

The Impact Of Global Climate Change On Environmental Migration In The Asia Pacific Region

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Abstract

Climate migration is an issue that has re-emerged along with the increasing threat of natural disasters and climate change. The complexity of international migration issues today is not only related to demographic factors, conflict, war, and economic factors. However, the implications of global climate change can become push and pull factors on the migration process. This study aims to find out the correlation between international migration issues and climate change that occurs in the Asia Pacific region. The theoretical frameworks used are the theory of international migration (Everett S. Lee) and the conceptual 'environmental migration' (Graeme Hugo). The research method used is qualitative research by prioritizing data collection based on literature studies and internet-based research. The results of this study show that there is a high risk due to climate change that must be faced by countries in the Asia Pacific region and the driving factors of migrating people in the Asia Pacific region are interpreted as mitigation measures from the threat of natural disasters.

Keywords: Asia and the Pacific, Climate Change, Climate Migration, Environmental Migration, International Migration

Abstrak

Migrasi perubahan iklim atau *climate migration* menjadi isu yang kembali muncul seiring dengan meningkatnya ancaman bencana alam dan perubahan iklim. Kompleksitas isu migrasi internasional dewasa ini tidak hanya berkaitan dengan faktor demografi, konflik, perang, maupun faktor ekonomi. Namun, implikasi dari perubahan iklim global dapat menjadi *push and pull factors* terhadap proses migrasi. Penelitian ini bertujuan untuk mengetahui korelasi antara isu migrasi internasional dan perubahan iklim yang terjadi di kawasan Asia Pasifik. Kerangka teoritik yang digunakan adalah *theory of international migration* (Everett S. Lee) dan konseptual 'environmental migration' (Graeme Hugo). Metode penelitian yang digunakan adalah penelitian kualitatif dengan mengedepankan pengumpulan data berbasis studi literatur dan *internet-based research*. Hasil dari penelitian ini menunjukkan adanya risiko tinggi akibat perubahan iklim yang harus dihadapi oleh negara-negara yang berada di kawasan Asia Pasifik serta faktor pendorong bermigrasi masyarakat di kawasan Asia Pasifik dimaknai sebagai tindakan mitigasi dari ancaman bencana alam.

Kata kunci: Asia Pasifik, Migrasi Internasional, Migrasi Lingkungan, Migrasi Perubahan Iklim, Perubahan Iklim

Introduction

The movement of people across national borders, not only due to economic, political, or in conditions of conflict or war (Nanto, 2016). However, the reasons for migrating today have high complexity, in addition to demographic factors also appear the reason for climate migration (Satria, 2011). Climate migration is becoming an issue that re-emerges along with increasing natural disasters and changes in the earth's temperature that become hotter from year to year (Zaenudin, 2021).

This is supported by a report issued by the Asian Development Bank (ADB). The ADB states that their focus on migration caused by climate change has grown rapidly in recent years (Asian Development Bank, 2012). Other findings released by the World Bank have predicted the implications of climate change could force 143 million people to migrate to other countries by 2050 (World Bank, 2018a).

Long before that, the IPCC has focused on this issue ever since the 1990s, the Intergovernmental Panel on Climate Change (IPCC) has explained the implications of climate change, one of which is the displacement on the massive scale (human migration) (Brown, 2008).

IPCC and the IOM (International Organization for Migration) collaborated in 1992 to discuss the study of climate change and migration in a report entitled 'Migration and Environment' through the Refugee Policy Group agenda. The report states that mass migration has implications for the global decline in environmental quality. This will have an impact on the spread of climate migration to the world (IOM, 2009).

The implications of climate change on migration are essentially divided into two factors. The first factors are caused by climates such as global warming, sea-level rise, storms, floods, and other natural disasters. Meanwhile, the second factor is influenced by non-climatic factors such as population growth, public awareness in the face of natural disasters, and government policies related to environmental issues (Brown, 2008). Both factors are driving the reason for migrating when looking at the environmental implications that can threaten human life.

