

INTERNATIONAL LEGAL RESPONSIBILITIES FOR SEA LEVEL RISE

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Abstract: During the United Nations' early 2023 hearing on sea level rise, United Nations Secretary-General António Guterres emphasized that “the impact of rising seas is already creating new sources of instability and conflict”¹. From an international legal perspective, sea level rise poses “unthinkable” risks, with profound impacts on security, international law, human rights, and social structure, etc., which leads to large migrations in some vulnerable areas. Research on the relevant legal consequences as well as international legal responsibilities on sea level rise is necessary to prevent unwanted future damage to humanity. This article focuses on clarifying the causes leading to current sea level rise, the consequences, and the legal implications of this issue, thereby determining the international legal responsibilities of the parties and taking the first steps to provide relevant suggestions to prevent the above consequences. Besides, the article also provides some advice for the case of Vietnam.

Keywords: sea level rise, international legal responsibility, non-traditional security.

INTRODUCTION

This article examines the international legal responsibilities related to rising sea levels, a phenomenon increasingly driven by climate change and human-induced global warming. It analyzes the legal implications under international law, including state obligations, the no-harm principle, precautionary measures, and the erga omnes doctrine. Drawing on climate data and legal doctrine, the paper discusses the impacts on territorial integrity, human rights, maritime boundaries, and the subject status of disappearing island nations. The article also evaluates the responsibilities of major greenhouse gas-emitting states and highlights Vietnam's legal vulnerabilities and response strategies. Finally, it proposes legal reforms and cooperation frameworks to address compensation, adaptation, and normative gaps in international law. This contribution seeks to clarify the foundational legal duties of states in confronting sea level rise and to foster greater international accountability in the face of environmental transformation.

1. Introduction

Sea level rise is known as the increase in water levels in the world's oceans due to the impact of global warming. In 2021, global mean sea levels set a new record high—97 mm (3.8 inches) above 1993 levels². This figure is expected to continue to rise in the near future. The fact that sea levels are continuously increasing and breaking previously set records is a prediction for other related issues.

In fact, the problem of rising sea levels comes from global warming, which is caused by the effects of climate change. However, these natural impacts are not obvious but also come from human actions in dealing with environmental issues. Therefore, determining the international legal responsibility of relevant entities is a necessary issue to prevent and limit impacts on the environment, especially the

¹ UN News (2023), “Sea level rise poses ‘unthinkable’ risks for the planet, Security Council hears”, <https://news.un.org/en/story/2023/02/1133492>, accessed 14/6/2023.

² Rebecca Lindsey (2022), “Climate Change: Global Sea Level”, <https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level>, accessed 30/6/2023.



issue of sea level rise, and at the same time, to determine the responsibilities of relevant parties towards entities seriously affected by the sea level rise.

This article is divided into four parts: Part 1 identifies the causes that directly affect the current sea level rise, which identifies factors influenced by humans; Part 2 clarifies the consequences and legal implications of the sea level rise; and Part 3 determines international legal responsibility for sea level rise and proposes a related legal framework. In Part 4, the article focuses on clarifying some recommendations for Vietnam.

2. Main causes of sea level rise

Based on research by scientists, there are three main causes leading to sea level rise in recent years, including:

(1) Thermal expansion of sea water: Global warming has caused the overall average temperature of sea level to increase. When the water in the oceans heats up, physical impacts cause the volume of seawater to expand. About half of the sea level rise over the past 25 years has been due to the warming of the oceans, which has increased the volume of sea water ³.

(2) Melting of glaciers: Normally, ice blocks naturally melt in the summer and condense through snowfall in the winter; this process repeats according to the seasonal cycle, which is generally enough to balance the melting process. However, in recent times, the Earth's temperature has continuously increased due to global warming, causing the amount of ice to melt in the summer to exceed the amount of snow that falls in the winter. This creates an imbalance between runoff and ocean evaporation, causing sea levels to rise⁴.

(3) Loss of Greenland and Antarctica's ice sheets: As with mountain glaciers, increased heat is causing the massive ice sheets that cover Greenland and Antarctica to melt more quickly. Scientists also believe that meltwater from above and seawater from below is seeping beneath Greenland's ice sheets, effectively lubricating ice streams and causing them to move more quickly into the sea, which has increased the rate of sea level rise ⁵.

Thus, most of the causes of sea level rise are due to global warming. So, the question is, why is the Earth's temperature constantly increasing every year? There are many causes of global warming stemming from both natural and human factors. This article focuses the legal responsibilities of humans in general and countries in particular are causing to the Earth.

