

# Anthropocene And Climate Change In The Appalachian Landscape: A Study On Barbara Kingsolver Select Novels

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## ARTICLE INFO

## ABSTRACT

In recent decade Appalachian region is represent as a place which prone to ecological vulnerability like climate changes and consequent climate calamities. The region is rich in cultural heritage, biodiversity, but today it is facing ecological devastation due to anthropocentric activities. Deforestation, Mountain top soil removing and mining consider as the major threat to the Appalachian biodiversity. This paper examines the reasons behind the cause of ecological collapse and its impact on climate calamities with the context of select novels of Barbara Kingsolver. As a native of America, Kingsolver deeply connected with the roots of Southern Appalachia and her narratives richly textured the environment of the region.

**Keywords:** Appalachia, Anthropocene, Deforestation, Mining, Climate change, Resistance.

## Introduction

The Appalachian region is a home for many old mountains and it is renowned for its dense forest, wide mountain ranges and its rich biodiversity. This region is nestled in eastern United States and stretches across thirteen states from Southern New York to Northern Mississippi. Appalachia mountain ranges plays vital role in the development of entire continent and its abundance of natural resources leads to its deterioration due to human greed. In the name of economic development the natural resources get plunder and looted for many long years and it further make way for the total destruction of the environment and later devastation. Barbara Kingsolver, who was grown up in the Appalachia region and she witness the cruelty behind the eco destruction. Her novels explicit how deforestation, top soil removing and species extinction gradually leads to global climate issues and biodiversity loss. The novel chosen for this study is *Prodigal Summer* (2000) and *Flight Behaviour* (2012) where Kingsolver expose the cause of climate collapse and also resist the anthropogenic attitudes towards environment. Through her writings she makes a clarion call of awareness among the readers and the need to conserve the natural resources for a sustain life. This paper analyse how anthropocentric activities in the Appalachia landscape ends in great devastation like flood, biodiversity loss and other climate changes with the reference of Kingsolver's novels, and also suggest ways to enhance the sustainability.

## Anthropocene and Appalachia Landscape

The term Anthropocene is used to describe the time or to mark the evidence of impacts that human caused on the planet globally. Human beings consider them as the most influential single species on the planet and they harm the earth in all ways they can. "The Anthropocene Epoch is an unofficial unit of geologic time, used to describe the most recent period in Earth's history when human activity started to have a significant impact on the planet's climate and ecosystem" (*National Geographic*). It highlights the human induced pollution, deforestation, biodiversity loss, exploitation of natural resources and industrial activities that leads to global climate change. Anthropocentric activities in the Sothern Appalachia ends in endless climate catastrophes like forest fire, torrential rainfall, flood, landslides and species extinction.

Appalachian region is biologically diverse mountain system and today number of mountains gets eroded by top soil removing and mining. Southern Appalachia is defined as a "distinct biophysical and cultural region" of the United States. The temperate rain forest in the region act as major water source for the southeast United States and it has many tributary streams and rivers. (Gragson et al,) But the geographical landscape and environment

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took great shift due to the unethical intrusion of human beings over past several decades. In the name of tourism, development, resource extraction, migration and colonization the land is gradually destroying.

Mountain top soil removing by coal mining companies contributes large part of the environment degradation. It involves blasting off the top surface of the mountains to extract the coal which result in toxic contamination of land and water resources and also leads to deforestation. The large mass forest area acts as carbon sequester but it greatly affected the destruction of trees and other species in the forest area. The rubble and effluents from the mining process dump into the nearby villages and living area of the people and it cause great threat to the region's plants, animals and people. In the words of Charles H. Haden, "Under a valley fill, the water quantity of the stream becomes zero. Because there is no stream, there is no water quality" (qtd in *Appalachian Voices*). Mining tends in altering the landscape and it affects local hydrology, reduces the solidity of steep valley and increased susceptibility to flooding. The Environmental Protection Agency (EPA) has provided guidance to control the mining and maintaining the water quality of the region. In the year 2011, EPA has scrutinized the number of mining companies and issued many regulations to follow.

Similarly deforestation in the Appalachian region results in drastic climate changes, migration of living beings and habitat loss. Clearing off the trees for construction and logging acts as major cause of deforestation and it results in landslides, flooding and extreme hot. Studies have suggested that rampant deforestation in the Appalachian mountain regions could transform the net carbon to a net carbon source. According to the US Forest Service, "the total amount of forest cover is expected to decrease across from 2010 to 2026 due to urbanisation-driven changes in land use...total forest losses across the US South are expected to range from 11 million to 23 million acres" (*Eco Foresters*). In the early 20<sup>th</sup> century, clearing off forest for agricultural purpose was the major driven force of deforestation. By clearing forest, companies easily access the resources with cost effective and cautiously doing so. Coal mining companies serve as the most significant reason behind the destructive deforestation, as it not only clear off the forest area but also it alter the ecosystem, migrates many living beings and also degrade the land and water resources. The egocentric attitudes of man towards nature bring unimagined impacts on the planet and it directly affects the society.