The situation becomes increasingly complex in terms of globalization and urbanization that has developed very fast and broad, the appearance of global health threats such as viruses, the crisis of clean water willingness in the future, deforestation, increased air pollution, and the conditions of the destination of

immigrants who have ecosystems and society different from their place of origin (Boano et al., 2008)

Previous studies that have reviewed the relationship between issues of migration and climate change include coming from the University of Adelaide, Graeme Hugo. Hugo's research entitled 'Environmental Concerns and International Migration' was published in a Journal of International Migration Review. Hugo describes international migration as a result of environmental turmoil and climate change. Conceptually Hugo looked at the extent to which these environmental factors or climate change became valid determinants in a migration process (Hugo, 1996).

Another study entitled 'Climate Change and Migration in Asia and the Pacific' was issued by a multilateral bank institution that helps reduce poverty in a region, the Asian Development Bank (ADB). The study conducted by the ADB mentioned in detail the approach of migration due to climate change that occurred in the Asia Pacific region. In addition, the ADB looks at the relationship between climate change and migration by comprehensively describing each sub-chapter of discussions such as the study of East Asia, Southeast Asia, South Asia, Central Asia, and the Pacific. In this study,

the Asian Development Bank also designed policies and financing to be able to overcome migration due to climate change that occurred in the Asia and Pacific region (ADB, 2011).

The Asia Pacific region's study was a major highlight in the study. This is because the Asia Pacific region is a region with a population of about 60 percent of the world's population. In addition, the Asia Pacific region is experiencing rapid and massive economic and social transformation. The social transformation that occurs in the Asia and Pacific region is seen from the pattern of internal migration from coastal to urban areas as well as from rural to urban areas. Population displacement due to the environment in the region has grown rapidly in recent years. The dynamics of environmental migration developments in the Asia and Pacific region will be the focus of research (ADB, 2011).

Theoretical Framework

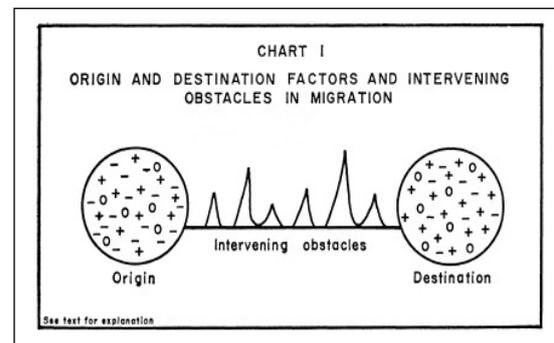
The definition of climate change based on the 'Glossary of Terms' issued by the IPCC in 2012 describes climate change as a change in the climate situation that can be identified through statistical tests by looking at average changes, variable traits, and those that can last for a long time (usually lasting several decades or more). Climate change is also caused by

several variables including natural variables or as an impact of human activities (Oates, 2012).

While the theoretical term international migration according to Everett S. Lee has a driving factor and towing factor when an individual or individual group decides to migrate. Everett S. Lee revealed the idea in the writing entitled 'A Theory of Migration' published in the *Demography Journal*, Volume 3 Number 1 in 1966. The idea that Everett delivered was identical to the term 'push and pull factor of migration'.

Push factors are related to a person's decision to migrate such as whether because of gaps in obtaining rights, poverty factors, and opportunities to obtain the same rights as citizens. These push factors are then correlated once with conditions that occur in the country of origin or place of origin of the migrant. Meanwhile, the pull factor of a person's or group of individuals decisions in migrating is related to the availability of adequate employment at the destination, guaranteed social services, and family member reasons to social networks at the destination. Pull factors are of course influenced by the conditions at the destination of the migrants (Lee, 1996).

