

**THE IMPACT OF WATER POLLUTION IN BACIGALUPI'S  
*THE WATER KNIFE* : AN ECOCRITICAL ANALYSIS**

**THESIS**

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**FACULTY OF HUMANITIES**

**UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM MALANG**

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**THE IMPACT OF WATER POLLUTION IN BACIGALUPI'S  
*THE WATER KNIFE* : AN ECOCRITICAL ANALYSIS**

**THESIS**

Presented to  
Universitas Islam Negeri Maulana Malik Ibrahim Malang  
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2024**

## STATEMENT OF AUTHORSHIP

I state that the thesis entitled “**The Impact of Water Pollution in Bacigalupi’s *The Water Knife* : An Ecocritical Analysis**” is my original work. I do not include any materials previously written or published by another person, except those cited as references and written in bibliography. Hereby, if there is any objection or claim, I am the only person who is responsible for that.

Malang, 10 July 2024

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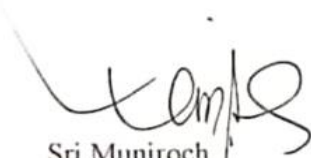
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## APPROVAL SHEET

This is to certify that Putri Ayu Lestari's thesis entitled **The Impact of Water Pollution in Bacigalupi's *The Water Knife* : An Ecocritical Analysis** has been approved for thesis examination at Faculty of Humanities, Universitas Islam Negeri Maulana Malik Ibrahim Malang, as one of the requirements for the degree of Sarjana Sastra (S.S).


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## **MOTTO**

**“What matters is not how big your dream are, but how much effort you put  
into realizing them.”**

(Andrea Hirata)

**“Be the change that you wish to see in the world.”**

(Josep Ranseth)

## **DEDICATION**

This thesis is proudly dedicated to:

My dearest parents,

My father, Mulyadi and my mother, Sri Indayani.

My dearest Sister,

Dewi Marlina. To all my family, uncles, aunts, grandfathers, grandmothers, and  
cousins, I am thankful for the endless love and prayers.

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All praises to Allah SWT. Who has given His mercies and blessings on the universe. who has guided and give the opportunity to the researcher finish this study. Sholawat and salam are given to the Prophet Muhammad SAW, who has brought us form the darkness into the lightness. Thanks to Allah for blessing and helping me in accomplishing this thesis entitled “The Impact of Water Pollution in Bacigalupi’s *The Water Knife: An Ecocritical Analysis*”. I realize that getting this thesis finished requires the advices, encouragement, and prayers of several parties. Therefore, I would like to express my gratitude to all of them on this particular occasion:

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Malang, 10 July 2024

The Researcher,

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## ABSTRACT

**Lestari, Putri Ayu (2024)** *The Impact of Water Pollution in Bacigalupi's The Water Knife: An Ecocritical Analysis*. Thesis. English Literature Study Program, Faculty of Humanities, Maulana Malik Ibrahim State Islamic University Malang. Advisor: Sri Muniroch.

**Keywords:** *Ecocriticism, Nature Destruction, Water Pollution,*

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This research aimed at finding out the description of water pollution in the novel *The Water Knife*. This research also attempted to understand in depth the impact of water pollution in human life portrayed in the novel. This research used the method of literary criticism, while the theory of criticism used in this study is ecocriticism. The data source of this research was taken from the novel *The Water Knife*. This study used Greg Garrad's (2014) theory that described the occurrence of water pollution. This study found that the description of water pollution as a result of a mixture of chemicals resulting from human activities that damage and destroy the environment, and also found impacts on human life such as human health and political economic, environmental and psychological impacts. This research was expected to provide an in-depth understanding the aspects of human-nature relationships expressed in the novel. Therefore, the researcher suggests that the further researcher can conduct similar research with different theories in the topic of apocalypse in the novel *The Water Knife*.

## ABSTRAK

**Lestari, Putri Ayu (2024)** *Dampak Pencemaran Air di Bacigalupi's The Water Knife : Sebuah Analysis Ekoritik*. Skripsi. Program Studi Sastra Inggris, Fakultas Humaniora, Universitas Islam Negeri Maulana Malik Ibrahim Malang. Pembimbing: Sri Muniroch.

**Keywords:** *Ekokritik, Kerusakan Alam, Polusi Air,*

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Penelitian ini bertujuan untuk mengetahui gambaran pencemaran air dalam novel *The Water Knife*. Penelitian ini juga berusaha memahami secara mendalam dampak pencemaran air dalam kehidupan manusia yang digambarkan dalam novel tersebut. Penelitian ini menggunakan metode kritik sastra, sedangkan teori kritik yang digunakan dalam penelitian ini adalah ekokritik. Sumber data penelitian ini diambil dari novel *The Water Knife*. Penelitian ini menggunakan teori Greg Garrad (2014) yang mendeskripsikan terjadinya pencemaran air. Penelitian ini menemukan bahwa gambaran pencemaran air sebagai akibat dari campuran bahan kimia yang dihasilkan dari kegiatan manusia yang merusak dan menghancurkan lingkungan, dan juga menemukan dampak bagi kehidupan manusia seperti kesehatan manusia dan dampak ekonomi, lingkungan dan psikologis. Penelitian ini diharapkan dapat memberikan pemahaman yang mendalam mengenai aspek-aspek hubungan manusia dan alam yang diekspresikan dalam novel tersebut. Oleh karena itu, peneliti menyarankan agar peneliti selanjutnya dapat melakukan penelitian serupa dengan teori yang berbeda dalam topik kiamat dalam novel *The Water Knife*.

## مستخلص البحث

لستاري، فوتري أيو (2024) تأثير تلوث المياه عند Bacigalupi's بعنوان *The Water Knife*: تحليل بيئي. البحث العلمي. قسم اللغة الإنجليزية وآدابها، كلية العلوم الإنسانية، جامعة مولانا مالك إبراهيم الإسلامية الحكومية مالانج. المشرفة: سري منيرة.

الكلمة الأساسية: البيئة، حدوث العالم، تلوث المياه،

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يهدف هذا البحث لوجود الوصف لتلوث المياه في كتاب *The Water Knife*. ويهدف هذا البحث إلى فهم عميق لتأثير تلوث المياه على حياة البشرية كما روته الكتاب. يستخدم هذا البحث منهج النقد الأدبي، و النظرية النقدية المستخدمة هي النقد البيئي. مصدر البيانات لهذا البحث مأخوذ من كتاب *The Water Knife*، والبيانات هي وصف لحدوث تلوث المياه وتأثيره على حياة البشرية كما روته الكتاب. استخدم هذا البحث النظرية عند Greg Garrad التي شرح عن حدوث تلوث المياه. ونتائج البحث يقول وصف تلوث المياه هي نتيجة من المواد الكيميائية عن الأنشطة البشرية التي يفسد البيئة، كما وجدت آثاراً على حياة البشرية مثل صحة الإنسان وتأثير الاجتماعية والاقتصادية والبيئة والنفسية. ومن خلال هذا البحث، ترجوا الباحثة على القراء من اكتساب الفهم العميق لأشكال علاقة البشرية والعالم التي عبرت في الكتاب. لذلك تقترح الباحثة على الباحثين المستمر من إجراء أبحاث مماثلة بنظريات مختلفة باستخدام موضوع نهاية العالم في كتاب *The Water Knife*.

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## CHAPTER I

### INTRODUCTION

This chapter consists of five sub-chapters including background of the study, problems of the study, objective of the study, scope and limitations, and definition of key terms.

#### **A. Background of the Study**

Natural destruction is still a topic often discussed in today's global world, because the impact of human actions on the natural environment has reached an alarming tipping point. According to Timothy Clark (2011), natural destruction is a phenomenon that threatens the sustainability of ecosystems triggered by human activities such as deforestation, pollution, and climate change. In the case of natural destruction, water pollution is also often mentioned especially in the context of the impact on human health and aquatic ecosystems. Therefore, water pollution is a serious problem in many countries, especially due to industrial waste, agricultural waste, domestic waste, and other human activities that pollute water sources. This case is found in the novel *The Water Knife* by Paolo Bacigalupi.

Literary works often provide important imagery that conveys details of the ecological predicament that humans face amidst calls for more sustainable behavior on a global level. This is reflected in literary works such as Paolo Bacigalupi's *The Water Knife*, a novel that dramatically depicts how human

actions contribute to environmental degradation. *The Water Knife* was published by Alfred A. Knopf on May 26, 2015. In this novel, nature destruction is intensely depicted as the impact of unsustainable human practices on the natural environment. Bacigalupi depicts a future world that has been plunged into a severe ecological crisis, especially in the United States which is suffering from extreme drought. The drought has caused rivers to dry up and metropolitan areas to degrade, while large corporations continue to greedily exploit natural resources. Through a compelling storyline and

Furthermore, understanding that literature influences cultural attitudes toward nature and expresses them is important in ecocriticism. It is defined as a critical approach to literature that examines the relationship between literary works and the natural environment. Timothy Clark (2011) explains that, an ecocritical approach focuses on textual and contextual analysis, highlighting the importance of literature in shaping environmental awareness. Ecocriticism provides a strong foundation for evaluating how Bacigalupi presents environmental issues and society's responses to them in the context of *The Water Knife*.

Several research on ecocriticism analysis have been conducted by previous researchers through using the same novel *The Water Knife*, but with different focuses. Yue Tang (2023) examines that climate change in Bacigalupi's novels offers new theoretical perspectives and long-term significance for understanding the impacts of climate change on the earth's existence and to increase public awareness. Different from Tang's studies Taylor Sheppard (2019) explores the



dystopian fiction of Paolo Bacigalupi's *The Water Knife*, focusing on the environmental issues affecting the United States water crisis. The results show dystopian genre's rise to address environmental challenges, imagining a future characterized by social upheaval, drought, population displacement, and political and para-military conflicts. Meanwhile, in his study Rama Regmi (2019) find serve as a cautionary tale about the consequences of environmental exploitation, particularly focusing on the intersection of water scarcity, socio-economic disparities, gender dynamics, and the larger theme of ecological dystopia.

