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Nadim Hazboun

Saving the Blue Planet

Climate Justice: Rights & Responsibilities

CES, Master's Programme in Human Rights and Democratisation in the Caucasus

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— Hazboun, Nadim, *Saving the Blue Planet. Climate Justice: Rights & Responsibilities.* Su-pervisor: Zoi Aliozi, Global Campus of Human Rights. Master's Programme in Human Rights and Democratisation in the Caucasus (CES), coordinated by Yerevan State Uni-versity.

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— Rosales Lossley, Rony, *Torture of the Innocent. Pretrial Detention in Guatemala from a Human Rights Perspective.* Supervisors: Francisco Javier Urizar Pérez, Rafael Landivar University (Guatemala). Master's Programme in Human Rights and Democratisation in Latin American and the Caribbean (LATMA), coordinated by National University of San Martin (Argentina).

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— Yassine, Nisrine, *Elderly Social Protection. Lebanon as a Case Study.* Supervisor: Nizar Hariri. Arab Master's Programme in Democracy and Human Rights (ARMA), coordinated by Saint Joseph University (Lebanon).

Biography

Nadim Hazboun is a Palestinian translator and a Humanitarian. He holds a BA in English Language and Literature from Bethlehem University and an MA in Human Rights and Democratisation from Yerevan State University.

Abstract

Thesis statement. From a human rights perspective, climate justice requires acknowledging and addressing the rights and responsibilities held by various stakeholders in actively mitigating global temperature rise and environmental degradation. This thesis delves into the intricate relationship between climate justice and human rights, emphasising the unequal impact of climate change on humans and earth, and its potential to perpetrate fundamental human rights.

This interdisciplinary human rights research investigates how human activities for power genera-tion, leading to carbon dioxide emissions into the atmosphere, have adversely affected human rights. These impacts, referred to as anthropogenic harms, encompass environmental damage caused by human activities, including pollution, deforestation and greenhouse gas emissions, ul-timately contributing to elevated temperatures and climate change. Climate justice involves rec-ognising human rights and responsibilities in addressing climate change, particularly the unequal impact on marginalised communities. It calls for equitable resource distribution, protection of vulnerable groups and accountability for historical and current climate contributions. Climate jus-tice encompasses a range of concerns, such as displacement due to rising sea levels, dispropor-tionate impact on vulnerable communities, unequal resource access and loss of biodiversity. It has evolved from environmental activism to a broader focus on social equity and human rights in the context of climate change. This includes addressing the disproportionate impact on marginalised communities, advocating for equitable resource distribution and holding individuals, govern-ments and corporations accountable for their actions and policies. This thesis emphasises the pressing need for 'climate action', which includes individual, collective and governmental efforts to mitigate climate change

and reduce greenhouse gas emissions. This aligns with the United Na-tions' Sustainable Development Goal 13, focused on addressing global temperature rise and its impacts. Such action is crucial for limiting global warming and protecting the planet for future generations. Climate justice urges climate action to address environmental issues stemming from global temperature rise and climate change, particularly impacting vulnerable communities. Rec-ognising the vulnerability principle allows for targeted climate policies, fostering resilience and safeguarding the planet and ecosystems from further degradation. This research used qualitative methods to study the reasons behind rising global temperatures, leading to climate change. Cli-mate change comes with ecological, societal and economic consequences. The study highlights ongoing inequality due to several human factors which violate human rights.

Table of Abbreviations

EU	European Union
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
NGOs	Non-Governmental Organisations
SDGs	Sustainable Development Goals
TCFD	Task Force on Climate-related Financial Disclosures
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization

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Introduction

This thesis aims to investigate climate change and its detrimental consequences through the lens of human rights. In essence, the climate crisis poses an existential threat to human rights and humanity as a whole. It has a profound and lasting impact on human rights, both in the present and the long term. By understanding our rights and responsibilities through the perspective of climate justice, we can contribute positively to a world facing a climate emergency. Climate justice can serve as a guide for our collaborative efforts to address these challenges and eliminate any factors that contribute to rising global temperatures and climate change. Taking these steps is a stride towards a more sustainable and improved future for all of humanity. Effectively addressing the root causes of climate change can have far-reaching and enduring benefits for the planet and future generations worldwide, transcending geographical boundaries. This is a global issue, demanding a universal response that reflects the overarching principles of human rights.

It is important to stress that any attempt to understand what climate justice is, must be introduced in the form of a rights-based approach to climate change, because it is critical to apply a human rights-based approach to guide global policies designed to address climate change.[1]

During one of his speeches at the World Economic Forum's Annual Meeting in Davos in Switzerland, the former President of the Republic of France, François Hollande, said, 'We have a single mission: to protect and hand on the planet to the next

[1] Zoi Aliozi, 'Climate Justice: Human Rights and Animal Rights' (2020) 1 *The Resolution Journal*. Environmental Crimes 2019 Conference Papers (Jersey Law Commission 2020) <www.jerseylawcommission.org.je/_files/ugd/f5ec37_2c8ce06991db435dacea6d5e8609792b.pdf> accessed 10 April 2024.

generation'.[2] This quote reflects Hollande's belief that one of the primary responsibilities of leaders and nations is to ensure the well-being of societies by protecting the planet. Hollande emphasised the significance of environmental protection and the responsibility that governments hold in ensuring the well-being and sustainable future for our next civilisations. Hollande stressed on a crucial mission that he believed was very vital for all individuals and societies and that is to safeguard and preserve the planet to be passed on to the future generations as he highlighted the significance of environmental protection and the responsibility that leaders and societies hold in ensuring the well-being and prosperous future for the generations to come. This quote captures Hollande's conviction that protecting the planet is not only a moral obligation but also a human right and fundamental duty to secure the planet's resources, ecosystems and overall stability for future inhabitants.

In a recent article authored by Laura Paddison,[3] which discusses a report from the United Nations (UN), it is highlighted that the climate is experiencing a visible increase in temperature. The report reveals that the impacts of planet warming pollution are already more harsh than expected and human beings are racing into irreparable impacts. The necessity to achieve the goal of constraining global warming to a maximum of 1.5 degrees Celsius is rapidly diminishing and it could be that the chance is gone because the planet is already in a bad state due to the excessive fossil fuel burning. After so many years of study and research the UN confirms that due to human activities, particularly industrial activities and greenhouse gases, the climate is heating and there is a rise in temperature everywhere in the world which is creating harsh weather conditions.[4] These harsh conditions are mostly caused by the fossil fuel industry that has extensively participated in lobbying endeavours aimed at swaying policy decisions to their advantage. These endeavours frequently prioritise

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[2] Francois Hollande, '13 Quotes from Francois Hollande at Davos 2015' (weforum.org, 23 January 2015) <www.weforum.org/agenda/2015/01/13-quotes-from-francois-hollande-at-davos-2015/> accessed 10 April 2024.

[3] Laura Paddison, '"The climate time-bomb is ticking": The world is running out of time to avoid catastrophe, new UN report warns' (*CNN*, 20 March 2023) <https://edition.cnn.com/2023/03/20/world/ipcc-synthesis-report-climate-intl/index.html> accessed 10 April 2024.

[4] IPCC, '*Synthesis Report of the Sixth Assessment Report. A Report of the Intergovernmental Panel on Climate Change*' (Report No 6, Interlaken, 2023) 51 <www.ipcc.ch/report/sixth-assessment-report-cycle/> accessed 10 April 2024.

immediate economic gains at the expense of longer-term ecological considerations. Moreover, the industry has practiced 'greenwashing', whereby companies portray themselves as environmentally honest despite their core activities continuing to harm the environment. Furthermore, a network of entities and individuals supported by the industry has perpetuated a 'denial apparatus', fostering scepticism regarding the scientific consensus on climate change and impeding effective climate action to tackle this pressing global challenge. Collectively, these strategies underscore the obstacles inherent in transitioning toward a more sustainable energy future and emphasise the necessity for heightened openness and responsibility within the sector. Climate change negatives are numerous such as hotter temperatures, more severe storms, droughts, loss of species, lack of food, more health risks, poverty and displacement. According to the Intergovernmental Panel on Climate Change (IPCC) latest report, 'Human influence has likely increased the chance of compound extreme events since the 1950s. Concurrent and repeated climate hazards have occurred in all regions, increasing impacts and risks to health, ecosystems, infrastructure, livelihoods and food'.[5] Big corporations in the world that generate electricity by burning fossil fuels like coal, cutting trees, extracting petroleum and releasing greenhouse emissions are the reason for climate change. Governments worldwide bear a crucial responsibility to work closely in their collaborative efforts to address the pressing issue at hand, ultimately striving to bring about its resolution and secure a more promising future for the forthcoming generations.

Climate justice is a complex concept that refers to the phenomenon of climate change as a result of human action, also known as the anthropogenic harms contributing to global warming, while from a human rights perspective it is the damaging impacts which affect poor countries that are in the frontline of climate change worst, and vulnerable and marginalised communities especially in developing countries. It is important to highlight what climate justice discourse has exposed repeatedly, that for example in the case of the Global South who have contributed very little to climate change compared to the developed western

[5] IPCC, 'Sections' in H Lee and J Romero (eds), *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (IPCC 2023) 35-115 <www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf> accessed 10 April 2024.

countries and big corporations of the fossil fuel industry, however they are the ones that pay the biggest price for it whether by negative environmental changes or undesirable health circumstances. While climate change is a global challenge, its adverse effects are felt most acutely by those who have contributed the least to its causes. The principle of 'equal but differential responsibility' recognises that while all nations share a collective responsibility to address climate change, the historical emissions of more industrialised nations and the significant carbon footprints of large corporations have played a substantial role in exacerbating the crisis. This principle highlights the necessity for differentiated actions and support, where those with greater contributions to climate change assume a greater responsibility for mitigation and adaptation efforts.

Moreover, some communities are more susceptible to the impacts of climate change due to their geographic, socio-economic and political contexts. This is known as the 'vulnerability principle' since vulnerable communities often lack the resources and infrastructure to adapt effectively, making them disproportionately susceptible to environmental changes and negative health outcomes. Intersectionality, a concept that recognises the interconnected nature of various forms of discrimination and disadvantage, highlights that vulnerabilities are often compounded by factors such as gender, ethnicity and socioeconomic status. This intersectional perspective underscores the urgency of addressing climate change as a human rights issue, as it intersects with other systemic injustices, amplifying the need for targeted solutions and comprehensive policy frameworks. By integrating the concepts of 'equal but differential responsibility' and the 'vulnerability principle' and embracing an intersectional lens, we can address the interconnected challenges of climate change and social inequality, ultimately working toward a more just and sustainable world. It is the responsibility for all human beings and countries to share the load of climate change together without violating the basic human rights of people in developing countries. States hold a central duty to protect both their own citizens and the broader international community. States, as sovereign entities with the power to enact policies and make decisions that influence their populations and territories, play a pivotal role in climate change mitigation and adaptation efforts. This role is rooted in their responsibility to ensure the well-being and safety of their citizens. Recognising

the interconnectedness of our world, states are entrusted with not only safeguarding the rights of their own citizens but also collaborating with other nations to collectively address the transboundary impacts of climate change. These impacts which are affirmed by the IPCC, which include rising sea levels, extreme weather events and resource scarcity, have the potential to exacerbate vulnerabilities in developing countries and infringe upon the fundamental rights of their inhabitants. The duty to protect, particularly in the context of climate change, necessitates that states go beyond national interests and consider the broader global impact of their actions. While acknowledging the need for sustainable development and economic growth, states must also prioritise environmental sustainability and equitable resource distribution to prevent disproportionate negative consequences for vulnerable populations. This is particularly significant in the case of developing countries, where limited resources and infrastructure can magnify the effects of climate change. The reason for climate justice is to have clean energy, clean water, food security and better health and environment to secure a better future for all human beings on earth and for the ecosystem as well.

When highlighting the objectives of climate justice with a focus on ensuring a more promising future, it proves insightful to explore two distinct ethical viewpoints: anthropocentrism and ecocentrism. Anthropocentrism is a human-centred ethical perspective that places the well-being and interests of humans at the forefront of environmental and ethical considerations. From an anthropocentric viewpoint, the primary motivation for pursuing climate justice and addressing environmental issues is to ensure the health, welfare and future prosperity of human societies. Clean energy, clean water, food security and improved health and environment are prioritised not only for their intrinsic value but also for their direct benefits to human well-being and quality of life. Ecocentrism, on the other hand, takes a more holistic approach by emphasising the intrinsic value of all elements within the ecosystem, not just humans. From an ecocentric perspective, the goal of climate justice extends beyond human well-being to encompass the well-being of the entire ecosystem and all its components. While humans are still considered a part of this ecosystem, they are not viewed as the sole focus of ethical consideration. Anthropocentrism would argue that it's in humanity's best interest to mitigate the negative impacts of climate change in order

to avoid disruptions to economies, societies and individual lives. By ensuring access to clean energy, clean water and a healthy environment, the goal is to enhance human resilience to environmental changes and promote sustainable development. In an ecocentric framework, clean energy, clean water, food security and better health are pursued not only to benefit humans directly but also to maintain the health and balance of ecosystems. The interconnectedness of all life forms and natural processes is central to ecocentrism, which advocates for preserving biodiversity, protecting ecosystems and maintaining the integrity of the Earth's natural systems. Irrespective of the underlying ethical perspective, our shared responsibility lies in safeguarding the environment, promoting sustainability and ensuring the well-being of present and future generations.

