

## INTRODUCTION

Scientists and men of letters have varied opinions regarding the earth system and its functioning. Both of them earnestly address the grave realities and life-threatening transformations that occur in the entire universe. The traumatized and distressed world offers an experimental platform for them to interact and critically scrutinize the role of each organism in maintaining the conditions of the universe for the survival and flourishing of their lives. The imbalanced ecosystem and the rise of different life threatening diseases impend the life on earth. The organisms on earth, inclusive of the animate and inanimate, are on the verge of extinction and the situation demands an incessant attempt by human beings to defend the planet and its organisms.

Nature occupies a significant role in different literary works fashioned across the world. Ecocritical analysis of these literary works exposes the representation of nature and various natural occurrences in the field of literature. Various natural phenomena and disasters that are surging the entire planet are the subject of a lot of experiments and investigations in the scientific field. The present study attempts to integrate literature and science by incorporating the views of literary writers and scientists on the functioning of the earth and the reasons for its 'disequilibrium'. The study employs the scientific theory of Gaia and the literary theory of ecocriticism for examining the role of literature in educating the public on the inevitability of protecting the environment and its inhabitants to ensure the healthy existence of all organisms in the universe.

The term 'Gaia' originated from Greek mythology, denotes the earth goddess. Callicott et al. in *Encyclopedia of Environmental Ethics and Philosophy* cite the Greek myth of creation (or procreation) and state, all the natural forms, features, and different

natural forces such as mountains, seas, wind, etc are created from the union of Gaia, the earth goddess with a male sky god, Ouranos. Different psychological states such as love, hatred, etc. have derived from this union (xvi). Nature occupies a significant role in Greek culture and the Greeks consider nature divine. They forewarn any ruthless activities against nature from the parts of human beings. The Greeks consider nature as a territory of divine interaction, and they caution any irreverence toward nature as a punishable offence. They infer that negative interaction by human beings will arouse the wrath of God or goddesses and it will eventually lead to the doom of humanity.

The myth demands an ethical and moral concern from the world population towards the universe in formulating plans for their prospects. The myth expects higher responsibility from the part of human beings as they inhabit on earth, which is alive and divine. The actions and plans that human beings devise affect the existence of all organisms on earth and finally contribute to the mass extinction of all species. It demands acceptable behaviour by human beings toward the divine nature.

Gaia theory assumes the earth as a single organism where everything functions in constant relation to the other. James Lovelock formulated the theory, and it is the famous English novelist, William Golding, who suggested the name Gaia to it (Lovelock 2). Lovelock considers the earth as a superorganism and defines Gaia as “The entire range of living matter on Earth, from whales to viruses, and from oaks to algae, could be regarded as constituting a single living entity, capable of manipulating the Earth’s atmosphere to suit its overall needs and endowed with faculties and powers far beyond those of its constituent parts” (9). The theory emphasizes the role of each organism in maintaining the earth’s environment suitable for the survival of the entire species on earth. Everyone

collaborates to form a complex whole that possesses a strength that is far beyond its parts and determines the destiny of its settlers.

In the 1960s, Lovelock gets a chance to be a part of a space mission by NASA for detecting life on Mars. Lovelock distinguishes earth from the other planets and identifies the flux that exists in the quantities of chemical substances in its atmosphere. He perceives the dominance of carbon dioxide in other planets, contributing to an atmosphere that provides the slightest possibilities for prospering life on them. Earth's atmosphere is regulated by fluctuations in different gaseous substances, including oxygen and nitrogen (Callicott 449). The disequilibrium that he observed prompted him to think of the idea and finally, Lovelock, along with a microbiologist, Lynn Margulis, concluded that different life systems that exist on earth play a significant role in maintaining the gaseous and chemical combinations on its surface.

In Gaia, they considered the earth a "super organism" which can regulate and coordinate the lives of its inhabitants to keep the condition on earth suitable for its existence. As the earth plays a substantial role in maintaining a regulatory system for all the organisms to survive, each of them must ensure the prosperity of the earth in all their ventures. Steven Yearley is of the same outlook and he claims "if the Earth can be described in this way, it might change our expectations of the globe's response to human meddling and alter our attitude to the planet; we might now see ourselves as having a moral obligation not just to humans and animals but to Gaia" (141). All the factors on the planet join with earth for regulating its climate, which is appropriate for life's sustenance. So everybody is indebted to one another. This very view of Gaia attempts to change the human perception of the non-human organisms and planet earth.