Figure 1 Diagram of the Push and Pull Factor of Migration



Source: (Lee, 1996)

The implications of climate change do not only occur within the framework of international migration alone. However, it can also give rise to internal migration processes and patterns. Internal migration according to a report issued by the World Bank Group entitled 'Groundswell Preparing for Internal Climate Migration' in 2018, mentioned that internal migration is the movement of individuals or groups of individuals where it is still carried out within the boundaries of the country (World Bank, 2018b).

Conceptual linkages between environmental issues and migration, one of which was written by Graeme Hugo in his journal entitled 'Environmental Concerns and International Migration'. Hugo explained at the beginning of his research that international migration was the result of a process of environmental change or climate change. Temporary and permanent migration will be based on human strategies in survival when faced with a

disaster situation in the form of climate and non-climate disasters (Hugo, 1996).

Environmental factors or climate change are strong factors when associated with the movement of people from their place of origin to their destination. Conceptually, it is also referred to as 'environmental migration'. This certainly does not rule out the possibility of other terminology that explains the correlation between the two issues. However, this study will mention two terms in environmental migration. Forced movement is a term for forced displacement. Forced migration means that environmental migration is caused by natural conditions that occur suddenly such as flash floods, tsunamis, earthquakes, storms, and others. Meanwhile, the term voluntary movement is a voluntary environmental migration. The voluntary move was made due to changes in the environmental conditions in which he lived. Such as environmental degradation that affects their livelihoods. Although basically, this environmental degradation factor is not a major factor in the process of environmental migration (Dewi, 2018).

In addition to, using conceptual relations between climate change and international migration as delivered above. The author will also use a correlation between environmental models and

international relations. In the study of international relations, the researchers realized that environmental issues were one of the studies that still needed further research mainly related to cooperative approaches to protecting the environment in the future (Pacheco-Vega, 2017).

Although, there are still questions that arise in the minds of researchers about whether the international cooperation efforts that have been carried out indeed have a real effect on the quality of the environment and the welfare of the community. Meanwhile, the real form of the relationship between environmental problems and international relations is 'megaconferences' which focuses on moderate environmental problems and will be faced in the future. This conference has the purpose to reach an agreement and consensus on environmental issues. This megaconferences brings together various representatives from the government, non-governmental organizations, academics, and environmental researchers (Pacheco-Vega, 2017).

On the one hand, in environmental issues, there are two different paradigms. The first paradigm sees that overall environmental issues are the responsibility of the community and individuals to protect. Meanwhile, another paradigm mentions that the responsibility to

maintain and protect the environment is the state government. One way that can be used to understand the above debate is to use the concept of the global environment. The concept of this global environment is interpreted by 'environment' as joint global property. Because after all these environmental problems are global. Although, in reality, international cooperation is difficult to achieve. For example, there is a superpower state rejection to work together in solving global environmental problems (Pacheco-Vega, 2017).

It is known that for many years the United States declined to sign an international agreement on climate change such as the Kyoto Protocol, before the 2015 Paris Agreement. This United States foreign policy finally prevents various international cooperation efforts in reducing carbon emissions globally (Pacheco-Vega, 2017). Each country's policy of being responsible for reducing carbon emissions is part of identifying their decisions, strategies, and interactions with other countries (Bojang, 2018).

In this study, the author will apply several theoretical and conceptual components. One of them is conceptual climate change. The concept of climate change is used to look at climate change that occurred in the Asia Pacific region in

recent decades. Meanwhile, to look at the implications of global climate change on environmental migration in the Asia Pacific region, the authors used the 'push and pull factor of migration'. The driving factor is related to the situation that occurs in the country of origin of migrants including environmental changes that can affect their lives and livelihoods.

Meanwhile, the pull factor from the migration of this environment is a safe place to live and survive. In looking at the process of population displacement that is experiencing environmental degradation, specifically the author will use the term 'environmental migration'. From the concept of 'environmental migration' then the author focuses on the term 'forced migration' or forced migration due to environmental situations that put them in danger.

