam was centred around the issue of seismicity and dam safety. The dam's location is dubious due to the seismic vulnerability of the Himalayan plate

boundary. Between 1816 and 1991, the region witnessed 17 earthquakes. In 1984, the National Geophysical Research Institute (NGRI) reported that the area was already critically stressed and creating a large reservoir might induce rock failure and, resultantly, a possible major earthquake with its rupture zone traversing the dam site cannot be ruled out. Several landslides also occurred along the Bhagirathi River; the prominent ones were Siyasu, Dobra, and Kangsali. The risk associated with the possibility of an earthquake strengthened the controversy between 'development' and the 'safety of the masses.'

♦ *Seismic risks raised concerns about dam safety*

4.1.3.3 Gandhism and the Anti-Tehri Dam Movement

The Anti-Tehri Dam Movement was strongly influenced by the Gandhian worker Sunderlal Bahuguna, who initiated the "Save Himalaya Movement" framework. The leaders of the movement, including Sunderlal Bahuguna and others, used the Gandhian method of 'dharna' (long-term sit-in strike) and fast unto death. Sunderlal Bahuguna, in constructing the framework of the "Save Himalaya Movement" in 1992, cultivated the so-called "Sarvodayist Environmental Thinking". It is an environmental philosophy based on the Gandhian notion of 'sarvodaya', which means "the welfare of all." *The Himalaya Padayatra* (Himalayan foot march) of Bahuguna, from Kashmir to Kohima (4870km) grappled with the environmental problems of the whole Himalayan region. However, the ideals of Gandhism have yet to be sufficiently shared among the people of Uttarakhand and utilised effectively by the movement.

♦ *Sunderlal Bahuguna inspired the movement*

♦ *Sarvodayist thinking promotes welfare for all*

The Anti-Tehri Movement started in the 1970s as a local resistance movement against the dam. It evolved into a civil movement in the 1980s as the participants of the movement were from beyond the locality. In the 1990s, the movement experienced a significant upsurge as it became part of the "Save Himalaya Movement." The biggest questions arising out of the Tehri Dam conflict are the questions of rehabilitation and displacement, sedimentation and siltation, the lifespan of the reservoir, and seismicity. In addition to the human rights concerns, the project has prompted concerns about the environmental consequences of locating a large dam in the fragile ecosystem of the Himalayan foothills.

♦ *Evolved from local resistance to broader civil activism*

4.1.4 Jungle Bachao Andolan

The Jungle Bachao Movement (Save the Forest Movement), popularly known as 'Jharkhand Jungle Bachao Andolan'(JJBA),

♦ *Jharkhand Jungle Bachao Andolan*

was an environmental campaign that originated in the state of Jharkhand (then Bihar) in the 1980s. Later, it extended to other states, including Odisha. The movement played a significant role in bringing the issue of Adivasis (tribals) to the forefront by highlighting the importance of preserving forests and thereby upholding the rights of the tribals. The movement is also referred to as 'greed game political populism' as the felling of trees was done by the government itself.

♦ *Adivasi rights and forest preservation*

Jharkhand, a part of the Chotanagpur plateau, is rich in natural resources, such as minerals, forests, and water. The region also has a significant indigenous population comprising Munda, Ho, Santhals, etc. Since its independence, the Indian government has adopted a policy of industrialisation and economic growth, which often comes at the cost of the environment and the rights of the local population. The large-scale commercial projects implemented by the government, such as mining, dams, and power plants, significantly impacted the indigenous communities living in the forest regions of Jharkhand. Most of these projects were implemented without the proper consent from the local communities. The movement aimed to protect the environment and the rights of indigenous people from the impacts of the commercial projects being proposed in the region. The tribal communities living in harmony with the forests for generations faced displacement due to extensive commercial projects. Deforestation and degradation threatened their way of subsistence.

♦ *Protested Sal-to-teak replacement*

The movement took shape when the government proposed to replace the natural Sal Forest of Singhbhum District of Bihar (present-day Jharkhand) with commercial teak plantations. Local communities strongly opposed this move by the government as they feared about their subsistence and way of life. The protesters conducted rallies and public awareness campaigns to bring attention to the problem. JBA has four pillars to empower the local communities and encourage them to engage in forest management and conservation activities. They are: -

1. Gram Sabha
2. Forest Protection Committees
3. Women Co-operatives;
4. Youth Forums

4.1.4.1 Achievements of the JJBA

The 'Jharkhand Jungle Bachao Andolan' (JJBA) resisted the construction of hydroelectric projects and the logging of forests in the region. The movement raised awareness about the adverse

♦ *Empowered locals for forest management*

effects of these commercial projects on the lives of the tribal people and the environment. It brought attention to the issue of displacement of the indigenous communities, loss of biodiversity, and ecological imbalance. The JJBA successfully stopped several large-scale commercial projects threatening the forests and the region's local communities. The effort of the movement was recognised by the Indian government through the formulation of the National Forest Policy in 1988. The National Forest policy focused on the conservation of forests and sustainable development practices. The movement played a critical role in raising awareness about the importance of forests in the Indian Himalayas. It was based on community empowerment, sustainable development, and environmental conservation principles. It continues to inspire environmental movements around the world.

Summarised Overview

The word "environmental movement" is used broadly to refer to a variety of regional disputes and struggles involving questions of ecological security and livelihood. It frequently has connections to other social movements. Environmental movements emphasise changes in public policy to promote the sustainable management of natural resources. An important aspect of ecological movements in India is that they are primarily led by tribal women and other disadvantaged or impoverished groups who are either directly impacted by environmental degradation or suffer from it as a victim. The aforementioned ecological movements are all reactions to projects that pose a risk of uprooting people from their native habitat. Decentralised decision-making and democratic ideals are common to all movements.

Assignments

1. What were the key aims of the Narmada Bachao Andolan, and why are these aims significant for environmental and social justice movements in India?
2. In what ways did Sunderlal Bahuguna contribute to the success of the Chipko Movement, and how did his leadership shape its strategies and public perception?
3. What were the major environmental impacts associated with the construction of the Tehri Dam, and how did these impacts affect local ecosystems and communities?
4. What specific objectives did the Jungle Bachao Andolan seek to achieve in its initiatives, and how did these objectives address issues of deforestation and community rights?

Suggested Reading

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 2

Central India

Learning Outcomes

Upon the completion of this unit, the learner would be able to:

- develop a conceptual understanding of the Narmada Bachao Andolan and its significance
- comprehend the impacts of the Narmada Bachao Andolan on environmental and social issues
- identify the role of NGOs in promoting environmental protection and advocacy.
- examine the various strategies employed by the Andolan and how they facilitated mass mobilisation

Background

In India, as in every other civilisation, water has played a crucial role in preventing floods and droughts. Rainwater collection and conservation was a crucial aspect of Indian history, starting with the Indus Valley Civilisation, according to archaeological findings. The construction of dams increased during the colonial era, and by total 1947, 75,000 kilometers of irrigation canals had been installed. The country is currently experiencing a famine due to centuries of colonial looting, with its output of food grains and per capita income declining yearly. The Indian Prime Minister at the time, Jawaharlal Nehru, understood that achieving political independence without first achieving economic and intellectual freedom would be futile. He was committed to achieving economic and food self-sufficiency for India. During the post-independence era, numerous dams and multipurpose river valley projects were built throughout India, as mandated by the five-year plans. The Nehru government first adopted four major river valley projects: the Bhakra-Nangal, Hirakud, Nagarjuna, and Damodar Valley Projects. Nehru referred to the Bhakra dam as "the temple of a free India at which I worship" during its inauguration. Because they liberated farmland and provided electricity to the newly established industries as required by the five-year plans, dams played a crucial role in India's economic modernisation. In addition, it has negatively impacted the ecological system and led to population relocation, especially for the marginalised. Thus, the ordinary people in India's post-colonial history stiffly opposed several of these initiatives.

Keywords

Narmada River Valley Project, Narmada Bachao Andolan, Medha Patkar, Nimad Agitation, Sardar Sarovar Project

Discussion

4.2.1 Narmada Bachao Andolan

♦ *Conflict over dam project*

The largest river in peninsular India that flows westward is the Narmada River, which rises from the Amarkantak plateau. It passes across Gujarat, Maharashtra, and Madhya Pradesh. Ultimately, it plunges into the Arabian Sea's Gulf of Cambay. The Indian government completed the plan to construct many dams along the Narmada River in 1979. The Narmada Valley Development Project's greatest dam was intended to be the Sardar Sarovar Project. It turned into a point of conflict between the common people who resided along the river's banks and the government. Together with activists and organisations, the residents of the submergence area waged a joint campaign against the dam and the displacement it caused. The Indigenous tribal people, farmers, human rights advocates, and environmentalists started the Narmada Bachao Andolan (NBA) in 1985 to protest the building of these dams. It is regarded as the pinnacle of Indian environmental movements. They made use of international opinions, judicial rulings, and nonviolent protest techniques. Their demonstrations in the Narmada Valley led to important research on dams, their impacts on people and societies, and how big dam projects were perceived and discussed globally.