Gaia theory assigns higher responsibilities to its inhabitants to guarantee an amicable climate on earth that gives justice to the necessities of its dependents. James Lovelock uses the term “biota” collectively for all the organisms on earth (Tyrrel 3). The interference of “biota” determines the destiny of the earth and its residents. It confers the relevance of “biota” in generating a vigorous environment for the harmonious subsistence of all organisms on earth. The theory is concerned with a planetary regulation by all organisms to create an agreeable condition for promoting the prosperity of everyone on earth. Tyrrel expresses a similar conception of thought in *On Gaia: A Critical Investigation of the Relationship between Life and Earth* and states: “life has had a hand on the tiller of environmental control. And the intervention of life in the regulation of the planet has been such as to promote stability and keep conditions favourable for life” (3-4). Thus, the interactions of the biotic and abiotic elements control the planetary circumstances by interfering in all its occurrences.

Gaia underlines the role of each entity in retaining the balance of the unified ecosystem. It addresses different transformations and ecological processes rendered by distinct organisms in the course of their endurance. The theory asserts the inevitability of appraising various contributions started by the living organisms for planet maintenance and the exponents of the theory consider it as an inevitable process for them to comprehend the earth’s ecology. They accredit the importance of living on the planet and acknowledge the intervention of various living organisms’ involvement in several planet processes except for the physical process (Yearly 141). Entities in the oceans, including the sea algae, are essential in nurturing the temperature levels of the planet by neutralizing the carbon dioxide composition on the earth’s surface. Tiny organisms on the

soil play a decisive role in conserving the fertility of the soil and improving its productivity level. Therefore, the entities on earth, including the living and the non-living, contribute a substantial part in modifying the biological and chemical content of the planet.

Gaia theory renders higher emphasis on the relevance of each organism in preserving the balance of the entire ecosystem. Every organism in the universe carries an intrinsic value, irrespective of its instrumental or materialistic value. Anne Primavesi is of a similar opinion and in *Sacred Gaia*, she introduces each organism for its intrinsic worth as it plays a substantial role in completing the complex whole. Everything possesses certain qualities that distinguish it from others and therefore it is essential to ensure the survival of each of these creatures in the universe (126). There is a unique role for each organism to ensure the equilibrium of the planet. The essentiality of an organism gets better acceptance in the ecosystem only when it becomes extinct.

Human beings are not the lone inhabitants of this earth and Gaia prescribes certain rules for the smooth operation of the planet earth, where the interests of the human beings are least consulted. J. Baird Callicott and Robert Frodeman illustrate the same fact in *Encyclopedia of Environmental Ethics and Philosophy*. They elaborate on the view of Gaia on recommending certain rules for the functioning of various systems on the earth. Gaia asserts earth is a living organism that has the power to regulate itself and its functions based on certain principles that consider the welfare of each organism in the ecosystem to maintain its equilibrium (351). The prime focus of the Gaia system is on the flora and fauna of the universe, and there is not any special emphasis on the interests of human beings.

Gaia attributes higher significance to each natural phenomenon that happens in the ecosystem. Diverse activities on the planet earth control and restructure the earth's composition through its uninterrupted interaction. Lovelock in his *The Vanishing Face of Gaia* offers a sequence of illustrations to demonstrate the position of each creature in sustaining the basic temperature of the environment. The rocks are involved in weathering to retain a balance in the biosphere's temperature. The plants absorb carbon dioxide that is expelled by other organisms and the rocks absorb the excess carbon dioxide to ensure equilibrium in the temperature, certifying the vigorous settling of each organism. The sea algae also plays a striking role in the transformation of carbon dioxide in the atmosphere. Different organisms in the ocean convert the carbon dioxide received from the plants and humans to calcium bicarbonate and into calcium carbonate and form sediments on the ocean floor (166). Thus, the geosphere and the biosphere join hand in hand to safeguard the macrocosm.

Science expects recognition of various scientific facts even if it is not appealing to human senses. It demands the observer to consent to the scientific truth behind diverse universal occurrences, even though it is nonrepresentational to the human eyes. Thus, the exponents of the theory enhance Gaia's presence in everything irrespective of its visibility to the observers' eyes. In *The Vanishing Face of Gaia*, Lovelock compares Gaia in the universe to the scientific observation of substances that comprise atoms. This observation demands to accept of the abstract idea of atoms as they are not visible to the naked human eyes. There is Gaia's presence in everything on the planet and the quality of the experience of its presence entirely depends on the perception of the individual

(Lovelock 187). Hence, the personal consciousness of the observers governs the discovery of Gaia.

Illusion and reality are discrete entities that occupy a distinctive position in the Gaia theory. Hereditary and personal experiences that one derives from his social circle oversee these concepts. James Lovelock differentiates between reality and illusion and asserts that fact is purely based on our perception. In Gaia, instinct and intuition are two things that influence our perception. It stresses the importance of the prenatal period to generate a mind's model of earth based on the instructions got from the genes and the experiences derived from the senses. So, it defines instinct as the operating system of our mind that is transferred to us genetically (Lovelock 189). Instinctual fear experienced by most human beings while standing at the top of a steep area and also by the instinctual ability of birds to build nests with no training illustrates the fact. Gaia acclaims the ability of the human mind to form a perception of the information he draws from the surroundings. Lovelock defines perception as "a mind-made software that acts as a surrogate for instinct and allows rapid and unconscious action" (Lovelock 189). Intuition is personal and cannot be gained through genes. Intuition plays an inevitable role in empowering the mental models of an individual.