Another studies have also been conducted related to this topic in different object analysis in term of water pollution. Trina Bose (2023) applies a thorough reading and ecocritical analysis of the novel *How to Get Filthy Rich in Rising Asia* to examine the water problem and contamination caused by the Capitalocene era, as well as the wealth inequality gap. Different from Bose's studies, Kenneth Toah Nsah (2021) analyzes the ecological impact of governance issues in the Congo Basin, highlighting the detrimental effects of absenteeism and corruption on water pollution, urban sprawl, and land use. Charlotte Melin (2016) analyzes the evolution of water pollution poetic representations by Kaschnitz, Enzensberger, and Sandig, highlighting the shift from aesthetic appreciation to scientific understanding and the incorporation of unnatural elements. J Galley (2015) explains more about key ecological threats to water environments, such as diffuse pollution, potential catastrophic events, and morphological change, and uses these themes in poems to communicate specific environmental issues.

Further, the discussion of ecocriticism is not only focussing on water pollution or climate change, but it also focuses on nature destruction. Rahmi (2024) reveals that *Tere Liye's* novel *Rain* causes environmental damage, including pollution, wilderness, disasters, and habitat loss, due to the use of advanced technology and low human empathy for the environment, a result of modernism. In addition, Hutama (2020) analyzes nature destruction in *Jostein Gaarder's The World According to Anna* (2015) using an ecocriticism approach and the results reveal significant natural destruction caused by global warming, affecting human life and ecosystems, potentially leading to extinction. Yuniawan (2021) analyzez ecocriticism in the novel *Serdadu Pantai* by Laode Insan, focusing on natural destruction, character behavior, social and economic background. The results show that unconservative actions, character attitudes, and lack of education contribute to the destruction of nature.

In brief, based on the previous studies above, previous researchers mostly discuss about climate change, dystopia, and other natural destruction. *The Water Knife* by Paolo Bacigalupi's was chosen because it highlights the ecological challenges faced by humans because of unsustainable human practices depicting a future world in the United States of America. Due to extreme droughts cause ecosystem damage and water pollution crises that led the researcher to explore the consequences and the impact of water pollution described on the novel.

This research focuses on finding a broad overview of water pollution caused by humans and the impact on society in the context of the novel *The Water Knife*. Through a deeper understanding about the negative impact of water pollution on

human health, ecosystem preservation, and environmental awareness, it can increase public awareness about the importance of maintaining water quality and reducing water pollution as an effort to preserve the environment. However, the researcher finds a gap in the previous studies above that most of them are focusing about the climate change where this study will explain more in the context of water pollution. This study attempts to fill the gap by conducting the consequences of water pollution while knowing the impact for human.

### **B. Problems of the Study**

In this study, the researcher attempts to explain further about water pollution. Therefore, two research problems have been formulated as follows:

1. How is water pollution described in Bacigalupi's *The Water Knife*?
2. What are the impacts of water pollution to human life in Bacigalupi's *The Water Knife* ?

### **C. Significance of Study**

By providing a thorough analysis of how environmental topics are presented in contemporary literature, the study adds to investigate the deeper implications of water pollution depicted in Bacigalupi's *The Water Knife*, as well as analyze its impact on ecosystems and human life. Using an ecocritical approach, this study aims to broaden the understanding of how literary works reflect environmental issues, as well as how the stories can influence human awareness and behavior towards the environment. The results of this study are expected to provide valuable insights for readers to consider the consequences of water pollution and

encourage more responsible actions towards environmental conservation. As such, this study can contribute to a better understanding of the complex relationship between humans, literature and the natural environment, and provide impetus for future environmental conservation efforts.

#### **D. Scope and Limitation**

The study in this research involves analyzing the description of water pollution in Bacigalupi's novel, *The Water Knife* within the framework of ecocriticism using Greg Garrard's theory. This analysis will include identifying the sources of water pollution depicted in the narrative, as well as exploring the ecological, social and economic impacts of water pollution on society and the natural environment in the novel's fictional world. However, this research has several limitations. Firstly, the focus of the research is limited to the novel *The Water Knife* only, without taking into account other works by the same author or other authors in the broader context of ecocritical literature. Secondly, this study may have limitations in the interpretation of the text, depending on the researcher's point of view, and does not include alternative views or interpretations held by other researchers. Thirdly, the limited references may limit the depth of analysis and discussion on the water pollution in the novel.

## **E. Definition of Key Term**

There are several key words which become the main point of this study discussion, as follow:

### **1. Ecocriticism**

Ecocriticism is a literary theory that emerged in the late 20th century. It explores the relationships between literature and the environment. Ecocritics examine how nature is portrayed in literary works, how environmental issues are addressed, and how literature reflects and shapes cultural attitudes toward nature and the environment. Ecocriticism explores the ways in which we imagine and portray the relationship between humans and the environment in all areas of cultural production (Greg Garrard,2011).

### **2. Nature Destruction**

Nature destruction reflects the unbalanced relationship between humans and nature, where human activities tend to take more than nature is able to regenerate or sustain. In Paolo Bacigalupi's *The Water Knife*, nature destruction is reflected in images of severe drought, the dumbing down of river ecosystems, declining air and water quality, and the destruction of natural habitats caused by climate change and unsustainable resource management practices.

### **3. Water Pollution**

Water pollution occurs when harmful substances, such as chemicals, industrial waste, garbage, or biological substances, enter water bodies such as rivers, lakes, seas, or other water sources, degrading the quality of the water. These pollutants can come from various human activities, such as factory waste

disposal, excessive use of pesticides and fertilizers in agriculture, household waste disposal, and oil spills in the sea. The impact is very detrimental to the ecosystem, causing damage to aquatic flora and fauna, and causing health problems for humans who consume contaminated water or living things. In addition, water pollution is also economically costly, disrupting the agricultural sector and worsening the availability of clean water.

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

This chapter aims to discuss some of the related literature reviews used in this study. Theoretical studies can be used as a foundation in conducting a research. This research uses several theories including Literary Ecocriticism, Objectives of Literary Ecocriticism, Environmental Literature Study Model, and Novel Analysis. The purpose of the discussion is to describe the theories used in this research.

#### **A. Ecocriticism**

According to Gregory Castel (2013) The term "ecology" itself was first used by Ernst Haeckel, a German zoologist, and has become the basis for the science of ecology. Neil Evernden underlines the importance of the basic concept of interrelatedness in ecology. This interrelatedness challenges the dualism underlying modern scientific methods and depicts ecosystems as true mixtures of parts in which there are no separate entities. In the other side an approach to literary criticism known as "ecocriticism" looks at how people interact with the natural world, specifically with plants and animals, and raises questions about natural equilibrium and even globalization.

According to Cheryll Glotfelty (1996, p. 18-20) in *The Ecocriticism Reader*, "ecocriticism is the study of the relationship between literature and the

physical environment," and one of the implicit goals of this method is to give the "undervalued genre of nature writing," as Glotfelty refers to it, some professional respect. Lawrence Buell describes "ecocriticism" as a study of the relationship between literature and the environment conducted in the spirit of commitment to environmental praxis". Ecocriticism goes beyond examining how nature is portrayed in literary works, but also explores the narratives that reflect and influence people's views of nature and their role in the ecosystem. In the spirit of commitment to environmental praxis, this approach encourages a deeper understanding of how literature can be a means of triggering environmental awareness and sustainable action. In addition, ecocriticism offers an important vantage point in exploring the role of literature in stimulating positive social and environmental change, thus promoting awareness of the importance of maintaining a balance between humans and their environment.

Ecocriticism is a critical approach in literary studies that specifically examines the relationship between humans and nature and its impact on the environment. Through ecocriticism, we can understand how humans interact with nature in an effort to change the way we treat the environment. This approach not only looks at how nature is depicted in literary works, but also analyzes how these narratives reflect human views of nature, its existence, and its role in the ecosystem. Ecocriticism considers how human behavior, environmental policies and technology affect natural ecosystems, and looks for ways to promote environmental awareness and more sustainable actions. "Ecocriticism is a concept



that first emerged in the late 1970s during a meeting of the Western Literature Association. Ecocriticism takes its literary foundation from three great American writers of the 19th century, namely Ralph Waldo Emerson, Margaret Fuller, and Henry David Thoreau” Emerson, they highlighted simplicity, nature consciousness, and personal self-reliance in human relationships with nature and environmental self-reliance, which made important contributions in forming the foundation of ecocritical thinking by emphasizing awareness of nature and humans role (Barry, 2020).

The basic concept of ecocriticism theory in literary studies is a critical approach that explores the relationship between humans, nature and non-humans in literary works. This theory involves various related fields such as environmental theory, environmental justice studies, ecofeminism, sustainability studies, and animal studies etc. Through literary analysis, ecocriticism explores how literary works reflect, influence and shape human perceptions of nature. This approach not only considers how nature is depicted in literary texts, but also examines narratives about human relationships with the environment, as well as the consequences of human behavior on nature and its ecosystems. Ecocriticism also seeks to understand how literature can be a means to promote environmental awareness and trigger more sustainable behavioral changes. As such, ecocritical theory provides a foundation for exploring the ecological dimension in literature and highlights the importance of paying attention to the relationship between humans and their environment in literary works. Max Horkheimer and Theodor Adorno argued that in capitalism, humans dominate nature, dominate nature

within humans, and in both forms of domination, there is also domination of some humans over others. The ecological movement of the 1960s shifted focus from a critique of domination toward a commitment to nature conservation (Gregory Castel, 2013, p.298).