Climate justice represents the progression of environmental justice and encompasses the concept that every living entity possesses an inherent entitlement to access and acquire essential resources required for equitable survival. The foundation of climate justice lies in the principle that every individual should possess an equal opportunity to flourish without enduring injustices or harms. This concept is intricately tied to the realm of human rights, as it underscores the fundamental entitlement of all individuals to a life of dignity and safety. Climate justice builds upon the core tenets of environmental justice, broadening the concept of fair resource distribution and the protection of a sustainable environment to encompass the sweeping scope of global climate change. It unequivocally asserts that each living being, irrespective of their socio-economic status or geographical location, inherently possesses the inherent right to a life unburdened by the adverse consequences of climate change. Central to this idea is the recognition of access to essential survival resources – clean air, water, food and shelter – as an undeniable right. It acknowledges the vulnerability principle that marginalised communities, particularly those within developing nations, bear a disproportionate share of climate change's impacts despite contributing minimally to its inception.

As Yeb Sano[6] argues, climate justice should sit at the core of society and human rights. This underscores the imperative of placing climate justice at the heart of our societal values and the broader human rights discourse. It emphasises the need to integrate climate justice principles into the very fabric of our communities and legal frameworks, ensuring that every individual's right to a life free from the impacts of climate change is acknowledged and protected. Consequently, climate justice impels us to address the structural disparities and power differentials that perpetuate environmental degradation and climate-related injustices. Through this lens, climate justice becomes a potent tool in unveiling human rights violations, propelling the urgency for systemic changes that rectify these imbalances. As we strive for a harmonious coexistence with our planet, climate justice not only envisions but demands a future where all individuals can prosper in an atmosphere of equity and respect for their inherent rights.

Climate justice is a complex and vital discourse that centres upon a comprehensive grasp of the rights and obligations vested in individuals, governments and corporations. Central to this understanding is the question of who primarily holds the responsibility for safeguarding humanity from the escalating impacts of climate change. The answer lies in those who have both the capacity and duty to protect, provide for and uphold human rights – governments and institutions. The essence of climate justice lies in ensuring that the basic rights of every individual, irrespective of location or socio-economic status, remain inviolable in the face of climate-related challenges.

By focusing on the nexus between climate change and human rights, we unveil a purpose for climate justice that resonates powerfully: to rectify imbalances and hold those with the greatest capacity to act accountable for the well-being and future of all. Therefore, a specific and unwavering focus on these links is essential as we navigate the multifaceted landscape of climate justice. It is very significant to acknowledge and address the need for climate justice by examining the ethical dimensions and equitable

[6] Yeb Sano, 'Experts: Why does "climate justice" matter?' (*CarbonBrief*, 7 October 2021) <www.carbonbrief.org/experts-why-does-climate-justice-matter/#sano> accessed 10 April 2024.

distribution of burdens and benefits associated with climate change mitigation and adaptation efforts. Examining the ethical and moral dimensions of the equitable distribution of burdens linked to climate change is very important.

Philosophy provides us with a framework to delve into questions of justice, fairness and responsibility on a global scale. By critically evaluating the principles that underpin the allocation of climate-related burdens, we gain insight into how historical contributions, vulnerabilities and power dynamics intersect to shape our collective response. Ethical scrutiny reveals the underlying values guiding decision-making, ensuring that the pursuit of climate solutions aligns with human rights, solidarity and a shared commitment to safeguarding the planet. In this pursuit, philosophy serves as a beacon, illuminating the path toward a more just and sustainable world, where the burdens of climate change are equitably carried, and the dignity of every individual is respected.

This thesis aims to explore the fundamental aspects of climate justice, emphasising the urgent need for collective climate action to safeguard the rights of present and future generations and to find other ways to produce energy and preserve the health of our planet's ecosystems instead of destroying the environment. By examining the roles and responsibilities of states, corporations and individuals to have a better future for human beings and for the well-being of the ecosystem, this research endeavours to provide insights into how a cohesive approach to climate justice can foster a sustainable and equitable future for all.

The topicality of the study: This thesis delves into the rights and responsibilities of all stakeholders in this domain, encompassing individuals, governments and corporations, to acknowledge the imperative of mitigating climate change. Central to this exploration is a heightened focus on the intricate web of human rights connections, underscoring the profound duty of governments to shield and uphold these rights. Simultaneously, it sheds light on the intrinsic rights of individuals to enjoy a life of dignity, intertwined with the preservation of a sustainable environment. This connection illustrates a collective commitment to nurturing a better future for not only disadvantaged communities but also for current and forthcoming generations.

The object of this study is the interconnectedness of continued release of dioxide carbon into the atmosphere due to human activities and how it is causing global warming and climate change is violating the intrinsic value of human rights and the subject is the manner in which climate justice addresses the necessary need for equitable distribution of the burdens and benefits of climate change mitigation and adaptation efforts, particularly with regards to vulnerable communities and future generations.

The scientific value of the study: The research investigates the causal relationship between the release of greenhouse gases into the Earth's atmosphere, resulting in global warming and subsequent climate change, which entails catastrophic repercussions for both humanity and the environment. Furthermore, it highlights the importance of exercising our entitlement and assuming our duty to curtail these processes. This thesis provides important insight on why the entities behind the release of carbon dioxide should be held responsible and how these activities could be stopped and what are other ways to use energy instead of destroying the planet. Moreover, it explores how resolving climate change can advance human rights and help sustain a better environment and living conditions for us and for the next generations.

The central thesis of the study is to examine the correlation between climate justice and human rights. Climate justice requires acknowledging the rights and responsibilities of individuals, governments and corporations all over the world to stop the ongoing increase in global temperatures and climate change that have resulted in adverse effects on Earth and violated human rights.

The aim of this study is to show how climate change can be detrimental to us, to our future generations and to the planet earth itself. The objectives of this study are to investigate the reasons behind climate change and to identify the benefits of climate justice and to explore the rights and responsibilities of every individual in order to encourage climate justice for a better environment for all of us.

Methodology: The methodological approach taken in this study will employ an interdisciplinary approach grounded in human rights principles, encompassing historical, philosophical, analysis, literature review and policy-making methodologies as well as qualitative methods like comparative and contrast analysis in order to shed light on previous research on the

topic. This diverse methodology seeks to comprehensively investigate the intricate connections between climate change and human rights facilitating a holistic understanding of the subject matter through historical context, ethical considerations, existing knowledge and practical solutions. Additionally, the lack of widespread awareness and promotion of climate justice further impedes individuals' understanding of their rights and responsibilities in addressing this pressing issue. This thesis highlights the significance of climate action through many steps to raise awareness, encourage public engagement and empower individuals for a sustainable future in order to empower climate justice.

This paper is composed of the following **sections**:

Abstract, which gives a brief summary of the research paper.

Introduction, which delivers background information about the topic, its relevance, defines the scope of the work, its aim and objectives, and gives the overview of its structure.

Literature review, which delves into current research on climate justice, providing a comprehensive analysis of existing scholarly work. By examining various sources, it gives a clear understanding of key concepts.

Main body, which consists of three chapters.

1. Chapter 1 gives a historical overview and background information on the topic and some of the reasons behind the lack of efforts to address climate justice worldwide using literature review and analysis.

2. Chapter 2 presents a thorough critical analysis through a philosophical exploration, using a methodology rooted in moral and ethical philosophy.

3. Chapter 3 is the main analytical chapter, offering valuable recommendations that can be useful to policymakers, legislators, environmental advocates, academics and other relevant stakeholders.

Conclusion, which defines the main findings of the research.

References, which lists all the sources that were referred to during the whole research process.

Literature review

In a recently published article by Brad Plumer and Elena Shao,[7] scientists argue that the period from 3 July to 5 July 2023 was likely the hottest in Earth's modern history, with a surge of heat breaking temperature records worldwide. This alarming spike in temperatures is a result of continued emissions of heat-trapping gases, primarily caused by human activities such as burning fossil fuels. This highlights that the planet experienced its warmest June on record, accompanied by deadly heat waves in regions like Texas, Mexico, India and the Middle East. Additionally, sea ice levels near Antarctica reached record lows, and the North Atlantic experienced unusually high surface temperatures. This unprecedented heat is unsettling to scientists who have been monitoring climate change. This underscores the urgent need for climate justice and swift action on climate change. Climate justice refers to addressing the disproportionate impacts of climate change on vulnerable communities, particularly those in low-income countries or marginalised groups who contribute the least to greenhouse gas emissions. The article's findings demonstrate that the consequences of climate change are already being felt, with severe heat waves and melting ice affecting diverse regions across the globe. This evidence demonstrates that the impact of climate change is not limited to specific regions but is affecting diverse areas across the world that are geographically distant from one another. The evidence of the hottest temperatures on record in 2023 supports the scientific consensus that human-induced climate change is a reality. It reaffirms the predictions made by climate scientists about the consequences of ongoing emissions. To mitigate further warming and its devastating impacts, it is crucial for societies and governments to accelerate efforts to transition away from fossil fuels, promote renewable energy sources and implement sustainable practices. Additionally, addressing climate justice is essential to ensure that the most vulnerable communities receive support and resources to adapt to the changing climate and build resilience. The urgency to act is clear, as the article indicates that Earth has already warmed by approximately

[7] Brad Plumer and Elena Shao, 'Heat Records Are Broken Around the Globe as Earth Warms, Fast' (*New York Times*, 6 July 2023) <www.nytimes.com/2023/07/06/climate/climate-change-record-heat.html> accessed 10 April 2024.

two degrees Fahrenheit since the 19th century. To prevent further warming, a significant reduction in greenhouse gas emissions and the preservation of forests are necessary. Transitioning to a carbon-neutral society will require global cooperation, policy changes and innovative technologies. The article's findings serve as a wake-up call to prioritise climate action, recognise the need for climate justice and work towards a sustainable future for all and make climate justice the most important issue to address at this moment in time.

According to Zoi Aliozi,[8] the definition of climate justice is an idea that encompasses many aspects and fields, while it can be understood as a concept that is developing on the foundation of human rights besides traveling from law to philosophy. In the past it was difficult to look at the connection between climate change and human rights, and the links between these fields were not obvious to the academic world. However, now the scientific consensus has offered reliable knowledge, and we know that by looking at the climate crisis and climate change from a human rights standpoint, it is the lens of climate justice that can offer a clear view of the essential human rights considerations that require a seat on the table at any relevant to a healthy environment law or policy making. According to the UN Submission of the Office of the High Commissioner for Human Rights to the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change:

> climate change directly contributes to the violation of human rights. The links of climate change with human rights become obvious through the argument that human rights and climate change are connected because it is human action responsible for the anthropogenic harms that are responsible for climate change. The ultimate human rights violation of humankind's known history will be the only thing 'flourishing' due to anthropogenic climate change.[9]

[8] Zoi Aliozi, 'Green Criminology: A rights-based approach' in Regina Paulose (ed), *Green Crimes and International Criminal Law* (Vernon Press 2021).

[9] Zoi Aliozi, 'Climate Justice: Human Rights and Animal Rights' (2020) 1 *The Resolution Journal*. Environmental Crimes 2019 Conference Papers (Jersey Law Commission 2020) <www.jerseylawcommission.org.je/_files/ugd/f5ec37_2c8ce06991db435dacea6d5e8609792b.pdf> accessed 10 April 2024.

Climate change can make our planet uninhabitable. This is why it is an existential threat, and the ultimate human rights violation. It is a global justice system because it is part of the human rights justice system, so it consists of national and international stakeholders. Moreover, the ones who suffer are the most vulnerable, the poor and the least responsible so effective climate justice solutions honour human rights, equity, rights of future generations, children and the right of nature because nature is also inclusive to all of this because humans are part of nature. Therefore, the definition of climate justice as a form of environmental justice is the fair treatment of all people and freedom of discrimination in the creation of policies that will address climate change and the systems that create climate change which continue with the discrimination. One of the biggest difficulties that climate justice faces is the lack of legislated tools to enforce the essential instruments to promote it. Soft laws, political promises, conferences and theories are the dominating factors instead of taking climate action so climate justice is trying to push for a change and expose all these failures and propose alternatives with real effect and impact. The prevailing climate denial fuels the delay of the stakeholders to make climate action and tackle climate emergency. Climate denial refers to the rejection or downplaying of scientific consensus on climate change and its negative impacts. The climate denial that is backed by the oil industry is covering the truth about climate emergency. The combination of human rights within conversations concerning climate justice and climate change is necessary. It should form the fundamental essence of each policy, guaranteeing both public engagement and informed decision-making. Only upon the elevation of this matter to the realm of human rights does the potential for essential change come into play. To ensure the triumph of climate justice, comprehensive strategies involving communication, awareness-raising and education are crucial. Education emerges as a potential tool, motivating a generation equipped with the knowledge to drive sustainable action by fostering a comprehensive understanding of the interplay between climate change and human rights as we will look into it in Chapter 3.