Gaia affirms that by analyzing the resemblances and dissimilarities between the predictions made by the mind's model and from the visual experience of the eye, one gains a chance of instantly recognize life. Gaia considers movement as one factor that proves the existence of life. Along with movement, shape also plays an imperative role in detecting the manifestation of life. The inanimate objects in nature, such as the stones, soil, and vegetation, remain stagnant despite their movement with the power of the wind.

They cannot move on their own. In nature, insects, birds, and other animals express their sense of life with their movement. The shape of these animate objects gets instantly matched with our mind's model and the life assigned to them. Plants differ from rocks and soil in that they have regular repeating patterns of leaves and stalks. The flowing river shows life with its movement (Tyrrell 190-91). Gaia considers movement as one feature of a complex whole that possesses the throb of life within.

The proponents of Gaia theory infer earth is a living organism, and it possesses its existence like any other organisms that inhabit it. Michael Ruse, in his preface to the book *The Gaia Hypothesis: Science on a Pagan Planet*, argues earth is a "pagan planet". He states that as the earth possesses life, it has value and reserves the right to get fulfilled its own needs (x). He mentions the opposition by the Protestant Christians towards this idea. Christianity and all other pagan religions consider God as the supreme figure and everything else as derived from God. But Gaia theory is distinct, and it extends an inherent worth to planet earth and it finds earth as a superorganism.

Gaia theory incorporates all the aspects of earth to its area of concern. It examines the significance of each of its parts in perpetuating the life of this super organism. Timothy M. Lenton in the chapter entitled "Clarifying Gaia: With or Without Natural Selection" in *Scientists Debate Gaia: The Next Century* distinguishes Gaia from the "Earth system" and the "biosphere". The "earth system" is concerned with the states of earth before the origin of life and the biosphere is only concerned with the part of the earth where living organisms exist. Whereas, Gaia stands for a wider range as the living organisms influence even the region beyond its interaction Tyler Volk defines Gaia "as the system that includes all Earth's surface life, the soils, oceans (all surface water), and



atmosphere” (Schneider et al. 27). So, Gaia is a concept that has greater concern for both the living and non-living aspects of planet earth.

The same concern for nature and its organisms’ wellbeing is there in the theory of ecocriticism. The observation of nature has occupied a significant role in the life of human beings from time immemorial. But the dimensions and the motive behind it have undergone a drastic change with the changing perceptions and the mental outlook of various generations. Initially, the intention of the writers was more or less based on the aesthetic or romantic aspects of the environment where human beings inhabit, and gradually the emphasis got deviated from beauty to reality. But the trend left unexplored till the late 1960s and 1970s with environmentalism, which examined the link between a literary text and its physical environments such as the relationship between a particular culture and its natural scenario and the influence of various natural calamities on their writings. It was in 1978 that William Rueckert coined the term ecocriticism in his essay “Literature and Ecology: An Experiment in Ecocriticism”. Here, Rueckert takes an initiative for evaluating literary texts based on certain ecological principles. Ecology as a scientific discipline stands as the basis of human existence. Ecocriticism employs various scientific and ecological principles in the study of literature. But the term received more public acceptance in the 1990s through two important publications named *The Ecocriticism Reader* edited by Cheryll Glotfelty and Harold Fromm and *The Environmental Imagination* by Lawrence Buell. Ecocriticism as a concept has its beginning in America and, at present, it has a global outlook.

Ecocriticism investigates how different writers explore nature in their works and how the physical environment where they belong affects their literary creations.

Cheryll Glotfelty defines ecocriticism as “the study of the relationship between literature and the physical environment” (xviii). In ecocriticism, the interactions among human beings, between humans and the non-human and non-humans, and the physical environment are evaluated critically. The theory tries to stress various realms of relationships, such as interdependence between different creatures, how the threat inflicted on one affects the other, and how conserving a reasonable balance in each entity helps in bringing a proper equilibrium into the entire ecosystem. The ecocritics uphold a scholarly approach to literary works and they scrutinize even literary works which seem to give little importance to nature and the non-human world and try to explore the hidden domain where these factors find their shelter. They try to stress the importance of maintaining a balance in the ecosystem for the healthy functioning of everything in the universe.