(1) Increased greenhouse gas emissions

The greenhouse effect is a phenomenon in which the Earth's air heats up due to the Sun's shortwave radiation penetrating the atmosphere and reaching the ground. When this radiation hits the ground, it will absorb and heat up the ground. Then, from the ground, long waves will be radiated back into the atmosphere to absorb CO₂, causing the air to warm up. Greenhouse gases mainly include: water vapor, CO₂, CH₄, N₂O, O₃, CFC gases. The causes of these greenhouse gases mainly come from human activities, as follow:

(i) Burning fossil fuels to generate electricity and heat is one of the causes of global warming because it releases carbon dioxide and other heat-trapping gases into the atmosphere ⁶. Currently, most activities serve human needs such as: heavy industrial production, maintaining the operation of

³ Christina nunez và National geographic staff (2023), "Sea levels are rising at an extraordinary pace. Here's what to know", <https://www.nationalgeographic.com/environment/article/sea-level-rise-1>, accessed 10/8/2023

⁴ Christina nunez và National geographic staff (2023), "Sea levels are rising at an extraordinary pace. Here's what to know", <https://www.nationalgeographic.com/environment/article/sea-level-rise-1>, accessed 10/8/2023

⁵ Christina nunez và National geographic staff (2023), "Sea levels are rising at an extraordinary pace. Here's what to know", <https://www.nationalgeographic.com/environment/article/sea-level-rise-1>, accessed 10/8/2023

⁶National Geographic Society (2022), "Sea Level Rise", <https://education.nationalgeographic.org/resource/sea-level-rise/>, <https://education.nationalgeographic.org/resource/sea-level-rise/>, accessed 20/8/2023.



buildings, producing food and necessary necessities, as well as living needs ⁷. In addition, the use of raw materials for the needs of transporting people and goods is also the main factor creating greenhouse gases, especially carbon dioxide emissions. Transport accounts for nearly one quarter of global energy-related carbon-dioxide emissions. And trends point to a significant increase in energy use for transport over the coming years ⁸.

(ii) Large-scale livestock farming unbalances the ecosystem and produces large amounts of methane, a greenhouse gas. Additionally, some types of cases also emit nitrogen oxides, another greenhouse gas ⁹.

(2) Decreased forest area

Plants and trees play an important role in regulating the climate because they absorb carbon dioxide from the air and release oxygen back into it. Forests and bushland act as carbon sinks and are a valuable means of keeping global warming to 1.5°C ¹⁰. There are two main causes leading to the decline in forest area in the world: (i) due to natural impacts: forest fires, land loss, drought, saltwater intrusion, etc. However, these causes come from the consequences of global warming. And (ii) due to human factors: burning forests or deforestation. When vegetation is removed or burned, the stored carbon is released back into the atmosphere as CO₂ which contributes to global warming¹¹. It is estimated that every year about 12 million hectares of forest are destroyed. Deforestation, along with agriculture and other land-use changes, has increased global greenhouse gas emissions by about a quarter ¹².

Thus, considering the main causes leading to global warming and sea level rise, it can be concluded that human activities are a direct threat. In particular, countries with large emissions of greenhouse gases causing the greenhouse effect and ecological imbalance are subjects that need to be re-evaluated and specific legal responsibilities determined.

3. Impacts and international legal implications of sea level rise

In her speech at the United Nations Security Council, Ms. Coral Pasisi, Climate Change Director of the Pacific Community and President of the NGO, Tofia Niue, she warned that, by 2050 - “within the lifetime of our children and grandchildren” - sea level rise will have exceeded at least one metre for most small island developing States, a shift that will last for thousands of years. In fact, the consequences of rising sea levels have been creating serious threats to non-traditional security as well as the subject status of countries.

3.1. Impacts of sea level rise

With more than 70% coverage of the Earth's surface, seas and oceans play an extremely important role in human life, as well as the sustainable biological structure of the environment and the stability of the environment. Even small changes in sea level will have a strong impact on many ecosystems, biodiversity and natural resources, deeply affecting many aspects of human social life worldwide. In

⁷ United Nations, “Causes and Effects of Climate Change”, <https://www.un.org/en/climatechange/science/causes-effects-climate-change>, accessed 30/8/2023.

⁸ United Nations, “Causes and Effects of Climate Change”, <https://www.un.org/en/climatechange/science/causes-effects-climate-change>, accessed 30/8/2023.

⁹ WWF Australia, “Causes of global warming”, <https://wwf.org.au/what-we-do/climate/causes-of-global-warming/>, accessed 2/9/2023.

¹⁰ WWF Australia, “Causes of global warming”, <https://wwf.org.au/what-we-do/climate/causes-of-global-warming/>, accessed 2/9/2023.

¹¹ WWF Australia, “Causes of global warming”, <https://wwf.org.au/what-we-do/climate/causes-of-global-warming/>, accessed 2/9/2023.

¹² United Nations, “Causes and Effects of Climate Change”, <https://www.un.org/en/climatechange/science/causes-effects-climate-change>, accessed 30/8/2023



this section, the article clarifies the impacts of sea level rise in three aspects: (1) Impacts on natural geography; (2) Impacts on non-traditional security and; (3) Impacts on human rights.

First, the impacts of sea level rise on natural geography

Rising sea levels increase the vulnerability of coastal areas, the level of this vulnerability depends on the physical characteristics of the coast. The main physical impacts of rising sea levels include erosion of beaches, inundation of deltas as well as flooding and loss of marshes and wetlands. Along with that, rising sea levels increase the rate of saltwater intrusion.

The main issues that sea level rise impacts on physical geography include:

(1) The territories of some countries are at risk of disappearance.