In her book, *Climate Justice and Human Rights*, Tracey Skillington sheds light on the concept of 'decent' societies, which is not only concerned about the internal conduct of societies but also their reasonable interactions with other nations. A decent

society not only relates reasonably to its own citizens but also to others on the global stage. This underscores the global nature of climate justice, aligning with the fact that climate justice necessitates the acknowledgment and addressing of responsibilities held by all in mitigating environmental degradation. Failing to act reasonably and justly in addressing climate change can have profound implications for human rights, especially for those most affected by environmental degradation and climate-related disasters. Furthermore, the role of powerful states and corporate interests in international affairs, often intervening in other nations' affairs for non-ideal reasons like profit-driven capitalist self-interest can perpetuate resource inequalities and dominance, which are fundamental aspects of climate injustice. Climate justice is intrinsically linked to the unequal impact of climate change on both humans and the environment, posing threats to fundamental human rights. Skillington also delves into the adverse impact of industry lobbyists on climate change mitigation efforts, particularly in the United States of America. The influence of industries prioritising their interests over climate action can obstruct meaningful policy reforms and hinder necessary actions to combat climate change. This obstructionism can directly affect states' ability to fulfil their human rights obligations and potentially harm vulnerable populations. It underscores that recognising and addressing these conflicting interests is essential for the protection of human rights in the face of climate change. Skillington emphasises the global responsibility to address climate change, the challenge posed by non-ideal motivations and the need to confront power imbalances for the sake of human rights. These insights strengthen the argument that climate justice requires acknowledging and addressing responsibilities on a global scale to mitigate environmental degradation and protect human rights.[10]

In a journal article authored by Jocelyn Timperley for the BBC,[11] she argues that climate justice encompasses various interpretations depending on individuals, yet at its essence lies the acknowledgement that those who suffer the greatest consequences of climate change are often not the primary culprits behind its occurrence. Climate change extends beyond being solely

[10] Tracey Skillington, *Climate Justice and Human Rights* (Palgrave Macmillan 2017) 95-96.
[11] Jocelyn Timperley, 'The world's fight for "climate justice"' (*BBC*, 9 November 2021) <www.bbc.com/future/article/20211103-the-countries-calling-for-climate-justice> accessed 10 April 2024.

an environmental challenge; it intertwines with social structures, perpetuates existing inequalities and disproportionately impacts individuals based on factors such as social class, race, gender, geographical location and generational disparities. Advocates for climate justice propose solutions that aim to rectify deep-rooted systemic injustices. For Timperley, the key resolution with this argument is the acknowledgment and admission of those who cause climate change by burning of fossil fuels, deforestation and industrial processes that release greenhouse gases that they should be held accountable for climate change and all the negative effects it brings and what makes this chronicle so tragic is the fact that poor people are the ones who are suffering the most. Climate injustice is not a problem that has to do with the environment only, it is a social and historical injustice as well. Marginalised communities, including communities with low-income, indigenous people, and developing countries pay the biggest price because they lack resources and infrastructure to adjust to changing conditions, leading to increased vulnerability to extreme weather events, sea-level rise, food insecurity and water scarcity. Climate change worsens existing differences in access to essential resources. For example, as water becomes scarcer because of droughts or changing precipitation patterns, marginalised communities may face challenges in obtaining clean and safe water. Likewise, the influence on agriculture and food production can result in food insecurity, affecting disadvantaged communities even worse.

For Kyle White, climate justice is not just about movements and awareness campaigns that we should reduce carbon dioxide so that the world of privileged people is preserved. Climate justice should begin with the belief that there is nothing normal about the conditions of our environment these days, which were largely shaped by capitalism and colonialism. Land dispossession, forced relocation, deforestation, intensive agriculture, industrial development, fossil fuel and extractive infrastructure were all done by systems of power like racial capitalism and colonialism which harmed the environment and caused climate change. Climate justice movements should raise awareness about the hidden agenda of those in power that have inflicted harm to minorities and poor

people since they are vulnerable with no power to fight back.[12] Climate justice advocates should highlight the need to address the power imbalances that are deep-rooted in colonial and capitalist systems that keep global inequality going. They should call for a changing approach that centres the voices and experiences of marginalised communities, indigenous peoples and poor people who are disproportionately affected by climate change but have contributed the least to its causes. Moreover, climate justice should raise awareness to the historical and ongoing impacts of extractive industries, such as fossil fuel extraction or large-scale agriculture, on marginalised communities and poor people. It questions the continuation and expansion of these industries, which are often driven by profit and contribute significantly to greenhouse gas emissions, at the expense of human rights, land rights and local autonomy. By highlighting these concerns, climate justice aims to promote a more holistic and equitable approach to reducing climate change, one that addresses the root causes of social and environmental injustices and promotes sustainable and just solutions for all.

In this thesis, three distinct chapters have been included to comprehensively address the topic at hand. Each chapter contributes unique perspectives and insights to the overall discussion of climate justice and climate change. The first chapter provides background information on climate change and climate justice as well as highlighting the global lack of efforts in addressing climate change and the absence of promoting climate justice. The second chapter offers a comprehensive analysis of climate change and climate justice from ethical and moral standpoints. Finally, the third chapter serves as the main analytical section, focusing on strategies for educating individuals about climate justice and implementing measures to mitigate the impacts of climate change with a conclusion as the final section summarising the main points, reinforcing the central argument, and providing a sense of closure. Collectively, these chapters provide a comprehensive exploration of the topic and offer valuable insights into the complex interplay between climate justice and climate change.

[12] Kyle White, 'Experts: Why does "climate justice" matter?' (*CarbonBrief*, 7 October 2021) <www.carbonbrief.org/experts-why-does-climate-justice-matter/#whyte> accessed 10 April 2024.

1. A historical journey into climate justice

In the face of a changing climate, a profound question arises: How do we navigate the intricate web of rights and responsibilities when it comes to achieving climate justice? Delving into this complex realm, James E Hansen sheds light on the history of the subject in his paper where he argues that throughout history he has witnessed how science was able to make advances in the understanding of the contribution that human beings are making to climate change as well as understanding the degree to which climate change can be harmful whether to us or to our environment in general. Hansen continues to express how many scientists in the past worked on understanding the relationship between the carbon dioxide levels emissions into the atmosphere and the heating of planet earth. However, one scientist that Hansen mentions as the first to notice a link between the fossil fuel combustion and the increased global warming here on earth was the Swedish scientist Svante Arrhenius back in 1896. This advanced calculation of Arrhenius turned out to be within the range predicted in later studies and astonishingly to this very day. Arrhenius' work laid the foundation for understanding how increased carbon dioxide levels contribute to global warming and climate change in general. Arrhenius' perception of climate change in 1896 emphasised the historical responsibility of industrialised nations that have historically released and emitted higher levels of greenhouse gases. Arrhenius' work served as a scientific base for understanding the factors and consequences of climate change. His insight laid the foundation for our understanding of how greenhouse gases

contribute to global warming of the planet.[13] Applying the principles of climate justice to the work that was laid by Arrhenius in the 1800s means considering historical responsibility, differential impacts, equitable mitigation and adaptation strategies, and international cooperation, all of which can be informed by Arrhenius' early insights into the relationship between greenhouse gases and global warming and how it can all trace back to that time of history and understand that it is all connected and that governments should be responsible for the past and for the future for climate change. Arrhenius' contributions helped establish the scientific understanding of the drivers and impacts of climate change. His work established the basis for subsequent research on the topic and provided a solid scientific foundation that has been built upon over the years to strengthen our knowledge of climate dynamics and raise awareness for humans about climate change mitigation and adaptation efforts and how climate justice is interconnected with human rights.

The interplay of colonialism, patriarchy and capitalism has indeed had a profound historical impact on the development and pace of the climate justice movement. According to Kyle White,[14] systems of power have been instrumental in perpetuating environmental and climatic injustices, further worsening the vulnerabilities of marginalised communities, particularly Indigenous peoples and people of colour. Colonialism, for instance, systematically exploited natural resources through land dispossession, deforestation and industrial development, often at the expense of Indigenous communities and ecosystems. The legacy of colonial-era environmental degradation continues to affect these communities disproportionately, making them more susceptible to the adverse impacts of climate change. Meanwhile, patriarchy has played a role in sidelining the voices and concerns of women, particularly in the Global South, compounding their vulnerability in the face of climate-related challenges. Capitalism, driven by profit

[13] James E Hansen, 'Expert Report of James E Hansen' filed 28 June 2018 in *Kelsey Cascadia Rose Juliana; Xiuhtezcatl Tonatiuh M, through his Guardian Tamara Roske-Martinez; et al v The United States of America; Donald Trump, in his official capacity as President of the United States; et al* Case No 6:15-cv-01517-TC p 8 <https://climatecasechart.com/wp-content/uploads/case-documents/2018/20180628_docket-615-cv-1517_exhibit-7.pdf> accessed 6 July 2023.

[14] Kyle White, 'Experts: Why does "climate justice" matter?' (*CarbonBrief*, 7 October 2021) <www.carbonbrief.org/experts-why-does-climate-justice-matter/#whyte> accessed 10 April 2024.

motives and an extractive approach to resources, has prioritised short-term economic growth over long-term environmental sustainability. This has led to overconsumption, intensive agriculture and the proliferation of fossil fuel infrastructure contributing significantly to the climate crisis. Moreover, market-driven climate solutions have sometimes overlooked the structural inequalities rooted in capitalism, reinforcing existing disparities. All of these factors have played a role in not developing climate justice as it should.

The current climate emergency has its roots in centuries of industrialisation and the increasing reliance on fossil fuels. The industrial revolution of the 18th and 19th centuries marked the beginning of widespread emissions of greenhouse gases into the atmosphere. As the global population grew, so did energy consumption, with the burning of coal, oil and natural gas becoming the primary sources of energy. This led to the accumulation of carbon dioxide and other greenhouse gases, resulting in the gradual warming of the Earth's climate. The exponential growth in emissions during the 20th and early 21st centuries, driven by economic development and consumption patterns, intensified the climate crisis we face today. The concept of climate justice emerged as a response to the unequal impacts of climate change. It highlights that historically, industrialised nations, responsible for most emissions, have disproportionately contributed to climate change, while vulnerable communities and developing countries suffer the most severe consequences. The notion of climate justice gained momentum as activists, scientists and affected communities began to advocate for equitable solutions. Notably, the United Nations Framework Convention on Climate Change (UNFCCC)[15] played a significant role in bringing climate justice to the forefront of international discussions. The UNFCCC was established in 1992 at the Earth Summit in Rio de Janeiro. It marked a crucial turning point in addressing climate change at the international level. The convention recognised the common but differentiated responsibilities among nations, reflecting the historical emissions imbalance. This principle acknowledges that industrialised nations bear a more substantial responsibility

[15] United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107.

for addressing climate change. Subsequent events, such as the Kyoto Protocol in 1997[16] and the Paris Agreement in 2015,[17] built upon the UNFCCC's foundation and outlined concrete steps to mitigate climate change and adapt to its impacts. The UNFCCC serves as a critical platform for nations to negotiate, cooperate and set climate goals, reflecting evolving understandings of climate justice. Throughout the history of climate negotiations, geopolitical factors have played a significant role. These include issues of economic development, sovereignty and differing levels of political commitment. Notably, the divisions between developed and developing nations over emissions reductions targets and financial support for adaptation have been prominent. The urgency of the climate crisis has spurred renewed international efforts, such as the United Nations Climate Change Conferences, where nations come together to negotiate agreements and commitments. Looking forward, the challenge remains to bridge geopolitical divides, secure financing for climate action and ensure that the principles of climate justice guide international efforts toward a sustainable and equitable future.

In his television series, *Cosmos: A Personal Voyage*, the late astrophysicist, Carl Sagan, in the fourth episode released in 1980, and updated in 1990, predicted that the heating of the atmosphere is an ongoing process that will persist unless immediate measures are taken to reduce its progression. He argued that immediate action is required to intervene and prevent this phenomenon: The dangers of the increasing greenhouse effect have become much clearer. We burn fossil fuels, like coal and gas and petroleum, putting more carbon dioxide into the atmosphere and thereby heating the Earth. The hellish conditions on Venus are a reminder that this is serious business. Computer models that successfully

[16] Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) 2303 UNTS 162.