### **B. Greg Garrard**

Greg Garrard as one of key figures in ecocriticism has shaped the key concept of ecocritical analysis, which helps researcher to categorize the phenomena that occurs in literary work. The basic concept that distinguishes ecocriticism from other contemporary literary and cultural theories is its close connection with ecological science. Although it is not expected for literary scholars to master ecological science, they are expected to transcend disciplinary boundaries and develop their own ecological literacy as far as possible. This is the importance of understanding how literature reflects, influences and shapes human perceptions of nature (Gregory Castel, 2013). He argues that, literature does not only reflect environmental realities, but also play a role in shaping human attitudes and behaviors towards nature. In this context, literature can be a tool to build ecological awareness and inspire action to protect the environment.

Greg Garrard (2014) explains that, ecocriticism celebrates nature, draws inspiration from environmental activism, and defers truth to natural sciences, particularly ecology. Its complex connections with political environmentalism and ecological science are difficult to summarize. Another explanation about ecocriticism is the study of the relationship between literature and the physical

environment, taking an earth-centered approach to literary studies. It is closely related to environmentally oriented developments in philosophy and political theory, and seeks to synthesize environmental and social concerns. Ecocriticism is characterized by a broad cultural ecocriticism, tracking environmental ideas and representations in various cultural spaces. It seeks to evaluate texts and ideas in terms of their coherence and usefulness as responses to environmental crises (Garrard, 2014, p. 13-15) . In the other side, the writer finds one of the concepts applied by greg garrard that is “pollution”, in his explanation pollution refers to the introduction of harmful compounds into air, water, or soil, posing a threat to ecosystems and public health. It is a crucial aspect of ecology, affecting the relationship between humans and nature. Examples of pollution include water pollution, where rivers, lakes, and beaches are polluted by industrial or agricultural waste, highlighting the negative impacts of human activities on aquatic ecosystems.

Pollution in Garrard's theory is not just about physical pollution, but also includes cultural pollution which includes the degradation of environmental values and loss of biodiversity. The analytical approach used by Garrard involves systematic steps. First, he identifies depictions of pollution in the literary texts he studies, both as main themes and as backgrounds that reflect destructive ecological conditions. Then, Garrard conducts an in-depth analysis of the text, identifying symbols, metaphors or images that highlight pollution or its effects. Next, he considers the social, cultural and ecological implications of the pollution and understands the historical and cultural context in which the work was

produced. By engaging a critical and close reading of the text, Garrard presents a critical and informative analysis of environmental issues, including pollution, that is relevant in the context of ecocriticism.

According to the explanation above, the researcher focuses on one key concept that is “Pollution” because Garrard's theory emphasizes the importance of understanding the concept of pollution in a broader context, not only as physical pollution of the environment, but also as the result of an imbalance in the relationship between humans and nature. In the context of Paolo Bacigalupi's novel *The Water Knife*, pollution can be interpreted as a manifestation of imbalance and over-exploitation of natural resources by humans, which in turn leads to serious ecological damage. By understanding the concept of pollution within the framework of Garrard's ecocritical theory, researchers can delve deeper into how Bacigalupi uses pollution as a central theme to illustrate the destructive impact of human actions on the environment in his work.

### **C. Water Pollution**

The destruction of nature refers to the damage and destruction of various components of nature, including ecosystems, the physical environment, and natural resources, as a result of various human activities. These include climate change, deforestation, environmental pollution, and many other environmental problems. The destruction of nature has serious consequences for the balance of ecosystems and the quality of human life.

Climate change is one of the most significant impacts of the destruction of nature is global climate change. It is a global threat that has embarked on to put stress on various sectors. Human activities, especially the burning of fossil fuels, produce greenhouse gas emissions that cause an increase in the average temperature on Earth. This results in extreme climate changes, such as floods, droughts, tropical storms and rising sea levels (Abbass et al., 2022). Meanwhile, environmental pollution air discribed as water and soil pollution due to the release of industrial waste, hazardous chemicals and plastic waste are part of the destruction of nature. This pollution threatens human health, damages ecosystems and poisons living creatures (Ukaogo et al., 2020).

Water pollution occurs when unwanted materials enter into water, changes the quality of water and harmful to environment and human health. This type of pollution can come from various sources, both natural and man-made. One common source of water pollution is domestic sewage, which includes waste from households such as domestic wastewater and detergents. In addition, industrial waste is a major cause of water pollution, with various toxic chemicals and hazardous substances that can contaminate water sources. Water pollution can also come from agricultural waste, which includes pesticides, herbicides, and fertilizers that can contaminate surface water and groundwater through runoff. Water pollution can be caused by mining waste, petroleum, medical waste and other sources. Water is an important natural resource used for drinking and other developmental purposes in our lives. So, safe drinking water is necessary for human health all over the world.

According to Pk Goel (2006) water pollutants are physical, chemical, or biological factors that cause aesthetic or detrimental effects on aquatic life and water users. Most pollutants are chemicals, which remain suspended in water and cause environmental reactions. The consequences of water pollution are diverse and can have detrimental effects on the environment, human life, and the aquatic ecosystem as a whole. First of all, water pollution can threaten human health. Water contaminated with harmful chemicals, bacteria, or pathogenic microbes can cause various illnesses such as diarrhea, food poisoning, skin infections, and even long-term health problems such as cancer or hormonal disruption. In addition, water pollution can damage aquatic ecosystems, disrupting the natural balance and threatening the survival of various species of aquatic animals and plants. This can result in declining fish populations and disruptions to the food chain, which in turn can negatively impact the fishing sector and tourism industry. Water pollution can also damage water infrastructure and resources, disrupting the supply of clean water for human consumption, agriculture and industry. Thus, long-term impacts of water pollution affect habitat degradation, biodiversity loss, and climate change.

From those explanation, *The Water Knife* novel described that water pollution paints a dark picture of a future, where greedy industries and irresponsible agriculture pollute water sources with hazardous waste. The use of toxic chemicals such as pesticides and herbicides as well as industrial effluents render water unfit for consumption and damage important aquatic ecosystems. Coupled with uncontrolled urban growth and increasing demand for water,

competition over dwindling water resources is leading to increased conflict. Bacigalupi describes how worsening climate change is also exacerbating the problem, creating a bleak picture of a future where human life and aquatic ecosystems are threatened by pollution and water shortages.

Greg Garrard, an ecocritic, in his work often discusses environmental impacts, including water pollution, in the context of the relationship between humans and nature. According to Garrard, water pollution not only damages the aquatic ecosystem itself, but is also a reflection of modern society's inability to live in harmony with nature. He explains that water pollution damages complex ecosystem networks, disrupts biological cycles, and threatens the survival of species that depend on clean water. In Garrard's view, water pollution also reflects a crisis of environmental ethics, where exploitative human activities against nature damage the quality of life not only for other species but also for humans themselves. As such, water pollution is considered a symbol of a broader breakdown in humanity's relationship with nature, which requires repair through ecological awareness and changes in human behavior towards the environment.

In the other side, Greg Garrard explains that water pollution has far-reaching impacts, not only on ecosystems but also on the human health, socio-economic, and psychological well-being of communities and the surrounding environment. In terms of health, polluted water can cause serious illnesses such as diarrhea, heavy metal poisoning, and infectious diseases caused by bacteria or viruses in dirty water. Socio-economically, water pollution reduces access to clean water, which disrupts agricultural, fishing and industrial activities, and increases

health and treatment costs. Psychological impacts are also felt by communities who lose a sense of security in their environment, especially if contaminated water causes loss of livelihood or damage to the natural beauty of the surroundings. For the environment, water pollution destroys ecosystems, wipes out biodiversity, and creates unbalanced ecological conditions, which overall deteriorates the quality of life for humans and other living things.



## **CHAPTER III**

### **RESEARCH METHOD**

This chapter will discuss the methods used by researcher in conducting this research. This chapter has four sub-categories include, research design, data sources, data collection, and data analysis.

#### **A. Research Design**

The researcher attempts to apply a literary criticism with ecocriticism method in this study with the aim of gaining an in-depth understanding of the aspects of human-nature relationships expressed in the novel *The Water Knife* by Paolo Bacigalupi. This research method will allow the researcher to document in detail and detail the aspects of ecocriticism with Greg Garrad theory (2014) based on the story from novel *The Water Knife*.

#### **B. Data Source**

The main data source for research on the novel *The Water Knife* by Paolo Bacigalupi is the novel itself, while *The Water Knife* is a 2015 science fiction novel by Paolo Bacigalupi. It is Bacigalupi's sixth novel, and is based on his short story, *The Tamarisk Hunter*, first published in the news magazine *High Country News*, it takes place in the near future, where drought brought on by climate change has devastated the Southwestern United States and the publisher is Alfred A. Knopf. In the context of literary research or literary analysis, the text of the novel is the primary data source. The researcher will collect data from the text of

this novel to answer the research questions and develop the researcher analytical arguments.

### **C. Data Collection**

In this study, the researcher attempts to do some steps to collect the data from the utterance which is taken in *The Water Knife* novel with the following step:

1. The researcher will read the novel carefully and pay attention to elements such as plot, characters, environmental descriptions, dialog, and the themes described in the story (close reading).
2. The researcher will collect the data by using Ecocriticism concepts by Greg Garrard (2014) in the context of water pollution and the impact on human life.
3. The researcher will identify the data needed by following the concepts of ecocriticism proposed by Greg Garrard (2014) in the context of water pollution and the impact on human life.
4. The last the researcher will combines the data related to the topic of water pollution.

### **D. Data Analysis**

In the data analysis of the study, the researcher would like to do some steps to analyse the data. After collecting and identifying the data based on the concepts of ecocriticism by Greg Garrards (2014), the reseacher will analyze the data of

water pollution in the novel. Next, the researcher will describe the data on water pollution and its impact on human. Lastly, the researcher will draw a conclusion to conclude the results and findings of the research.