4.2.1.1 Narmada River Valley Development Project

The 1940s saw the inception of the concept of building a dam in the Narmada. Over 5,000 residents of the surrounding towns were relocated to Kevadia when the project's construction got underway in 1961. The current location of the dam was chosen in 1962 after it was moved somewhat upstream. The Gujarat and Madhya Pradesh governments' Bhopal agreement boosted the Full Reservoir Level (FRL) to 425 feet. The Madhya Pradesh government did not ratify the deal, and the issue was forwarded to the federal government instead. The Maharashtra and Madhya Pradesh governments reacted sharply to the central government's Khosla committee's recommendation for a 500-foot footfall limit. The Gujarat government filed a complaint under the Interstate Water Dispute

Act in 1968 when the negotiations broke down. After a year, the Narmada Water Dispute Tribunal (NWDT) was established, and in 1978 the ruling was made. It was binding on all parties involved, including Rajasthan, Gujarat, Madhya Pradesh, and Maharashtra. It divided expenses among the relevant state governments and allotted water and hydropower. It also established the guidelines for the relocation and rehabilitation of individuals who will be displaced, as well as the height of the Sardar Sarovar Project at FRL 455 feet.

♦ *Legal disputes over Narmada FRL*

The Narmada Valley Development Project planned to construct 30 major dams, 135 medium dams, and 3000 minor dams, with the Sardar Sarovar as the terminal dam. The project was supposed to irrigate five million hectares of agricultural land, provide 2700 MW of hydroelectricity, and supply water for domestic and industrial use. The Sardar Sarovar Project was expected to irrigate 1.8 million hectares of land and 1450 MW of electricity and supply drinking water to 40 million people. When the planned reservoir is filled to its maximum water level, it will cover 410 sq. km of land and submerge 37590 ha of land, affecting 245 villages and an estimated population of 130000.

♦ *Dam's benefits and impacts*

4.2.1.2 Nimad Agitation

Immediately after the final award of the Narmada Water Dispute Tribunal (NWDT) on 16 August 1979, the Nimad plains in Madhya Pradesh witnessed the first intense agitation against the Narmada Valley Development Project and particularly the Sardar Sarovar Project. The first phase of the anti-dam struggle began in Madhya Pradesh spontaneously, as most of the submergence was to occur there. The people from western Nimad and Dhar districts launched the 'Narmada Bachao – Nimad Bachao Sangharsh Samiti' (Save Narmada, Save Nimad Struggle Committee). It gained instant support from the Congress party, the opposition in the Madhya Pradesh Legislative Assembly. Even though the Madhya Pradesh government had not accepted the NWDT award, the Congress-backed agitation soon gathered momentum. Several rallies, bandhs, and roadblocks were organised in Bhopal, Indore Badwani and Kukshi. While the agitation was intense in the Nimad plains, the tribal areas subjected to submergence were not represented in the struggle. In the assembly elections of 1980, the Congress party came into power in Madhya Pradesh and soon petered out from the agitation.

♦ *'Narmada Bachao – Nimad Bachao Sangharsh Samiti'*

4.2.1.3 Role of the NGOs

Due to the success of movements like Chipko and Silent Valley, environmentalists, environmental organisations, and NGOs in

the 1980s initiated many campaigns against the construction of large dams. They took initiatives in research, documentation, and raising general awareness of the impact of large dams. In August 1983, Kalpavriksh, a Delhi-based group, along with the Nature Club of the Hindu College, conducted a study in the Narmada valley. It pointed out some serious inadequacies and distortions in the information base. This group later became very active in the Narmada Bachao Andolan Movement. In 1983, the ARCH -Vahini, a Vadodara-based NGO, approached the International Bank for Reconstruction and Development (IBRD/World Bank) to draw their attention to the plight of those to be evidenced by the project. In the same year, the World Bank appointed Thayer Scudder, an international expert on displacement and resettlement, to study the Sardar Sarovar Project. The Scudder report pointed out several inadequacies in the rehabilitation proposals, which were widely circulated among the NGOs and the general public. NGOs such as Oxfam, Survival International (UK), and Environmental Defence Fund (USA) started lobbying with the World Bank, which was to negotiate with the Government of India and the Governments of the states of Gujarat, Madhya Pradesh, and Maharashtra to fund the Sardar Sarovar Project. However, the project-affected people did not mobilise massally in the Narmada Valley.

♦ *NGOs raise awareness*

♦ *Several inadequacies in the rehabilitation proposals*

The first public demonstration against the project was on 8 March 1984 and consisted of 14 tribal villages in Gujarat and 9 tribal villages in Maharashtra. They marched to the project headquarters at Kevadia from Vadagam village in Gujarat and demanded a thorough revision in the Gujarat government's resettlement policy. The resettlement policy of the Gujarat government issued on 11 June 1979 was to compensate only those with revenue landholding. Although the Narmada Water Dispute Tribunal (NWDT) did not make any provisions for compensating 'encroachers' on wasteland and forest land, it spelt out that families without land-holding should be treated as the compensation unit. This demonstration marked the beginning of a new phase in the struggle against the Narmada Valley Development Project.

♦ *First mass protest against the project*

From 1984, the affected population, NGOs, and environmentalists took a series of collective actions. In Gujarat, ARCH-Vahini spearheaded the boycott of the project authorities by blocking the roads. It also filed a writ petition in the Gujarat High Court and later in the Supreme Court of India. Activists from SETU, an NGO based in Ahmedabad, initiated work among the tribal villages, helping them to form village-level committees. In April 1986, the Narmada Dharangrasta Samiti (NDS) was formed in Dhulia, comprising the activists from SETU and representatives

♦ *Collective actions intensify*

♦ *Dam inaugurated in 1984 by Indira Gandhi*

of the affected villages under the leadership of Medha Patkar. They submitted a memorandum to the government of Maharashtra demanding the release of degraded forest land for rehabilitation if large quantities of revenue land were unavailable. A few months later, Maharashtra witnessed the first major demonstration in Bombay. It was organised by the left-led 'Committee of Dam and Project Evictees' with the slogan "First rehabilitation then dam". In Madhya Pradesh, the initial stirrings focused more on the Narmada Sagar Project (NSP), which was to be constructed at Punasa in the Khandwa district in Central Madhya Pradesh. The initial response to the NSP by the activist groups and environmentalists was one of total opposition. However, on October 23, 1984, the project was inaugurated by Indira Gandhi, the then Prime Minister of India.

♦ *Intensified protests and demands*

Between 1984 and 1987, the loan deal with the IBRD was concluded, financial clearance was received from the Planning Commission, and environmental clearance was granted by the Ministry of Environment and Forests (MoEF). The conditional environmental clearance accorded to the Sardar Sarovar Project and Narmada Sagar Project activated a chain reaction. Environmentalists and NGOs outside the valley strongly protested against the decision of the government to approve the projects when sufficient studies on the environmental and social impact of the project had not been initiated, and even those that had started had not yet been completed. With Medha Patkar's initiative, the movement was revitalised in Madhya Pradesh. The Narmada Ghati Nav Nirman Samiti (NGNS), Khedut Mazdoor Chetna Sangath, and Narmada Dharanagrasta Samiti (NDS) made several demands on resettlement and rehabilitation, which included the right to information on the technical aspects of the dam, the extent and schedule of submergence, land availability including amount, place, quality and legal status of the land selected for compensation. They also demanded the initiation of fresh land surveys to include those areas excluded from earlier surveys and to extend the rehabilitation benefits to those affected by the project headquarters at Kevadia, the canal network in Gujarat. It also pushed for compensatory afforestation programmes and asserted the rights of those affected to settle in their own states as per guidelines laid down by the NWDT.

4.2.1.4 Split of the NGOs

On 5 December 1987, a meeting of NGO activists, environmentalists, and intellectuals was convened in New Delhi to discuss the social and environmental aspects of the Narmada Valley Development Project. Most of the NGOs, such as Oxfam, Participatory Research in Asia, NDS, ARCH-Vahini, NGNS, and

Bombay Natural History Society, were represented in the meeting. The meeting thus marked the formulation of the 'Narmada Action Plan.' Following the pressure from the NGOs and the World Bank, on 23 December 1987, the government of Gujarat announced substantial modifications to its Resettlement and Rehabilitation package. With the new policy, (i) the landed oustees were eligible to get a minimum of two hectares of land of their choice, and the difference between the compensation paid by the government and the market price of two hectares of land as per the choice of the displaced was to be borne by the government through ex-gratia payment; (ii) cultivators of government wasteland and forest land, as well as the landless, were to be accorded the same benefits as in provision one.

♦ *Narmada Action Plan formulated*

♦ *Rehabilitation policy changes in Gujarat*

The policy announcements resulted in the split of the NGO movement as the activist groups outside Gujarat did not receive it well. NGOs in Gujarat, particularly ARCH-Vahini, endorsed the new policies and offered support to the government in implementing the project. However, the NGO movements in Maharashtra and Madhya Pradesh took a completely different turn. In Madhya Pradesh and Maharashtra, activists continued mobilisation work among the affected villages. In July 1988, the Gandhian Social Worker Baba Amte organised a meeting of social workers and environmentalists for the adoption of the 'Anandwan Declaration against Large Dams'. In August 1988, the NDS and NGNS announced total opposition to the Narmada Valley Development Project on environmental, social, and economic grounds. The rationale for opposing the entire project was (i) proper rehabilitation for all those to be displaced was impossible since the governments had no real idea of the extent and impact of displacement; (ii) the extremely high environmental cost of the project, which was neither assessed properly nor accounted; (iii) the governments undertook no action plans as a mitigative measure. With the withdrawal of some of the NGOs, the NDS, the NGNS, and the Narmada Asargrasta Samiti (NAS) in Gujarat merged in 1989 to form the Narmada Bachao Andolan.