On the other hand, the debate around climate change and its impact on migration patterns is closely related to controversies on social, political, ecological justice, and economic issues. This international debate between industrialized countries (Global North) and developing countries (Global South) refers to the different impacts of climate change and the distribution of clear responsibility for reducing carbon emissions globally (Klepp & Herbeck, 2016).

Research Methods

This research focuses more on the type of qualitative research to be able to describe in a narrative the relationship between the issue of climate change and the issue of international migration. Qualitative research is an approach that prioritizes understanding meaning and exploration efforts derived from humanitarian and social issues both derived from the opinion of an individual or a group of individuals (John W, 2013).

Qualitative research generally refers more to data collection techniques, the use of strategies, or data analysis techniques that rely on non-numerical data (Bakry, 2016). This study used data collection strategies based on literature studies and internet-based research. It is useful for the authors to look at data related to climate change and international migration issues from various studies that have been conducted by researchers of this study in previous years.

Results and discussions

The Asia Pacific region is a region with increasing economic growth, manufacturing, and urbanization from year to year. As well as being the most dynamic region in the global economy (International Monetary Fund, 2018). The massive and rapid social and economic transformation of the Asia Pacific region is

home to 4 billion people representing 60 percent of the world's population (Asian Development Bank, 2012). The region also accounts for more than 30 percent of the total international migrant population worldwide (Afira, 2021).

In addition to the development of massive socio-economic dynamics. The Asia Pacific region is one of the world's most vulnerable regions affected by global climate change. With the high level of risk from climate change and natural disasters that hit the region, it can also have implications for human displacement both through internal migration and international migration.

Research conducted by the ADB (Asian Development Bank), stated that every year there will be an increase in the number of people who have to move or migrate due to climate change and extreme weather (ADB, 2011). One of the causes of climate change is global warming. Global warming is caused by the process of increasing greenhouse gas activity and the development of industrial estates that dispose of gases such as carbon dioxide, methane (CH₄), chlorofluorocarbons (CFCs), and nitrogen oxides (Nox). The buildup of exhaust gases carried out over a long period of time and excessively, will survive in the Earth's atmosphere and can

damage the Earth's ozone layer (Dadang, 2012).

There is a difference between countries in the north (Global North) and countries in the south (Global South). Global North became a term for the world's developed countries with high state incomes. In addition to being a developed country with high state income, countries to the north are also suspected of producing high greenhouse exhaust gases as well. This is evidenced by the results of research that states in the north have contributed 1,032 teratons of carbon dioxide, a number that is far more than the countries in the south which only contribute 484 gigatonnes of carbon dioxide (Risdiyanto, 2021).

If there is a large amount of carbon dioxide trapped in the Earth's atmosphere and persists for a long period, it can certainly trigger a rise in earth's temperature. In 2011, the earth's temperature has increased by 1.09 degrees Celsius. This issue will become a crucial issue in the future if there is no real action at this time. The increase in earth's temperature is predicted to reach 1.5 degrees Celsius in the next 20 years. (Zaenudin, 2021).

The unease was also expressed by the UN Secretary-General, António Manuel de Oliveira Guterres. Guterres

stated that this is code red for humanity. In addition, ever-increasing greenhouse gas emissions could damage Earth's ozone layer and put us as humans in danger. In addition, increasing greenhouse gas emissions can damage the ozone layer of the earth and put us as humans in dangerous conditions. Guterres' statement comes from a report issued by the IPCC in a panel of discussions entitled Sixth Assessment Report Working Group I (The Physical Science Basis) (UN, 2021).