Under the impacts of global warming, sea levels are constantly rising. The numbers are forecasted to not stop if countries do not take measures to prevent and cut emissions that cause greenhouse effect. This has put the territories of many countries at risk, especially countries in the Pacific region. It cannot be argued that Small Island Developing States (SIDS) are on the frontline and are the most vulnerable to the impacts of rising sea levels that directly threaten their existence¹³. Much of the territories of some countries in this group is submerged below sea level. For SIDS, the impacts of a rise in sea-level range from an impending threat of the displacement of their people to undermining their food and water security in the foreseeable future¹⁴. In May 2016, five Solomon Islands were discovered to have disappeared due to rising sea levels. Not only the Solomon Islands many other island nations in the Pacific region are also predicted to have a similar fate. According to data published by the Intergovernmental Panel on Climate Change (IPCC), a number of small low-lying islands located in both the South Pacific and Indian Oceans stand to be submerged in the next fifty to one hundred years¹⁵. Therefore, in the future, if this situation continues, the story of the territories of countries disappearing is inevitable.

(2) Impacts on countries' coastlines

Besides affecting the territories of countries and putting these territories at risk of disappearance, a less serious situation that also threatens the geographical structure of countries is the impacts on the coastlines. But the consequences of sea level rise are not only static flooding but also dynamic impacts on coastal areas and estuaries. Breaking waves when approaching the shore will have a stronger impact on the shoreline and tidal flats, causing structural damage. The coastline is eroded and coastal infrastructure is under greater threat. When sea levels rise, the impacts can make the coastline less rugged, uneven, or cause the island chain to disappear.

Second, the impacts on non-traditional security

(1) Water sources security

It can be seen that water covers most of the Earth's area, but only about 0.5% is fresh water and can be used for human needs, so sea level rise is forecasted to pose a seriously threat to this water source. Rising sea levels are predicted to increase groundwater salinity, reducing freshwater availability for people and ecosystems in coastal areas. At the same time, Water quality is also affected by climate change, as higher water temperatures and more frequent floods and droughts are projected to exacerbate many forms of water pollution - from sediments to pathogens and

¹³ Tanishk Goyal & Dhruv Gupta (2020), *Sea Level Rise and Its Implications in International Law*, <http://opiniojuris.org/2020/09/04/sea-level-rise-and-its-implications-in-international-law/>, accessed 10/9/2023.

¹⁴ Tanishk Goyal & Dhruv Gupta (2020), *Sea Level Rise and Its Implications in International Law*, <http://opiniojuris.org/2020/09/04/sea-level-rise-and-its-implications-in-international-law/>, accessed 10/9/2023.

¹⁵ Emma Allen (2018), *Climate Change and Disappearing Island States: Pursuing Remedial Territory*, <https://brill.com/view/journals/bol/aop/article-10.1163-23527072-00101008/article-10.1163-23527072-00101008/article-10.1163-23527072-00101008.xml?language=en>, accessed 10/9/2023.



pesticides (IPCC) ¹⁶. Decreased fresh water resources also affect human food needs because most agricultural activities rely on this water source.

(2) Natural disasters

According to World Bank data, Water-related disasters have dominated the list of disasters over the past 50 years and account for 70 per cent of all deaths related to natural disasters ¹⁷. Under the impacts of rising sea levels, other changes in weather will result, making extreme weather phenomena such as floods and droughts more frequent and more severe.

(3) Economy

Areas potentially affected by erosion and flooding include agricultural, commercial and light industrial properties. Rising sea levels will also have a major impact on current and future coastal development. In the long term, the loss of beach amenities will impact local tourism - further impacting the local economy. At the same time, under the pressure of shrinking area, population density is increasing, putting pressure on the economy.

(4) Environment

Rising sea levels will cause erosion and flooding of important coastal habitats, while also affecting water quality as saltwater is pushed deeper into freshwater ecosystems upstream. Therefore, damage to these habitats will have a major impact on our environment and related industries. Rising sea levels also speed up migration, causing population density to increase, putting direct pressure on the environment.

Third, the impacts on human rights

It can be said that humans are among the groups most vulnerable to the consequences of climate change. This impact is not only on housing issues, but also includes the right to life, the right to health, the right to food, etc. due to livelihood needs, resource scarcity, even migrate when lands disappear, as follow:

(1) Human habitation disappearance

With the risk of some countries and territories disappearing, human survival space is tending to shrink, and many people are facing the situation of not having a home to return. According to the Science and Development Network, a nonprofit organization focused on supporting science learning, Around 3 million Pacific islanders live within 6.2 miles (10 km) of the coast and, therefore, might need to relocate before the end of the century ¹⁸.

(2) Insecurity of food

As analyzed, rising sea levels have a profound impact on the economy, so it also directly impacts human demand for food. With the land area in coastal areas shrinking, many deltas suffering from salinity intrusion, and the ecological changes in coastal areas changing the ecosystem, it has a direct impact on the food supply. In the long term, if this situation is not controlled, it can lead to a serious shortage of food sources.

¹⁶ United Nations, Water – at the center of the climate crisis, https://www.un.org/en/climatechange/science/climate-issues/water?gclid=CjwKCAjw6p-oBhAYEiwAgg2PgiuSzF24p6gtjY-tPbbjLP1y1PKdDUaxW2uWL6GR1uTTxVI9gBuzRoCEcsQAvD_BwE, accessed 13/9/2023.