♦ *NGO split on policies*

♦ *Opposition based on displacement and environmental cost*

♦ *Narmada Bachao Andolan formed*

4.2.1.5 Harsud Rally

On 28 September 1989, a rally was organised by the NBA at Harsud in Madhya Pradesh to end all projects which devastate the environment and destroy people's livelihoods and for the adoption of a socially just and ecologically sustainable pattern of development. They gathered 20,000 people, including affected people and the representatives of NGOs and activist groups from different parts of the country. This put the NBA at the centre stage of the environmental movement in India. The rally brought several organisations and groups together on one platform for the first time

in India. The direct outcome of the rally was the formation of the 'Jan Vikas Andolan' (JDA) (Movement for People's Development). The JVA was a movement against the development paradigm being practised in post-independence India whereby a narrow elite primarily benefits at the cost of a very large population that continues to be marginalised, displaced, and pauperised along with large-scale plundering of the natural resource base. Instead of only rehabilitation and resettlement, it focused on a wider set of issues like the non-participatory nature of the planning and implementation process as well as the social and environmental costs of development projects. The Harsud rally marked a shift in the strategy of the Andolan by appealing to the public at large, specifically the middle-class intelligentsia. Thereafter the Andolan began to invest substantial resources in building a mass base in the Narmada Valley.

♦ *Harsud Rally gathers 20,000 people*

♦ *Jan Vikas Andolan formed*

♦ *Wider focus on development issues*

4.2.1.6 International Support

International NGOs stepped up their campaign against the project. In June 1988, the EDF and Friends of the Earth testified before the subcommittee on foreign operations in the US Senate regarding the inadequate environmental impact assessments, cost-benefit analysis undertaken by the project authorities, the inadequacies in the resettlement and rehabilitation policies and the unavailability of quality land for rehabilitation. The period between 1990 and 1993 marked the intensification of the no-dam struggle and resulted in significant achievements for the NBA. The Andolan mobilised significant international support and thereby intensified its campaign against the IBRD support of the project. In May 1990, 120 members of the Finnish parliament wrote to the World Bank stating that the Narmada projects should not receive any bank funding before alternatives have been thoroughly considered and the resettlement and rehabilitation problems evaluated. In June 1990, the Japanese government, which had earlier sanctioned soft loans under the Overseas Economic Cooperation Fund (OECF) for turbines for the riverbed powerhouse of the SSP, announced the cancellation of a 150-million-dollar loan. The international support continued to grow, and the pressure on the World Bank intensified. In June 1991, the Bank took the unprecedented step of appointing an Independent Review Mission to assess the implementation of the resettlement and rehabilitation of the displaced people and the project's environmental impact.

♦ *International support grows*

♦ *World Bank pressure intensifies*

After 1992, the Andolan intensified its international campaign by sending representatives to the U.S.A. and Japan to meet with international NGOs and media as well as the members of the Japanese Diet. In July 1992, the European Parliament passed a

♦ *NBA's international campaign intensifies*

♦ *Manibeli Declaration signed by 2,152 NGOs*

resolution on the 'Narmada Dam' calling all member states to urge their executive directors to vote against further World Bank support for the project. It also called on the World Bank to withdraw from the project, pay compensation to those who have suffered as a result of the project, and write off the $ 250 million spent on building the dam if it is not completed. To prevent and document state violations of human rights, the Narmada International Human Rights Panel was formed, consisting of forty-three environmental and human rights organisations from 16 countries. In July 1994, the NBA stepped up its international campaign by issuing the 'Manibeli Declaration', calling for a moratorium on World Bank funding of large dam projects all over the world. By September, 52 NGOs in 43 countries had signed the Declaration.

4.2.2 Leadership

♦ *Core-periphery structure*

♦ *Key decision-makers - Middle Class*

The organisations of the Narmada Bachao Andolan demonstrate a 'core-periphery' structure. The Andolan consists of a core group, support groups spread across the country and abroad, village-level committees, and organisations that have formed around other projects on Narmada. The core group of Andolan is a close-knit organisation that consists of 15 to 20 people. It operates from two offices situated in Vadodara, Gujarat, and Badwani, Madhya Pradesh. The core groups make major decisions about Andolan's resources, strategies and politics. The activists in the core group work full-time for Andolan. The exact composition of the core group kept changing over time, but it was almost exclusively composed of middle-class activists from outside the Narmada Valley. With few exceptions, most of the core group members have little or no grassroots links with the villages in the submergence zone. Their operations are directed towards the broader society outside the valley rather than to the valley itself. On a few occasions, meetings are held in the villages. Members of the core group are highly educated, and some of them are qualified professionals. The activities of the core group are wider ranging but include liaisoning with NGOs and activist groups, national and international; research, documentation and dissemination; lobbying with government departments, international organisations, and the media; mobilisation and coordination of protest activities in the valley; raising funds; planning and coordinating strategies and programmes.

The support group of the Andolan is comprised mainly of activist groups and registered NGOs who back the cause espoused by the Andolan. The range of activities undertaken by the support groups is incredibly varied, and the degree of support that extends to the core group is also varied. Activities of the support group generally

♦ *Support group - NGOs*

♦ *Link to other struggles*

involve offering logistic support to the NBA in terms of funds and other resources, research, documentation, and dissemination, as well as lobbying and participating directly in the protest activities of the Andolan. The support groups are crucial resources of the Andolan as they serve as links between the struggle against the project and other struggles and experiences outside the valley.

4.2.2.1 Medha Patkar

♦ *Medha Patkar's non-violent resistance*

Medha Patkar was born in Bombay on December 1, 1954, to social activist parents Vasant Khanolkar, a well-known freedom fighter and trade unionist, and Indu Khanolkar, heading a women's organisation, Swadhar. Coming from a family with a background of struggle and activism, she grew up to be highly motivated, exceptionally brave, and always ready to speak out for a social cause. Her ideological orientation, which was embedded in values of equity, justice, and democratic socialism, came through her attending various rural vacation camps and participating in social activities of youth organisations. Patkar completed her B.Sc. from Ruia College, Mumbai, and she did her MA in Social Work and completed her studies up to M. Phil on the theme of Development and its impact on traditional societies from the Tata Institute of Social Sciences (TISS), Bombay.

♦ *Critique of development*

♦ *Support from public figures*

Medha Patkar became deeply involved with issues of displaced people in the Narmada River Valley, which spans the states of Gujarat, Maharashtra, and Madhya Pradesh. While pursuing her PhD and researching social inequality and social movements, she learned about a tribunal judgement granting permission to build 30 Mega dams, 135 medium-size and 3000 small dams. She made her debut visit to Gujarat and got a first-hand account of the plight of the tribals living in the northeastern region of the State. She began to work with groups of Adivasi (Tribal) youth in the districts of Dang, Sabarkantha, and Banaskantha, as well as among farmers in the Narmada Valley.

♦ *Critique of lopsided, anti-people development*

♦ *Challenge this displacement, loss of livelihood*

The Narmada Bachao Andolan (Save the Narmada Campaign) came into being in 1985 under the leadership of Medha Patkar, who was one of its founder-members, even though, in her own words, "it is the collective leadership of NBA which needs to be recognised." Patkar and the NBA believe in the Gandhian doctrine of non-violence; hence, most of her movements are Satyagraha. Medha Patkar always felt that the Narmada Valley Project is a result of a lopsided, anti-people development plan, where the benefits for the rich and the powerful outweigh the benefits to the poor, for example, displacement and loss of livelihood. She and NBA challenge this displacement, the loss of livelihood, the region's rich

natural resources, and invaluable archaeological heritage without fair compensation and rehabilitation. She also calculated the actual cost and benefits of the Project. Today, when the Project seems to be not accruing due benefits to the drought-affected regions of Kutch, their questioning has been proved right. Several fact-finding reports, People's Tribunal reports, and Court Judgements and reports by prestigious institutions like TISS have vindicated the position of the NBA's and Medha Patkar.

She is a committed campaigner for the cause of the displaced and participates in numerous forums to educate the world about the atrocities against the helpless tribals and villagers. In 1999, she had to be forcefully removed from a nearly submerged village (State) where she was protesting against the submergence of villages for the Project. In March 2006, Medha Patkar participated in a 20-day hunger strike to protest against the authorities'decision to raise the height of the dam. Support for her cause has poured in from many eminent people. Baba Amte joined the leadership of Narmada Bachao Andolan after a decade. Noted writers Mahashweta Devi and Arundhati Roy, social activists like Swami Agnivesh and Aruna Roy, jurists like Justice Krishna Iyer, Justice Rajinder Sachar, Senior Lawyers K G Kannabiran and Prashant Bhushan, Directors Vijay Tendulkar and Anand Patwardhan, cine artists Sadashiv Amrapurkar, Shreeram Lagoo, Rahul Bose, Aamir Khan and Shabana Azmi, academicians like Amlan Dutt, Prof Yashpal, eminent journalist and ex-MP, Kuldeep Nayyar, JNUSU as well as leaders from Left Parties have been involved with with her causes from time to time.