### **Appalachia Landscape in Kingsolver Novels**

Barbara Kingsolver brings out the deep understanding of her native land of Appalachia and its exploitation through certain unnatural activities in her novels. Her novels, especially *Prodigal Summer* and *Flight Behaviour* sets in the backdrop of in and around areas of Appalachia and her characters exposes the awareness of ecological destruction and the need of ecological responsibilities. Kingsolver portrays the Appalachian landscape as symbol of both the place of ecological vulnerability and resilience.

In *Prodigal Summer*, Kingsolver penned the intimate portrayal of the Southern Appalachia and its ecosystem, her characters deeply connected with nature in different ways. In this novel she focuses on each living species if the Appalachian mountain ranges. Kingsolver here insist that human being life is interconnected with nature and it is necessary to protect from the predators to the tiny bees in the ecosystem. Impacts of hunting, using chemical pesticides, unethical agricultural practices are highlighted through her characters. Through the narrative perspectives of Deanna, a wildlife biologist and ranger in the Zebulon forest; Lusa, a young widow woman living in the midst of a family and farming and Garnett, an old man who was fond of restoring the American chestnut tree. Along with them Nannie Rowley, an elderly old woman practicing organic farming and emerge as strong woman who create awareness of chemical pesticides.

Species extinction is the major issue represent in this novel, due to deforestation and mining in the Appalachia mountain ranges. Elimination of a single species from the biodiversity brings great fluctuations in the food web and later it results in global warming too. Wallis rightly state in his article as, "In principle, natural balance and human needs are complementary, in the sense that if the human species violates natural balance-that is, violates ecological criteria of sustainability it will only be undermining the conditions of its wellbeing" (Towards Ecological Socialism). Deanna took concern in protecting the Coyotes from the native hunters and makes them to understand the necessity of predators in the biodiversity. Where, Lusa emphasis the organic farming practices to maintain the fertility of the soil. The egocentric family members used to cultivate cash crops like tobacco to earn more and turn the land into futile. Similarly the characters Garnett and Nannie portrayed as opposite poles on organic crops cultivation, where Garnett use chemical pesticides to protect his chestnut from blight attack and on other side Nannie who takes care on tiny insects which gets affected by the chemical pesticides. Here Kingsolver describes the each nuances of the Appalachian region and elevate the need of eco conservation among the readers.

In the novel *Flight Behaviour*, Kingsolver pictured the rural Tennessee community of the Appalachia and explicit an unprecedented natural phenomenon. Due the impact of anthropocentric activities they witness a monarch butterflies migrates from Mexico to combat the vulnerable climate change. Kingsolver makes the butterflies as a metaphor for the unstable environmental conditions led by the consequence of human beings attitude. The novel centres on Dellarobia Turnbow, woman who first witness the arrival of the monarch butterflies and later one who raise voice against logging and deforestation. Due to the felling of large number of trees in the mountain areas, the soil in the valleys lost its rigidity and it cause landslides and flood. Here Kingsolver encounters a family who were migrated from Mexico, whom lost their belongings and land due to the downpour and consequent landslides. This makes Dellarobia to be aware of the monarch butterflies and

the upcoming climate changes. Kingsolver, through the butterflies awake the readers from being unconscious about the harmful things towards the environment and portrays the ongoing things in the Appalachia region.

### Impacts of Anthropocene in Appalachia

The gradual deterioration of environment in the Appalachia exacerbates the impacts of climate change. For the last two decades the region experience increased temperature, often forest fire, heavy rainfall, flood, hurricane and other health impacts. As a consequence of deforestation, the emission of carbon dioxide gets increase and decline the capacity to sequester the carbon emission. This leads to further climate changes and calamities in the particular region.

The recent 2022 and 2025 flood sweeps away most part of the Appalachian region. Especially, Kentucky prone to excess flooding because, the mountain mining in that region loosen the soli rigidity that cannot retain the large amount of rain and storms induced by climate change. The Hurricane Helene of 2024 caused catastrophic flood in the lower Appalachian town and altering much the landscape. People of Appalachia witness the consequences of the nature exploitation and they are remaining helpless. It is noted that, "Appalachia has been at the root of exploitation for well over a century and is now at the nexus of the climate crisis..., Appalachia and the Appalachian people have been exploited for their natural resources and physical labour for generations... From coal mining to fracking for natural gas, the physical impacts on the people are growing and compounding". (Collins)

Not only climate catastrophes, but also people living near the area of mining face various health issues due to the contaminated toxic effluents in the water bodies. In that way people ought to displace from their own land for better survival. The anthropocentric attitudes destroy the harmonious life of wildlife creatures in the Appalachian region. Habitat loss, migration and death also cause due to the impact of certain climate catastrophes. In these ways the Appalachia losing its biodiversity and the people navigate under the verge of vulnerable environment.

### Conclusion

To sum up this study, it brings out some suggestion as finding to overcome the defects of anthropocentric activities. Each individual should conserve their environment in a better way they can. Rather than doing harm to the planet, nurture them for the well beings of future generations. Kingsolver's depiction of Appalachian landscapes reflects her concern for ecological consciousness. Through her characters, she emphasis the need of human beings interconnected with other living beings in the planet. Resistance and resilience is the motto of the eco conservation, one should resist the notorious actions towards environment. By adapting the strategies of climate change and resisting the ill doings, the land along with the people remain resilient for the survival in a sustained environment.

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