¹⁷ United Nations, “Water – at the center of the climate crisis”, https://www.un.org/en/climatechange/science/climate-issues/water?gclid=CjwKCAjw6p-oBhAYEiwAgg2PgiuSzF24p6gtjY-tPbbjLP1y1PKdDUaxW2uWL6GR1uTTxVI9gBuzRoCEcsQAvD_BwE, accessed 13/9/2023.

¹⁸ Joe Phelan (2022), “What countries and cities will disappear due to rising sea levels?”, <https://www.livescience.com/what-places-disappear-rising-sea-levels>, accessed 14/9/2023.



(3) Affected health problems

Under the impact of the environment, natural disasters and population pressure, human health problems are also affected. Limited access to clean water sources for daily needs will lead to new pathogens in the future, which causes a direct threat to human life and health.

3.2. Legal implications of sea level rise

The consequences of sea level rise are serious and influential, systematic and multidimensional. It not only affects natural geographical, environmental or human factors, etc. but also leaves serious legal consequences, including problems that the current international legal system and the legal mechanism has not yet been unified. From the perspective of researching legal issues, this article also clarifies some serious legal implications from which to determine relevant legal responsibilities in the next section.

Firstly, the subject status of countries

According to Article 1 of the 1993 Montevideo Convention on the rights and obligations of states, the conditions for becoming a state are having actual territory, population, government and the ability to participate in international legal relations. However, based on the current developments in sea level rise, the territories of some countries are at risk of completely disappearing, which raises issues about the subject status of these countries. The country is at risk because a separate legal framework for this issue has not been established.

In fact, the elements constituting a country's territory include: Land, water, airspace and underground area. In particular, land territory plays an important and primary role in establishing the remaining territories of a country. Therefore, in the case of these countries that are at risk of "disappearance" once the land territory - the actual territory is lost, the subject status of the countries cannot yet be determined. Theoretically, the airspace, underground and water territories of that country still exist, but the land territory is the actual territory that determines the living space of the entire "population" and demonstrate the power of the "government" over their country. Therefore, when the actual territory disappears, other elements constituting a country, including population and government, are influenced and changed, which directly affects the status of subjects and the international legal status of states.

Second, the determination of baselines and maritime zones of coastal countries

It is affirmed that the static and dynamic impacts of sea level rise change the topography and structure of the coast, so these impacts also have certain impacts and influence on the determination of the baseline of the coastal states. Because, according to UNCLOS 1982, determining the method of delineating baselines of countries depends on the terrain of that country's coastline.

Currently, there are 3 ways to draw baselines: straight baselines, normal baselines and archipelagic baselines for archipelagic countries. Under the impact of sea level rise affecting the coastal structure, the Coastal island chains or similar coastal features make the country no longer eligible for straight baselines, and must switch to normal baselines. In case the base point is located on a low-tide elevations, even though the structures still exist, when this feature becomes submerged, it is no longer eligible to be selected as a base point. Coastal countries need to find new alternative base points. Another hypothesis that can be raised is that if the islands of an archipelago gradually "disappear", will that archipelagic country still have its archipelagic baseline drawn? Obviously, there are many legal implications related to this issue, because the baselines of coastal countries are the basis for determining all relevant sea areas including: Internal waters, territorial sea, exclusive economic zone and continental shelf.

In addition, sea level rise also affects the determination of countries' extended continental shelf in the case of using the 2500m isobath method. According to the provisions of Article 76 of UNCLOS 1982, in case a country has an extended continental shelf, that country may consider expanding its



continental shelf to a distance of not more than 100 nautical miles from the 2500m isobath. Therefore, when sea levels rise, countries will narrow the scope of their extended continental shelf towards the coast ¹⁹. In addition, the coastal structure and other special circumstances related to the coast are also the basis for countries to delimit the sea in case of overlap.

From the legal situations mentioned above, it can be seen that up to now UNCLOS does not clearly stipulate that when coastal topography changes, it will lead to changes in baselines and relevant sea areas. This can easily lead to different approaches, as well as concerns about whether further practice under either approach could amend UNCLOS to ensure the rights of affected states whether sea level rise or not.

Third, the right to self-determination in case that there is no longer a nation

The right to self-determination is one of the seven basic principles of international law, recognizing the supreme right of each independent country. This right is also recognized in Article 1 of the ICCPR and Article 1 of the ICESCR. Both documents declare that “all peoples have the right to self-determination” and that “peoples freely determine their political status and freely pursue economic and social development and its culture”. This is an inherent right, and cannot be taken away under any circumstances.

However, the 2009 OHCHR report, drawing on IPCC AR4, stated that “Sea level rise and extreme weather events related to climate change are threatening the habitability and, in the longer term, the territorial existence of a number of low-lying island States. Equally, changes in the climate threaten to deprive indigenous peoples of their traditional territories and sources of livelihood. One of these impacts would have implications for the right to self-determination” ²⁰.

As is mentioned, it has been predicted that countries are at risk of “disappearance” due to rising sea levels. The greater the temperature rise, the more quickly and drastically the peoples living in small island states will be faced with challenges to their ability to continue to live on their traditional territory, and therefore faced with challenges to their ability to enjoy and exercise their right to self-determination ²¹.