The progress of humanity in the field of science and technology is tremendous. Most of the time, human beings are under the pretext that they have the universe under their control. Despite this incredible progress in the field of science and technology, they have to depend upon nature to sustain life. They desperately need fresh air to take a breath, pure water for drinking, and other natural resources to satisfy their needs. Thus, humanity is indebted to nature and its resources for their primary existence.

Ecocriticism aims to maintain an equilibrium in nature by safeguarding the needs and survival of all organisms. Both the living and the non-living components are interdependent and mutually benefitted, and it is pretty absurd for any creature to claim superiority over the other. The centre of the world keeps on changing depending upon each organism's needs and necessities. Kerry H. Whiteside in *Divided Natures: French*

*Contribution to Political Ecology* discusses the concept of a centred ecological theory. In a centred ecological theory, the centre stands as a fixed point and everything gets connected to it depending on the role of the centre bearer. Both human beings and nature interchange their role as the centre bearer. When humanity functions as the centre, nature performs its actions accommodating human welfare and when nature stands as the centre, human beings hold the obligation to support nature in the development of natural abilities (46). Human beings and nature inter-change the central position depending upon the context but ensuring the interests of both. So, ecocriticism considers the equality of both nature and human beings in maintaining the balance of the planet.

Ecocriticism places a higher significance on the inevitability of nurturing the biodiversity in the ecosystem as the organisms are so much interdependent and they join to sustain the balance of the ecosystem. It advocates the fact that the reduction in the number of one species may adversely affect the existence of all the other organisms in the ecosystem. Levin in *Fragile Dominion: Complexity and the Commons* argues ecocriticism offers a complementary approach to the appreciation of the diversity of nature by interpreting the interdependence between various organisms and their connection with the physical world. The interpretation reveals that biodiversity is an essential factor for keeping the equilibrium of nature, making it inhabitable for human beings and other organisms (4). The decline in the number of one organism may adversely affect the existence of the other and, finally, the aftermath gets echoed in the entire ecosystem. In ecocriticism, the boundary or border that demarcates the area where the blending of the landscapes, flora, and fauna of two ecosystems takes place is the “ecotone” (Allister 4). The ecotones contain a diversity of plants and animals and it

provides a better ground for the flourishing of lives. Hence, the ecocritics have greater concern for the enhancement of the “ecotones”.

The ecocritics opine the universe forms a complex organic whole where each part is indispensable. Fritjof Capra in his *The Web of Life* speaks of a certain tension that arose because of a shift in the world’s thinking population from “mechanistic” to the “ecological paradigm” in various scientific realms: “The basic tension is one between the parts and the whole. The emphasis on the parts has been called mechanistic, reductionist, or atomistic; the emphasis on the whole holistic, organismic, or ecological” (17). Capra uses the term “systemic” to denote the holistic ecological approach. The advocates of “systems thinking” consider “the living organisms as integrated wholes” (17). Capra states that the terms “substance” and “form” are interdependent and the full recognition of one depends on the examination of the other. The history of biology has prior significance in this context, where a kind of tension prevails between mechanism and holism. According to him, the ancient clash between “substance (matter, structure, quantity) and form (pattern, order, quality)” creates the tension. He argues that biological form is above the fixed structure of all constituents or shapes of an object. A living organism undergoes a continuous transformation of its substance, along with its altering form. It undergoes the process of evolution and development regularly. Thus, it is mandatory to analyze the metabolic and developmental processes in every organism to have a comprehensive understanding of the biological form (Capra 18). Such a proposition centres on the interdependence of parts to the whole and the development of each part leads to the corresponding changes in the whole.

The ecocritical dimension of part and whole is like the Aristotelian concepts of “matter” and “form”. Aristotle distinguishes “matter” from “form” and endeavours to associate both through a process of development. Aristotle states that matter and form are inseparable and that one cannot exist without the other. “Matter, according to Aristotle, contains the essential nature of all things, but only as potentiality. Through form this essence becomes real or actual” (Capra 18). Aristotle uses the term “entelechy” or “self completion” to denote a process that leads to “self realization”. He deliberates matter and form as the two sides of the same coin that supplements value to the process of full self-realization (Capra 18). In ecocriticism, the part empowers the whole to achieve its completeness, like the matter concentrates on accomplishing self-realization through the form.

