

# CHAPTER I

## INTRODUCTION

### 1.1. Background

Environmental crisis is an example of the most overlooked international issues of all time. The issue has been at the same level of importance and its urgency with many other politics and economic issues which usually are in the spotlight, such as states struggle in acquiring South China Sea including both ASEAN countries and international states which is still intense. Another issue that is put into some attention as well is the still ongoing Myanmar situation since February 1, 2021, that produced various positive and negative responses by the people of Myanmar and states around the world.<sup>1</sup> With environmental crisis, it visualizes implicit impacts and effects, and it usually happens in long term period. Therefore, it is apparent, but might be too subtle to be seen by the eyes.

Currently, climate change is one of the most prominent environmental crises that is overlooked. In general, climate change is an environmental phenomenon that takes in a form of long-term change of climate pattern, and it could also mean the increasing temperature in a global scale from the middle of 20<sup>th</sup> century.<sup>2</sup> Besides from being overlooked, climate change also visualizes implicit impacts and effects,

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<sup>1</sup> BBC, "Myanmar Coup: Aung San Suu Kyi Detained as Military Seizes Control," *BBC News* (BBC, February 1, 2021), last modified February 1, 2021, accessed February 27, 2021, <https://www.bbc.com/news/world-asia-55882489>.

<sup>2</sup> National Geographic Society, "Climate Change," *National Geographic Society* (National Geographic, March 27, 2019), last modified March 27, 2019, accessed February 27, 2021, <https://www.nationalgeographic.org/encyclopedia/climate-change/>.

which happens in the long term as well. A publication by New York Times in 1988 showed statements by Dr. James Hansen and other NASA scientists about climate change in the US. They quoted that the earth was warmer than ever especially in the first five months of 1988 with all the carbon dioxide emissions which then affected the happening of global warming and eventually altered the climate patterns. They also mentioned that the climate change already happened, and we needed immediate action to cool down the earth.<sup>3</sup>

However, as we can see today, climate change still occurs and not even a single breakthrough can tackle climate change immediately and effectively since Dr Hansen's statement in 1988. The only policies or actions we have done are not more than the SDGs and Paris Agreement in 2015 to lower the Earth's temperature by two degrees Celsius by 2030. In reality, data published by NASA stated that, the global temperature has still risen in average 2.1 degrees Fahrenheit or about one degree Celsius and the sea levels has risen approximately 3.4 mm per year as result of rising temperature that cause ice melting.<sup>4</sup> Furthermore, in the new development today climate change has been recognized as a crisis, not just a mere issue or phenomenon that just requires awareness, but it needs effective and urgent solutions.

The United Nations Secretary General Antonio Guterres has recognized climate change as humanity's code red, or danger to our existence with the pollution

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<sup>3</sup> Philip Shabecoff, "Global Warming Has Begun, Expert Tells Senate," *The New York Times* (The New York Times, June 24, 1988), last modified June 24, 1988, accessed September 5, 2021, <https://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html>.

<sup>4</sup> NASA, "Climate Change: Vital Signs of the Planet," NASA (NASA, February 17, 2021), last modified February 17, 2021, accessed September 6, 2021, <https://climate.nasa.gov/>.

and global warming which not only provides unhealthy air quality, but also extreme changes in climate patterns. In addition, he added that in 2019 the carbon dioxide, methane and nitrous oxide level has never been higher, and the temperature in the last decade (2011–2020) has been the highest since more than 6,000 years ago. This in turn inflict great effects such as extreme agricultural droughts, heatwaves, extreme precipitation, and even intense cyclones. Therefore, the UN Secretary General has called us to decide and act strictly now to implement inclusive green economy and respond with solidarity and courage towards this crisis.<sup>5</sup>

Diving deeper into the effects, some of the climate change effects includes droughts and heatwaves, which could affect the land soil condition, sea temperature and sea level. Specifically, the rising temperature affect the land moisture which is the key for plantations especially those which are in direct exposure of the sun. These plantations include farmers' plantations like rice paddy field, and corn field which are some of the sources of our primary foods. Yet, because of climate change crisis effect in drought, the farmer's plantations are affected negatively.