4. Legal responsibilities of countries for sea level rise

Recognizing the impacts and challenges of rising sea levels on human activities and mankind, legal issues on this issue have also been discussed in meetings of the United Nations, groups of countries and intergovernmental organizations, however up to now there is still no specific international treaty defining the international legal responsibilities of relevant parties on the issue of sea level rise.

4.1. Assessing countries' responsibilities for rising sea levels

As is confirmed in section 2 of this article, the main causes of sea level rise are human. However, in the current international legal context, that primary responsibility needs to be determined by countries. Studies show that the destruction of the forest environment as well as the emission of greenhouse gases is not the same in each country. However, the damage caused by rising sea levels mainly puts pressure on coastal countries. This is unfair to all countries in dealing with non-traditional security issues related to the environment. Therefore, determining the legal responsibility of states is absolutely necessary.

¹⁹ Tran Huu Duy Minh, “The impacts of sea level rise on baseline and outer limits of the maritime zones under the 1982 United Nations Convention on the Law of the Sea”, *Journal of State and Law*, no. 8 (412) 2022, p. 62-73

²⁰ 2009 OHCHR Report, P 40.

²¹ OFFICE OF THE UNITED NATIONS HIGH COMMISSIONER FOR HUMAN RIGHTS (2015), The Effects of Climate Change on the Full Enjoyment of Human Rights, https://unfccc.int/files/science/workstreams/the_2013-2015_review/application/pdf/cvf_submission_annex_1_humanrights.pdf, p16.



Admittedly, when damages due to climate change are proven, subjects of international law can apply the principle of non-harm and the polluter-pays principle to establish legal liability for relevant parties. Even where damage cannot be proven, States still have a responsibility to stop actions that harm sea levels according to the precautionary principle.

Regarding sources of the greenhouse effect and rising sea levels, statistics indicate that Rich countries, including the United States, Canada, Japan and much of Western Europe, account for just 12 percent of the global population today but are responsible for 50 percent of all the planet-warming greenhouse gases released from fossil fuels and industry over the past 170 years ²². However, this number will not stop but will tend to continue to increase, depending on the speed of industrialization and modernization of countries.

According to Carbon Brief's 2021 statistics, ranking countries with CO₂ emissions in order from high to low is: the US will have emitted more than 509GtCO₂ since 1850. At 20.3% of the global total, this is by far the largest share and is associated with some 0.2C of warming to date. In second place is China, with 11.4% of cumulative CO₂ emissions to date and around 0.1C of warming. Russia is third, with some 6.9% of global cumulative CO₂ emissions, followed by Brazil (4.5%) and Indonesia (4.1%). The main causes found for those record emissions were largely due to wildfires, industrial activity and the burning of fossil fuels ²³. The vulnerability of SIDS is extremely high, and some already face severe consequences ²⁴. The impediments that inhabitants are facing with respect to human rights may partially be the result of emissions by other countries, and yet they suffer some of the most adverse effects. There are currently difficulties in establishing State responsibility for damages caused by climate change, making it necessary to clarify international rules on compensation with regards to vulnerable populations. Without this legal certainty, the challenge will persist for SIDS and other vulnerable populations to effectively deal with the consequences of climate change, to which they have contributed only to a minor extent.

4.2. Basis for determining the legal responsibilities of states

Countries that commit wrongful acts will be obliged to participate in cooperation on combating climate change and rising sea levels, and developing and implementing climate change policies. There is also an obligation to ensure that their international misconduct is not repeated. Because climate change involves many countries, legal responsibilities will be established in the form of general and special obligations depending on who is affected. This duty can be applied to the world's leading greenhouse gas emitters and to general human and natural rights obligations.

The bases for determining the legal responsibility of states include:

First, the no-harm principle

The no-harm principle comes from the Latin maxim "sic utere tuo ut alienum non laedas" (meaning "use your property in such a way not to harm others") which, in its content, is clearly states that no State has the right to use or permit the use of its territory in a manner that causes serious injury to the territory of another State or to the property and persons therein ²⁵. Thus, the obligation imposed

²² Nadia Popovich, Brad Plumer, Who Has The Most Historical Responsibility for Climate Change?, <https://www.nytimes.com/interactive/2021/11/12/climate/cop26-emissions-compensation.html>, truy cập ngày 20/9/2023.

²³ Simon Evans, Analysis: Which countries are historically responsible for climate change?, <https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change/>, truy cập ngày 20/9/2023.

²⁴ Diane Falez Omari, Legal challenges attributing State responsibility for the effects of climate change on small island States, <https://www.leidenlawblog.nl/articles/legal-challenges-attributing-state-responsibility-for-the-effects-of-climate-change-on-small-island-states>, truy cập ngày 20/9/2023.

²⁵ Vanessa S.W. Tsang (2021), "Establishing State Responsibility in Mitigating Climate Change under Customary International Law", The LL.M. Essay and Theses, Columbia Law School, https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1001&context=llm_essays_theses, p23.



by the no-harm principle can be classified as one of interstate obligations, as it seeks to regulate behaviours and relations between neighboring states. This is fully consistent with the Rio 6 principle that countries have the sovereign right to exploit their resources in accordance with their environmental and development policies and have the responsibility to ensure that activities within their jurisdiction or whose control does not cause damage to the environment of other States or areas beyond the limits of national jurisdiction²⁶. In Article 42 ARSIWA- Articles on International Responsibility of States for Internationally Wrongful Acts 2001 stipulates that the State has the right to demand that the offending State be held responsible as the injured State in the following cases²⁷:

(a) that State individually; or

(b) a group of States including that State, or the international community as a whole, and the breach of the obligation:

(i) specially affects that State; or

(ii) is of such a character as radically to change the position of all the other States to which the obligation is owed with respect to the further performance of the obligation.