The ecocritical theory proposes an inseparable connection between a land and its inhabitants. The geographical features of an area play an extensive role in formulating the attitude or nurturing the character of its occupants. The very idea can be associated with Gassett and Sanders’ quote “Tell me the landscape in which you live, and I will tell you who you are,” (Allister 3). Ecocriticism stresses the interdependence that exists between the “geography of land” and the “geography of spirit”. Mark Allister states that the spirit and land are so much interdependent and one cannot be separated from the other (3). The geographical region or nature where one belongs is an inexorable constituent while writing about oneself. The same dimension of thought is apparent in Donelle Dreese’s *Ecocriticism: Creating Self and Place in Environmental and American Indian Literatures*. Dreese deliberates the relationship between place and self and clarifies how the place helps to realize the self. He states, “we are all composite beings, not only

physically but intellectually, whose sole individual identifying feature is a particular form or structure changing constantly in time... Thus, knowing who we are and knowing where we are intimately linked. There are no limits to the possibilities of the study of who and where” (1). The identity of a person and the region where he lives are interconnected. The realization of the self depends on the appreciation of the specialities of this region. Thus, the environment plays an indispensable role in determining the physical, intellectual, emotional, and spiritual identity of a person. All organisms cultivate a unique sense of place that makes them understand their affinity towards a specific place and eccentricity towards the other. Hence, the organisms aspire to a particular place that has some acquaintances with their inner self.

The environment where one flourishes has the power to generate negative or positive experiences in their mind. The childhood environment of a person preoccupies the realm of his influence. Usually, a person who is born and brought up in an urban setting advances an affinity towards a place that occupies the features of urban life and they may feel at odd getting adjusted to the one that possesses rural physiognomies. Those who have spent their early days of childhood in an urban area may find the deafening and contaminated atmosphere in cities excruciating and unendurable. The childhood environment has the power to control the emotional variations of an individual. Dreese expresses the same opinion and articulates that if individual experiences disagreeable and unappealing circumstances in his childhood environment, the exposure to the same environment can create a negative response to him (2). So, the environment plays an imperative role in moulding the personality of an individual, empowering him to respond uniquely to diverse transformations in the environment.

The terms culture, nature, and human beings are synergetic with each other. The cultural practices of human beings are so much governed by the environment where he subsists and it affects the environment. Ecocriticism analyses the interconnections that exist between various elements of culture and nature, especially language and literature. Glotfelty states, “as a critical stance, it has one foot in literature and the other on land; as a theoretical discourse, it negotiates between the human and the nonhuman” (xix). Thus, ecocriticism analyses the interactions between the human and the non-human by considering the cultural and natural elements.

Ecocriticism endeavours to explore the human views represented in a literary or artistic work predominantly considering the natural factors and eventually analyzing the cultural parts of it: “the joys of abundance, sorrows of deprivation, hopes for harmonious existence, and fears of loss and disaster” (Cohen 10). It helps in delineating the position of entities in a culturally constructed world where the existence of one depends on the other. It makes the observer apprehend the shared system where everyone has enclosed for a common cause.

The ecocritics categorize the arrangement of various organisms in the universe, conferring a certain hierarchical division. The entire ecosystem contributes to a whole and all organisms are indispensable parts. There are parts in each organism that subsidize a larger whole and that whole is deliberated as the part of the entire universe. The organisms integrate their parts and generate a common network which Capra designates as “the web of life”. The functioning of each organism is based on certain rules. Capra illustrates the process: “cells combine to form tissues, tissues to form organs, and organs to form organisms. These, in turn, exist within social systems and ecosystems.

Throughout the living world, we find living systems nesting within other living systems” (28). So, each hierarchy in the system postulates a part as its base. The hierarchical arrangement of the organism demands the requirement of certain laws to operate at each level for the healthy existence of its constituent parts. The law depends on the requirements of various organisms at each level, as the complexity that exists at one level is entirely different from the other.

The proponents of “systems thinking” state that the analysis of its parts can not fully recognize a system. The specifications of a specific part can be fully interpreted by placing it in the whole’s context it contributes. Thus, the association between the individual part and the complex whole forms a reversible connection that is completely demarcated by the context. The part can be studied only by considering or relating to its whole. “Systems thinking concentrates not on basic building blocks, but basic principles of organization. Systems thinking is “contextual,”... means putting it into the context of a larger whole” (Capra 30). As a result, context plays an important role in deducing the role of the parts and the whole.

The terms conservation and preservation have considerable significance in ecocriticism. It demands an effective utilization of scarce resources. John Parham defines conservation as the “management of natural resources for human benefit based upon scientific understanding” (13). The fruitful management of the natural resources includes their distribution to the largest population, by considering its greatest good and longest duration. The deployment of natural resources is based on its reimbursement to the largest number of populations. It stresses the depletion of natural resources with the increasing population growth. I can relate it to the “Spaceship Earth” concept, which



emerged during the 1960s, where it examines the shortage of natural resources in the light of the substantial rise in the proportion of earth's inhabitants. The overexploitation of resources and pollution have left the earth in a perilous situation that demands a reduction in using natural resources and proceedings of contamination. Parham defines preservation "as a predominantly cultural ideal concerned, specifically, with preserving the existing environment" (13). Preservationists consider the adoration and protection of natural and wilderness environments. Hence, the terms preservation and conservation are mutually dependent and deserve greater concern in the jurisdiction of ecocriticism.