Focus on the Study of the Asia Pacific Region

The Asia Pacific region consists of regions that include Central Asia, South Asia, East Asia, Southeast Asia, as well as countries in the Pacific such as Australasia, Micronesia, Melanesia, and Polynesia (Sucipto & Mulyana, 2021). This area is one of the global areas most affected by climate change. Implications such as a significant increase in temperature, changes in rainfall patterns, rising sea levels, floods, and more intense tropical cyclones. This risk becomes more vulnerable considering the high level of population density and the complexity of population mobility in the Asia Pacific region (ADB, 2011). In addition, the rapid expansion of technology and communication facilities and the ease of affordable travel choices will encourage

migration currents in the region. About 80 million of the estimated 200 million international migrants worldwide settled in Asia and the Pacific region (Asian Development Bank, 2012).

The IOM report stated that the World Bank had identified countries such as Bangladesh, India, Myanmar, Pakistan, and the Maldives as a vulnerable areas to the threat of climate change (droughts, floods, rising sea-levels, and storms). Meanwhile, in Southeast Asia, countries in the Mekong River (Indonesia and the Philippines), have a high risk of coastal erosion, flooding, and hurricanes. Rising sea-levels are also threatening major cities in Southeast Asia such as Jakarta, Indonesia, and urban areas in South Asia. The implications of sea-level rise are also felt by countries in the Pacific such as Kiribati and Tuvalu (IOM, 2017).

IOM has also been divided two clustered natural disaster thrips that occur in the Asia Pacific region. The threat of natural disasters that occurred slowly (slow onset events) and the threat of natural disasters that occurred suddenly (sudden onset events). Slow onset events consisting of:

- a. Sea level rise occurs in the Maldives, Philippines, Tuvalu, Kiribati, and Vanuatu.

- b. Glacial retreat occurs in countries such as Nepal, Bhutan, and countries in East Asia.
- c. Desertification occurs in Pakistan, Mongolia, and China.
- d. Coastal Erosion or salinization occurs in Bangladesh, India, Cambodia, Sri Lanka, and Fiji (IOM, 2017).

Meanwhile, the threat of natural disasters that occur suddenly or IOM refers to the term as (Sudden Onset Events) is classified into the following:

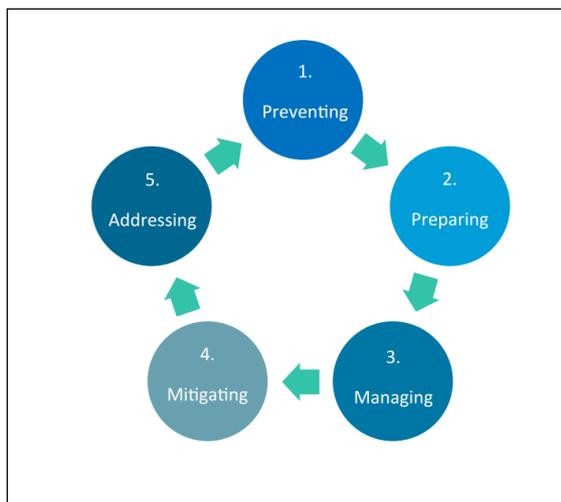
- a. Floods or Storm Surge occurred in Pakistan, India, Bangladesh, Myanmar, Cambodia, Laos, Thailand, Indonesia, and Micronesia.
- b. Cyclones occurred in Bangladesh, India, Myanmar, Pakistan, the Philippines, Indonesia, Fiji, Vanuatu, Timor-Leste, and Viet Nam.

The increase in the intensity and frequency of natural disasters that occur suddenly or slowly (Sudden Onset Events and Slow Onset Events), can eliminate agricultural productivity and have a direct impact on the migration flow of residents from rural areas to urban areas (IOM, 2017).

The opinion of experts states that the dynamics of international institutions can lead classical liberalism to believe in regional peace and integration because the role of an international institution can

increase cooperation among the countries of the region (Anam, 2020). Likewise, the involvement of world organizations under the United Nations such as the International Organization for Migration (IOM) on migration, environment, and climate change issues in the Asia Pacific region, became one of the benchmarks for a deeper look at migration and environmental issues. IOM in the report specifically focused on the Asia Pacific region said that in 2016 there were 20 million people, equivalent to 82.8 percent of the total global refugee population due to natural disasters in the Asia Pacific region.