Second, the precautionary principle

An injured state may apply the no-harm principle when injury from climate change can be demonstrated in terms of damages. However, it may be “too late to apologize” by invoking the principle of doing no harm when injured countries are already bearing the brunt of the consequences of climate change. Therefore, the precautionary principle is established to prevent adverse consequences due to the impacts.

In essence, this principle emphasizes the State’s duty to take proactive steps to minimize the risk of damages. International law requires States “to use all the means at its disposal in order to avoid activities which take place in its territory or any area under its jurisdiction, causing significant damage to the environment of another State.”

Third, Erga Omnes obligation

A State other than the injured State can invoke state responsibility when the duty breached is owed to a group of States and is established for the protection of a collective interest of the group (Article 48(1)(a), ARSIWA). In this case, the group interests mentioned are environmental and human rights interests affected by rising sea levels. Article 48(1)(b) would allow every State to invoke the state responsibility if the obligation breached is owed to the international community as a whole. Accordingly, each State is entitled as a member of the international community to invoke another State’s responsibility on this issue according to the Erga Omnes obligation.

4.3. Main international legal responsibilities for sea level rise

From the above analysis, it can be seen that there is absolutely enough legal basis and evidence about the damage caused by sea level rise. Therefore, identifying and clarifying international legal responsibilities related to this issue is absolutely necessary. These responsibilities are not only the compensation responsibilities of countries with greenhouse gas emissions, but also the general responsibility of protecting the environment, supporting vulnerable people in human rights issues, and promoting human rights in international law.

First, the responsibility to cooperate follows the principle that states have an obligation to cooperate.

²⁶ United Nations Environment Programme, “No harm rule”, <https://leap.unep.org/knowledge/glossary/no-harm-rule/>, accessed 20/9/2023.

²⁷ Responsibility of States for Internationally Wrongful Acts 2001, Article 42: Invocation of responsibility by an injured State



The principle that states have an obligation to cooperate is recognized in the 1970 Declaration of the United Nations General Assembly, according to which states have an obligation to cooperate with other states in accordance with the Charter:

States have the duty to cooperate with one another, irrespective of the differences in their political, economic and social systems, in the various spheres of international relations, in order to maintain international peace and security and to promote international economic stability and progress, the general welfare of nations and international cooperation free from discrimination based on such differences.

To this end:

States shall cooperate with other states in the maintenance of international peace and security;

Therefore, there is absolutely a basis to establish an obligation to cooperate for countries on the issue of sea level rise, because there is enough legal basis to prove that disasters related to sea level rise are a problem. Non-traditional security issues directly threaten international peace and security according to letter (a) of this principle. To this end, States that are members of the United Nations have an obligation to act collectively or individually to cooperate with the United Nations in accordance with the relevant provisions of the Charter of the United Nations.

While the term 'cooperation' has never been defined by an international treaty or a resolution of an international organisation, its meaning can be derived from various documents as 'the voluntary coordinated action of two or more States which takes place under a legal regime and serves a specific objective'. The essence of the principle of cooperation can be found in the purposes of the United Nations (UN) Charter. As set out in Articles 1(1) and 1(3), one of the Charter's central objectives is cooperation in the maintenance of international peace and security as well as in the solving of international problems of an economic, social, cultural or humanitarian character. Other articles of the UN Charter, in particular Articles 55 and 56, elaborate on Article 5 by establishing specific cooperation duties, including States' obligations to act jointly and in cooperation with the United Nations to achieve social and economic development and higher standard of living²⁸. In addition, the provisions of international law on natural disaster prevention and international human rights law also mention the cooperation obligations of the parties. However, how to cooperate and the mechanism to request an obligation to cooperate remains open in relevant international legal documents.

Therefore, to clarify the limits, level and scope of international cooperation in preventing and responding to the harmful effects of sea level rise, it is necessary to build a common mechanism for cooperative activities. Carried out in a practical way, this mechanism is also a corridor for countries to request the implementation of cooperation obligations. That means establishing a framework of reference for the level of cooperation necessary to ensure that unaffected countries can promptly and adequately assess the extent of damage and make requests for assistance, cooperate. On the other hand, in cases where no request for assistance has been made, the affected countries can also make an offer of assistance based on their country's damage status that the requested countries refusal is not allowed. Only then will the cooperative responsibilities of countries be fully and thoroughly implemented.

Second, the responsibility of countries to compensate for damage that causes the greenhouse effect

One of the fundamental principles of international law is that States should not harm or violate the rights of other States. International environmental law also defines the principle "the polluter pays". Therefore, states may be held responsible for violations of international law and are obliged to compensate for the damage caused. It is clear that responsibility is a fundamental part of all legal systems, including international law. Without responsibility and accountability, the legal system will

²⁸ United Nations Charter, 26 June 1945, Arts. 55 and 56.



be ineffective. The extent to which states can be held responsible for their wrongful or illegal acts in violation of their international obligations is therefore an important part of international law.