## **CHAPTER IV**

### **FINDINGS AND DISCUSSION**

This chapter presents the findings and discussions in which the answers of the first and second research question are presented in this chapter. There are two research questions in this study in this chapter that need to answer: (1) How is water pollution described in Bacigalupi's *The Water Knife*? and (2) What are the impacts of water pollution to human life in Bacigalupi's *The Water Knife*. This chapter presents all the data about the water pollution described in *The Water Knife* and the impact on human life that are mentioned on the novel.

The research findings show that depictions of water pollution in the novel with Greg Garrard theory, Greg Garrard describes water pollution as the result of a mixture of chemicals resulting from human activities that damage and destroy the environment. In addition, it also found that the impacts of water pollution include decreased health, economic competing, environmental interest, and psychological health.

#### **A. Water pollution described in Bacigalupi's *The Water Knife***

In *The Water Knife*, water pollution becomes a reflection of the brutal conflict amidst the extreme drought plaguing the western United States. The story highlights the fierce competition between states, water companies and various interest groups that fuel extreme measures to control increasingly scarce water resources. Paolo Bacigalupi's *The Water Knife* is a dystopian novel set in a future

United States, where water has become an extremely scarce resource due to an extreme drought known as the “Big Daddy Drought.” The story focuses on the brutal competition for water rights in the American Southwest, particularly the cities of Phoenix, Las Vegas, and Angeles. Angel Velasquez, as “water knife” working for the Southern Nevada Water Authority, goes on a sabotage mission against a competitor's water supply to secure water rights for Las Vegas. The main conflict in the novel also involves water pollution that contaminates the remaining water sources, forcing the government and private parties to treat clean water with advanced technology that is often corrupted by corruption and greed.

Water pollution is one tragic aspect of this situation, with irresponsible industries dumping toxic waste into already limited water systems. Droughts caused by the effects of climate change are further exacerbating the situation, making water resources even more scarce and precious. These actions show how human greed and negligence can exacerbate the environmental crisis, creating deep conflicts between different parties fighting for control of the remaining water. According to Greg Garrard (2014), pollution is the release or addition of substances or energy into the environment that can disrupt the balance of nature and harm humans, animals, plants, and the ecosystem as a whole. Pollution can occur in a variety of environments, including air, water, soil, and even the digital environment. One of the pollution discussed in this study is the description of water pollution caused by certain aspects including drought caused by extreme climate change resulting in a decrease in the quality of water that is managed.

Drought has been the main conflict since the beginning of the story, forcing the state to strictly regulate clean water. As time passes, the drought continues for a long period of time creating increasing tension. Therefore, the novel depicts Lake Mead as a real-life example, where the lake continues to experience extreme drought that drastically affects its water quality. The decline in water levels in Lake Mead not only reduces the supply of clean water, but also increases the concentration of pollutants, thus exacerbating the water crisis faced by the community and the surrounding environment. The analysis below shows how water pollution occurs due to drought so the managed water has decreased in quality.

*They were hurtling south, toward the Mead in question; "twentysix million acre-feet of water storage at inception, now less than half of that thanks to Big Daddy Drought. An optimistic lake created during an optimistic time, whittled now and filling with silt and chemicals. A lifeline, always threatened and always vulnerable, always on the verge of sinking below Intake No.3, the critical TV drip that kept the heart of Las Vegas pumping (p. 9)*

Lake Mead is a vital water source that is severely threatened by pollution and a drastic decrease in water volume. Water pollution is depicted through sedimentation and the accumulation of harmful chemicals, all of which deteriorate water quality and put Las Vegas' water supply at great risk. First, the "water storage is now less than half" This reduction may indicate a decrease in water quality and an increase in pollutant concentrations due to the smaller volume of water hence, the term "Big Dady drought" describing a drought so severe that almost all natural water sources, such as rivers and lakes, are dried up or greatly reduced. The situation "now hardened and filled with mud and chemicals" describes Lake Maed as contaminated with mud and chemicals that have filled the

lake bottom. This sedimentation can reduce the water storage capacity and worsen the water quality, the silt can carry pollutants such as heavy metals and toxic chemicals trapped in it, which can damage the ecosystem and endanger human health, and Intake No. 3 is described as an unexceeded crisis condition that will drastically affect the water supply, this effect is described in the description of Intake No. 3 where the reduced water can lift anything at the bottom of the lake to the surface including the silt and chemicals that have settled on the bottom.

A further description of the bombing by CAP (Central Arizona Project) shows that it had a devastating impact on water quality. The bombing caused serious damage to the waterway infrastructure, resulting in the introduction of various pollutants and harmful sediments into the water system.

*Wells had dried up due to over-pumping, and Phoenix refused to extend water lines to support them. Later, the CAP (Central Arizona Project) aqueduct was blown up, which further exacerbated the situation and water was cut off to the entire city to temporarily prevent the spread of contaminated water. (p. 169)*

.....

*Ange enjoyed how Lucy's finger spent a lot of time pointing North to Vegas . Catherine Case got a chapter, along with the Southern Nevada Water Authority and the suspicious circumstances of the CAP's bombing. (p. 169)*

Over-pumping causes wells to dry up, worsening water availability in the region. Phoenix's action of refusing to extend the water line shows a lack of response to the urgent need for water supply, this is explained in the sentence “Wells had dried up due to over-pumping, and Phoenix refused to extend water lines to support them”. Also, the explosion of the CAP (Central Arizona Project) water line has worsened the condition of the contaminated water, resulting in the suspension of water flows to the community. This is a temporary measure to

prevent the spread of contaminated water. These water main bursts does anot only stop the water supply, but also causes harmful pollutants and sediments to enter the water system, exacerbating water pollution. As a result of the explosion, there was not only an interruption in water supply, but also an increased risk of contamination due to the introduction of harmful chemicals and sediments into the water system.

The CAP (Central Arizona Project) is a large system that transports water from the Colorado River to Arizona, primarily for irrigation, domestic and industrial use. This context “the suspicious circum- stances of the CAP’s bombing” describes the bombing of the CAP which is an act of sabotage that causes serious damage to the infrastructure of the water treatment project which as a result of the bombing also severely impacts water quality, hence the clear impact on water management in the region, particularly on Lake Mead and the water supply to Las Vegas.

Farmer case whose life depends on the water resources in Lake Mead when the source is closed, the farmer does everything possible to maintain the water including the farmer's activities that carry out less environmentally friendly practices that have an impact on water pollution. The analysis below shows how this farmer acts to pollute the water.

*He'd seen it in Nevada ranchers, bent on defending their irri- gation head gates when the SNWA came to shut them off. the ranchers tend to use excessive amounts of water or implement less environmentally friendly farming practices. (p. 189)*

.....

*The farmers' overzealous practices have contaminated the remaining water supply, allowing toxic materials to seep into the ground. This fails to educate them a lesson; rather, their behavior is worse. (p. 190)*



The provided picture of ranchers in Nevada, holding out to protect their irrigation gates from the Southern Nevada Water Authority (SNWA), which provides insight into the water pollution that can arise from unsustainable agricultural practices. These ranchers tend to use excessive amounts of water or implement less environmentally friendly farming practices. These practices can have serious impacts on water quality in the region. First of all, excessive water used by livestock farmers can lead to a decrease in groundwater levels, because when groundwater is over-exploited, underground water reserves can be degraded or even depleted. Therefore, less environmentally friendly agricultural practices can pollute both surface and groundwater sources.

Second, The picture of farmers' excessive practices resulting in pollution of the remaining water sources highlights the serious impact of water pollution in the context of modern agriculture. Farmers often overuse water to irrigate their farmlands, especially in conditions where water resources are limited. This practice does not only depletes water resources but it also can lead to significant contamination.

Another cause of water pollution occurrence is land excavation. The sentence is illustrated in the data below which explains the land excavation activity.

*This exec from a company that was doing water exploration for the state. Drilling and hydro-fracking, hydrological analysis - things like that. This man sits down across from me, and I think we're going to talk about drilling and pumping, aquifer recharge.*

.....

*Angel regards that drilling without the right licenses pollutes water with dangerous chemicals and heavy metals that can affect human health and water purity, but she keeps doing it. (p. 200)*

The datum above reflects how water pollution can occur in the context of water resource development such as drilling and hydrofracturing (fracking). “This exec from a company that was doing water exploration for the state” this sentence refers to a company involved in water exploration for the state. Water exploration often involves activities such as drilling to find new water sources, which can have an impact on the environment and water quality. Meanwhile, “Drilling and hydro- fracking, hydrological analysis” this part describes drilling activities to find new waterways where these activities have an impact on soil and rock layers, which can cause water pollution in the soil. In addition, hydro-fracking is a method that is often used to increase the flow of water from aquifers by breaking up underground rocks using high water pressure. While, the context of “talk about drilling and pumping, aquifer recharge” refers to aquifer recharge means the process of replenishing a depleted aquifer with water, either through natural means such as rainwater infiltration or through artificial methods such as water injection. If this activity is not properly managed, this recharge can lead to contamination of the aquifer with pollutants present in the water used for recharge.

Drilling without proper regulations results in water contaminated with harmful chemicals and heavy metals that can threaten water quality and human health. This practice often leads to contamination of underground water sources with other organic materials that can potentially poison drinking water and damage sensitive aquatic ecosystems. Without strict supervision and proper technology implementation, irregular drilling can result in significant

environmental damage and affect the clean water supply for communities that depend on these water resources. Therefore, it is important to implement strict waste management practices, close supervision of drilling and hydrofracturing operations, and continuous monitoring of water quality.