Ecology or environmentalism is more apprehensive about the threats inflicted by the human species to the entire universe. It censures the anthropocentric stance of the ecosystem and points to anthropocentrism as the sole reason for the wretched conditions on earth. It underlines distinct approaches to inspect the disparaging transformations devised by the human population. There is a discrete branch of ecology known as "scientific environmentalism", which evaluates the alterations conceded by human beings in the "physical, chemical and biological surroundings in which organisms live" (Parham 15). Thus, ecocriticism endorses a "biocentric" dimension of nature disapproving of the malicious human interaction.

Gaia and Ecocriticism share a lot of resemblances in their approach to the functioning of the ecosystem and the role of different organisms in it. The study endeavours to show diverse dimensions of Gaia theory by connecting it with different dominions of ecocriticism. It relates the original concepts of Gaia with major tenets of ecocriticism, such as deep ecology, ecospirituality, ecofeminism, climate change, and

other ecological disasters. It attempts to trace a common realm for both ecocriticism and the Gaia to operate. The study also uses the term “Gaia” in the sense of “mother earth”.

The study proposes to posit the prominent writers - Barbara Kingsolver, Margaret Atwood, and Carl Hiaasen in the field of ecocriticism by analyzing the select novels- *Flight Behaviour* (2012) by Barbara Kingsolver, *The Year of the Flood* (2009) by Margaret Atwood, and *Skinny Dip* (2004) by Carl Hiaasen from an ecocritical perspective. The major concern of the research is to assess the ecological apprehensions in the select novels. It investigates the approach of the select writers towards various environmental disasters and the role they attribute to nature in the transactions of day-to-day affairs. The central aim of the study is to evaluate different perspectives on “Gaia”, the mother earth by investigating various realms of ecospirituality, ecofeminism, climate change, and animal extinction in the ecocritical theory.

The relevance of the study lies in the present environmental scenario, where the anthropocentric attitude of selfish human beings has transmuted the earth from a highly industrious and peaceful existence to a disastrous and degenerated one. The investigation of the novels in the ecocritical domain strives to expose the critical coma situation that mother earth is passing through. The study proposes a platform for the intermingling of various interdisciplinary areas. The interpretation of the novels discloses a common ground for nature, religion, science, technology, spirituality, and gender to interact. Hence, the study offers a prospect of exploration of various interdisciplinary areas that determine the destiny of nature and play a central role in the conservation and destruction of the same.

The study is based on the hypothesis that the select novels depict elements of ecocriticism and its dimensions. The novels are ecocritical and it introduces various facets of environmentalism by bringing into consideration the current ecological crisis, gender difference and spiritual dimensions of nature. Nature occupies a principal position in different realms of human interactions that appear devoid of nature on the surface.

There are some resources available on *Flight Behaviour* by Barbara Kingsolver and *The Year of the Flood* by Margaret Atwood. No critical investigations are accessible on *Skinny Dip* by Carl Hiaasen despite some have attempted book reviews on it. No works incorporating the Gaia hypothesis and ecocriticism have met the eye so far.

Adam Trexler's *Anthropocene Fictions: The Novel in a Time of Climate Change*, puts forward an overview of Anthropocene fiction and deliberates various disputes such as "flooding, food shortages or violent weather" (9). He illustrates various instances from Margaret Atwood's *The Year of the Flood*, Winterson's *The Stone Gods*, Barbara Kingsolver's *Flight Behaviour*, Marcel Theroux's *Far North*, and James Howard Kunstler's *The World Made by Hand*.

Timothy Clark's *Ecocriticism on the Edge: The Anthropocene as a Threshold Concept* discourses the issues of climate change and global warming. He traces various ecological catastrophes as the repercussions of climate change. He exemplifies the issue by discussing the elements of Anthropocene from Barbara Kingsolver's *Flight Behaviour*, George Marshall's *The Earth Party: Love and Revolution at a Time of Climate Change*, Ian McKewan's *Solar*, and Liz Jensen's *The Rapture*.

Bron Taylor's *Dark Green Religion: Nature, Spirituality and Planetary Future* survey the green aspect of religion and spirituality. It explores various spiritual

performances concerning nature's sacredness and intrinsic worth. It addresses the role of religions in conveying concern for environmental protection and restoration. The work is a spiritual expedition through nature, its organisms, and their relations.

Bron Taylor's *Encyclopedia of Religion and Nature* discovers the interconnectedness between nature and philosophy. The work is an attempt to trace a spiritual dimension for natural interdependence and interaction. It warns the readers of various ecological cataclysms that can arise from the scarceness of spirituality.