Figure 2 IOM's Approach



Source: (IOM, 2017)

The IOM's main objective in managing environmental migration is divided into three approaches. First, to prevent forced migration from the implications of environmental change.

Second, provide assistance and protection to the affected population and seek long-term solutions to the situation. Third, IOM aims to facilitate migration as a form of population adaptation strategy in the Asia Pacific region from climate change (IOM, 2017).

In addition, IOM also has several projects developed in the Asia Pacific region related to migration and climate change issues. IOM Projects are carried out in several countries in the Asia Pacific region such as:

a. *Climate Change and Disaster Related Migration in Mongolia.*

The project aims to support the Mongolian government and the related parties to actively, proactively and coordinated in dealing with natural disasters in the future and the implications of natural disasters such as forced migration of climate change. This project support migrants in the Ger district, Ulaanbaatar in making better decisions when they will migrate. The transfer is expected that IOM can be carried out safely, recorded, and there is access to adequate services.

b. *Assessing Vulnerabilities and Responses to Environmental Changes in Cambodia.*

The project was undertaken to document the dynamics of local people's

livelihoods, observing migration patterns from Cambodia's rural communities and their response to climate and environmental change occurring in their homes.

c. *Assessing the Climate Change, Environmental Degradation and Migration Nexus in South Asia.*

Through this project, IOM aims to contribute to the formulation of national and regional policies related to the impact of climate change and environmental degradation on migration flows.

d. *Strengthening Corporate Responsibility to Eliminate Exploitation, Slavery, and Trafficking in Supply Chains (CREST)/ Bangladesh, India, and Myanmar.*

In this project, the IOM seeks to promote and protect the rights of vulnerable migrant workers and seeks to improve understanding of the correlation between labor migration, the environment, and climate change in central and the Southeast Asia.

e. *Migration, Environment, and Climate Change: Evidence for Policy (MECLEP).*

The project aims to contribute to a universal understanding of migration and climate change. Specifically, to formulate policies regarding the migration process including related to relocation plans. It

serves as a strategic effort in adapting to climate change.

f. *Development of a National Framework for Durable Solutions in Vanuatu.*

The IOM provides technical support in the development of national policies related to climate change and environmental migration. This policy aims to mainstream ideas related to internal migration such as the availability of health services, education, land availability. This is to build national development planning in managing the impact of environmental migration that occurs in Vanuatu.

g. *Pacific Adaptation through Labour Mobility in the Low-lying Atoll States of Kiribati, Marshall Islands, and Tuvalu (PALM).*

The project aims to increase data collection on labor migration and the labor market in three Pacific countries such as Kiribati, the Marshall Islands, and Tuvalu. In addition, to support the development of information facilities and the development of labor migration flow policies in the Marshall Islands (IOM, 2017). The issue of climate change is significant, especially for people in the Pacific Ocean. This is because it will concern the existence of islands in the Pacific (Achsin & Rosalinda, 2021).

The most important thing about solving this environmental problem is that there is a cooperation between developed and developing countries, in addition to assistance from agencies under the United Nations such as the IOM. Australia is one of the developed countries located in the Asia Pacific region. Australia states that they contribute to high carbon emissions and want to be responsible for the impact of climate change, especially for archipelagic countries in the Pacific Ocean (Fitzgerald, 2022). Islands countries in the Pacific have low emission contributions but get the most significant effects of climate change.