*Water geek stuff. At worst, he's going to blow some smoke up my ass about how Arizona's got a deep-water aquifer and how they're going to frack us into becoming the North Dakota water or some other bullshit. Instead, he's got a blood rag with him. He tosses it on the table.' Lucy paused, looking back at Angel. 'You've seen the blood rags, haven't you?(p.201)*

The potential negative impacts of hydrofracturing or fracking practices on water resources and the environment. (Fracking is the process of extracting gas or oil from rocks by fracturing them with highly pressurized fluids, which often involves the use of chemicals that have the potential to damage the environment, including groundwater). First, data that mentions “Arizona's got a deep-water aquifer” refers to an underground water source that is a solution for water supply in areas that experience surface water shortages. However, the exploitation of aquifers through fracking can lead to water pollution due to the potential leakage of fracking chemicals into the aquifer. Second, the term “Blood rag” in this story describes the negative impact or danger of fracking. It refers to fracking waste contaminated with other hazardous materials.

This reflects doubt on the claim that Arizona has deep water aquifers and the potential to use fracking as a solution to the problem of drought or limited water supply, as explained in the previous data this development was carried out without regard to the negative impact on the surrounding environment, especially

on the quality of the water they treat when this action can trigger damage to the quality of the water they treat if they are not careful in the process.

*Lucy nodded, fascinated. So much had been happening in her own life that she'd forgotten that the world around her was still going down the drain. A good portion of a town called Delta seemed to have been completely wiped out. Water blasting and spreading after coming through a canyon. There were aerial views of the destruction. (p. 308)*

.....

*The TV switches to a helicopter view, circling a large yellow truck that is crushed and twisted, sliding down the riverbank, fifty miles downstream from where the water treatment dam broke. The truck has been crushed, tossed about, and set adrift by the ferocity of the water, and all that remains is a rounded chunk of metal. The water dam is in a chaotic state, filled with flood-damaged debris. (p. 309)*

The data depicts a situation where a city called Delta experiences a severe flood disaster, leaving much of the area devastated. First, “A good portion of a town called Delta seemed to have been completely wiped out. Water blasting and spreading after coming through a canyon.” Refers to indicate that a major event involving water, possibly a major flood, destroyed most of the Delta city. The water breaking and spreading through the canyon indicates a very powerful and destructive water flow. Meanwhile, “There were aerial views of the destruction.” indicates that aerial images show the extent of the damage, highlighting the massive impact of the event on infrastructure and the environment.

The breach of the water treatment dam causes powerful water currents to smash and carry debris, including large trucks, into the river. The chaotic, debris-filled state of the dam highlights the extent of the damage and pollution. The wrecked truck symbolizes the devastating power of unchecked water, resulting in the introduction of various hazardous materials into the river system. This incident shows how failing water infrastructure can result in serious pollution, with debris

and hazardous chemicals from vehicles and other materials being mixed into the water. When these systems are destroyed, raw sewage can directly enter rivers and lakes, exacerbating water pollution.

*Timo shrugged. He was watching the TV again. "You ever get the feeling it's all falling apart?" She couldn't help laughing, but he wasn't deterred. "I'm serious." He jerked his head up at the wreckage of the dams. The footage showed empty lakes with their bathtub rings around their sides. A few muddy pools in the canyon bottoms were all that was left of the azure reservoirs that had been there a day before." (p.309)*

An overview of water pollution through visualization of the environmental damage caused by the dam collapse. Empty lakes with bathtub rings show a drastic drop in water levels, indicating the loss of large volumes of water. The remaining muddy ponds reflect the degradation of water quality, where the normally clear and blue water has turned into muddy puddles. As in the sentence "The footage showed empty lakes with rings of bathtubs around them." The collapse of the dam causes polluted water to flow into the surrounding area, carrying sediment and debris that have previously been retained in the reservoir. This process does not only damaged the local ecosystem, but it also contaminated water sources that are important for human life and wildlife.

The water pollution mentioned above, is caused by a mixture of hazardous materials released due to structural collapse, resulting in a previously stable environment becoming chaotic. In the data "A few muddy pools in the canyon's bottoms were all that was left of the azure reservoirs that had been there a day before" describes how the condition of clean water that once formed a lake now leaves only a few muddy puddles at the bottom of the canyon, and the remaining puddles indicate that the remaining water is mixed with sediment from the bottom

of the lake. These sediments can contain harmful chemicals, which are accumulated from human activities such as agriculture, industry, and household waste discharged into the lake over the years.

After analyzing the data above, it can be concluded In the novel *The Water Knife*, the water pollution is described by the mixture of chemicals resulting from the bombing of the dam and the excavation of the land to find new waterways, which can be analyzed through Greg Garrard's (2014) pollution theory. Garrard highlights pollution, as a result of destructive human activity and destroys the environment. The bombing of dams cause the sudden emptying of reservoirs, where the water release carries out the sediments and harmful chemicals that contaminate the land and water sources in its path. In addition, excavating the land in search of new waterways exacerbates the situation by introducing more chemicals into an already contaminated ecosystem. According to Garrard, these events reflect the consequences of exploitative practices that ignore the long-term impact on the environment, resulting in a significant water pollution crisis. This pollution does not only damage ecosystems, but also poses serious health risks to communities that depend on the current-polluted water sources.

## **B. Water Pollution Impact on Human Life**

In Paolo Bacigalupi's *The Water Knife*, water pollution poses a serious threat to human health and creates intense competition between the political, economic and environmental interests of society. First, water pollution results in a decline in the quality of water available for consumption, limiting the right to

clean water and thus increasing public health risks, such as water-related diseases, respiratory disorders and digestive problems. It causes additional pressure on health systems that may already be stretched thin, as well as exacerbating already vulnerable health conditions in communities. Secondly, competition between economic, psychological and environmental interests of communities is intensifying due to reduced access to water. Large corporations, governments and community groups compete to secure remaining water resources, often in unethical or unlawful ways, resulting in greater conflict and inequality within communities.

### **1. Human Health**

Maintaining a healthy body is very important in leading a normal life, as a healthy body allows us to perform our daily activities optimally, engage in activities we love, and reach our full potential in all aspects of life. Decreased health due to water pollution can result in a variety of serious health problems. Constant exposure to polluted water can damage the body's internal organs and weaken the immune system, increasing the risk of infections and infectious diseases. As such, water pollution does not only disrupts physical balance, but also affects overall well-being, hampering our ability to live a normal life well.

*The Texans around the pump stank. They stank of fear and stale sweat that had moistened and dried. They stank of ClearSacs plastic and piss. They stank of one another from lying crammed together like sardines in the plywood ghettos that they'd packed in close to wherever the Red Cross had spiked relief pumps into the ground. Since the city's water pollution levels continue to have an awful impact, water treatment officials placed an upper restriction on their access to clean water. (p. 45)*

The limitation of clean water rights is also an important point in this issue. This picture shows how they survive in the water crisis issue as a result of water pollution where they cannot access their own water because the people living in the Red Cross tents are outsiders to the city. In the sentence "They stank of each other from lying crammed together like sardines in the plywood ghettos that they'd packed in close to wherever the Red Cross had spiked relief pumps into the ground" it explains that they live crammed together with dirty and unhealthy body conditions, which shows the unfit life for refugees. This condition gives more impact of the situation in increasing the risk of spreading disease. Therefore, the stepped-up water availability caused by the water pollution described in the first research question makes the water treatment system restrict the natives from using the clean water.

The occurrence of water pollution invites government provide a policy of limiting the right to clean water which also affects refugees where the unhygienic living environment can exacerbate this situation. The analysis below shows their condition where water pollution is having a devastating impact on the community.

*Here, close to the relief pump, there was life: bonfires burning two-by-fours hacked from the husked-out corpses of five-bedroom house. The tents of the Red Cross, swaybacked with the recent storm's accumulated dust. Doctors and volunteers wearing filter masks against the dust and valley fever fungus, tending to refugees lying on cots, and crouching over infants with cracked sandy lips as they took saline drips into their hollowed bodies. (p. 46)*

Extreme living conditions and health crisis that occur due to pollution and severe drought. First, "Here, close to the relief pump, there was life: bonfires burning two-by-fours hacked from the husked-out corpses of five-bedroom houses." This sentence depicts how people's lives are so extreme that they can



only be guaranteed if they live near the relief pump, showing that clean water sources are already limited. Second, “tending to refugees lying on cots, and crouching over infants with cracked sandy lips as they took saline drips into their hollowed bodies.” depicts refugees, especially infants, suffering from severe dehydration, as seen by their cracked lips and emaciated bodies. This dehydration is likely caused by the lack of access to clean water and the harsh environmental conditions. The situation demonstrates a particularly acute shortage of clean water with refugees relying on relief pumps for water, which may not be enough to meet everyone's needs, as well as the water being indirectly contaminated by dust, bacteria, and fungi present in the environment, increasing the risk of disease.

Other data that explain about one of the women named Maria who welcomed her morning by seeing Sarah as her friend having a cough due to lack of water consumption.

*Morning for Maria came as gummy ayes, smoky air, and the hack of Sarah's dry cough due to lack of drinking. Beams of desert sun cut the dimness of the basement, revealing lazy dust motes, concrete floors, and cracked plastic pipes for water and sewer overhead. The arteries and veins of a house that had died years before. (p. 88)*

The character Sarah has a dry cough, which is often a symptom of respiratory problems. First, “Sarah’s dry cough due to lack of drinking” highlights that a person has a dry cough which may be caused by dryness in the body due to not drinking enough water, this condition explains how Sarah is severely dehydrated due to a lack of consuming clean water which is a direct indication of water pollution. Second “cracked plastic pipes for water and sewer overhead.” It means the condition of broken and malfunctioning water pipes that

result in contamination between clean water and sewage causing the spread of waterborne diseases.

The next data explains about so many refugees arriving in the red cross tent who need help due to the failed processing program that resulted in many people getting sick.