Antonia Mehnert's *Climate Change Fictions: Representations of Global Warming in American Literature* evaluates the role of literature in educating the public on the grave realities of climate change. The work affords an overview of the impact of climate change by elucidating many instances from prominent American novelists.

The chapter entitled "Mediating Climate Change: Ecocriticism, Science Studies, and *The Hungry Tide*" by Adam Trexler in Greg Garrard's *The Oxford Handbook of Ecocriticism* confers the effects of climate change and science on literature. It alludes to the climate change disputes conferred in Margaret Atwood's *Oryx and Crake* and *The Year of the Flood*, Cormac McCarthy's *The Road*, McEwan's *Solar*, and Doris Lessing's *Mara and Dann*.

Eline D. Tabak in her paper- "Science in Fiction: A Brief Look at Communicating Climate Change through the Novel" analyses the role of novels in educating the public on climate change. The paper debates the influence of human-induced climate change by analyzing Susan M. Gaines's *Carbon Dreams*, Barbara Kingsolver's *Flight Behaviour*, and Michael Crichton's *State of Fear*. It explicates the role of accountable novelists in

debating the human intrusion on earth's climate and proposes substitute approaches to defend our planet.

The select novels render an ambience of linking nature with various other fields such as gender, religion, spirituality, science, technology, and economic progress. There are connections between the biographical background of the writers and their apprehensions over nature. Margaret Atwood is an environmental activist who has greater concern for protecting the environment. Being a journalist, Carl Hiaasen is so much aware of the risks and various forms of pollution and calamities experienced by the earth regularly. Barbara Kingsolver is a biologist who possesses an improved appreciation of various organisms and their surroundings and the factors that stand as a threat to their vigorous existence.

The novels selected for analysis are *Flight Behaviour* by Barbara Kingsolver, *Skinny Dip* by Carl Hiaasen, and *The Year of the Flood* by Margaret Atwood. A better comprehension of the novels is indispensable to experience a fruitful appreciation of the analysis. The following description offers a gist of the novels, biographical background, and literary background of the writers.

Barbara Kingsolver is raised in Kentucky, a place famous for rural pastures and woodlands. The landscape influenced her to a great extent to become a keen participant in nature and the impression of that observation is visible in her fictional works. From her childhood, Kingsolver preserved an intimate relationship with nature. She gained her graduation and post-graduation in Ecology and Evolutionary Biology. The learning of ecology and biology has an immense effect on her literary career and her connection with both human and non-human organisms on earth. Her first novel, *The Bean Trees*, was

published in 1988. Her short story collections *Homeland* (1989) and *Animal Dreams* (1990) followed their publication. Other notable works of Barbara Kingsolver include *Pigs in Heaven* (1993), *High Tide in Tucson* (1995), *The Poisonwood Bible* (1998), *Prodigal Summer* (2000), *Flight Behaviour* (2012), *Unsheltered* (2018), and *How to Fly* (2020).

Barbara Kingsolver's *Flight Behaviour*, published in 2012, depicts the life of the protagonist, Dellarobia Turnbow, whose impoverishment forces her to get married at an early age and be a victim of patriarchy. The novel pictures the events that take place in Dellarobia's life once she notices the monarch butterflies in the Appalachian Mountains. Dellarobia is a great observer of nature and is highly conscious of slight alterations in the environment. Other characters in the novel include Ovid Byron, a scientist, Cub, Dellarobia's husband, Hester, Dellarobia's mother-in-law, Bear Turnbow, Dellarobia's father-in-law, and Bobby Oggle, a priest. Animal extinction, global warming, and climate change are some of the key issues that the novel deals with.

Margaret Eleanor Atwood was born on 18<sup>th</sup> November 1939 in Ontario, Canada. She is famous as an environmentalist, feminist, poet, essayist, short story writer, and novelist. Her father was an entomologist, and she possessed an admiration for nature and other organisms from her childhood. Atwood's literary works deal with various themes, such as environmentalism, gender differences, ecofeminism, identity problems, animal rights, and various environmental disasters, such as climate change. She is the recipient of many literary awards, including the Booker Prize for her novel *The Testaments* in 2019. Notable works written by Margaret Atwood include *Surfacing* (1972),

*The Handmaid's Tale* (1985), *Cat's Eye* (1988), *Alias Grace* (1996), *The Blind Assassin* (2000) *Oryx and Crake* (2003), *The Year of the Flood* (2009) and *The Testaments* (2019).

Margaret Atwood's *The Year of the Flood* (2009) illustrates a post-apocalyptic world, where human beings are in a chaotic state regarding their existence. The entire population is stuck in a waterless flood and a mysterious disease has spread across the region. A corrupted authority named the CorpseCorps is ruling the world. The government follows the directions of profit loving corporates and corrupt scientists. The corporates are so busy destroying the natural landscapes in the name of development. They derive huge profits through the sale of endangered species by adding new names to the list of extinct species. Another corporate named the HelthWyzer plays a noteworthy role in spreading new diseases through the sale of vitamin supplements. The only intention of the corporates is to derive maximum profit disregarding the inner worth of nature and other fellow organisms by organizing various activities and following a life that is undeniably against nature. The female characters in the novel also suffer many oppressions in society, especially by the dominant members of patriarchy.