♦ *Support from public figures*

Medha Patkar is one of the leading activists of a powerful network of over 250 mass-based movements across India called the 'National Alliance of People's Movements' (NAPM), of which she is the National Convenor. The NAPM2 is involved in various people's struggles in at least 15 states of the country where human rights are being violated. Apart from taking up the issues of rights violations, NAPM also works towards a more people-centric polity, with accountability and transparency as its core. The major issues on which Medha Patkar and NAPM have campaigned and achieved success in some measure through various struggles include the cause of the farmers and agricultural workers, unorganised/unprotected sector workers, the urban poor and their right to housing, the right to food and malnourishment in the tribal region and decentralised development with the rights of local communities to the local resources.

♦ *NAPM leadership*

♦ *Focus on rights and transparency*

4.2.3 Mobilisation

The NBA movement entered into the final phase with the objective of stopping the work on the dam and thereby pressuring the government to review the project. The Andolan coordinated several protest activities, such as obstructing the construction of bridges across the Narmada, setting up roadblocks at strategic points, organising demonstrations and rallies, preventing the officials of the Narmada Control Authority and the World Bank from entering the workspace, uprooting stone markers from the proposed submergence areas and dumping them outside the Vidhan Sabha in Bhopal. Dharnas and hunger strikes. The important slogans raised during the movement were *vikas chahiye, vinash nahi*, (meaning, we want development, not destruction) and *koi nahi hatega, bandh nahi banega* (meaning we won't move, the dam will not be constructed.

♦ *Final Phase - Stopping construction*

The most important form of protest in this phase was the month-long Jan Vikas Sangharsh Yathra (Struggle March for People's Development) from December 25, 1990, to January 31, 1991. More than 8000 people participated in the march, after which the support steadily increased. The march covered a distance of 200 km. After that, the Gujarat government stopped it at its border. To pressurise the Gujarat government, seven marchers, including the Andolan leader Medha Patkar, went on an indefinite strike. However, the Gujarat government did not relent, and the Andolan decided to withdraw from the border. On 31 January, the yatra withdrew from the border to take the struggle back to the villages under the slogan *Hamara Gaon Mein Hamara Raj* (Our Village, Our Rule). The slogan implied non-cooperation with an unresponsive government and the development of self-reliant institutions and actions in the villages. The villages will henceforth boycott government activities like census operations and oppose all survey works related to resettlement and rehabilitation. They also decided to take up reconstruction activities such as soil conservation, irrigation works, health training, and adult education. This gigantic social experiment offered crucial insights into exploring alternative systems of governance and development.

♦ *Final phase protests*

♦ *Jan Vikas Sangharsh Yatra*

After the *Sangharsh Yatra*, the NBA shifted its attention to Manibeli, the first village in Maharashtra to be submerged, and launched a satyagraha there in 1991. Groups of Samarpit Dal (collective suicide) were formed who would let themselves drown in the rising water of the river. "Dubenge par hatenge nahin" (we will drown but not move) became their new slogan. The Manibeli satyagraha resulted in impressive press coverage for the Andolan and a wave of solidarity and support from different parts of the country

♦ *Non-cooperation with government*

♦ *Village-based development*

and abroad. In October 1991, the NBA, led by Medha Patkar and Baba Amte, received the Right Livelihood award for their steadfast opposition to the ecologically and socially disastrous Narmada Dams.

In November 1991, the Andolan met the independent review commission and extended all the necessary support and co-operation. In June 1992, the IRC completed its review of the Sardar Sarovar Project. It stated that resettlement and rehabilitation of all those displaced by the projects is not possible under prevailing circumstances and that the environmental impacts of the projects have not been properly considered or adequately addressed. It asked the World Bank to step back from the projects and consider them afresh. The report of the IRC was an important victory for the Andolan. The NBA demanded the World Bank to announce its withdrawal from the project by July 15, 1992, or face intense opposition to its very presence in India.

♦ *IRC review of the Sardar Sarovar Project*

♦ *World Bank withdrawal*

On March 29, 1993, the Indian government announced the decision to terminate its contract with the World Bank. For the Andolan, the withdrawal of the World Bank was a major victory. It now pressed for a comprehensive review of the Sardar Sarovar Project. When this demand was not met, they called for the 1993 Manibeli Sathyagraha. On June 2, 1993, Medha Patkar and Deoram Bhai, a resident of the Kaperkeda village in Madhya Pradesh and an activist of the Andolan, began a hunger strike in Bombay, demanding a complete review of the Sardar Sarovar Project (SSP). On the 14th day, the hunger strikers were arrested. The government promised to review the project, but the hunger strike was called off. By the end of June 1993, a meeting of the representatives of the Government of India, Madhya Pradesh, Maharashtra, and the Andolan was held. However, with no follow-up action forthcoming from the government, the Andolan resumed its call for the Sathyagraha at Manibeli and formed Samarpit Dal, including Medha Patkar and other activists of the Andolan. On 3 August 1993, the Ministry of Water Resources of the Government of India constituted a five-member group to continue the discussion with the Andolan. Finally, the government agreed to a review, and the Samarpit Dal was called off.

♦ *Manibeli Satyagraha*

♦ *Global support*

4.2.3.1 The Impasse

Compared to the success achieved by the Andolan in its earlier phases, it lost momentum and was at a very low ebb after 1994. There has been a steady flow of people to the resettlement and rehabilitation sites, with the perception gaining ground among a large section of the population that the dam could not be stopped.

♦ *Decline in mass support*

♦ *Focus on legal battles*

In Madhya Pradesh, people from the Nimad plains have even started accepting compensation in cash. As a result, the Anodlan had to face a steady decline in its mass base, which, in turn, affected its political activities in the Valley.

In April 1994, the Andolan filed a writ petition in the Supreme Court of India challenging the construction of the Sardar Sarovar Project on social, environmental, technical, and economic grounds. Monsoon Satyagraha was resumed in Madhya Pradesh and Maharashtra in 1995, but it didn't evoke great momentum. The few households that remained in the Manibeli as part of the Andolan showed signs of battle weariness. The groundwork required for mass mobilisation was no longer being undertaken. The NBA's efforts during this period were largely concentrated on the Supreme Court petition, which required time and resources. However, the proceedings in the court were not very favourable for Andolan either. The hearings were regularly adjourned, and the state governments filed distorted and inaccurate affidavits. Furthermore, the Supreme Court expressed displeasure over the fact that the Andolan had filed a petition in the National Human Rights Commission while the matter was still before the apex court. Following the Supreme Court's allowance of limited construction, the Andolan faced increased challenges, including waning momentum and strained resources. Protests persisted but were met with limited success. The focus remained on legal battles and public awareness campaigns. Despite setbacks, the movement's dedication endured

- *Legal challenges in court*
- *Slow judicial proceedings*

Summarised Overview

One important force in Indian environmental politics is the Narmada Bachao Andolan. By researching it, we may examine the drawbacks and potential of alternative approaches and place the locations of alternative development discourse empirically. The goal of post-colonial nations' development is to subjugate the marginalised—women, Dalits, tribal people, minorities, and the impoverished—in order to wield hegemonic power and advance the interests and values of the ruling class. The "new social movements, such as the NBA, are groupings that challenge hegemony in varied ways and to differing degrees. Additionally, it offers an alternative to the current democratic system and promotes sustainable growth.

Assignments

1. What were the key aims and objectives of the Narmada Bachao Andolan?
2. What is the Sardar Sarovar Project, and what are its implications?
3. What important slogans are associated with the NBA, and what do they signify?
4. How is the organisational structure of the Narmada Bachao Andolan structured?
5. In what ways did international organisations influence the Narmada Bachao Andolan?

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 3

South India

Learning Outcomes

Upon the completion of this unit, the learner would be able to:

- understand how development initiatives impact the environment in South Indian states
- trace the background and effects of participatory and inclusive movements, such as the Appiko Movement and the Silent Valley Movement
- analyse the theme of 'development at the cost of the environment' and its implications

Background

The environment versus development debate is not new. The dichotomy between developmental goals and ecological hazards is a challenge for countries around the globe. Specific historical trajectories of societies shape development and the environment. The 1940s was when several new nations were born after mass independence movements that were liberated from colonial rule. Independence raised expectations of positive social change, and new democratic nations were eager to develop. For post-colonial societies, this marked the beginning of an era of development, and they faced particular challenges in balancing their developmental needs with emerging environmental concerns.

Independence from colonial rule came with the promise of development. The apathy of the colonial rulers towards their colonised subjects was to be replaced by democratic states committed to their citizens welfare. Natural resources that were exploited for colonial interests were now dedicated to the service of the nation. This also meant that development was the biggest challenge for post-colonial nation-states. Habitats and megafauna protected under colonial rule for the exclusive use of the company/crown were now converted into National Parks and protected for the new nation. These protected areas restricted local citizens from using and managing livelihood resources and were often met with local resistance.