*The Red Cross tents were full of people getting sick as the town's water systems failed. The city was awash with sewage, and there weren't anywhere near enough Jonnytrucks to serve a hundred thousand people. And now the National Guard had swept in, looking as if they were going to push everyone out any second. (p. 413)*

This description can be part of the picture of the impact on society due to water pollution. When a city's water system fails, it can result in water quality that is poor or even unsafe for consumption. These are due to water pollution, infrastructure failure, or decreased water availability caused by factors such as drought. First, "The Red Cross tents were full of people getting sick as the town's water systems failed." The data explain a water system failure in the city indicates that the supply of clean water has been interrupted or stopped which mean that a failed and polluted water system can lead to poor sanitation conditions. The data also describes the large number of people who are sick indicating that water pollution has caused disease outbreaks.

Overall, this paragraph provides a clear picture of the crisis created by failing municipal water systems. Water pollution caused by defective sanitation systems, leads to widespread disease outbreaks, threatening public health and local ecosystems. Therefore, the importance of good water management and

adequate sanitation infrastructure cannot be overlooked, as failure in this regard can lead to very serious health and environmental consequences.

Other data point depict how Angel's health is declining due to lack of nutrition in a degraded environment.

*He was slumped against the door, eyes closed, cradling a sac of medical nutrients. He breathed shallowly as the growth stimulants slowly trickled into his veins.*

*'You would have let her walk out with the thought of meeting the water treatment manager,' he said. ' He opened his eyes blearily. 'Acting like you all saw this shit coming, Water quality is declining, thus rules are made as if we don't have the right to clean water management, even if our nation is already facing water contamination. They ought to observe the number of individuals afflicted by this.' (p. 415)*

The description indicates possible poor health conditions that may be related to an unhealthy environment or adverse environmental conditions. The data above shows the health condition of the character “He” as Angel in the story who is cradling a sac of medical nutrients and breathing shallowly due to the lack of clean water he consumes and good nutrition in his body. First, in the sentence “cradling a sac of medical nutrients” means Angel in this story explains that he is seriously malnourished. Second, “as the growth stimulants slowly trickled into his veins” describes the dependence on growth stimulants dripped into Angel's veins indicating that his condition requires significant medical intervention. It can damage organs or body systems due to the consumption of water contaminated with harmful chemicals.

Water quality degradation is the main problem and water pollution that causes contamination of water sources that are supposed to be used for daily needs from this situation. Angel is one of people suffering from deases, such as the damage of organs or body system because of water contamination. Therefore,

it highlights the important of maintaining clear water quality and a clear environment to maintain healthy body. The next analysis explain how a malfunctioning water system fails due to a lack of clean water.

*But sewage treatment isn't working anymore, since they got no water going through the system. So then disease starts to be a problem. here aren't enough Clearbags and Jonnytrucks to go around . (p. 427)*

This condition is caused by water pollution including the failure of the water treatment system in a bad environment, starting from this data “But sewage treatment isn't working anymore, since they got no water going through the system.” Explaining when the water treatment system is not working due to lack of clean water so that human waste cannot be processed properly which results in pollution to the water source being treated. Next, in the sentence “So then disease starts to be a problem.” without adequate sewage treatment, water-borne diseases and direct contact with sewage begin to spread, worsening their health conditions.

In conclusion, water pollution is a significant issue that affects the health and well-being of individuals, especially those who live near relief pumps and are affected by environmental factors such as pollution. It is important to address water pollution and ensure a clean environment to maintain good health and reduce the risk of infections and infectious diseases. Meanwhile, water treatment systems limit access, and unhygienic living environments increase the risk of disease including failing municipal water systems, leading to poor sanitation and disease outbreaks.

## **2. Political Economy Impact**

The existence of water pollution invites the government to manage clean water for daily needs, since it has an impact on competing economic activities. As clean water sources reduce, competition for access to safe and potable water becomes more intense. Economically, areas with limited access to clean water experience reduced agricultural and industrial productivity, which in turn affects financial stability and increases social inequality. Politically, these issues often lead to conflicts over the management and distribution of water resources, both at the local level and between countries. Governments face pressure to enact more stringent and transparent environmental policies. Failure to address water pollution can undermine political stability, fuel public discontent and threaten government legitimacy, especially in countries facing a clean water crisis.

Competition between economic and political interests is complex, especially in the context of water pollution. Economic interests often exploit water resources for profit, while political interests influence environmental policy and enforcement. This often leads to tensions and conflicts, so a balance between these interests is needed to effectively address the impacts of water pollution and ensure sustainability.

This happens because of the restrictions on clean water rights by the government where they were in a state of considerable water pollution. Therefore, several conflicts arose and there was community resistance to restore the condition of their city from this injustice. The data mentioned in this section

describe access to clean water and other resources being used as a bargaining tool to control populations and resolve conflicts.

*The offer was simple: work, money, water - life. Stop shooting at Vegas and start shooting Zoners. If they yoked themselves to the purposes of the Southern Nevada Water Authority, all things were possible. They might even grow a little, with a friendly tap into the East Basin Pipeline. She'd let them drink. Maybe even let them smear a bit of water across the land. Angel went from house to house and town to town, offering one last chance to haul themselves out of the abyss. (p. 99)*

The influence of water authorities in water resources management that was carried out after a case of water pollution, where those who used to be able to access water thoroughly, now they have to experience difficulties in obtaining clean water, and it makes the water manager restrict residents from using water excessively. However, this regulation does not apply to those who have money, where people with money can buy or pay workers to get their right to clean water amidst the conditions of the city that are still struggling with water pollution that occurs in Colorado River.

In the sentence, the "Southern Nevada Water Authority" is mentioned as an entity that has certain objectives in water management, it strengthens the impact of water pollution and lack of clean water leads to social manipulation and control through the distribution of critical resources. This includes the data "The offer was simple: work, money, water – life Stop shooting at Vegas and start shooting Zoners." This case explains that severe water pollution makes clean water very valuable. Therefore, it is possible for those who have control over water resources to manipulate others as the Southern Nevada Water Authority (SNWA) offers jobs, money, and water as a way to control the affected population.

In addition, clean water is used as a bargaining chip to change people's behavior, shifting the focus of violence from one group to another. "They might even grow a little, with a friendly tap into the East Basin Pipeline" this sentence also explains that limited access to clean water has prevented the potential for economic growth over water distribution. Next, "Angel went from house to house and town to town, offering one last chance to haul themselves out of the abyss." In this data, Angel makes an offer of water as a last chance for the community as if the opportunity would not happen again.

Other data also illustrate the impact of water pollution on the legal, social and political aspects of water resources.

*Vegas did-or-didn't pump how much water, no farmer did-or-didn't divert how many acre-feet into his field. None of that. The kind of water rights that could get the fucking Marines posted on every dam on the Colorado River and would make sure the water spilled straight down to you.. (p. 38)*

The data describes water rights managed by the government, which emphasizes the importance of water rights and the political power associated with them. In the sentence, "Vegas did-or-didn't pump how much water; no farmer did-or-didn't divert how many acre-feet into his field" highlights the complexity of the water rights system along the Colorado River, where municipal, agricultural and industrial uses of water must be carefully regulated and allocated. Next, "The kind of water rights that could get the fucking Marines posted on every dam on the Colorado River and would make sure the water spilled straight down to you" highlights the political power and security associated with water rights. It suggests

that water rights can be a serious source of conflict, such that military force may even be needed to maintain control over desired water access.

Besides, a data that also has impact on the social and economic in human life also found in the novel.

*Typical collapse porn - following a neighborhood as it fell apart. Wells had been pumped dry, and Phoenix had refused to run water lines out to support them. And then the CAP had been blown, and water got cut off to the whole city for a while, throwing everyone into a panic, and Lucy Monroe had been there to document.. (p. 169)*

The sentences above describe the impact of the sabotage on the Central Arizona Project (CAP), which results in a temporary cut-off of the water supply to the entire city. First, “Typical collapse porn - following a neighborhood as it fell apart”. This quote explains that water pollution leads to social collapse, when people become aware that the wells in their homes are drying up and the water supply is stopped, it can trigger chaos among residents. It also results in social instability that worsens living conditions and puts more pressure on already limited resources. Second, “Phoenix had refused to run water lines out to support them.” In this data, it is explained that Phoenix (the local government) was unwilling to extend the water network that they manage, making the community dependent, which can hinder their economic activities and survival.

The data below shows that competition for access to water has become very fierce, especially after massive exploitation by states like California. Reward systems for water conservation and the exchange of water as a commodity show how the economic value of water increases under conditions of scarcity.



*They were competing to kill off anything that sucked extra water out of the river. Tamarisk, the cottonwoods, Russian olive, whatever. This was before California started putting so much of the river in a straw, so competition was fierce. The more they cleared, the more water they got as a bounty. So they traded water every time they met. Just a little. One can-teen to another. And then they'd drink together. (p. 194)*

The impact of decreased water availability caused by water pollution, especially in the context of competition for limited water resources. Indirectly in the sentence "They were competing to kill off anything that sucked extra water out of the river" explains the government will only give access to people who have the right to clean water that they manage, especially people who also have high position. It illustrates that people who do not have access to it will be greatly disadvantaged. "This was before California started putting so much of the river in a straw, so competition was fierce." It explains when river water has begun to be exploited on a large scale, it results in competition for access to water greatly increased, and this exploitation can put pressure on water resources, worsening environmental conditions.

In the other sides, social impacts are also found, such as in the data "The more they cleared, the more water they got as a bounty." This sentence is used to encourage saving water while the water supply is limited, this method provides encouragement to always take environmentally friendly actions. In this case, water becomes something very valuable in human life so that there is a water exchange that shows how valuable the clean water they have now is and how water is used as a negotiation tool. This reflects the direct impact of water pollution making less water available, triggering intense competition between communities for access to the remaining water resources.