[17] Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) 3156 UNTS 79.

explain the climates of other planets predict the deaths of forests, parched croplands, the flooding of coastal cities, environmental refugees and widespread disasters in the next century unless we change our ways.[18]

The increasing greenhouse effect poses significant dangers as we continue to burn fossil fuels, releasing excessive carbon dioxide into the atmosphere and subsequently heating the Earth. This is exemplified by Sagan by the hellish conditions on Venus, serving as a stark reminder of the seriousness of the situation. Scientific computer models, which have successfully explained the climates of other planets, predict dire consequences for our own planet if we fail to change our systems. These consequences include the death of forests, drought-stricken croplands, coastal cities being flooded, the displacement of environmental refugees and widespread disasters within the next century. It is crucial that we take immediate action to mitigate the greenhouse effect and transition to more sustainable practices to avoid these devastating outcomes.

Sagan was worried about climate change and recognised its importance as an environmental issue in the 1980s. He acknowledged the scientific general opinion that human activities, especially the burning of fossil fuels, were contributing to the increase in greenhouse gases and subsequent global warming. Sagan emphasised the importance of climate justice without it being a major movement back then. He additionally supported scientific literacy and critical thinking in understanding and addressing climate change. Sagan then carried on giving dramatic similarities in case carbon dioxide continued to be emitted in large quantities to the atmosphere as he compared the conditions on Venus, a planet known for its extreme and inhospitable conditions and for its high temperature averaging around 462 degrees Celsius. Venus is affected by the runaway greenhouse effect primarily due to its dense atmosphere and high levels of carbon dioxide is a valuable reminder that we must take the increasing greenhouse effect on Earth very seriously. Sagan only compared it to Earth in the scenario where we do not take any action to address climate change in the future. Carl Sagan, along with many scientists like James

[18] Carl Sagan, 'Cosmos: A Personal Voyage' Season 1, Episode 4 'Heaven and Hell' (PBS 19 October 1980) [television programme].

E. Hansen in the 'Storms of My Grandchildren'[19] and Michael E. Mann in 'The Hockey Stick and the Climate Wars'[20], tried to raise awareness about the importance of climate change. However, year after year, an observable trend emerges, indicating that the condition is getting worse. Nevertheless, it is important to recognise that climate change is a long-term, global issue that requires collective action and collaboration on a global scale and one other important aspect is to not lose determination and confidence if the change is small because we might one day reach collective understanding that this condition is seriously dangerous and that we should work together hand in hand for climate justice which in turn contribute to a cleaner climate and environment for us and for the next generations.

For Susanne C Moser, there are three dimensions why people might wonder about the differences in communicating climate change and why is it so hard for people and governments to realise it and bring out climate justice between communities compared to other subjects such as environmental issues, economic difficulties, risks, health concerns, policy complexities, or the necessity of political involvement and behavioural modifications. The initial characteristic of climate change becomes apparent when observing the surroundings: it is not visually observable. This absence of visibility or immediacy includes several notable aspects. Firstly, the main cause, which is the emission of greenhouse gases from fossil fuel usage or land-use changes, is physically invisible and does not have immediate and instant health consequences. This sets apart the pollutants responsible for climate change from numerous other forms of air or water pollution. Climate change possesses a separate feature that sets it apart from many other environmental issues: its lack of visibility. When we look out the window, we do not directly see the mechanisms of climate change at work. Unlike conventional air or water pollution, where the sources and consequences are often visible, the primary cause of climate change – the emission of greenhouse gases from activities like burning fossil fuels or industrial processes – is physically invisible. This invisibility not only makes it challenging to understand the immediate impact of climate change but also makes it difficult for public understanding and engagement. The absence

[19] James E. Hansen, *'Storms of My Grandchildren'* (Bloomsbury Press)
[20] Michael E. Mann, *'The Hockey Stick and the Climate Wars'* (Columbia University Press)

of direct and tangible health implications further adds to the complexity, making it crucial to employ effective communication strategies to convey the urgency and significance of addressing climate change despite its intangible nature. Another aspect of the lack of immediacy in understanding climate change is the temporal and geographical gap between its causes and effects.

The emission of greenhouse gases does not result in an immediate and visible impact. Instead, the emissions from individual actions or even those of most countries are relatively insignificant on their own. It is only when these emissions accumulate in the atmosphere over time that obvious changes occur in weather and climate patterns, as well as in physical, ecological and social systems. Monitoring and studying these changes require long-term observations taking over decades to distinguish them from the day-to-day variations and seasonal variability in weather and climate. The difficulty lies in distinguishing weather, which represents shorter-term variations, from climate, which encompasses long-term average weather with regionally characteristic variations. This perceptual challenge often leads to confusion for many individuals trying to comprehend the concept of climate change. However, these changes require long-term monitoring and analysis to differentiate them from natural weather variability, contributing to the challenge of distinguishing weather from climate.

Enhancing public understanding and effectively communicating the long-term implications of climate change is vital to bridge these gaps and encourage collective action. One more aspect of the lack of immediacy in understanding climate change relates to the disconnect between modern urbanised individuals and the natural environment. Many people spend the majority of their time in climate-controlled buildings, travel in protected vehicles through highly modified landscapes and have limited direct interaction with nature. This isolation from the natural environment makes it challenging to notice subtle and gradual environmental changes, often referred to as ‘creeping’ environmental changes. Moreover, individuals who have the means to protect themselves through structural measures or insurance against climate-related risks, such as shoreline protection or crop insurance, can further distance themselves from the impacts of climatic extremes and variability. As a result, they may dismiss or overlook

the significance of any changes occurring in the environment. These environmental changes often go unnoticed as individuals have limited opportunities for attentive observation or interactive experiences in nature due to the reality of our world today.[21]

The challenges in communicating climate change, like its invisibility and the gap between causes and effects, are closely linked to the history of climate justice and human rights violations. Climate change impacts often harm marginalised communities first and worst, when climate change is not visibly apparent, it can be easy for governments and societies to ignore or downplay the urgent needs of these vulnerable communities. The temporal gap makes it difficult for people to connect their actions today with the future suffering of others, violating the principle of intergenerational equity. Additionally, the disconnect from the natural environment can further worsen these environmental injustices, as those with resources can shield themselves while others suffer, violating the rights of those disproportionately affected by climate change. In essence, the challenges in communicating climate change are intertwined with the history of climate injustice and human rights violations, as they perpetuate inequalities and hinder efforts to address this global crisis fairly.

Art Markman, for example, proposes that human beings in general are afraid of what they do not know and of what is mysterious to them, and they always try to find answers and solutions. So, what makes it challenging for individuals to act regarding climate change? Markman observes that there are four factors. The first one is that people hate change, and it is like a battle between the long term and the short term, and it is so hard for people to adapt to new regulations, and it is easier to work on the short term then to work on long term and change a lot and try to adapt.

One example of this is that governments save money now by depending on methods for generating power that use combustion instead of sources that use green energy. It is easier for people to keep driving their cars than to buy new electric ones due to the fact that electric cars are a new technology, people are used to older cars and are familiar with them and their well-established

[21] Susanne C Moser, 'Communicating Climate Change: History, Challenges, Process, and Future Directions' (January/February 2010) Vol 1 WIREs Climate Change 31, 33-34 <http://danida.vnu.edu.vn/cpis/files/Papers_on_CC/CC/Communicating%20climate%20change%20history,%20challenges,%20process%20and%20future%20directions.pdf> accessed 10 April 2024.

network of mechanics and readily available parts. Familiarity gives people a sense of security and comfort. People have routines and habits that become deep-rooted over time, and change disturbs these patterns.

Secondly, climate change is a nonlinear problem. In other words, it is something that builds over the years and does not happen suddenly and people by nature are more inclined to not act on threats that build over the years and they always try to eliminate the problems that arise to them in the present. Sometimes, people may not fully be aware or understand the extent of the problem. They may be unaware of the long-term outcomes or may underestimate the significance of addressing the issue at hand. When a problem persists over a long period of time, it can become normalised or accepted as the status quo. People may become accustomed to the problem or see it as an inevitable part of their lives, making it less likely for them to take climate action any time soon.

Thirdly, most people treat climate change as an abstract concept, and they do not always link wildfires, extreme hot weather or even big storms to climate change because it can be far away from where they live. Sometimes, it can be challenging for individuals to grasp the complexity of climate science making it feel abstract and distant from their immediate concerns. Climate change is often seen as a global issue that affects the planet, rather than a direct and immediate personal concern which sometimes makes people not feel connected to the cause.

The fourth and last point is that people do not think about the future like they do with the present. It is like someone who does not save money for his retirement because he might not make it to that age. Besides, people are always sceptical about climate change and its real consequences. Humans have cognitive biases that can affect their perception of risks and long-term consequences like their limited scientific knowledge, political beliefs and ideologies.[22]

Various factors influence individuals' perspectives and engagement with climate change. Climate justice encompasses not only holding those in positions of power accountable but also creating awareness among ordinary people about the impacts of

[22] Art Markman, 'Why People Aren't Motivated to Address Climate Change' (*Harvard Business Review*, 11 October 2018) <https://hbr.org/2018/10/why-people-arent-motivated-to-address-climate-change> accessed 10 April 2024.

climate change. It aims to empower individuals to take climate action and protect the planet for future generations. By raising awareness, educating communities and fostering a sense of responsibility, climate justice promotes a collective effort to address the challenges presented by climate change and ensure a sustainable future. It recognises that everyone has a role to play in protecting the environment and understands the psychology behind this stagnant attitude towards climate justice in order to promote equitable solutions. All of this is closely connected to the history of climate justice because it highlights how powerful interests, like governments favouring cheaper but polluting energy sources, can perpetuate inequalities and hinder efforts to address climate change.

In navigating the complexities of climate justice, this first chapter highlights the historical context and scientific foundations of climate change awareness, tracing it back to early pioneers like Svante Arrhenius and Carl Sagan. It underscores how climate injustice is deeply rooted in the interplay of colonialism, patriarchy and capitalism, which has disproportionately affected marginalised communities and exacerbated environmental disparities. Furthermore, it delves into the challenges of communicating climate change, such as its invisibility and the disconnect between causes and effects. These elements are critical to understanding the broader context of climate justice and its implications for human rights. It emphasises the importance of acknowledging historical responsibility, differential impacts, equitable mitigation and adaptation strategies, and international cooperation in addressing climate change. This comprehensive perspective reinforces the urgency of recognising climate justice as an integral component of human rights, aligning with the fact that climate justice necessitates collective responsibility in mitigating environmental degradation and safeguarding human rights in the face of a changing climate. The following chapter will explore the moral and ethical perspectives from a philosophical lens concerning climate justice and climate change.

2. Climate justice through the lens of philosophy

This chapter will delve into the moral and ethical aspects of climate change and climate justice. This approach aims to go beyond the traditional focus on the environmental impact of climate change and instead consider it from a moral standpoint. By doing so, we can shed light on how climate change not only affects the natural world but also infringes upon principles of equality and basic human rights, particularly for impoverished and marginalised communities. Approaching climate justice through an ethical and moral lens unveils a profound realisation and that is that the intrinsic value of human rights is intimately intertwined with our collective pursuit of a clean environment and a better future. By embracing this perspective, we recognise that the fundamental entitlements of every individual include the right to a healthy and sustainable environment. Understanding climate justice in this context illuminates the universal imperative for safeguarding these rights, as they inherently belong to each one of us. Therefore, it is essential to pose critical questions concerning the absence of government regulations on greenhouse gas emissions for large corporations. Why are these corporations permitted to operate without being held accountable? Additionally, why do these companies seek out locations in developing countries where environmental laws are weakly enforced, enabling them to pollute these areas and exploit cheap labour, thereby burdening poor nations and further damaging their environment? These issues have the potential to reshape perspectives and prompt citizens in developing countries to question the lack of corporate responsibility and the exploitation of marginalised individuals through low wages and environmental degradation. Furthermore, citizens in developed nations may begin questioning why their own governments allow these corporations to pollute without sufficient

scrutiny, which could aid in identifying instances of corruption. By adopting an effective policy framework that poses targeted research inquiries, these issues can be adequately tackled to alleviate the challenge of climate change.