This negative effect occurs primarily in tropical countries due to their higher temperature in the regions. Specifically, it majorly affects the lower altitude food plantations since this is where the farmers' plantations mentioned above. The lower altitude food plantations such as fruits, vegetables and rice or wheat crops are vulnerable to the climate change crisis effects. The heat stress from climate change and global warming affects the yield rate to be lower thus lowering the food supply

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<sup>5</sup> United Nations, "IPCC Report: 'Code Red' for Human Driven GLOBAL Heating, Warns UN Chief," *United Nations | UN News Global Perspective Human Stories* (United Nations, August 9, 2021), last modified August 9, 2021, accessed September 5, 2021, <https://news.un.org/en/story/2021/08/1097362>.

in land.<sup>6</sup> If this continues by 2050, where at least we must have 60% increase in agriculture food supply, we might have a food crisis because every one degree Celsius of temperature rise, might lower crop productivity by around 5%.<sup>7</sup>

In the sea, the climate change crisis causes rising sea level, temperature from the heatwaves of climate change effect and exposure to more carbon dioxide and gas substances. This forces the sea creatures like fishery and sea plantations to adapt to this new alerting condition for them. Fisheries and sea animals are met with high level of risks in migrations from lost habitat or even mortalities, because of rising temperatures and heatwaves. This would eventually affect us by causing quality food products from sea scarcer, resulting in lower food supply.<sup>8</sup>

In economic terms, there is supply and demand. More supply than demand means less scarcity and otherwise. In food terms, if the food demand is too high than the food supply, it creates a hunger issue. In addition, this hunger issue is happening around the world. Generally, world hunger issue is a problem in which people do not have enough food to consume in daily life. Furthermore, data by the United Nations stated that, in 2019 there were almost 750 million people who faced this world hunger issue, or it is about 10% of the world's total population.<sup>9</sup> Another statistic shows that about more than 40% of children also dying because of the same

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<sup>6</sup> Cheikh Mbow, *Food Security* (Intergovernmental Panel on Climate Change (IPCC), n.d.), accessed September 5, 2021, <https://www.ipcc.ch/srccl/chapter/chapter-5/>.

<sup>7</sup> Bruce Campbell, "CGIAR Research Program on Climate Change, Agriculture and Food Security," *CGIAR* (Consultative Group on International Agricultural Research (CGIAR), August 12, 2021), last modified August 12, 2021, accessed September 5, 2021, <https://www.cgiar.org/research/program-platform/climate-change-agriculture-and-food-security/>.

<sup>8</sup> International Union for Conservation of Nature, "Ocean Warming," *IUCN* (IUCN, December 5, 2018), last modified December 5, 2018, accessed September 5, 2021, <https://www.iucn.org/resources/issues-briefs/ocean-warming>.

<sup>9</sup> United Nations, "Food," *United Nations* (United Nations, n.d.), accessed February 27, 2021, <https://www.un.org/en/global-issues/food>.

issue.<sup>10</sup> The causes world hunger issue could vary from armed conflict or war, poverty, COVID-19 to climate change crisis. In this specific thesis, it will focus on climate change crisis effects to world hunger issue.

Therefore, assessing and understanding from the explanation mentioned above, with climate change crisis affecting the land soil for farmers' plantations and sea temperatures and condition for sea food products, this might also exacerbate the world hunger issue. With the food supply from land and sea are compromised, we might face not one but two of the most crucial crises for humanity. As we progress towards future time with climate change and world hunger issue go hand in hand, we must act effective and immediately.

Indonesia is one of the tropical countries in the world who is affected by this climate change crisis and world hunger issue. It is also quite rich in resources considering its status as the largest archipelago in the world with more than 17,000 islands in total with five larger islands included.<sup>11</sup> Indonesia is also one of the countries with the largest producers in fishery products according to the FAO in 2014.<sup>12</sup> Yet, Indonesia is also one of the countries threatened by the effects of climate change crisis. With its abundant nature resources in forestry, farmers' plantations and vast sea territory combined with occasional weather disasters, Indonesia is on the track of having an uncertain critical situation from the climate

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<sup>10</sup> Jasmine Owen, "World Hunger: Facts & How to Help," *World Vision Canada* (World Vision Canada, July 23, 2020), last modified July 23, 2020, accessed February 27, 2021, <https://www.worldvision.ca/stories/food/world-hunger-facts-how-to-help#2>.

<sup>11</sup> Embassy of the Republic of Indonesia, "Facts & Figures," *Embassy of the Republic of Indonesia / Washington D.C.* (Embassy of the Republic of Indonesia, n.d.), accessed February 27, 2021, <https://www.embassyofindonesia.org/index.php/basic-facts/>.