On 12 December 2001 the Draft Articles on the Responsibility of States for Internationally Wrongful Acts (DARSIWA) was adopted by the 53rd session of UNGA resolution 56/83 ²⁹. DARSIWA is a combination of both legalization and progressive development over a period of more than 40 years. Accordingly, states are responsible for breaches of their obligations and shall compensate affected states for any damage caused by their violation of international law. This rule is the basis of state responsibility law ³⁰.

Whilst these rules developed by the ILC do not automatically represent international law they have been accepted by states via ratification through the UNGA. The Draft Articles on the Responsibility of States for Internationally Wrongful Acts is therefore also a useful tool for examining the requirements and consequences of state liability for damage caused by climate change and sea level rise.

In particular, to request compensation obligations, the parties involved must satisfy the following factors: (i) there must be an international obligation in force between the two states; (ii) there must be an act or omission which is attributable to the responsible state that violates that primary obligation; And (iii) the victim state must have suffered loss or damage as a result of that unlawful act or omission (i.e. a causal link between the activity and the damage) ³¹. It is important that countries must demonstrate that their country satisfies the above factors. Thereby, the legal corridor for these issues includes:

First, there must be an international obligation in force between the two states.

The basis for verifying this issue is international treaties on the environment and climate change to which countries are members. These include: International Climate Change Treaty Regimes 1992 Framework Convention on Climate Change, Kyoto Protocol, No harm rule & Prevention of trans-boundary harm, Polluter Pays Principle, etc. These are important international environmental treaties that are binding on all countries, even if they are not members, because issues of climate change and Rising sea levels are a common problem for humanity and these regulations are developed and recognized as customary norms with universal mandatory value.

Second, there must be an act or omission which is attributable to the responsible state that violates that primary obligation

In section 4.1. Regarding assessing the responsibility of countries for the problem of rising sea levels, it is clear that countries have different emissions of greenhouse gases into the environment, so the responsibilities of these countries also need to be determined at different levels. To do that, there needs to be a separate tool that properly assesses the level of damage caused by these countries according to the ratio between waste discharge activities and population density as well as territorial area, in order to give a specific general parameter of state responsibility. This does not exclude activities of private individuals within the territory of a country. This spirit is completely consistent with Article 4 (Activities of State agencies) of the Draft Articles on State Responsibilities:

²⁹ Benjamin Dendle (2015), "State responsibility for climate change—a legal assessment", https://www.researchgate.net/publication/283079324_STATE_RESPONSIBILITY_FOR_CLIMATE_CHANGE_A_LEGAL_ASSESSMENT_-_International_Climate_Change_Law, P8.

³⁰ Benjamin Dendle (2015), "State responsibility for climate change—a legal assessment", https://www.researchgate.net/publication/283079324_STATE_RESPONSIBILITY_FOR_CLIMATE_CHANGE_A_LEGAL_ASSESSMENT_-_International_Climate_Change_Law, P8.

³¹ Benjamin Dendle (2015), "State responsibility for climate change—a legal assessment", https://www.researchgate.net/publication/283079324_STATE_RESPONSIBILITY_FOR_CLIMATE_CHANGE_A_LEGAL_ASSESSMENT_-_International_Climate_Change_Law, P9.



1. The conduct of any State organ shall be considered an act of that State under international law, whether the organ exercises legislative, executive, judicial or any other functions, whatever position it holds in the organization of the State, and whatever its character as an organ of the central Government or of a territorial unit of the State.

2. An organ includes any person or entity which has that status in accordance with the internal law of the State”

Given that primary obligations within the climate change treaties discussed are upon state parties, States cannot escape liability for breaches of these obligations due to the fact that emissions were caused by private companies. This is because state parties have an obligation to ensure that the total pool of emissions from their territory fulfils their obligations under the relevant treaty ³².

Third, actual damage

To be compensated, it requires the affected countries to bear the loss or damage caused by those factors causing sea level rise. In other words, there must have been a causal link between the activity and the damage. According to civil law provisions, the burden of proof will lie with the damaged country, so this can be difficult when it is difficult to prove the cause or there are many causes affecting sea level rise. These causes sometimes have a progressive impact, for example the cause of sea level rise is due to global warming resulting from greenhouse gas emissions and forest fires releasing large amounts of CO₂ in the atmosphere, but the cause of forest fires also comes from global warming.

Therefore, ensuring that damaged countries can prove whether their damage was caused by other countries depends on the clear provisions of international law.

According to Article 31 of DARSIIWA:

1. The responsible State is under an obligation to make full reparation for the injury caused by the internationally wrongful act.

2. Injury includes any damage, whether material or moral, caused by the internationally wrongful act of a State

Currently, what is necessary to enforce the responsibility to compensate states is the consulting opinion of competent agencies of international law on proving damages as well as proving the extent of violations on the sea level rise.