L Hunter Lovins and Boyd Cohen highlight that the problem of climate change is not solely caused by one or two big countries where corporations go to developing countries and burn fossil fuel and damage the environment. According to a study by the International Energy Agency (IEA) in 2010, various governments around the world, particularly in 37 developing countries, provided substantial financial support (referred to as subsidies) to promote the use of fossil fuels, which are harmful to the climate. The IEA's study revealed that in 2008, these subsidies amounted to more than $557 billion. It's important to note that this figure only considers the financial support provided by governments and doesn't include direct payments made to fossil fuel industries or subsidies for other polluting forms of energy, such as nuclear power. In essence, they emphasise that many countries, including developing nations, contribute to climate change by financially supporting the use of fossil fuels through government subsidies. This sheds light on the broader global issue of governments indirectly encouraging the production and consumption of climate-damaging forms of energy.[23]

Some sceptics argue that it's unfair to attribute the responsibility for climate change solely to present-day actors. They contend that many of the world's developed nations, which are often targeted for their historical emissions, industrialised and emitted greenhouse gases before the environmental consequences were fully understood. As a result, holding these nations disproportionately accountable for past actions may not be justified in their view. Some critics point out that while developed countries have historically been significant emitters of greenhouse gases, emerging economies and developing nations have rapidly increased their emissions in recent years. They argue that these countries should also bear a substantial share of the responsibility for addressing climate change, especially given their growing contributions to global emissions. Essentially, it is important to hold governments accountable for climate change, regardless of whether

[23] L Hunter Lovins and Boyd Cohen, *Capitalism in the Age of Climate Change* (Hill and Wang 2011) 278-79.

they are in developed or developing countries. This is because it is not the poor individuals and communities who predominantly engage in burning fossil fuels, but rather it is the collective responsibility of governments and societies. Governments represent the interests of their citizens and have a duty to prioritise the well-being of their people, including safeguarding the environment and combating climate change.

It is crucial to recognise that governments, although they are a small fraction of the overall population, possess significant decision-making power and influence in shaping policies and regulations related to energy and environmental issues. Given the far-reaching consequences of climate change, it is imperative to include the voices and perspectives of the people in decision-making processes. By involving the public in these discussions, governments can ensure that policies are equitable, transparent and accountable to the needs and aspirations of their citizens. This approach promotes democratic participation, empowers individuals and communities, and strengthens the collective effort to address climate change effectively. From a moral and ethical standpoint, the issue of governments funding fossil fuels in developing countries and aggravating climate change raises concerns. Firstly, the practice of subsidising fossil fuels in developing countries perpetuates an unjust burden on vulnerable populations. These subsidies often prioritise economic growth and energy access, but they disproportionately benefit wealthy elites and corporations. Meanwhile, marginalised communities experience the harsh consequences of the negative impacts of climate change, such as extreme weather events, rising sea levels and disrupted livelihoods as the IPCC predicts. This unequal distribution of costs and benefits violates the principles of fairness and equity. Secondly, climate justice calls for acknowledging historical responsibilities and power imbalances. Developed countries, historically responsible for most greenhouse gas emissions, have contributed significantly to global climate change. However, the burden of addressing climate change and transitioning to sustainable energy systems should not fall solely on developing countries. By perpetuating subsidies for fossil fuels, both developed and developing countries inadvertently sustain an unfair and unsustainable system, undermining efforts to achieve climate justice. From a moral and ethical attitude, the provision of subsidising fossil fuels in developing countries raises concerns regarding climate justice. Such subsidising

aggravates the inequitable distribution of the burdens and benefits of climate change, disproportionately impacting marginalised communities. Recognising historical responsibilities and addressing power imbalances is essential to achieving a just and sustainable future, where the costs and benefits of climate change mitigation are shared equitably among nations and populations.

Zoi Aliozi argues[24] that it is important to note that one of the reasons we reached this point in climate emergency is the political hypocrisy and our leaders' inaction towards climate justice in every part of the world. Despite going on conferences endorsing international climate agreements and acknowledging the urgency of the climate crisis, they have frequently prioritised short-term economic interests over long-term sustainability. This inconsistency stems from various factors, including political and economic pressures, vested interests and the challenges associated with implementing transformative policies as they often face significant pressure from powerful industries, such as fossil fuels, that wield substantial influence through lobbying, campaign contributions and job creation. This influence can lead to policies that favour these industries and perpetuate the use of fossil fuels, even when leaders publicly express concern about climate change. Additionally, the desire to maintain economic stability and avoid disruption can discourage leaders from implementing aggressive climate policies that may be perceived as detrimental to existing industries. Furthermore, political leaders may prioritise short-term electoral considerations over long-term climate action. Climate policies often require immediate sacrifices for long-term benefits, which can be politically unpopular. As a result, leaders may hesitate to take decisive action that could jeopardise their chances of re-election. This leads to a disconnect between their rhetoric on climate change and their actual policy choices. The global nature of climate change and the need for coordinated international efforts pose challenges for political leaders. Negotiating and implementing effective climate agreements requires cooperation on a global scale, which can be complicated by conflicting national interests and sovereignty concerns. This complexity can create inaction and lead to political leaders deferring meaningful

[24] Zoi Aliozi, 'Climate Justice: Human Rights and Animal Rights' (2020) 1 *The Resolution Journal*. Environmental Crimes 2019 Conference Papers (Jersey Law Commission 2020) <www.jerseylawcommission.org.je/_files/ugd/f5ec37_2c8ce06991db435dacea6d5e8609792b.pdf> accessed 10 April 2024.

action while engaging in performative gestures to appease public sentiment. This inaction has indeed played a significant role in pushing us closer to the tipping point of irreversible climate damage. From an ethical perspective, political hypocrisy in addressing climate change raises profound moral concerns. It reflects a failure to uphold the ethical obligations and principles that should guide the actions of governments and leaders in the face of a global crisis with severe consequences for humanity and the planet. One ethical dimension of this issue is the intergenerational equity principle. Climate change disproportionately impacts future generations who have had little to no role in causing the problem. By prioritising short-term gains and neglecting climate action, political leaders are essentially passing on the burdens of climate change to those who will inherit a more destabilised world. This raises questions about the moral responsibility of current leaders to protect the rights and well-being of future generations.

According to the viewpoint of Stephen M Gardiner, he compares climate change to a perfect moral storm in which it is hard to stay calm. It threatens our ability to behave ethically because the storm might have more negative outcomes than the storm itself. Climate change is caused by numerous factors, including greenhouse gas emissions from various sources worldwide. The effects of climate change, which were anticipated by the IPCC such as rising temperatures, extreme weather events and sea-level rise, are felt globally but impact different regions and communities unequally. One of the limitations for approaching climate justice is something he refers to as the dispersion of causes and effects. In other words, it means that responsibility for addressing climate change is distributed among different actors, making it challenging to attribute blame or take collective climate action. Therefore, the responsibility for addressing climate change is shared among various entities, including governments, businesses, individuals and international organisations. However, there is often a lack of coordination and accountability among these actors, leading to fragmented efforts and diffused responsibility. This makes it difficult to hold specific parties accountable and achieve comprehensive and effective climate action. Moreover, the existing institutions, including governmental bodies and international agreements, are often criticised for their inability to effectively address the complexities of climate change. Climate change

requires coordinated global climate action, yet the current institutional framework may be insufficient or slow in responding to the urgency of the issue. This inadequacy contributes to the challenges in implementing effective climate policies and regulations.

Climate change is a global issue that transcends national borders, requiring cooperation and collaboration on a global scale. However, there is a lack of a strong and effective system of global governance to address climate change comprehensively. The absence of a strong international framework can hinder the coordination and enforcement of climate actions, impeding progress in mitigating and adapting to climate change. The 'perfect moral storm' refers to a situation where various detrimental factors align, resulting in significant and potentially catastrophic negative consequences. Gardiner likens climate change to a perfect moral storm, drawing an analogy to Sebastian Junger's book and film *The Perfect Storm* which portrayed a fishing vessel caught in the convergence of three exceptionally severe storms. In the case of climate change, the perfect moral storm implies that the unique characteristics of this problem create substantial barriers to making necessary ethical choices and hinder effective climate action. The convergence of multiple factors in climate change poses a threat to our ability to behave ethically and makes us susceptible to moral corruption. Together, these elements create what is referred to as a 'perfect moral storm' in the context of climate change. This storm represents the merging of multiple ethical challenges, uncertainties and barriers to collective climate action such as global inequity and injustice, the different socio-political responses around the world and the varied economic interests of countries. All these factors highlight the complexity of the issue and the need for comprehensive, coordinated and morally informed approaches to address climate change effectively.[25]

It is essential to acknowledge that not everyone views climate change as a dire and immediate threat. Some sceptics argue that the science behind climate change is not settled and that natural climatic variations may play a more significant role than human activities. They contend that the proposed measures to combat climate change, such as carbon taxes and stringent regulations,

[25] Stephen M Gardiner, 'A Perfect Moral Storm: Climate Change, Intergenerational Ethics and the Problem of Moral Corruption' (2006) 15(3) Environmental Values 397, 398-99 <www.jstor.org/stable/30302196> accessed 10 April 2024.

could have adverse economic consequences, potentially leading to job losses and increased living costs for individuals. These sceptics often express concerns about the potential overreach of government intervention in the name of climate action. Moreover, they argue that emphasising positive emotions like pride and gratitude may oversimplify a complex issue, potentially trivialising the gravity of the problem. In essence, they argue that the current urgency of climate change may not be as universally accepted as proponents suggest, and the solutions proposed should be critically scrutinised for their economic and social impacts.

In an article published by Ezra Markowitz and Azim Shariff,[26] they contend that the biggest problem with climate change is something they refer to as the blamelessness of unintentional actions which means that human beings throughout history have not tried to cause climate change intentionally but it happens anyway because of another oriented goal which is to create energy to provide trappings for modern life and it is perceived by many people as unintentional and unfortunate and it is something that have side effects. They argue that unintentionally caused harms are judged less harshly than equally severe but intentionally caused ones. Recognising a harmful event as a product of intentional agents motivates people. For instance, this is why individuals all around the world promptly respond and are driven to prevent terrorist attacks. Therefore, seeing climate change as a product with no human agents behind it decreases the motivation to do something about it. Hence, raising awareness among the general public regarding climate change and its consequences represents a crucial step in the ongoing battle against climate change. They also suggest that positive human emotions such as pride and gratitude and not guilt may help motivate and drive people to do something about climate change. Highlighting the positive aspects of pride and gratitude as the driving emotions can be transformative forces, empowering individuals to take climate action which supports the Sustainable Development Goals (SDGs). By establishing climate action as an opportunity for individuals to contribute to positive change and expressing gratitude for their own environment, people are more likely to feel motivated and inspired rather

[26] Ezra M Markowitz and Azim F Shariff, 'Climate change and moral judgement'(March 2012) 2 Nature Climate Change 243, 245 <https://mahb.stanford.edu/wp-content/uploads/2012/08/rCLI-PSY-ClimateChangeMoralJudgement.pdf> accessed 10 April 2024.

than burdened by guilt. As the dangers of climate change increasingly loom over our planet, individuals are inherently compelled to strive for a better climate and environment, for ultimately, it is their own planet and the well-being of future generations that hang in the balance. Intrinsically people would genuinely prefer a better and healthier environment for them and for their children so it will start from grassroots level by ordinary citizens making movements and promoting for a better climate. It has always shown throughout history that people can affect governments just like they did with slavery and how they affected the rules in the United States of America and ended the slavery as one example of how people can change stagnant things. Moreover, highlighting positive social norms such as not being wasteful with electricity, recycling waste and striving to decrease their reliance on transportation to other ways like cycling or walking are some of the things that can play an important role in normalising these things so people would be accustomed to them and inadvertently alleviate climate change. Positive social norms can be strengthened through community engagement initiatives. By organising events, workshops and campaigns centred around climate change awareness and sustainable living, communities can encourage positive behavioural change. This collective engagement promotes a sense of shared responsibility, supports social ties and strengthens the significance of addressing climate change together.

While Ezra Markowitz and Azim Shariff argue for feeling proud and grateful for our planet are the number one factors for motivating people to work together to alleviate climate change, for Adam R Pearson, Corinne G Tsai and Susan Clayton,[27] they take a slightly different stance and suggest that collective anger stemming from injustices that are done by the bigger countries who go to third world countries to release carbon dioxide and also moral emotions such as the feeling of collective guilt will therefore drive the feelings of responsibility which in turn will play a stronger role in motivating people to change themselves and change their governments because their governments are the ones that should be held responsible. Guilt often comes from a sense of moral responsibility or awareness of one's actions contributing to harm

[27] Adam R Pearson, Corinne G Tsai and Susan Clayton, 'Ethics, Morality, and the Psychology of Climate Justice' (March 2021) Current Opinion in Psychology 1, 7-8 <https://research.pomona.edu/sci/files/2021/03/PearsonTsaiClayton2021pre-proof-Ethics-morality-and-the-psychology-of-climate-justice.pdf> accessed 10 April 2024.

or injustice. Recognising the negative effect of one's actions on the environment can cause a desire to resolve the situation and take responsibility for their role in climate change. They also focus on an important point which is that disadvantaged people in undeveloped countries showed more interest and motivation in fighting climate change than those who are advantaged and live in developed countries. They cite this due to the conspicuous inequality. Conspicuous inequality can lead to the unequal distribution of environmental burdens. Disadvantaged communities, particularly those in low-income areas, often bear an unequal burden of environmental pollution and degradation, including exposure to harmful pollutants, toxic waste sites and environmental hazards. This unequal distribution of environmental burdens aggravates the climate injustice faced by these communities. Addressing conspicuous inequality is vital for achieving climate justice. It involves acknowledging and correcting the unequal distribution of resources, opportunities and burdens associated with climate change. Efforts should focus on empowering disadvantaged communities, promoting equitable access to resources and information, and guaranteeing their inclusion in decision-making processes related to climate action.