Carl Hiaasen is an American novelist and reporter and his works condemn the corrupted political scenario and the attempt of various corporates to rule the planet. His newspaper articles administer to bring justice to planet earth and its organisms. Hiaasen is renowned as a novelist and published his first and Newbery honour winning novel *Hoot* in 2002 and it was later developed into a feature film. Most of his novels are crime thrillers comprising the theme of ecological devastation and a ruined political system. His fictional works for children include *Flush, Scat; Chomp* and *Skink- No Surrender*. Hiaasen's most famous novels for adults include *Sick Puppy* (2000), *Paradise Screwed*

(2001), *Skinny Dip* (2004), *Dance of the Reptiles* (2014), *Assume the Worst* (2018), and *Squeeze Me* (2020).

Carl Hiaasen's *Skinny Dip* (2004) is set in Florida. The novel portrays the vengeance of the Protagonist, Joey Perrone, against her husband, Chaz Perrone, in his attempt to murder her. The progress of the plot discloses the large-scale annihilation done to the Florida Everglades by the avaricious corporates. Chaz is a covetous chemist working for a corporate named Mr. Hammernut. Chaz assists the corporate to accumulate huge profits from his farm by using pesticides with poisonous substances. The plan causes the disposal of high amounts of phosphorous in the Florida freshwater storage and which leads to the devastation of many organisms in the ambience. Joey Perrone, with Mick Stranahan, devises many plans to take revenge against Chaz for her justice and the justice of the environment. Finally, Joey restores the Florida Everglades.

The thesis attempts to place the select novels in the field of ecocriticism and transmit it to the scientific theory of Gaia. The ecocritical examination of the novels discloses the current ecological crisis and the role of human beings in it. Similarly, it stresses the importance of artistic creations and scientific thought in propagating the equilibrium of the ecosystem.

The thesis follows an inter-disciplinary approach by linking various realms of knowledge, such as literature, science, politics, gender, and economics, with nature and its varied inhabitants. The study sustains an ecocritical perspective throughout its course by questioning different ecological issues and the literary stance taken by the novelists in the select novels.



The study comprises five chapters. The first chapter, “Ecocriticism and Gaia: An Interaction,” deliberates the diverse elements of ecocriticism and attempts to connect it with the same constituent of thought in Gaia theory. The chapter embodies an outline of distinct dimensions of thought in ecocriticism, such as ecospirituality, ecofeminism, climate change, ecoterrorism, ecoeconomics, wilderness, and animal extinction. It engages to associate ecocriticism with Gaia theory in its treatment of these elements. The argument on different aspects of Gaia and ecocriticism gets involved in the interconnectedness that prevails between earth and its organisms. It depicts the position of both Gaia and ecocriticism in its engagement with matters of gender, spirituality, ecological crisis, economics, and the inanimate and animate objects in nature.

The second chapter, “Conspiring Nature as a Feminist Space,” addresses the ecofeminist aspect of select novels. It strives to investigate the subjugations and ascendancies experienced by both nature and female characters in the novel. It endeavours to sketch the different stages of development in the female characters and nature in the novels chosen for investigation. The chapter also scrutinizes the gender-based treatment of nature.

The third chapter, “Tracing Spirituality in Nature” endeavours to consider the select novels from an ecospiritual perception. The chapter deliberates a transcendent existence for nature and attempts to relate it with the Gaian concept of “earth as a super organism”. The chapter primarily explores the select novels in the background of spirituality and theology. The chapter contemplates the scientific background to replicate the intrinsic worth of nature. The Gaian concept of “living earth” is demonstrated here. It

renders to epitomize the spiritual existence of nature by portraying instances from the select novels.

The fourth chapter, “Unearthing the Anthropocene in the Select Fiction,” discourses the anthropocentric exploitations of nature from ecocritical and Gaian perspectives. It inspects the Gaian concept of “earth as a self-regulatory system.” Different human-induced destructions of nature and various ecological disasters such as climate change, animal extinction, and the destruction of the earth’s equilibrium are addressed here. Several examples from the novels displaying the repercussions of global warming, flood, disease, pollution, and climate change are drawn to highlight the human made annihilations of the ecosystem.

The final chapter concludes the major arguments made in the thesis by proposing the need for approaching nature from a multidisciplinary perspective to keep its equilibrium and maintain a suitable condition for the healthy existence of all organisms on earth.