Third, the responsibility of countries and the United Nations in clarifying the relevant legal corridor

As analyzed in this article, the basis for requesting cooperation in responding to the problem of rising sea levels as well as the responsibility to compensate for damages of violating countries has been established. However, for these regulations to be applied and effective in practice, it is necessary to add references explaining related issues, such as demonstrating the extent of the impact of sea level rise on countries, determine the threshold of legal liability and the basis for proving damage, etc. From there, countries can effectively use international legal tools, not just calls for like nowadays.

In addition, countries also need to clarify the provisions of international law on population to determine the nationality status of migrants due to the loss of territory due to rising sea levels. At the same time, it is necessary to clarify the subject status of countries in case the land territory disappears, as well as the issues of delimiting the sea and determining the baseline in case the coastline is affected. These issues need to be developed in favor of the affected parties to ensure maximum harmonization of current international law.

³² Benjamin Dendle (2015), “State responsibility for climate change—a legal assessment”, https://www.researchgate.net/publication/283079324_STATE_RESPONSIBILITY_FOR_CLIMATE_CHANGE-A_LEGAL_ASSESSMENT_-_International_Climate_Change_Law, P16.



In summary, there are three main groups of responsibilities that all parties need to pay attention to in order to thoroughly solve the problem of sea level rise: the compensation responsibilities of the violating parties, the cooperation responsibilities of the international community and the responsibilities of states and international legal mechanisms in completing and clarifying the current legal framework.

5. References for Vietnam on sea level rise

As a coastal country, Vietnam is already suffering from the dangerous impacts of rising sea levels, and this negative situation is expected to continue. Currently, the main legal framework related to the issue of sea level rise in Vietnam is the 2020 Law on Environmental Protection and the 2015 Law on Natural Resources and Environment of Sea and Islands. However, currently these two documents are only focusing on the content of preventing and responding to climate change in general and sea level rise in particular. It is because the environment is a unified whole that Vietnam's legal adjustments Vietnam must also be built in the spirit of international law.

In 2022, the Ministry of Natural Resources and Environment of Vietnam will update the 2020 climate change version with the aim of assessing the impact of climate change on industries, sectors, regions and usage during construction. Develop and update strategies, plans and development plans for industries, fields and localities. Thereby, analysis of satellite data shows that the changing trend of average water level across the South China Sea in the period 1993 - 2018 increased by 4.1 mm/year. The area with the largest increase in sea level is the area between the South China Sea (110° E-114° E and 12° N-16° N) with a value of 7.2 mm/year. The areas with lower growth rates are in the Northeast (west of Luzon Island) and the Spratly Islands area.

Vietnam's coastal sea level has the strongest rising trend from Quang Ngai to Binh Thuan with an increase intensity of 4.2÷5.8 mm/year. Water levels tend to increase more slowly in provinces from Ho Chi Minh City. Ho Chi Minh to Tra Vinh with an increase rate of 2.2÷2.5 mm/year. The average water level across the entire coastal strip of Vietnam changes at a rate of about 3.6 mm/year. Following that trend, architectural projects in Vietnam's coastal plain areas will be severely affected. Therefore, as a country directly affected by rising sea levels, Vietnam needs to research relevant legal mechanisms to maximally protect Vietnam's interests. To do so, Vietnam needs:

- (1) To research and develop a set of international legal documents related to the issue of sea level rise as well as establish a special legal committee on this issue. Such research and establishment of a specialized agency will help Vietnam fully prepare the necessary legal conditions and procedures to ensure Vietnam's rights and interests in the most accurate way.
- (2) To monitor fluctuations and damages in sea level rise regularly and record them with a specific instrument system. This system of proving the level of damage will be the basis for Vietnam to request other countries to respond appropriately to the impacts of sea water. At the same time, to record such amount of damage will be the basis for Vietnam to request compensation when this mechanism is completed by international law.
- (3) To develop a mechanism to assess the level of sea level activity, which includes assessing forest fire activities, industrial activities, gas and fuel, etc. to determine the level of causing damage to the environment and the amount of greenhouse gas emissions from domestic activities to determine the limit for each year and promptly develop appropriate measures to relieve and resolve the consequences; Not to be in the group of violating countries and have to pay compensation.
- (4) Under the perspective of being an active country of the international community, Vietnam needs to proactively take reasonable actions and provide the process of perfecting the legal system on sea level rise as well as relevant protection mechanisms, which leads to a new, more complete and comprehensive international legal order.

In short, from the perspective of a country directly affected by sea level rise, Vietnam also needs to build a separate legal corridor to promptly respond to the impacts of climate change in accordance

with international law to protect Vietnam's core interests. Besides, Vietnam also needs to develop measures to prevent the harmful effects of rising sea levels to prevent further serious harm to the country and people.

6. CONCLUSION

Through the article "International legal responsibility for sea level rise", the author has identified the main cause of sea level rise as global warming, which increases greenhouse gas emissions. The main factor is human activities. The article also identifies that sea level rise affects many aspects including geography, population, and environment and also causes issues that the current international legal system cannot resolve. Because of the above situations, the author comes to international legal liability mechanisms including: (1) the reasonable responsibility of relevant parties to respond to damages caused by sea level rise; (2) regular compensation by offending states and (3) compensation by states and other subjects of international law for improving the existing legal framework. At the same time, as a country directly affected by sea level rise, Vietnam also needs to establish its own professional agency to respond to related legal issues and improve its domestic legal regime to ensure national rights and interests.

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