Certain critics contend that the principle of national self-determination is deeply rooted in political philosophy and international law. It asserts that nations have the inherent right to determine their own political, economic, social and environmental policies without interference from external actors. From a philosophical perspective, this principle is often seen as a fundamental expression of human agency and the right of communities to shape their own destinies. It reflects the belief that nations should be able to make decisions that best serve the interests and aspirations of their citizens. Critics of climate justice initiatives that infringe upon national sovereignty argue that such measures challenge this fundamental principle. They contend that while addressing climate change is undoubtedly a global imperative, the means by which it is pursued should respect the sovereignty of individual nations. Mandating specific climate policies or imposing global regulations may be perceived as authoritarian and infringing upon a nation's right to make decisions that reflect its unique circumstances. Moreover, it may create tensions and conflicts, as nations may resist efforts to dictate their domestic policies. Philosophers sympathetic to this viewpoint often advocate for a more

decentralised and voluntary approach to climate action, where nations have the freedom to choose how they contribute to global climate goals while respecting their right to self-determination. However, it is very significant to note that in an increasingly interconnected world, it is essential to recognise the shared responsibility for addressing climate change, which transcends national borders. Climate policies, when coordinated internationally, provide a framework for countries to collectively tackle the global challenge of greenhouse gas emissions. Recognising that the actions of one nation have far-reaching consequences for the entire planet, such policies reflect the understanding that a common commitment to mitigating climate change is necessary to prevent its severe and far-reaching impacts, such as rising temperatures, extreme weather events and sea-level rise. While respecting national sovereignty is important, climate policies that encourage collaboration and adherence to global climate goals are crucial in safeguarding the well-being of current and future generations on a global scale.

As we delve deeper into the ethical dimensions of climate justice, it becomes clear that multiple perspectives contribute to our understanding of this complex issue. While some emphasise the importance of respecting national sovereignty in addressing climate change, others, like Zakir Hossain, underscore the significance of corrective justice as a fundamental ethical framework. Hossain stresses the paramount significance of corrective justice as the primary argument in his viewpoint. The term 'corrective justice' is generally understood as a concept in legal theory that focuses on the idea of balancing or rectifying harm or wrongs that have been committed. It is an attitude that pursues to reestablish a sense of fairness and equality by holding individuals or entities accountable for their wrongful actions and providing appropriate remedies or compensation to the injured party. Within the context of climate change, there is an imperative to assign responsibility to big countries and big corporations. It can be like a situation where if one breaks something, they are expected to repair it since they are the ones accountable for the damage caused. For Hossain, that is a small example; however, it is necessary to provide a credible understanding of the relationship between causes and effects. This entails demonstrating that the actions of the party responsible for wrongdoing directly resulted in the harm inflicted. However, when it comes to addressing climate change,

establishing this causal link is challenging due to uncertainties. For instance, individuals residing in low-lying areas rightfully assert that they are adversely impacted by floods. It is likely that the emission of greenhouse gases is a probable cause of such flooding events where they live. The concept of corrective justice can be connected to the broader framework of climate justice, which addresses the ethical dimensions of climate change and its impacts on vulnerable populations. Corrective justice within the context of climate justice involves holding responsible parties accountable for their impact on climate change and the resulting harm. It highlights the need to rectify the imbalance created by those who have excessively contributed to greenhouse gas emissions and the following adverse effects on communities, particularly marginalised and vulnerable groups. In the case of climate change, establishing a causal link between the actions of emitters and specific climate-related harms becomes very significant for corrective justice. It requires demonstration that the emissions of greenhouse gases, such as carbon dioxide, methane and others, have contributed considerably to the occurrence or exacerbation of events like floods, storms, droughts and rising sea levels as the IPCC predicts. Climate justice acknowledges that the impacts of climate change are not distributed evenly between rich and poor nations. Vulnerable communities, often in developing countries, bear the brunt of climate-related disasters and face unequal socio-economic and environmental consequences and concerns. Corrective justice seeks to address these injustices by holding major emitters accountable for their actions and facilitating remedies that prioritise the affected communities. This can include measures such as financial compensation, adaptation support and mitigation efforts.[28] By establishing the link that Hossain mentions in his paper between the actions of emitters and the harm suffered by vulnerable populations, corrective justice strengthens and supports the ethical imperative to rectify the imbalances caused by climate change and promote a fair and just transition to a sustainable future. The principles of corrective justice interconnect with the ethics of climate justice by highlighting the need to address the harm

[28] Zakir Hossain, 'Seeking Climate Justice: A Critical Response To Singer' (Linkoping University 2010) 21 <www.diva-portal.org/smash/get/diva2:398949/FULLTEXT01.pdf> accessed 10 April 2024.

caused by climate change and ensure accountability for those responsible. It underlines the importance of rectifying imbalances, providing remedies and supporting affected communities to achieve a more equitable and sustainable global response to climate change.

According to David Schlosberg, the whole concept of environmental justice which encompasses climate justice within it must have a solid, logical and theoretical foundation that includes a broad range of subjects, including acknowledgement, distribution and participation. In this context, relying only on liberal theories of justice, such as John Rawls' theory, is inadequate as it focuses wholly on fair processes for the distribution of goods and benefits. It is vital here to explain that John Rawls' theory of justice, known as 'justice as fairness', suggests that a just society is one that maximises the well-being of the least advantaged. Rawls argues for a principle of equal basic liberties, where individuals have equal rights and freedoms. He also proposes the difference principle, which means it is acceptable to have socioeconomic inequalities in society, such as differences in wealth or income, if these inequalities work to the advantage of the least advantaged members of society. Which means if some people are rich, but they help those who are very poor, then it's acceptable. While John Rawls' theory of justice has its merits, it is considered by some to be insufficient in addressing the complexities and specific concerns of climate justice. Climate justice calls for a more comprehensive framework that encompasses recognition, participation and systemic inequalities alongside fair distribution methods. Rawls' theory does not broadly address the need for participatory democracy or the participation of affected communities in shaping environmental policies. This omission can overlook the power imbalances and lack of representation that often exist in environmental decision-making. Schlosberg continues to highlight the importance of grounding the notion of climate justice on logical and theoretical foundations that encompass various aspects of justice, including recognition, distribution and participation. The notion of climate justice encompasses more than just fair processes for the distribution of goods and benefits. It involves recognising the diverse experiences and perspectives of different communities and addressing the disproportionate burden of environmental harm on marginalised groups. Climate justice recognises that certain communities, often marginalised or disadvantaged,

bear a higher burden of pollution, environmental degradation and related health risks. Schlosberg emphasises the need for a broad and pluralistic understanding of climate justice. This means considering multiple dimensions of justice, including not only the fair distribution of resources and benefits but also recognition of cultural, social and political factors. It highlights the importance of inclusive participation and decision-making processes that involve affected communities. Liberal theories of justice, like Rawlsian justice, focus primarily on fair processes and principles for distributing goods and benefits within society. They may not sufficiently address the specific concerns and complexities of environmental justice, which extend beyond the fair distribution of resources. Therefore, a broader and more inclusive theoretical framework is needed to address the multifaceted dimensions of environmental justice. Overall, Schlosberg emphasises the need for an approach to environmental justice that is logically grounded, theoretically comprehensive and encompasses recognition, distribution and participation in order to effectively address environmental inequalities and promote equitable outcomes.[29]

For Robert Gifford, certain belief systems have a general impact on various aspects of an individual's life; political views can fall under this category for some people, ideologies and worldviews that include beliefs conflicting with climate change mitigation and other pro-environmental activities, including climate justice, can serve as significant obstacles to inspiring behavioural change. Belief in free-enterprise capitalism is a notable aspect that predicts scepticism towards global warming. Certain aspects of it, such as the belief in the unrestricted use of common resources, have contributed to the destruction of fisheries, forests and landscapes worldwide. Being heavily invested in such organisations is incompatible with accepting behaviours aimed at mitigating these issues. Free economic capitalism with minimal governmental interference can obstruct efforts to address climate change and raise awareness about climate justice. Its emphasis on unrestricted resource use has led to the depletion and degradation of natural ecosystems. Its essential ideologies of competition and profit maximisation in the chase of economic growth and individual wealth, capitalist societies often prioritise abusing natural resources for

[29] David Schlosberg, 'Reconceiving Environmental Justice: Global Movements And Political Theories' (2004) 13(3) Environmental Politics 517.

production, consumption and business. This unrestricted use, coupled with a profit-driven mentality, has unfortunately led to the depletion and degradation of natural ecosystems. The focus on short-term gains and the absence of adequate regulations or incentives to protect the environment have resulted in overexploitation, pollution and habitat destruction, causing significant harm to ecosystems and biodiversity. This creates a conflict when it comes to adopting pro-environmental activities and supporting initiatives that seek to mitigate climate change and ensure fairness and equity in addressing its impacts. The fear of being a victim of individuals or entities who benefit from a collective good or resource without contributing their fair share of effort, cost or participation, coupled with perceived inequities, can further discourage individuals from taking responsible climate action, as they question the value of their contributions if others do not do the same. Overcoming these barriers requires addressing the systemic factors that perpetuate such beliefs and working towards a more just and sustainable approach to tackling climate change. The perception of inequity is often mentioned as a reason for inaction, with individuals questioning why they should make changes if others are not willing to do so. Commonly, prominent figures, different economic sectors or other nations are mentioned as non-cooperative entities, which becomes a justification for personal inaction. The fear of becoming a victim of those who take advantage of land resources without any compensation or punishment acts as an obstacle for certain individuals who question the necessity of their own contribution towards addressing climate change, considering the expectation that others will not fulfil their responsibilities. In experimental scenarios involving shared resources, cooperation tends to weaken when any form of inequality or perceived unfairness exists. The perception of inequity in climate change can also be viewed from an ethical standpoint. Ethical considerations often come into play when evaluating issues related to fairness, justice and the distribution of burdens and benefits among individuals and communities. From an ethical perspective, the perception of inequity in climate change raises questions about the fairness of the impacts and the responsibilities placed on different individuals, regions or countries. It can involve examining issues such as historical responsibility for greenhouse gas emissions, the disproportionate vulnerability of marginalised communities to climate impacts and the sharing of the costs and benefits

related to mitigation and adaptation efforts. Moreover, when examining climate change through an ethical lens, it becomes apparent that large corporations engage in practices such as petroleum extraction and fossil fuel burning in economically disadvantaged nations. These corporations exploit these countries due to lower labour costs and the absence of regulatory frameworks that could hinder their industrial activities. Consequently, it is the impoverished communities within these nations that bear the brunt of the environmental consequences. It raises the question of why these vulnerable populations should be burdened further, considering they neither contribute significantly to greenhouse gas emissions nor reap the benefits of these industrial endeavours. By considering the ethical dimensions of climate change and addressing perceived inequities, it becomes possible to develop more inclusive and fair approaches to climate action that prioritise justice and sustainability. Gifford stresses that the perception of inequity has broader implications and far-reaching consequences, extending beyond individual behaviour and intertwining with the idea of climate justice. The presence of inequality or perceived unfairness in shared resource dilemmas tends to decrease cooperation. To address these barriers, it is crucial to promote climate justice, ensuring fairness and equal opportunities for participation in climate action, so that the burden is shared collectively, and progress is made towards a sustainable future for all.[30] **Intersectionality** plays a vital role in understanding climate justice and ethical perspectives. Intersectionality means that people's experiences of climate change and its impacts are shaped by multiple aspects of their identity, such as race, gender, class and geography. Vulnerable communities often face compounded challenges due to these intersecting factors. For example, women in marginalised regions of the Global South may experience disproportionate impacts as they are more dependent on natural resources for their livelihoods. Acknowledging intersectionality is crucial in crafting ethical responses to climate change that address the specific needs and vulnerabilities of diverse populations. The **vulnerability principle** underscores the ethical imperative to protect those who are most susceptible to climate change's adverse effects. It recognises that marginalised communities, particularly in the Global

[30] Robert Gifford, 'The Dragons of Inaction: Psychological Barriers That Limit Climate Change Mitigation and Adaptation' (2011) 66(4) American Psychologist 290, 293-94.

South, bear a disproportionate burden despite contributing minimally to the problem. Climate justice demands that industrialised nations and corporations acknowledge their historical contributions to greenhouse gas emissions and take responsibility for assisting vulnerable communities in adapting to and mitigating climate change. This principle highlights the moral obligation to rectify the injustices of climate change by ensuring that the most vulnerable are supported and empowered. The **Global South's role in the climate justice movement** is pivotal. Many countries in the Global South are disproportionately impacted by climate change, despite having limited historical emissions. The climate justice movement seeks to rectify these disparities by advocating for equitable distribution of resources, technology transfer and capacity-building in these regions. Ethical perspectives drive this movement, emphasising the responsibility of developed nations to address the historical injustice of environmental exploitation and support the Global South in facing the challenges posed by climate change. Additionally, the movement aims to combat ecocide – the large-scale destruction of ecosystems – and climate denialism, which both hinder global efforts to address climate change ethically. By recognising these interconnected ethical issues, we can work towards a more just and sustainable approach to climate action that considers the needs and rights of all people, irrespective of their background or location.