On the other hand, the forest department managed productive forests, following the legacy of colonial forestry. Within two decades of independence, the local people, disenchanted with centralised control, extraction, and protection of natural resources,

organised themselves into social movements. Initially, these movements that demanded proper accounting for development's social and environmental costs were castigated as anti-development movements. Now, they have been recognised as conceptualising an alternate development and as environmentalism of the poor and marginalised.

Keywords

Appiko Movement, Save Silent Valley Movement, Save the Western Ghats Movement, Gadgil Committee, Rangarajan Committee, Niyamgiri Movement, FPIC

Discussion

4.3.1 Appiko Movement

♦ *Forest protection, rational forest use*

The Appiko movement, which occurred in the Uttara Kannada district of Karnataka, is a forest-based environmental movement. In the Kannada language, the term 'Appiko' refers to 'hug', signifying the protection of trees. The movement aimed to conserve the trees of the Kalse forest, where the forest department had been promoting monoculture plantations, particularly teak. The movement tried to propagate the idea of rational utilisation of forest resources by emphasising the popular slogans: "Ulisu (save), Belesu (grow/regenerate) and Balasu (rational use)."

♦ *Decline in forest cover*

♦ *Industrial exploitation*

During the 1950s, Uttara Kannada had a forest cover of 81%. Being a backward district, the government has initiated the development process by approving significant projects, including a paper mill, a plywood factory, and a chain of hydroelectric dams. These dams have submerged huge forest areas and agricultural lands in the region. Both the industries have overexploited the forest resources. Thus, by 1980, the forest coverage of the district had come down to 25%. The government also tried to convert the natural forest with teak and eucalyptus plantations, which ultimately resulted in the depletion of the region's water table, thereby affecting the forest dwellers.

The Appiko movement was founded and led by the environmental activist Panduranga Hedge. He took up the academic and research work necessary to provide the rationale for the Appiko movement. Several academicians like Madhav Gadgil, AKN Reddy, and Vandana Shiva also provided scientific backing to this ecological

♦ *Panduranga Hedge's leadership, scientific backing*

♦ *Ban imposed on felling trees*

movement. A series of lawsuits were also filed against these developmental activities at the expense of the ecological degradation of the region. Hedge, along with the women and youth of the Saklani and surrounding villages, decided to launch a movement in September 1983 similar to that of the Chipko movement in the Himalayan foothills. They walked five miles to the nearby forest and hugged the trees there. The agitation continued for 38 days, and they forced the contractors of the state forest department to stop cutting trees. Extensive media coverage helped the people in remote parts of the region initiate tree protection. Finally, this prompted the state government to relinquish its demands and impose a total ban on the felling of green trees within the natural forests.

4.3.1.1 The Constructive Phase

♦ *Awareness through folk arts*

♦ *Local engagement*

The campaigners of the Appiko movement used various techniques to spread awareness among the public regarding the environmental and economic issues associated with them. They used foot marches, folk dances, slideshows, street play, and other methods to fight for ecology conservation. The foot marches helped the activists get a firmer grasp of the realities. To convey their messages, the activists used 'Yakshagana', the traditional theatre of Karnataka.

♦ *Reforestation and regeneration*

One of the crucial aspects of the movement was that, while fighting against deforestation, they tried to promote afforestation. Individuals, families, and villages took part in growing saplings. Between 1984 and 1985, the people in the Sirsi region had grown 1.2 million saplings, which was then a record. The movement also initiated a process of regeneration in barren common land. The youth club was responsible for this project. They protected these lands from grazing, lopping and fire. The appiko experience shows us that natural regeneration is the most efficient and least expensive method of green conservation.

♦ *Alternate energy sources*

Another aspect related to the movement was the introduction of alternative energy sources to reduce the pressure on the forest. They constructed 2000 fuel-efficient hearths in the area, reducing fuelwood consumption by almost 40%. They also built gobar gas plants by discovering a novel method to lighten the burden of the forest. However, people from the low-income strata could not afford the gas plants, and ultimately, they preferred the hearths. Some of them were provided with financial aid by the organisation to buy gobar gas plants.

The Appiko movement tried to change the people's attitude. The movement effectively raised awareness among the locals of the threat posed by logging and the reduction of green cover. It is one

♦ *Rebuilding natural resources*

♦ *Sustainable resource sharing*

of the best examples of a people's movement having a constructive phase. Through this constructive phase, they tried to rebuild the depleted natural resources. It also tried to create a proportional relationship between humans and nature. This process helped the forest dwellers by promoting the idea of sharing resources in an egalitarian way. The movement aimed to establish a harmonious relationship between people and nature, thereby promoting a sustainable and permanent economy in the future.

4.3.2 Silent Valley Movement

The Silent Valley National Park is a tropical evergreen forest in the Western Ghats. It is home to several species of plants and animals, including many endemics in the region. It is situated in the Palakkad district of Kerala state. By 1847, there was a colonial intrusion in this region under the leadership of Robert Wight, a botanist under the service of the English East India Company. They named the area 'Silent Valley' due to the absence of cicadas. In 1914, Silent Valley was declared as a reserve forest. The river Kunthipuzha, a tributary of Bharathapuzha, runs down 15 kilometres from north to south through this national park. The region is known for many rare species of animals and birds, including Lion-tailed Macaque, Nilgiri Thar, Malabar Giant Squirrel, Nilgiri Langur, Great Indian Hornbill, Malabar Pied Hornbill, Black Bulbul, Ceylon Frogmouth, etc. Silent Valley came into the limelight not only because of its biodiversity but also because of the story of the successive struggle by the people in their fight against a hydroelectric power project initiated by the region's Kerala State Electricity Board (KSEB).

♦ *Biodiversity-rich forest*

♦ *Evergreen rainforest*

In 1928, the location of the Kunthipuzha River at Sairandri was identified by the colonial administration as an ideal site for electricity generation. After independence in 1958, a study was conducted by the KSEB and finalised a hydroelectric power project of 120 MW costing 17 crore rupees. The proposed dam would have flooded a large portion of the region, ultimately resulting in the destruction of the ecosystem and the displacement of the indigenous communities inhabiting the area. Thus, the plans for such a hydroelectric project stimulated the environmentalists to initiate a movement to protect this highly vulnerable bio-diverse region. The movement started as the "Save Silent Valley Movement" and was supported by environmentalists, scientists, political parties, local people, and civil society in general. Subsequently, the KSEB had to abandon the project due to the widespread protests, and in 1980, Silent Valley was declared a National Park.

♦ *Hydroelectric project proposal by KSEB*

♦ *Threat of evironmental destruction*

4.3.2.1 Role of Kerala Sastra Sahitya Parishad

♦ *KSSP's ecological report*

♦ *Lion-tailed Macaque discovery*

In 1973, the Kerala Sastra Sahitya Parishad (KSSP), Kerala's most prominent organisation for popular science, along with a group of scientists, writers, and intellectuals, published a report titled 'The Silent Valley Movement Hydroelectric Project – A Techno-economic and Socio-political Assessment' on the environmental impact of this project, which highlighted the potential ecological damage of this project. The movement gained momentum in 1976 when a group of researchers under M. K. Prasad discovered the presence of Lion-tailed Macaques (an endangered species) in the valley. Soon, protecting the Lion-tailed Macaque became the symbol of this non-violent struggle.

♦ *Awareness campaigns*

♦ *Public mobilization efforts*

Many environmental organisations and institutions such as Narmada Bachao Andolan (NBA), Bombay Natural History Society (BNHS), Kerala Forest Research Institute (KFRI), World Wildlife Fund (WWF) etc., and personalities like Sundarlal Bahuguna, Salim Ali, Madhav Gadgil, Sugathakumari, Baba Amte, Vandana Shiva, and Medha Patkar campaigned for the protection of the Silent Valley. The environmental activist and poet Sugathakumari wrote the poem "Marathinu Sthuthi" (Ode to a Tree), which became the movement's tagline. Under the leadership of the vice president of the World Wildlife Fund, a task force was formed to study the project. They suggested the dam's construction would reduce the green cover, resulting in high-scale forest disasters. Through several public meetings arranged by the KSSP, they educated the people and generated public opinion against the project. They spread the conservation message among the students, youth, and the general public through newsletters and journals. The KSSP sent a memorandum to the government of Kerala specifying the ecological issues concerned with the hydroelectric project. They organised street plays, public debates, exhibitions, and a marathon march covering 400 villages.

4.3.2.2 Declaration of the National Park

♦ *Area declared a National Park*

♦ *Biosphere Reserve inclusion*

As a result of the programs launched by KSSP, the Central government appointed Dr M.S. Swaminathan, an agricultural scientist and the father of the Indian Green Revolution, to study the issue. After studying the project and the possible ecological threats, he suggested that a National Rainforest Biosphere Reserve should be developed by comprising Silent Valley, Attappadi, Amaramabalam, and Kunda (Tamil Nadu) Reserve Forests. Subsequently, in 1983, the Central government instructed the government of Kerala to abandon the project, and soon, Silent Valley was declared a National Park. In 1985, the national park was formally inaugurated, and the very next year, it was designated the core area of Nilgiri

Biosphere Reserve. The Silent Valley National Park declaration was a landmark in India's environmental conservation history. Despite being declared a national park, Silent Valley faces the threats of poaching, illegal logging and human encroachment.