The impact of climate change on archipelagic countries in the Pacific is a large-scale forced migration. The destination country forced migration is their neighboring country, Australia and New Zealand. Although there is no obligation under international law that regulates the acceptance of environmental migration, Australia allows environmental migration to be in its country. The Australian government states that this is an obligation to help neighboring countries in the Pacific as the implementation of the signing of the 2015 Paris Agreement through the doctrine of 'good neighborliness' (Fitzgerald, 2022)

Based on a scientific study conducted by Douglas K. Bardsley and Graeme J. Hugo in 2010 entitled 'Migration and Climate Change: Examining Thresholds of Change to Guide Effective Adaptation Decision-Making', explained that the activities and processes of climate change migration are re-interpreted as a mitigation measure of the risks of climate change (K. Bardsley & J. Hugo, 2010).

According to Bardsley and Graeme Hugo, three processes influence migration patterns from climate change, including increased experience of the risk of natural disaster threats. Second, there is a change in the trend of conditions and utilization of natural resources and the third is a change in the perception of the risk of climate change impacts either from direct or real experience.

The focus of the Asia Pacific region study was also conducted by Bardsley and Graeme Hugo, in the paper explained that there are several implications of climate change on the migration process. Influencing factors include the large pressures of the situation and environmental and demographic conditions of the Asia Pacific region. Second, the implications of extensive and massive climate change. As well as, the percentage of the population in the Asia Pacific region is vulnerable as the level of

poverty is great and their lives depend on the natural and environmental conditions (K. Bardsley & J. Hugo, 2010). This condition is increasingly difficult to deal with less developed countries and developing country's small islands. Instantly influenced by the negative impact of climate change, even though they contribute the least to climate change.

Contradictory, developed countries with high economic revenues are free to expand the industries in their country to boost the national economy. On the other side, the burden of climate change must be borne by the people of countries that are vulnerable to climate change. Every year, millions of people must face extreme droughts, floods, and tropical storms (UN OHRLLS, 2019).

In overcoming this challenge a joint effort is needed from various parties or stakeholders related to integrating climate change issues and migration at various levels of government, especially in the field of development planning, migration policies, adaptation policies, and climate mitigation policies. Regional cooperation is also needed to find solutions to the problems faced in the Asia Pacific region.

Conclusion

The linkages of international migration and climate change will be a crucial topic in the future. The economic growth and development of demographics in the Asia Pacific region are one of the challenges for countries in the region in the face of the threat of climate change. High population density and about eighty percent of the number of climate change migrants worldwide are in the Asia Pacific, certainly adding to the list of jobs that countries in the Asia Pacific region must complete.

The policies of each country and cooperation with international organizations under the United Nations such as IOM are needed to resolve migration issues due to this climate change. The vigilance of the increase in the temperature of the earth globally has been delivered by the IPCC becomes a red code for humanity in dealing with environmental degradation. The implications of climate change are also predicted to force 143 million people to flee to other countries in 2050.

The terms Global North and Global South are becoming contradictory topics when people in the Asia Pacific region who have livelihoods dependent on nature and the environment must be negatively impacted by global climate change. The

largest contribution of rising earth temperatures is actually done more by countries in the Global North than countries in the South. However, Australia firmly claimed responsibility for its country's carbon emission contribution, which then resulted in massive environmental migration occurring from island countries in the Pacific to Australia and New Zealand. This Australian government policy is then referred to as the implementation of obligations as a developed country using the doctrine of 'good neighborliness'.

There is a threat of natural disasters that occur in a vulnerable time that is slow but there is also the threat of natural disasters that occur suddenly. The Asia Pacific region, based on World Bank data, is one of the world's most vulnerable regions to the implications of climate change. Sea-level rise, floods, landslides, environmental degradation, coastal erosion, and declining glaciers could put some four billion people in the Asia Pacific region in danger.

IOM as one of the agencies under the auspices of the United Nations has carried out its functions in the Asia Pacific region with several projects related to the process of migration and climate change. Countries such as Mongolia, Cambodia, Myanmar, Bangladesh, India, Kiribati,

Marshall Islands, Vanuatu, and Tuvalu, have been together with IOM in increasing mitigation awareness of natural disaster threats and adapts to climate change that occurs.

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