This chapter explored the moral and ethical dimensions of climate change and climate justice. The philosophical ideas discussed in this chapter converge around the central themes of ethics, justice and responsibility in the context of climate change. Climate change demands a collective moral and ethical duty to ensure fairness and equity in distributing the burdens and benefits of addressing it, transcending national boundaries. This aligns with the concept of responsibility held by all individuals, countries and entities to actively mitigate climate change and environmental degradation. The merging of ethical challenges, uncertainties and barriers in climate change presents a formidable challenge in making ethical choices and taking effective climate action. It underscores the need for comprehensive and morally informed approaches and global cooperation to navigate these complexities. On one hand, harnessing positive moral emotions like pride and gratitude can motivate individuals and communities to take climate action which aligns with the SDGs. These emotions

can foster a sense of shared responsibility and inspire people to address climate change as a collective endeavour. On the other hand, collective anger and guilt can serve as motivators for addressing climate change, particularly in response to injustices perpetuated by larger nations. These emotions can drive individuals and societies to recognise responsibility and work toward rectifying environmental injustices. Climate change disproportionately impacts vulnerable communities, underscoring the unequal distribution of its effects. This relates to the idea of fairness and equity in addressing climate change and its potential to perpetrate fundamental human rights violations, such as the right to a healthy environment. In essence, these philosophical ideas provide the ethical and moral foundation for understanding the intricate interplay between climate justice and human rights, emphasising the need to recognise responsibility, address inequalities and work collectively to safeguard fundamental human rights in the face of climate change and environmental degradation. The next and last chapter will serve as the primary analytical section, focusing on approaches aimed at increasing individuals' understanding of climate justice and exploring methods to reduce the impacts of climate change.

3. A vision for climate justice: Bridging policy and awareness

Communication and raising awareness of the climate emergency are pivotal in addressing one of the most critical challenges facing humanity today. Effective communication serves as a requirement for mobilising individuals, communities and governments to take comprehensive action to mitigate and adapt to climate change. However, this effort is not without its formidable challenges, one of the most significant being climate denialism. It often involves the spreading of misinformation and the manipulation of public opinion to cast doubt on the seriousness of climate issues. Unfortunately, some of the most influential actors engaging in this denialism are segments of the fossil fuel industry, often referred to as 'big oil'. These entities have a vested interest in maintaining the status quo, which is heavily reliant on fossil fuels. Consequently, they have invested substantial resources in campaigns aimed at introducing doubt about climate science. By funding studies, researchers and public relations efforts that undermine climate science, they have contributed to a broader atmosphere of confusion and inaction. To counteract climate denialism and misinformation, effective communication strategies must prioritise transparency, accuracy and accessibility of information. Scientists, educators, activists and responsible media outlets play a crucial role in disseminating climate science and its implications to the wider public. Grassroots movements, such as Fridays for Future and Extinction Rebellion, have harnessed social media and organised public demonstrations to raise awareness and mobilise people globally. Additionally, governments and international organisations must collaborate to regulate and hold accountable those responsible for spreading false information. Building a global consensus and fostering a sense of urgency

through open and honest communication is essential to drive meaningful climate action. By countering misinformation with facts and fostering a shared understanding of the climate crisis, we can collectively work towards a sustainable future.

Margot Hurlbert contends that climate justice is distributive; in other words, it should be distributed between countries whether poor or rich in resources, funds, benefits and even burdens including climate change, emissions and the ability to adapt as she argues.

First, climate and climate change are socially and culturally perceived and constructed, therefore making necessary changes to reduce greenhouse gases requires social action. Second, there is an inequitable global distribution of climate change impacts and adaptive capacity among rich and poor countries. Finally, historic greenhouse gas emission patterns arguably impact and inform the political and legal landscape into the future. For Hurlbert, movements by environmental groups and non-governmental organisations (NGOs) can strengthen communities by defining shared interests and join people to advocate for more fair and ecologically viable practices like clean energy instead of greenhouse emissions. Moreover, there should be recognition by governments all around the world that disadvantaged people from undeveloped countries are suffering from climate change without any fair distribution of benefits. Environmental groups and NGOs can organise workshops, seminars, public lectures and conferences to inform people about climate justice issues. These events can cover topics such as the impacts of climate change to help communities develop sustainable practices, access clean energy and adapt to climate impacts. It is also worth noting that effective communication and engagement strategies should be designed to specific audiences and cultural contexts because every culture is different, and they should not all be addressed in the same way. They should be addressed in the way they might be addressed domestically and design the context to fit their way of thinking in order

to acknowledge the problem of climate change and its effects. By combining different approaches and techniques, environmental groups and NGOs can maximise their impact in raising awareness about climate justice and mobilising people for collective action.[31]

Per-Ulf Nilsson[32] suggests an attitude that emphasises the developmental needs of developing countries and the poor. He suggests addressing climate change in movements that are fair and just. Movements are one of the ways to advocate for the establishment of global targets on adaptation and mitigation that consider the specific realities, needs and capacities of individual countries and local communities. By recognising that different regions and communities face unique challenges and have varying capabilities to address climate change, the movements promote a more equitable distribution of responsibilities. Movements seek to foster collaboration and connection among civil society organisations and work in various domains related to climate change. It recognises that climate justice is rooted in the principles of common but differentiated responsibilities, meaning that all countries should contribute to addressing climate change, but with an understanding that developed countries have historically contributed more to the problem and should take on a greater burden in finding solutions with the principles of climate justice rooted in human rights. By fostering grassroots organising, social movements and public engagement, individuals can actively challenge the existing system and advocate for equitable climate action. This interconnected approach recognises that climate justice is not only about mitigating environmental degradation but also protecting the rights and well-being of all individuals and future generations, as emphasised in the context of human rights. The participation of the people in their countries can start by the people themselves because they can have a very big influence and impact when they join together and create movements because the answer is from the bottom up and not from the top down because the leaders on the top might be corrupt or compromised so one approach to fostering public engagement and participation is through individuals

31 Margot Hurlbert, 'Climate Justice: A Call for Leadership' (2015) 8(2) Environmental Justice 51, 51-55 <www.researchgate.net/publication/275221229_Climate_Justice_A_Call_for_Leadership> accessed 13 April 2024.

32 Per-Ulf Nilsson, 'Building a Climate Justice Movement' (Sida Civil Society Center 2008) <https://cdn.sida.se/publications/files/sida46941en-building-a-climate-justice-movement.pdf> accessed 15 April 2024.

actively revealing and challenging the existing system. This can be achieved through social movements as a means for people to participate and contribute as well as at grassroots level everywhere in the world by promoting the side effects of climate change in social media and television. Another way is by informing students in schools and in universities about the effects that climate change can bring to our future generations.

Raising awareness is crucial in motivating individuals to take climate action. One significant way to encourage stakeholders to begin climate action is by supporting climate policies that promote climate justice because they have the potential to advance climate justice by ensuring fairness in resource allocation and protection from climate harm. For example, policies that promote the transition to renewable energy sources can create green job opportunities in economically disadvantaged areas, simultaneously mitigating climate change and reducing socio-economic disparities. Additionally, policies that prioritise disaster preparedness and resilience-building can protect vulnerable communities from the devastating impacts of extreme weather events. By targeting resources and support to those most affected by climate change, these policies not only reduce injustice but also enhance overall societal resilience. Conversely, climate justice considerations can play a pivotal role in shaping policies to be more equitable and responsive to vulnerable communities. When policymakers consider the voices and needs of marginalised groups, they can design policies that better address their specific challenges and vulnerabilities. For example, indigenous communities often have valuable traditional knowledge about land and resource management, which, when integrated into policy decisions, can lead to more sustainable and just approaches to environmental conservation. This integration of diverse perspectives enhances policy effectiveness and legitimacy. Awareness is a catalyst in this relationship by mobilising public support for policies that address climate injustice and empowering communities to participate in climate action. As people become more informed about the unequal impacts of climate change and the potential solutions, they are more likely to advocate for just policies and hold their leaders accountable. Grassroots movements, educational campaigns and community engagement initiatives can amplify these voices and exert pressure on governments to take meaningful action. By fostering a sense of shared responsibility and solidarity, awareness not only drives the

demand for equitable climate policies but also creates a more inclusive and responsive policymaking process. In this way, awareness serves as a bridge between climate justice principles and policy implementation, reinforcing their interdependence in the pursuit of a more just and sustainable response to the climate crisis. Climate justice and policy are interdependent. Climate policies can promote justice by ensuring fairness in resource allocation and protection from climate harm, while climate justice considerations can shape policies to be more equitable and responsive to vulnerable communities. Awareness serves as a catalyst for this relationship, mobilising public support for policies that address climate injustice and empowering communities to participate in climate action. Together, these elements form a powerful synergy in the quest for a more just and sustainable response to the climate crisis.

While raising awareness about the urgent need for climate action is essential, it is through the formulation and implementation of climate policies that tangible progress can be made. These policies not only address environmental concerns but also strive to rectify social and economic disparities, ensuring that vulnerable communities are not disproportionately affected by climate change. By bridging the gap between awareness and concrete policy measures, we can foster a more equitable and sustainable future for all, where climate justice is at the forefront of our collective efforts. In Chapter 1, Susanne C Moser discusses how climate change is often perceived as invisible in terms of cause and effect, leading to a lack of action by individuals. However, in this chapter, we will delve into strategies and approaches to mobilise people and inspire them to fight for climate justice. According to Moser, one of the ways to keep the subject of climate justice and the ongoing fight in mitigating climate change continuing is the long-term and sustained involvement in communicating climate change, it is very essential considering its permanent nature and the need for continuous engagement. As climate change is a persistent and complex issue that does not offer immediate solutions or positive feedback, successfully communicating its urgency and maintaining public interest over extended periods becomes something that is very challenging. Media often raises concerns about a term called ‘green fatigue’ and the perceived lack of newsworthiness associated with climate change. It is worth mentioning here that ‘green fatigue’ refers to the emotional and mental state

experienced by individuals when they are overwhelmed by negative information regarding the environment, particularly climate change. It often leads to a sense of withdrawal or, in more severe cases, a loss of motivation or a feeling of giving up. However, there is a lack of research on long-term communication strategies and how to keep societal actors engaged in the face of this ongoing issue. Further investigation in this area can provide insights into the role of long-term visions and visioning processes in sustaining engagement with climate change and help for a more sustainable future to fight climate change and raise awareness about climate justice. In the realm of climate justice, long-term and deeper engagement in communication is crucial for several reasons. Firstly, it allows for the acknowledgement and compensation of historical injustices, as climate justice aims to address the disproportionate impact of climate change on marginalised and vulnerable communities. Effective communication involves strengthening the voices of these communities, sharing their experiences and highlighting the social and environmental inequalities they face. Secondly, continued engagement raises empathy, understanding and solidarity among different stakeholders, promoting a collective commitment to addressing climate change in an equitable method. It also helps to build trust, establish long-term partnerships and ensure that climate justice remains a prominent and enduring issue in public discourse, policymaking and climate action. For Moser, limited research exists on the effective and ethical use of visualisation in conveying climate change and climate justice's information. The role of the arts in making climate change more accessible and engaging the public has received inadequate critical evaluation thus far. There is a need for further study and analysis of communication technologies and methods, particularly in understanding how visualisation can effectively communicate complex climate concepts and addressing ethical considerations. Additionally, assessing the impact and potential of artistic approaches in developing public understanding and engagement with climate change is essential for advancing effective communication practices in this field. There is a significant gap in research regarding the effective and ethical use of visualisation to communicate climate change information, leaving a crucial area unexplored. The potential of visual representations in conveying complex climate concepts and engaging the public to the consequences of climate change and encouraging people to fight for climate

justice has not been extensively studied, highlighting the need for additional research which could lead to different ways of understanding the subject and advocate for it. Additionally, while the arts have increasingly played a role in making climate change accessible and stimulating public involvement, their impact and effectiveness remain insufficiently evaluated. Examining the connection of art and climate communication can provide valuable insights into innovative approaches for effectively conveying climate messages and developing meaningful public engagement. Studying the connection between art and climate communication reveals that various aspects of art, such as visual representation, emotional resonance, symbolism and metaphor can provide valuable insights into creative approaches for effectively conveying climate messages and raising meaningful public engagement. Artists have the unique ability to visually depict the impacts of climate change, capturing its urgency and consequences through powerful imagery. Furthermore, through artistic expressions that tap into human emotions, such as performances, music, poetry and storytelling, art can create empathetic connections and bridge the gap between individuals and the abstract concept of climate change. Additionally, artists can employ symbolism and metaphor to convey complex environmental concepts in relatable and thought-provoking ways, stimulating dialogue and inspiring climate action towards addressing climate challenges. Therefore, it is essential to dedicate more attention to understanding and harnessing the potential of communication technologies, including visualisation, and critically evaluating the role of the arts in addressing climate change communication challenges.[33] All of this underscores the underexplored potential of visualisation and the arts in conveying complex climate concepts and inspiring meaningful public engagement, which can be integral in promoting human rights within the context of climate justice in a subtle yet very inspiring way.