4.3.2.3 Significance of the Movement

The Save Silent Valley Movement was crucial in protecting the tropical evergreen forests in the Western Ghats and protecting the vibrant biodiversity of the region. The campaign was successful in abandoning the construction of a hydroelectric dam, which would have caused severe damage to the ecosystem and the displacement of the indigenous people. The movement inspired several other environmental campaigns in India and globally. It proved the effectiveness of grassroots-level action in ecological protection. The movement had a significant role in defending the rights of the local tribal communities. It had an essential role in the development of environmental policies in India. It influenced the creation of the National Committee for Environmental Planning and Coordination. This movement resulted from the Environmental Protection Act of 1986, setting the guidelines for preventing pollution and preserving the ecosystem. The movement empowered local communities to take part in the decision-making process. It also raised public awareness about environmental concerns and the need to safeguard the natural habitat. The movement continues to inspire environmentalists and the general public by serving as a model for collective action to preserve nature for future generations.

♦ *Inspired future movements*

♦ *Environmental Protection Act of 1986*

4.3.3 Save the Western Ghats Movement

The Western Ghats is an escarpment mountain parallel to India's west coast. The 1600 km range of mountains runs through the states of Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra and Gujarat. It is one of the 34 global biodiversity hotspots and is home to many Indigenous communities. This UNESCO World Heritage site is under tremendous pressure, and the region's environment is at stake.

♦ *UNESCO World Heritage site*

The denudation of the Western Ghats began long ago. With the ambitions of the British as imperialists growing and with the "need to build a compact India after the 1857 rebellion," wanton destruction of the ecosystems in the Western Ghats began. The tropical evergreen forests were extracted for railway sleepers and shipbuilding. Land settlements were pursued rigorously, with the wealthy farmers grabbing the best forest lands and turning them to grow the most wanted cash crop of the era, cotton, which was required for the cotton mills at Manchester. The situation was noticed by social reformers soon after the British entrenched

♦ *Colonial forest exploitation*

themselves. Leaders like Mahatma Jyotiba Phule organised the rural masses and petitioned the British Government and the Indian National Congress against destroying the ecosystems in the ghats.

♦ *Industrial depletion continues*

These policies remained the same after independence. The cash crop policy changed, no doubt, only to replace cotton with sugarcane. The amount of water required by this crop only served to aggravate the acute water shortage in the Deccan. The demand for forests in the south has been mounting since independence, with an explosion of industries such as paper, plywood, polyfibres, matchwood, and tanning. Along with these, the mineral-based industries have all dried up the resource base of the Western Ghats.

4.3.3.1 Threats faced by the Western Ghats

♦ *Unchecked mining causes displacement*

♦ *Environmental degradation and health problems due to mining*

Unchecked mining is one of the primary threats faced by the Western Ghats. With a steep increase in iron ore prices, mining activities have proliferated throughout the Western Ghats, particularly in Goa. In Kerala, sand mining has emerged as a major threat, and most of these mining activities often violate laws. Sometimes, mining causes large-scale displacement of local people without proper rehabilitation measures. It also creates environmental and health-related issues.

♦ *Cash crop plantations displace forest cover*

♦ *Monocultures contribute to encroachment*

Agroforestry systems in the Western Ghats are today dominated by tea, coffee, rubber, and monocultures of various species, including the recently introduced oil palm. Over the years, plantations of cash crops have displaced extensive patches of natural forests throughout the Western Ghats and are frequently associated with the encroachment of surrounding forest areas. Human-wildlife conflict, livestock grazing, over-extraction of forest products, encroachment by human settlements, hydropower projects, deforestation, and climate change are the other major recent threats the Western Ghats faces.

4.3.3.2 The Western Ghats Movement

♦ *Human-wildlife conflict worsens deforestation*

♦ *Hydropower projects and climate change threats*

The Western Ghats movement began as a response to the environmental degradation of the mountain range's ecosystem through deforestation and continued urbanisation projects. In 1986, a Gandhian voluntary organisation, 'Peaceful Society,' convened a meeting with prominent environmental activists in these six states to discuss and develop a joint programme to protect the Western Ghats. They decided to organise a foot march to understand the state of the western Ghats and highlight ongoing degradations. It decided to organise an environmental march in 1987. It was a landmark event in environmental activism in India. The key objectives of the march were to generate awareness among the people about ecology

and the environmental issues related to the western ghats. Through this march, they aimed to bring together all voluntary organisations and academic institutions in the region to formulate some long-term ecological programmes to protect the Western Ghats.

♦ *Organized environmental foot march*

♦ *Awareness raised for conservation efforts*

The Foot march started simultaneously from two extreme ends of the Western Ghats on 1 November 1987 and moved towards Goa. The Northern march started in Navapur (Dhule district) in Maharashtra, whereas the Southern march started in Kanyakumari in Tamilnadu. The northern march was flagged off by Chandi Prasad Bhatt, the founder-leader of the Chipko movement, and the southern march was flagged off by the noted Gandhian and historian. One hundred sixty-nine people from 11 states and four countries participated in the march. The march finally reached Goa on 27 January 1988 and converged into the Save Western Ghats Conference at Ramnathi. The march concluded in a public meeting at Panaji on 3 February 1988.

♦ *Foot march revealed environmental degradation*

♦ *Deforestation caused crop damage and new diseases*

During the march, they organised public meetings, village-level meetings, field observations, surveys, seminars, rallies, orientation camps, etc. The marchers surveyed 116 villages throughout the Western Ghats from Maharashtra to Kerala. A team from the Indian Statistical Institute, Kolkata, drew the survey findings. The main conclusions drawn by the survey were a decrease in the rainfall, late onset of the monsoon, shorter duration of monsoon, increased incidence of thunderstorms, rise in temperature, scarcity of drinking water for humans and animals, and reduction of groundwater table, thereby affecting the agriculture, reduction of forest resources such as fodder, fuel, food, timber, medicinal plants, etc., siltation of tanks, drying up of rivers and springs, invasion of eupatorium, increase in monoculture plantations such as teak, rubber, eucalyptus, and oil palm, changes in agricultural practices and crop pattern, forest fire and destruction of sacred grooves and increase in displacement, migration and food crisis. It also highlighted that deforestation led to the damaging of crops by wild animals such as elephants, wild boar, and monkeys. It also led to the appearance of new diseases among humans, animals as well as plants.

Madhav Gadgil, chairman of the technical committee, presented a post-march follow-up plan, which led to the discussion about the direction of saving the western ghats. The conference decided to support and strengthen the people's movements (movement in Kodagu Galeebeedue Tea Estate, Nylon 66 of Thapar group in Goa, Narmada Valley Development Project, and the Sardar Sarovar Project). Firm demands were made to scrap the river projects like the Bhadre Project in Chickamangalur, the Sharawati

tailrace project in Uttara Canara, the Haggnur Dam in Mysore, the Pullingam Dam in Kerala, the Naiya Dam in South Canara, etc. They requested that the Maharashtra government not allow Dahanu thermal power plants that would threaten the ecologically fragile zone. They opposed the move of central and state governments to distribute surplus degraded forests and grazing lands to industries and institutions in the name of social forestry. The conference urged that instead, such lands must be given to the landless and poor for their subsistence. It stated that the government should inform the public about every development plan and seek their consent. It urged the Tamil Nadu government not to convert the virgin Janmam forests of Gudlur to other commercial plantations. It asked the central and state governments to undertake afforestation activities at a mass scale to ensure more green cover. It was decided to continue with the existing structure of the march in the name of the Save Western Ghats Movement (SWGM).

♦ *Demanded afforestation and public involvement*

♦ *Supported local movements against damaging projects*

On the completion of 10 years in 1988, a vehicle rally was organised to cover the northern part of the western ghats up to Goa. At the end of the rally, the second SWGM conference was held in Goa. After that, SWGM was registered under the Society's Registration Act, 1860 in Goa under the chairmanship of Kumar Kalanand Mani. The third conference was organised in 2009, which demanded the formation of a Western Ghats Authority. It also came up with the proposal of requesting the Government of India to constitute a study team to bring out the present status of the Western Ghats. The Fourth Conference of the SWGM was inaugurated in 2012 by Jairam Ramesh, the then minister of Environment and Forest. The minister responded to the demand for a panel to study the Western Ghats and recommend conservation and governance mechanisms. It resulted in the formation of the Western Ghats Ecology Expert Panel (WGEEP) headed by the environmental scientist Madhav Gadgil.

♦ *Demanded a Western Ghats Authority*

♦ *Activism led to policy influence*

The development after the submission of the report by WGEEP to the Government of India was quite negative as the government refused to accept the report. There was negative propaganda against the recommendations of the WGEEP. This provided ammunition to the state governments for adopting a stand against the report. Meanwhile, the Goa Foundation, an associate of SWGM, moved a joint petition before the National Green Tribunal (NGT) requesting the implementation of the recommendations made by the WGEEP. In between, the government appointed another commission, the Western Ghats High-Level Working Group (WGHLWG), headed by Dr Kasturi Rangan.