<sup>12</sup> Tri Setiya, "15 Wonderful Facts of Indonesian Marine You Never Imagine," *FactsofIndonesia.com* (FactsofIndonesia.com, June 30, 2018), last modified June 30, 2018, accessed February 27, 2021, <https://factsofindonesia.com/facts-of-indonesian-marine>.

change crisis effects especially its effect on world hunger issue. Therefore, it is fascinating and important in seeing and researching how the tropical country with rich resources can potentially contribute to this crisis while also experiencing it first-hand.

Therefore, as mentioned in the title and explained in some pages, it seems interesting and important to see Indonesia's contribution towards the world hunger issue as a consequence of continuous climate change crisis, which will be furtherly broken down in later chapters of this research.

## **1.2. Research Question**

Following up and recognizing the title, which is explained briefly in the background section, this research will particularly put more highlight and focus on the effects of the continuous climate change crisis to the world hunger issue. Then, this research will discuss about Indonesia's climate change and world hunger situation and Indonesia's contribution towards the crisis which is formulated into several questions as written in followings:

1. How does continuous climate change crisis affect the world hunger issue?
2. How does Indonesia contribute to the world hunger issue as a consequence of continuous climate change crisis?

## **1.3. Research Objective**

The objective of the research is to explain the ways continuous climate change crisis affect the world hunger issue. As written in the background, climate change crisis affects land and sea lives which where our food comes from, therefore it could affect the world hunger issue which will be explained deeper in the analysis chapter. Afterwards, this research also aims to see Indonesia's contribution to world hunger issue as a consequence of continuous climate change crisis. In addition, climate change crisis and world hunger issue are globally interrelated issue that affect everyone, including Indonesia. Therefore, international cooperation is needed along with Indonesia's contribution to solve climate change crisis and world hunger issue which we will see deeper in future chapters.

#### **1.4. Research Significance**

This research is made in an expectation to not only provide a better understanding about continuous climate change crisis but also how it affects many aspects in this world specifically world hunger issue in this research. This research is also made to spread awareness about the continuous climate change as it is a crisis concerning our world, habitat and our existence which produce the suitable living place for us and provide the resources of our needs such as food which is affected from this continuous climate change crisis.

Aside from the significance mentioned above, this research is also made to observe and understand how Indonesia is rich in resources particularly in natural resources for food and how it can contribute to solve the critical issue of world hunger issue as a consequence of continuous climate change crisis. However, this

research is also made to observe, despite the rich resources that Indonesia have, it might also be affected and be faced by the climate change crisis and the world hunger issue. Therefore, by comprehending how climate change crisis affect hunger issue in Indonesia, it could give a better insight on how even one of the countries with rich resources are faced by the crisis.

Also, by comprehending what Indonesia have in its natural resources to solve this crisis, it can give scholars a better understanding in contribution to solve this issue and have awareness towards the climate change crisis that is affecting the world hunger issue. Lastly, through this is research as well, hopefully the readers will understand and have certain ideas on how to contribute in tackling the now considered crisis of humans' existence, lives, and well-being.

### **1.5. Structure of Thesis**

The first chapter of the thesis consists of background, research questions, research objective and research significance. This chapter will give a preview about this thesis's content about what is going to be discussed in further chapters of this research.

The second chapter will consist of two parts, the literature review, and theory and concepts. Literature review part will talk about peer reviewed sources about climate change crisis and its effects, world hunger issue, and Indonesia's situation on world hunger issue. It will then be followed by theory and concepts part which will be used as a framework for this thesis.

The third chapter of the thesis will focus on explaining the methodology that will be used in this research. Furthermore, it will elaborate what research approach and research method that will be used. Then, it will explain how the data will be collected, and finally how the data will be analyzed.

The fourth chapter of the thesis as the core of this research, will explain the analysis of the data collected. Furthermore, this part of the research will explain about climate change crisis effects to world hunger issue and how Indonesia contributes to world hunger issue as a consequence of continuous climate change crisis.

The fifth chapter of the thesis will be the conclusion part where it will sum up this whole thesis discussion. It will consist of the conclusion part itself and recommendation part that will give suggestions for future studies regarding the topic, which is Indonesia's contribution to world hunger issue as a consequence of continuous climate change crisis.