Migration is a direct impact of water pollution where they have to leave their homes to find clean water for their needs, this sentence is supported by the data below

*And then she'd arrived in Carver City and found chaos in the streets, and the far shores of the river glinting with sniper scopes and watching militias. It seemed like half of Nevada and California had turned out to make sure the desperate people of Carver City couldn't make a run for it. (p. 413)*

Severe water pollution can cause extreme social instability, as it is explained in the sentence “And then she'd arrived in Carver City and found chaos in the streets” Maria sees Carver City descending into chaos where residents desperate for clean water act out of control. In the sentence “the far shores of the river glinting with sniper scopes and watching militias” this explains that militarization and suppression by armed groups have been used to demonstrate that water resources can be contested with violence, although this is done to protect access to clean, managed water, it can also trigger serious social impacts. As in the sentence “It seemed like half of Nevada and California had turned out to make sure the desperate people of Carver City couldn't make a run for it.” When clean water becomes a step and is contested by many people who choose to leave their homes to places where they had more resources, this scene illustrates how authorities in Nevada and California try to prevent a mass exodus from Carver City, which result in desperate refugees being trapped in a dangerous situation.

In addition, further analysis shows that some of the actions taken by the community are due to restrictions on the right to use clean water.

*'So then National Guard shows up. People are trying to pump water out of the river themselves, start running black-market rings, but between disease and the guardies all over them, they start to figure out that shitting in buckets isn't going to take them very far. (p. 427)*

When water pollution reduces access to clean water, people are forced to look for alternative water sources themselves, including river flow which is not necessarily healthy, it is described in the sentence “People are trying to pump water out of the river themselves”. Meanwhile, in the sentence “start running black-market rings.” It means that the problem of clean water shortage has encouraged the community in the emergence of a black market for water distribution, where in this trade water will be unsafe and very expensive. This action has damaged the social and economic balance of society. There is also a National Guard signaling a critical situation that has involved the military to control the situation and oversee water distribution.

The data below also explains how this water pollution is causing profound changes in people

*'Money, it looks like. He was trying to cut himself in on some water rights one of his people was running down here. Wanted to make a big score, I think.' He hesitated. 'I think there's a good chance he could have been ratting our people out to the Calies. For the right price, I'm starting to think he was pretty much up for anything.'*

*'Christ. I knew I should have pulled him out of Phoenix sooner. That place is corrupt.'*  
*'Yeah. Could have saved his life.'* (p. 315)

This excerpt depicts the intrigue and competition that goes into trying to control water rights. In the first paragraph, it is explained that “He” as Christ tries to take advantage in any way including selling water rights to those who can pay the highest price, therefore this situation makes people willing to betray their

friends or groups for personal gain. In the sentence “I should have pulled him out of Phoenix sooner. That place is corrupt.” Showing that Phoenix is portrayed as a place full of corruption, and it shows how water pollution can damage morality and community relations. Therefore, the inability to address water pollution and properly manage water resources can have severe consequences.

Overall, water pollution is a complex issue that impacts the government's ability to manage clean water resources, leading to competition for access, economic and political tensions. Limited access to clean water can reduce agricultural and industrial productivity, affect financial stability, and increase social inequality. Politically, conflicts over water resource management can occur at local and international levels. The Southern Nevada Water Authority (SNWA) has restricted access to clean water rights, causing conflict and community resistance. Water pollution also impacts the legal, social, and political aspects of water resources, as seen in the Central Arizona Project (CAP). The collapse of the CAP resulted in chaos and worsened living conditions, while the local government's refusal to extend the water network made the community dependent. To effectively address water pollution and ensure sustainability, a balance between economic and political interests is required.

### **3. Environmental Impact**

In Paolo Bacigalupi's *The Water Knife*, the environmental impact of water pollution is very visible in people's lives, especially in the context of the water crisis plaguing the American West. Water pollution leads to a decline in the

quality of already limited water resources, which has a direct impact on people's health and well-being. In the story, water pollution and over-extraction worsen environmental conditions, creating uninhabitable areas and triggering social tensions between different groups competing for access to clean water.

The daily lives of the characters in the novel are affected by these circumstances, where they must struggle to survive amidst the uncertainty caused by the dwindling availability of water. Bacigalupi illustrates how these environmental impacts create complex tensions, resulting in conflicts between individuals and groups, as well as highlighting the moral challenges faced by society in managing increasingly scarce water resources.

The high level of violence and desperation reflects the criticality of the water scarcity situation, where people are ready to take extreme measures to gain access to water as in the data analysis below.

*'That was you, wasn't it?' Her eyes widened. 'You were actually in Carver City. You're one of the ones who blew it up Christ, you're probably the one who did the CAP, too' 'Somebody's got to bleed if anybody's going to drink' 'You sound like Catholic.'* (p.199)

The sentence reflects one of the conflicts that arise in trying to defend water rights in the midst of a serious water pollution in the novel *The Water Knife*. First, the statement "You were actually in Carver City. You're one of the ones who blew it up" indicates that the character is allegedly involved in an act of sabotage against Carver City, which done to secure or maintain access to water resources. Secondly, the statement "Somebody's got to bleed if anybody's going to drink" illustrates the extreme and cruel idea that tragic and violent consequences may be

necessary in the context of fierce competition for access to water. It reflects the extreme sacrifices that are deemed necessary to defend the right to water resources in an environment rife with corruption and violence.

Further data on ecosystem damage, devastation of the agriculture and livestock sectors, and interstate tensions over water distribution caused by water pollution

*'California probably. They'll deny it, but it was their water. Colorado wasn't sending it down the way they were supposed to*

*'How come?'*

*'Farms are drying up, cattle are dying. Standard stuff.'*

*'So California blew up the dam?'*

*'Looks that way'. (p. 251)*

*The crops suffered more damage from the dam's burst than anticipated since the water it blasted out of it was tainted with chemicals that were stored under the structure. (p. 252)*

The data illustrates how competition between states continues to occur as clean water capacity continues to decline. First, the statement that California may engage in acts of sabotage against dams suggests that in a situation where water resources are becoming increasingly scarce, extreme measures such as sabotage may be considered as a step to defend water rights or to divert attention from limited water resources. Second, the statement "Farms are drying up, cattle are dying. Standard stuff" highlights the negative impacts of declining water availability, especially for the agriculture and livestock sectors. It reflects the extreme sacrifices deemed necessary to defend the right to restricted water resources amidst poor water pollution conditions, in an environment rife with corruption and violence.

The consequences of blowing up the dam that they got, as described in the sentence “The crops suffered more damage from the dam's burst than anticipated since the water it blasted out of it was tainted with chemicals that were stored under the structure” it explains that, this manner only makes their farming situation getting worse. California uses this method to get their water rights managed by the government, but the used water is water that has been contaminated by chemicals. The contaminated water has settled at the bottom of the water treatment plant, worsening the condition of the fields that were one of their sources of livelihood so that the situation at that time became very unexpected.

Therefore, they do various ways to get their water rights without thinking about the impact they face after the water collection plan is polluted water that is no longer water managed by the city government. The next data illustrates the complexity and consequences of water pollution in various aspects of life.

*The Pima had water rights to Central Arizona Project water because of old reparations, Phoenix needed that water when the rivers around here started drying up, so it was a win-win.*

*Angle smirked. 'taking advantage of the chance to get a water rights agreement in light of the city's extreme water pollution'. (p. 282)*

This quote illustrates how water rights held by indigenous tribes, in this case Pima, becomes an important part of the city's strategy to deal with the water crisis. Pima, which has water rights from the Central Arizona Project (CAP) due to past reparations agreements, makes an agreement with Phoenix. First, “shift all their tribal water rights over to the city.” Describing a significant political agreement,

where the transfer of water rights from the indigenous tribes to the city, government made issues in the processing and natural resources, and this results in conflict between the indigenous community and the city authorities. Second, “taking advantage of the chance to get a water rights agreement in light of the city's extreme water pollution” these sentences explain Angle's expression about the plan of using the agreement between him and Phoenix to get the right of clean water managed, which is managed by government.

The water pollution triggers a wave of migration and refugees who sought a safer place to live, but were caught up in tensions and harsh government policies as shown in the data below.

*People up from the Gulf, where they'd been driven off by hurricanes. People from Cartel Countries, fleeing severe water pollution and drug violence. Huddled humanity, hoping for something better, crushed up against the hard walls of the State Sovereignty Act. (p. 287)*

The sentence above illustrates the serious impact of water pollution causing mass migration and humanitarian crises. People from the Gulf region are forced to evacuate from major storms, while residents from cartel-controlled countries evacuate severe water pollution and drug violence. They are all seeking a better life, but they are caught up in the harsh policies of the State Sovereignty Act. Meanwhile, The State Sovereignty Act is a law that restricts the rights of outsiders, including refugees and migrants, by asserting state sovereignty and imposing strict restrictions on entry, public services, and non-citizen residents, causing negative impacts. In this case, water pollution does not only damage ecosystems and threaten human health, but also triggers large population movements and creates social and political tensions in refugee-receiving regions.



This shows the breadth and depth of the impact of water pollution, which is not only limited to environmental issues but also affects social stability and overall human well-being.

The following data is more about the physical impact of infrastructure damage caused by water pollution from dam breaches.

*The TV cut to a helicopter view, circling a massive yellow dump truck smashed and bent, spat out upon the riverbanks, fifty miles downstream from where the dam had broken. It had been crushed and tossed and floated by the violence of the water, and all that was left now was a rounded metal nugget.*

*'Bet they do Glen Canyon next,' Timo said.  
'No. California's already got control of Lake Powell,' Lucy said. 'They'll pass the water down. (p. 308)*

The dam collapse “spat out upon the riverbanks, fifty miles downstream from where the dam had broken” making the water inside the overflow spread debris and pollutants downstream which can damage river ecosystems and natural habitats. This is because trash and hazardous materials carried by the current can contaminate clean water sources for humans. In addition “California's already got control of Lake Powell,” Lucy said. “They'll pass the water down” The incident leads California to transfer water management of Lake Powell, which is controlled as a precautionary measure because of this unfair treatment, it exacerbated the environmental crisis caused by water pollution.