♦ *Government rejected Gadgil report recommendations*

♦ *Government backed WGHLWG recommendations*

♦ *SWGM continued support for Gadgil proposals*

After 2.5 years, the union government expressed its intention to implement the recommendations of the WGHLWG before the NGT. The SWGM continued propagation in favour of WGEEP. An ad-hoc committee was formed in the 7th conference, held in 2018, to pursue the state governments to expedite the implementation of recommendations WGHLWG and to mobilise the people of Western Ghats. Finally, the union government issued a notification for a Sensitive Ecological Zone as per the recommendation of WGHLWG. The SWGM was a landmark event in the environmental history of India, on par with other critical movements like the Chipko movement and the Narmada Bachao Andolan.

4.3.3.3 Committees for Western Ghats

Western Ghats Ecology Expert Panel (WGEEP), or the Gadgil Committee, was constituted in 2011. It is recommended that all Western Ghats be declared an Ecologically Sensitive Area (ESA) with only limited development allowed in graded zones. The WGEEP emphasised that it is the people at the grassroots level who have the knowledge and are tied to the environment who should have the motivation to safeguard the region. The report proposed categorizing 64% of the western Ghats, spanning six states, into Ecologically Sensitive Zones as ESZ 1, ESZ 2 and ESZ 3. It was also recommended that the entire region be designated as an Ecologically Sensitive Area (ESA). In ESZ 1, all developmental activities, such as mining, dams, and thermal power plants, were to be halted. Decommissioning of similar projects that have completed their shelf life in ESZ 1 was also recommended. It advised against granting environmental clearance to the Athirapppally and Gundia hydel projects as they fell within ESZ 1. Mining in ESZ 1 was to be phased out by 2016, while existing mining in ESZ 2 was to continue under strict regulations with an effective social audit system. The other recommendations include banning GM crops, prohibiting plastic bags, banning single commercial crops, etc. The recommendations of the Gadgil panel faced resistance from stakeholder states who were concerned about the potential hindrances to development and loss of livelihood.

♦ *Strict regulations on mining, dams, and projects*

WGHLWG

♦ *Balanced development and environmental protection*

The Kasturirangan Committee, officially known as the Western Ghats High-Level Working Group (WGHLWG), sought to balance development and environmental protection in contrast to the system proposed by the Gadgil report. The Kasturirangan panel formulated a report recommending that only 37% of the total area of the Western Ghats should be brought under ESA. It introduced

red, orange, and green categories to regulate different activities in the Western Ghats. The red list includes a complete ban on activities like mining, quarrying, and thermal plants, while the green category allows agricultural and horticultural activities

♦ *ESA notification delayed since 2011*

♦ *States oppose ESA due to development concerns*

There are procedural delays in the Western Ghats ESA Declaration. The Centre has kept the notification of Western Ghats ESA pending since 2011. While the government intends to prohibit or restrict industrial and developmental activities in the ESA region, the Western Ghats states oppose it. Arguments exist that demarcating an ecologically sensitive area is inherently against people and their developmental aspirations. The states must recognise that the climate crisis is a reality. Instead of delaying the decision-making process, devise more decisive climate-proofing actions to save the valuable Western Ghats.

♦ *Conserving Western Ghats critical for future*

Considering climate change, which would affect the livelihood of people and hurt the nation's economy, it is prudent to conserve the fragile ecosystem. This will cost less compared to the situation prone to calamities than spending money/resources for restoration and rehabilitation. Thus, any further delay in the implementation will only accentuate the degrading of the country's most prized natural resource.

4.3.4 Niyamgiri movement

♦ *Home to Dongoria and Kutia tribes*

♦ *Bauxite mining project sparked resistance*

Niyamgiri is a hilly region in the Western Ghats of Odisha inhabited by two major Particularly Vulnerable Tribal Groups (PVTG) – Dongoria Kondhs and Kutia Kondh. These tribal communities had a symbiotic relationship with nature and considered the hills the abode of their god, Niyam Raja. These people usually follow the traditional rules (Niyam) concerning using natural resources. The felling of trees in the Niyamgiri hills is forbidden among the tribals. However, being a bauxite reserve of 88 million tonnes, this hilly region became a centre of attraction for industrial capitalists in India. In 2003, the Government of Odisha signed an MoU (Memorandum of Understanding) with Vedanta Resources, a UK-based mining company, to set up a joint venture (JV) alumina refinery and a bauxite mining plant in the Niyamgiri hills. The Niyamgiri movement was started as a grassroots people's movement against the environmental clearance given to this mining project.

Protests against Vedanta Resources started immediately after they acquired land to construct the aluminium refinery at the foot of the Niyamgiri hills. The members of the Niyamgiri Suraksha Samiti (Organisation to save Niyamgiri) blocked all the roads leading to this hill. They conducted mass marches and sit-in protests at

Bhubaneshwar. Meanwhile, the movement received backing from international organisations such as Amnesty International, Action Aid, and Survival International. The support of these transnational advocacy organisations attracted the attention of international media, which had a domino effect as several international investors sold their stocks in Vedanta Aluminum Limited. Finally, in 2010, the government constituted a team of experts, and they reckoned that this project would have a detrimental effect on the tribes. Subsequently, the Ministry of Environment and Forest (MoEF) stopped the project. The Niyamgiri judgement was the product of extraordinary efforts of legal mobilisation at the grassroots level against the powerful corporate forces. It is a textbook example of resistance against neo-colonialism, cultural discrimination, and environmental racism.

♦ *Gained international support*

♦ *MoEF stopped Vedanta's mining project*

4.3.4.1 The Legal Battle

Under the state government, the Orissa Mining Corporation Ltd. approached the top court to reconsider the mining ban, which led to a legal battle between the government and the tribals. In 2013, the apex court delivered the judgement in the historical case of Orissa Mining Corporation Ltd vs. Ministry of Environment and Forest. The court recognised the tribe's cultural, religious, and spiritual rights over the Niyamgiri hills, and eventually, the judgement favoured the tribal people.

♦ *Supreme Court recognised tribal rights*

The court authorised the Grama Sabha to examine whether their rights were violated by the proposed project under Section 4(d) of the Panchayat Extension to Scheduled Areas (PESA) Act, 1996, and Section 6 of The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. Section 4(d) of the PESA Act stipulates that the Grama Sabha has to safeguard and preserve the customs and traditions of the scheduled tribes and other forest dwellers. Section 6 of the Recognition of Forest Rights Act empowers the Grama Sabha to process individual and community forest rights claims. The court also ordered to initiate a referendum asking for the consent of the concerned people for the proposed project. Thus, India's first 'green referendum' was held in these twelve Kondh villages. Ultimately, the result was an absolute 'No,' and the Ministry of Environment and Forests (MoEF) banned the mining project in 2014.

♦ *Referendum led to mining project ban*

4.3.4.2 Free, Prior and Informed Consent

The Niyamgiri case is the best example of the use of Free, Prior, and Informed Consent (FPIC) from Indigenous communities before commencing a project in their territory. The term 'Free' means that there should be no manipulation, coercion, or intimidation while

getting consent. Here, 'Prior' means the consent should be sought before the commencement of any project. Finally, 'Informed' means transparent sharing of all necessary information regarding the project. FPIC is recognised by the 'UN Declaration on the Rights of Indigenous Peoples' and 'The Indigenous and Tribal Peoples Convention.' The judgement does not explicitly mention FPIC norms, as India is not a signatory to either of these conventions. However, this was an apparent deflection from the norm of mere consultation in decision-making. This approach was pivotal in restoring the power balance in resource-related conflict resolutions. The Niyamgiri case triggered an international debate on whether FPIC rights should entail a right to veto a project. There have been several FPIC cases worldwide, but the Niyamgiri case remains the sole example from the entire Asian region.

♦ *Niyamgiri case set FPIC precedent*

♦ *Restored power balance in conflict resolution*

Even though the Niyamgiri movement was a success, the tribal people faced various kinds of oppression and threats from the state-industry nexus, which eventually threatened the peaceful social fabric of the region. The government of Odisha continues to harass the Niyamgiri activists by falsely charging them with crimes. In 2017, the Home Ministry published a report in which the Niyamgiri Suraksha Samiti (Organisation to Save Niyamgiri) was labelled a Maoist organisation. It has become evident that the Odisha government is persistent in its unilateral development model without consulting the affected communities. The heavy-handed nature of the state in dealing with the social movements is destroying the space for prefigurative politics. The tribal communities in these areas are financially manipulated by the industrial capitalists, which leads to cultural genocide and exploitation. The current industrialisation process is similar to that of the colonial developmental attitude. The blind pursuit to increase India's growth rate sidelines the negative impact on the lives of the indigenous people.

♦ *Tribal activists face state oppression*

♦ *Colonial-like development threatens Indigenous rights*

Summarised Overview

The Silent Valley Movement began in the 1970s in Kerala as a grassroots effort to protect the biodiversity of the Silent Valley rainforest from a proposed hydroelectric project. Activists, including local villagers and scientists, raised concerns about the potential ecological damage, which led to widespread protests and ultimately the abandonment of the project in 1985. This victory marked a significant milestone in environmental activism in India. In the same era, the Chipko Movement emerged in Uttarakhand as a response to rampant deforestation due to commercial logging. Local villagers, particularly women, hugged trees to prevent them from being cut down, emphasising the deep connection between communities and their forests. The movement garnered

national attention and successfully halted logging in various regions, inspiring similar initiatives. Following this, the Appiko Movement arose in Karnataka in the 1980s, where locals protested against logging in the Western Ghats. They advocated for sustainable forest management, contributing to increased awareness of environmental issues and influencing forest conservation policies. The Niyamgiri Movement, gaining momentum in the early 2000s, focused on protecting the sacred Niyamgiri hills in Odisha from bauxite mining by Vedanta Resources. The Dongoria Kondhs and Kutia Kondhs tribes mobilised against the project, leading to a historic Supreme Court ruling in 2013 that upheld their right to reject mining. Collectively, these movements have shaped India's environmental protection landscape, highlighting the crucial role of local communities in conserving natural resources.

Assignments

1. Discuss the constructive approaches initiated as part of the Appiko and Chipko movements.
2. Examine the current threats faced by the Western Ghats and assess the important recommendations made by expert committees.
3. Discuss the significance of the Niyamgiri Movement on environmental history in India.

Suggested Reading

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

SREENARAYANAGURU OPEN UNIVERSITY

THIRD SEMESTER - MA HISTROY EXAMINATION

MODEL QUESTION PAPER SETS

DISCIPLINE SPECIFIC ELECTIVE -01-M21HS01DE

SREENARAYANAGURU OPEN UNIVERSITY

QP CODE: ……

Reg. No : .....

Name : ……..

THIRD SEMESTER - MA HISTORY EXAMINATION

DISCIPLINE SPECIFIC ELECTIVE COURSE - 01- M21HS01DE - ENVIRONMENTAL HISTORY OF INDIA

(CBCS - PG)

MODEL QUESTION PAPER- SET- A

2022-23 - Admission Onwards

Time: 3 Hours **Max Marks: 70**

SECTION A - Objective Type Questions

Answer any ten of the following. Each question carries one mark

(10X1 = 10 Marks)

1. Which theory connects imperialism with environmental impact?
2. In which decade did the phrase "Environmental History" originate?
3. Who was a key figure from India in debates on Indian environmental history?
4. Which perspective critiques both capitalism and environmental exploitation?
5. Which approach in environmental history relates to gender and environmental issues?
6. What perspective in environmental history deals with the effects of colonialism on natural resources?
7. Which city hosted the first World Congress in Environmental History?
8. What were the key features of pre-colonial environmental practices in India?
9. What was the primary purpose of 'Shikargah'?
10. Who emphasised the importance of considering long-term environmental changes in India?
11. Which river system in northern India was known for frequently changing its course due to silt deposition?

12. Which tribal group in India has historically been involved in forest conservation?
13. Which movement is associated with protecting trees by hugging them in India?
14. Who was the key leader of the Narmada Bachao Andolan?
15. Which colonial policy had the most significant impact on Indian forests?

SECTION B - Very Short Questions

Answer any five questions in two or three sentences each. Each question carries two marks.

(5X2 =10 Marks)

16. 'Alfred Crosby
17. Anthropocene
18. Environmental Determinism
19. Presentism
20. Qamargah
21. Vanjati
22. Drain of Wealth Theory
23. Environmentalism of the Poor
24. Criminal Tribes Acts
25. Forest Act of 1878

SECTION C - Short Answer Questions

Answer any five questions in a paragraph. Each question carries four marks.

(5X4 = 20 Marks)

26. What is the significance of environmental history in understanding human-environment interactions?
27. What does the Guha-Grove Debate reveal about colonial environmental policies?
28. How did religion and ideology influence environmental practices in ancient India?
29. In what ways did the works of D.D. Kosambi influence the study of environmental history in India?
30. Evaluate the plantation economy's impact on the environment and social structure in colonial India.
31. What impact did colonialism have on animal husbandry in India?
32. What was the objective of the Silent Valley Movement?
33. What environmental and social concerns led to the conflict over Tehri Dam?

SECTION D - Long Answer/Essay Questions

Answer any three questions in two pages. Each question carries ten marks.

(3X10 =30 Marks)

34. Evaluate the impact of colonialism on the environment, focusing on the dual narratives of exploitation and conservation.
35. Trace the origins and development of environmentalism in India, from the colonial period to the Gandhian approach, highlighting key changes in environmental thought and practice.
36. Analyse the consequences of the Colonial Forest Acts on forest dwellers and the Indian environment.
37. Examine the role of colonial policies in the degradation of land and the occurrence of famines in India.
38. Evaluate the role of the Niyamgiri Movement in the context of tribal rights and environmental conservation.
39. Evaluate the role of leadership and mobilisation in the Narmada Bachao Andolan.

SREENARAYANAGURU OPEN UNIVERSITY

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THIRD SEMESTER - MA HISTORY EXAMINATION

DISCIPLINE SPECIFIC ELECTIVE COURSE - 01- M21HS01DE -

ENVIRONMENTAL HISTORY OF INDIA

(CBCS - PG)

MODEL QUESTION PAPER- SET- B

2022-23 - Admission Onwards

Time: 3 Hours **Max Marks: 70**

SECTION A - Objective Type Questions

Answer any ten questions in a word or sentence. Each question carries one mark.

(10X1 = 10 Marks)

1. Which perspective links environmental degradation to social justice?
2. Which river system in northern India frequently altered its course due to silt deposition?
3. According to David Arnold and Ramachandra Guha, which aspect of South Asian cities significantly impacted the ecosystem?
4. The concept of "ecological imperialism" is most closely associated with which historian?
5. Which disease devastated cattle populations during the British colonial period in India?
6. The British colonial emphasis on cash crops over food crops led to what major consequence?
7. Which disease was particularly spread due to the expansion of railways in colonial India?
8. According to Marxist historians, what was the role of Scientific Forestry in colonial India?

9. Which famine in Colonial India caused the death of about 10 million people in 1770?
10. Which colonial policy had the most significant impact on Indian forests?
11. Who was the prominent leader associated with the Chipko Movement?
12. The Narmada Bachao Andolan (NBA) is primarily concerned with the construction of which dam?
13. Which movement took place in the Western Ghats region to protect the ecological balance of the area?
14. Which committee recommended declaring the Western Ghats as an Ecologically Sensitive Area (ESA)?
15. Which movement is considered the best example of using Free, Prior, and Informed Consent (FPIC) in Indigenous communities?

SECTION B - Very Short Questions

Answer any five questions in two or three sentences each. Each question carries two marks.

(5X2 =10 Marks)

16. Political Economy Theory
17. Environment Determinism
18. Plantation Economy
19. Imperial Forest Research Institute
20. Scientific Forestry
21. The Epidemic Diseases Act of 1897
22. Jungle Bachao Andolan
23. The Kasturirangan Committee
24. Narmada River Valley Development Project
25. Sunderlal Bahuguna

SECTION C - Short Answer Questions

Answer any five questions in a paragraph. Each question carries four marks.

(5X4 = 20 Marks)

26. Define environmental history and explain its interdisciplinary nature.
27. How did postcolonial thinkers approach the subject of environmental history in India?

28. What were the five types of 'Tinai' described in ancient South Indian literature?
29. Discuss the ecological transformations in pre-colonial India as highlighted by Irfan Habib.
30. Discuss the economic motivations behind the British exploitation of India's forests.
31. How did the introduction of the railway system in India contribute to environmental degradation?
32. How did the Silent Valley Movement contribute to the protection of forests in Kerala?
33. Explain the significance of the Chipko Movement in environmental conservation.

SECTION D - Long Answer/Essay Questions

Answer any three questions in two pages. Each question carries ten marks.

(3X10 =30 Marks)

34. Discuss the interdisciplinary nature of environmental history and its connection with other academic disciplines.
35. Evaluate the key debates in Indian environmental history, with an emphasis on the Guha-Grove debate.
36. Discuss the long-term environmental changes in South Asia before the colonial period.
37. Discuss the economic significance of forests in Medieval India.
38. Analyse the role of British colonial policies in the occurrence and severity of famines in India during the 18th and 19th centuries.
39. Evaluate the role of indigenous communities and local leadership in the Bishnoi-Movement, the Tehri Dam Conflict, and the Niyamgiri Movement. How did these movements challenge development policies in India?

സർവ്വകലാശാലാഗീതം

വിദ്യയാൽ സ്വതന്ത്രരാകണം
വിശ്വപൗരരായി മാറണം
ഗ്രഹപ്രസാദമായ് വിളങ്ങണം
ഗുരുപ്രകാശമേ നയിക്കണേ

കൂരിരുട്ടിൽ നിന്നു ഞങ്ങളെ
സൂര്യവീഥിയിൽ തെളിക്കണം
സ്നേഹദീപ്തിയായ് വിളങ്ങണം
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ENVIRONMENTAL HISTORY OF INDIA

COURSE CODE: M21HS01DE

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