Furthermore, there is data that explains that water rights are the focus of the government and are not well managed.

*Angel hesitated. 'There's a journo involved now, too.'*

*Case made a noise of exasperation. 'This just gets better and better.' 'It's a long story. She's kind of tangled up in the whole thing. She was doing stories about the Phoenix*

*Water guy who found the rights in the first place. It's hard to get her untangled now.'*  
(p. 318)

The data above indicates how water pollution or water-related issues in general, can become a focus of attention and interest for journalists or other individuals involved in a report or investigation. In a broader context, the impacts of water pollution may include various aspects, such as compromised public health, environmental damage, or conflict between parties competing for access to clean water. Besides that, this quote reveals the impact of water pollution, as it highlights how water-related issues can affect various aspects of life and attract attention from various parties, including the media.

From all, water pollution leads to a decline in the quality of limited water resources, directly impacting people's health and well-being. The story highlights the complex tensions between individuals and groups, as well as the moral challenges faced by society in managing increasingly scarce water resources. The high level of violence and desperation reflects the criticality of the water scarcity situation, with people resorting to extreme measures to gain access to water. The State Sovereignty Act restricts the rights of outsiders, highlighting the depth of the impact of water pollution on social stability and human well-being.

#### **4. Psychological Health**

Water pollution significantly impacts psychological health, as it leads to stress, anxiety, and fear, particularly among families with limited access to clean water. It also destroys livelihoods in agriculture and fishing sectors, causing

further distress. Rising health costs and the inability to control the environment can cause depression and helplessness. Widespread water pollution can also trigger collective trauma, causing a profound psychological challenge.

In the novel the water knife when water becomes a scarce and polluted resource, people live in a constant state of stress, struggling to gain access to clean water amidst a brutal water crisis. The uncertainty of the future, the fear of drought, and the potential consumption of polluted water creates deep anxiety. Many characters in the novel experience psychological distress due to the desperation faced on a daily basis, where water is not only a matter of basic needs, but also a symbol of survival. This situation triggers mental trauma, with characters becoming paranoid and extremely anxious about the safety of the water they consume. A life dependent on increasingly scarce water leaves many people feeling isolated, helpless and hopeless.

The impact of water pollution is also depicted in Phoenix where the suffering of the people and the right of clean water for their lives can be explained in the data below.

*'Are you really going to say people aren't hurting in Phoenix? These water rights are people's lives,' Lucy said. 'Phoenix can rebuild. With water, it doesn't have to be the way it is.'*

*'Come on, Lucy! That place is doomed, no matter what. But we can go north. All of us can go north. You can come, too. There's a place for all of us. We can even get your dog sent up, if that's bothering you.'* (p. 441)

The statement is related more to the conflict caused by water pollution. Lucy tries to explain the plight of the people of Phoenix. In this area, water rights is a very catalytic issue because it is directly related to the lives and welfare of the

population. There is a difference opinion between Lucy and Angel in the second paragraph of the data, where Angel considers that Phoenix cannot be saved and encourages them to find a new and decent place to live. Meanwhile, Lucy still remains with her stance that they will get their rights without having to move from the area. The data above explains that water pollution also has an impact on several characters where they debate between surviving to leave the city or finding a solution to the problem. However, this cannot just be done because they have no connection with one of the workers in the water treatment system.

Water pollution in Phoenix causes drastic changes in a person's individual behavior and character, creating psychological and social instability.

*'The wildness in her eyes. The intensity of her belief. Phoenix made people crazy, he decided. Sometimes it turned people into devils so bad they weren't recognizable as human. And other times it turned them into goddamn saints.*

*Just my luck that I ran into the last goddamn saint in all of goddamn Phoenix. He could almost hear the sicario laughing at him. (p. 442)*

The description illustrates the extreme psychological impact of the water crisis on people and how the situation can affect their behavior and personality. The first paragraph in the data above explains the extreme living conditions in Phoenix, which are so stressful that they drastically change human character and behavior, making some people very selfish and cruel. In the sentence "The wildness in her eyes." The intensity of her belief means psychological instability characterized by madness and extreme beliefs caused by continuous stress and uncertain living situations. Therefore, a populated environment causes frontal changes in humans.

The impact of water pollution is not only in the context of physical health but also social and psychological devastation as shown below.

*A funny thought. His body spilling water like a sprinkler, like in those cartoons he'd watched when he'd been a little kid, where bullets didn't kill, just poked holes in a body.*

*Off in the distance the gunfire continued, sounding like a war. The world falling apart. He was glad he wouldn't be around to see it. He lay still, staring up at the sun, waiting for his heart to stop beating.*

*A shadow loomed over him, Death, at last. La Santa Muerte coming to him. The Skinny Lady coming to gather him up."(p.366)*

This quote depicts a gloomy atmosphere and deep despair, which may be the result of the impact of extreme water pollution. The sound of gunfire in the distance and the feeling that the world is collapsing indicate that the situation has reached a crisis level, affecting people's daily lives. The impact of severe water pollution can lead to social instability and increased conflict, especially when water resources become increasingly scarce or polluted. The warlike atmosphere depicted in the excerpt may reflect the tensions and violence that arise from competition for limited resources.

The sense of hopelessness expressed by the character waiting for death also highlights the psychological impact that severe water pollution may have. The inability to cope with or escape a worsening situation can lead to feelings of hopelessness and loss of hope. Thus, the excerpt shows that the impact of water pollution is not only physical or economic but can also have a very significant impact on people's emotional and psychological well-being.

Overall, water pollution impacts economic, environmental, and psychological health. As clean water sources decline, competition intensifies,

leading to reduced productivity, financial instability, and social inequality. The Southern Nevada Water Authority restricts access to clean water, allowing those with money to buy or pay workers to obtain their rights. This competition can lead to extreme measures, such as sabotage, to gain access to water. Water scarcity also causes conflicts between indigenous tribes and city authorities, migration, and social instability. Addressing water pollution and managing resources is crucial for sustainability.

Water pollution in Phoenix is a significant issue affecting the lives and welfare of the population. It leads to drastic changes in individual behavior and character, creating psychological and social instability. The decline of clean water sources intensifies competition, leading to reduced productivity, financial instability, and social inequality. Water scarcity also causes conflicts between indigenous tribes and city authorities, migration, and social instability. Addressing water pollution and managing resources is crucial for sustainability.

## CHAPTER V

### CONCLUSION AND SUGGESTION

This chapter presents the conclusion and suggestion of the research. It is divided into two parts. First, the researcher concludes the finding of the research. Second, the researcher provides suggestion and recommendation for the next researcher, who are interested in analyzing similar topic ecocriticism in *The Water Knife* by Paolo Bacigalupi in different context.

#### A. Conclusion

Based on the findings in previous chapter, the researcher concludes that the depiction of the effects of water pollution in Bacigalupi's *The Water Knife* shows that chemical waste contamination has a detrimental impact, not only on the environment, but also on society as a whole. In the other side, the processing of water construction that does not involve the correct rules can affect the condition of the water to be consumed by the community. In the novel, the depiction of water pollution in *The Water Knife* is a major issue, with industries dumping toxic waste and climate change droughts making water scarce. Human greed and negligence exacerbate the crisis, leading to conflicts over control. Lake Mead, Las Vegas' water supply, and the Central Arizona Project bombing are among the major contributors. Farmer practices, such as over-pumping and land excavation, also contribute to water pollution. Drilling and hydrofracturing can also cause contamination, posing threats to water quality and human health.

In addition, water pollution also gives rise to competition between various economic, political and environmental interests. This competition can include battles over polluted water resources, access to clean water, and political power associated with control over natural resources. This creates complex tensions between conflicting interests, which can ultimately result in greater social and political conflict. In this case, social political conflict occurs due to social competition in the novel, these involving political rulers in overcoming the problems of the situation. As such, this research highlights the importance of awareness of the impacts of water pollution and the need for action to protect the environment and public health. It also emphasizes the need for a holistic approach that considers economic, political, and environmental aspects in an effort to address water pollution issues and manage water resources wisely.

## **B. Suggestion**

Research in the term of ecocriticism has a very important relevance in understanding and addressing current environmental challenges. ecocriticism allows us to understand the complex relationship between humans and the natural environment, and the impact of these interactions on environmental sustainability. Therefore, understanding, ecocritical research can assist in the development of more effective strategies for environmental conservation.

The researcher might not be perfectly analyzed; there are possible research that the researcher made. The researcher suggests to other researchers who will analyze the novel *The Water Knife* using different theories. Further, in the context



of literature, the researcher suggest that future researchers use the theme of apocalypse, apocalypse can be used to analyze how Bacigalupi describes environmental damage. It might be able to complete other gaps and enrich the approach of ecocriticism. Then, the researcher is waiting for suggestions and critics from the readers and users. So, in the other opportunity, the researcher can improve better research.

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## **CURRICULUM VITAE**



Putri Ayu Lestari was born in Situbondo on February 11, 2002. She graduated from Nurul Jadid Islamic Boarding School, precisely at Nurul Jadid High School besides that, she attended a non-formal institution under the auspices of the cottage, which is called as language development institute (English and Arabic) or can be referred to as FLDI (Foreign Language Development Institute) as a student who graduated in 2020. Precisely in 2020 she continued her studies at UIN Maulana Malik Ibrahim Malang, majoring in English Literature Department, Faculty of Humanities.