[33] Susanne C Moser, 'Communicating Climate Change: History, Challenges, Process, and Future Directions' (January/February 2010) Vol 1 WIREs Climate Change 31, 43 <http://danida.vnu.edu.vn/cpis/files/Papers_on_CC/CC/Communicating%20climate%20change%20history,%20challenges,%20process%20and%20future%20directions.pdf> accessed 10 April 2024.

While raising awareness serves as a critical initial step in the pursuit of climate justice, it's essential to translate this heightened consciousness into tangible actions like policy making a pivotal role in driving positive social changes and effectively mitigating the impacts of climate change in different aspects. Climate action policies are essential tools for achieving these intertwined objectives. When well-crafted and executed, such policies can bring about transformative societal shifts. Climate action policies can lead to substantial social changes by encouraging sustainable practices and behaviours. For instance, policies not only reduce greenhouse gas emissions but also foster healthier and more equitable communities. These changes can improve air quality, reduce traffic congestion and create opportunities for active lifestyles, enhancing the overall quality of life for residents. Mitigation efforts through climate policies also address issues of environmental justice. As vulnerable communities bear the brunt of pollution and climate impacts, well-designed policies can prioritise these communities by ensuring they have access to clean energy, clean water and green spaces. This not only reduces the disparities in environmental burdens but also enhances social equity, as these communities often have the fewest resources to adapt to climate change. Furthermore, climate action policies can drive innovation and foster economic growth and social well-being. These policies can also help communities transition away from fossil fuel-dependent economies, providing support and training for workers in declining industries to access new, sustainable employment opportunities. Policy making that focuses on climate action and mitigation can serve as a powerful mechanism for positive social changes. By encouraging sustainable practices, addressing environmental justice issues, climate policies can simultaneously reduce emissions, enhance social equity and create a more sustainable and prosperous future for all.

An essential aspect of climate justice involves raising awareness among policymakers, urging them to take climate action in mitigating climate change and advancing climate justice. Addressing climate action is important as it aligns with the SDGs as persistent problems, which if left unattended, risk becoming ingrained in societal norms, hindering progress towards a sustainable future. By increasing awareness and understanding of the urgent need for sustainable policies and equitable solutions, climate justice advocates aim to inspire policymakers to prioritise

climate action. Through informed advocacy and engagement, they seek to drive policy changes that address the root causes of climate change, reduce greenhouse gas emissions, promote renewable energy adoption and ensure fairness and equity in climate-related decision-making. As is commonly understood, there is a big relationship between reducing greenhouse emissions and solving climate change as the IPCC affirms this. The two are intertwined and connected in which if greenhouse emissions are reduced then this can increase air quality. Additionally, it could also make better temperatures which in turn saves many human beings now and, in the future, because by restricting greenhouse emissions this process reduces air pollution for the next generations and if big corporations, for example, stop burning fossil fuels this will gradually improve the environment and end climate change in the future. By reducing greenhouse gas emissions, particularly carbon dioxide emissions from burning fossil fuels, we can limit the number of heat-trapping gases released into the atmosphere. This reduction effort helps prevent further global warming and aims to limit the increase in global average temperature to well below two degrees Celsius above pre-industrial levels, as set out in the Paris Agreement. According to Megan Avakian, a study was conducted by the National Aeronautics and Space Administration showed that comparisons between a policy model that was working on cutting greenhouse emissions and another one with no climate change policy, using global models, to assess how these situations would affect air quality and human health in the next years. The study concluded that a reduction of greenhouse emissions could avert roughly 0.5 million premature deaths due to air pollution in 2030 but what was more interesting is the fact that reducing greenhouse emissions meant more benefits for densely populated areas like South and East Asia which shows how much these emissions are affecting these countries.[34] As IPCC envisions that climate change can have dangerous health effects, such as increased heat-related illnesses, respiratory problems due to air pollution and the spread of vector-borne diseases. It is important here to clarify that vector-borne diseases are diseases that result from an infection transmitted to human beings and other animals by blood-feeding arthropods like mosquitos and fleas. Changes in

[34] Megan Avakian, 'Reducing Greenhouse Gas Emissions Can Improve Air Quality and Save Lives.' (National Institute of National Health Sciences 2013)

temperature, precipitation patterns and humidity associated with climate change can affect the geographic distribution and behaviour of disease-carrying vectors. Warmer temperatures and altered rainfall patterns can enlarge the range of vectors into new areas or increase their population size, allowing them to thrive in regions where they were previously absent or less prevalent. These health impacts tend to disproportionately affect vulnerable populations with limited access to healthcare, adequate housing and resources to adapt to changing conditions.

In Chapter 1, we discussed Carl Sagan's influential work on studying climate change and raising awareness for climate justice. In Chapter 3, the focus shifts towards Sagan's perspective on the ways to mitigate climate change and create a sustainable future for everyone. Sagan recognised the gravity of the situation and believed that immediate climate action was necessary to combat the challenges posed by a changing climate. He advocated for a multi-faceted approach that encompassed various strategies and climate actions which aligns with the SDGs:

> What do we have to do? Four things. One: much more efficient use of fossil fuels. Why not cars that get 70 miles a gallon instead of 25? Two: research and development on safe alternative energy sources, especially solar power. Three: reforestation on a grand scale. And four: helping to bring the billion poorest people on the planet to self-sufficiency which is the key step in curbing world population growth.[35]

Sagan believed that science should inform public policy and decision-making processes of its consequences, and he advocated for a rational and evidence-based approach to addressing environmental issues. Firstly, Sagan emphasised the need for a much more efficient utilisation of fossil fuels, particularly in the context of transportation. He questioned the status quo of cars that typically achieve 25 miles per gallon (MPG) and proposed the idea of significantly improving fuel efficiency to reach 70 MPG. Sagan recognised that by increasing the efficiency of vehicles, we could reduce the amount of fuel consumed per mile travelled, thereby decreasing carbon emissions and lessening the environmental

[35] Carl Sagan, 'Cosmos: A Personal Voyage' Season 1, Episode 4 'Heaven and Hell' (PBS 19 October 1980) [television programme].

impact associated with fossil fuel combustion. He believed that promoting and adopting more fuel-efficient technologies in the automotive industry would be a crucial step towards mitigating climate change and reducing our reliance on fossil fuels on an individual level. Given Carl Sagan's emphasis on finding sustainable and environmentally friendly solutions, it is highly likely that he would have supported the use of electric cars if they were available during his time. Sagan recognised the negative impacts of fossil fuel combustion on the climate and the environment. Electric cars, with their potential to significantly reduce carbon emissions and dependence on fossil fuels, align with Sagan's vision of transitioning to cleaner energy sources. Their ability to utilise renewable energy, such as solar or wind power, would have likely appealed to Sagan's preference for sustainable alternatives. It is plausible that Sagan would have recognised electric cars as a promising technology in the fight against climate change and advocated for their adoption as part of a larger strategy to create a more sustainable future. Secondly, Sagan placed significant emphasis on the importance of research and development focused on safe alternative energy sources, with particular emphasis on solar power, to combat climate change. He recognised that transitioning away from fossil fuels was critical to reducing greenhouse gas emissions and mitigating the effects of climate change as he believed that investing in solar power technologies could offer a sustainable and renewable energy solution that could help meet global energy demands while minimising environmental impact. He advocated for increased efforts and resources directed towards advancing solar power research, development and implementation as a key strategy in the fight against climate change. The third interesting instrument that he mentioned was reforestation which refers to the deliberate and intentional process of replanting trees in areas where forests have been depleted or removed because trees play a crucial role in reducing climate change by absorbing carbon dioxide through photosynthesis, thereby reducing greenhouse gas concentrations in the atmosphere. Forests also contribute to biodiversity conservation, water regulation, soil stabilisation and erosion prevention. Reforestation helps restore ecosystem functions and provides habitat for wildlife, promoting biodiversity and ecological balance. It can enhance soil fertility, protect watersheds and support local ecosystems' resilience. Reforestation projects can also benefit local communities by improving access to resources, such

as fuelwood, timber and non-timber forest products. They can also enhance community resilience to climate change impacts, reduce vulnerability to natural disasters and support sustainable livelihoods. The fourth point Sagan emphasised was the importance of assisting the billion poorest people on earth in achieving self-sufficiency, recognising it as a crucial step in addressing the issue of world population growth. He believed that by providing support and resources to lift people out of poverty, we could positively impact population dynamics. Sagan understood that poverty often contributes to high birth rates and limited access to reproductive health services, perpetuating a cycle of population growth. By empowering the poorest communities to meet their basic needs, including education, healthcare and economic opportunities, Sagan argued that we could create conditions where individuals have greater control over their family planning decisions. In his view, enabling self-sufficiency for the billion poorest people was a fundamental approach to curbing world population growth and fostering a more sustainable future for the planet which in turn can improve their human rights.

Sagan advocated for principles aligned with climate justice, even though the concept wasn't a prominent movement during his era. He emphasised the importance of fair and equitable approaches to tackling climate change, acknowledging the need to consider the social, economic and environmental impacts on vulnerable populations. Despite climate justice not being widely recognised at the time, Sagan's work reflected a commitment to addressing the unequal distribution of climate change's causes and consequences. By contextualising Sagan's ideas within the framework of climate justice and human rights, we can appreciate his progressive perspectives and their relevance to present-day discussions on addressing climate change with fairness and equity.

One of the ways to alleviate climate change and increase awareness about climate justice is by using renewable energy which is viewed as a very strong component of promoting climate justice. For Noah Long,[36] renewable energy is very vital for the long term. In this context, it is of utmost significance to establish a comprehensive depiction of the concept of renewable energy,

[36] Noah Long, 'Renewable Energy Is Key to Fighting Climate Change' (*NRDC*, 26 July 2016) <www.nrdc.org/bio/noah-long/renewable-energy-key-fighting-climate-change> accessed 15 April 2024.

which relates to the careful divergence from coal-based sources, petroleum or the burning of fossil fuels, in favour of sustainable alternatives. Governments all around the world should turn to energy sources that do not emit greenhouse gases to sources such as biofuels, solar or wind which can reduce climate change without hindering human activities but keeping the environment safe and healthy. For Long, renewable energy is one of the strongest tools to alleviate climate change. From economic standpoint renewable technologies save customers more money as they displace emission from fossil fuels. Wind, for example, is everywhere and can be used in isolated and in very small areas and very efficiently and economically. Wind energy produces electricity without releasing greenhouse gases, like carbon dioxide (CO2) and methane (CH4). By replacing fossil fuel-based electricity generation with wind power, the quantity of CO2 and other chemicals released into the atmosphere can be reduced, helping to alleviate climate change. Wind energy is a renewable resource that depends on the Earth's natural wind patterns. Wind is an abundant resource worldwide, which provides a constant and sustainable energy source without any reduction. Unlike finite fossil fuel resources, wind power can be harnessed for the long term. Although sceptics frequently voiced counterarguments against climate action for example stressing on economic concerns, contending that aggressive measures to combat climate change, such as transitioning away from fossil fuels, may have adverse economic repercussions. Advocates of this viewpoint argue that such actions could lead to job losses in industries like coal and oil production, causing economic hardship for many countries dependent on these sectors. However, it is important here to note that transitioning to increased wind energy capacity can improve countries' energy independence and security, reducing vulnerability to energy price fluctuations and supply disruptions which in a way help poor countries to self-rely on their resources for a better environment without relying on developed countries which might take advantage of them. The wind energy sector offers job creation opportunities across various fields, including manufacturing, installation, operations and maintenance. Wind power projects help local economies by attracting investments, creating jobs and supporting related industries such as manufacturing, construction and services. In addition to wind energy, solar energy presents a highly promising and an excellent renewable energy solution. It is a

renewable resource that depends on the sun's energy, which is basically unlimited. The sun provides an abundant and continuous source of energy that can be harnessed and can be selected to various geographical locations, making it accessible to many regions on a universal level. Solar energy systems can be installed on rooftops, open land and even in remote areas, providing local power generation and reducing dependence on centralised energy grids. Solar energy contributes to enhanced air quality and public health by reducing the reliance on fossil fuel-based power plants. The burning of fossil fuels releases harmful chemicals that have adverse effects on human health. Solar energy is also very clean, safe, comes with low costs from a financial standpoint, it can create more job opportunities and stimulate local economies. According to Long, wind and solar energy are experiencing remarkable growth and cost improvements in the past decade with no signs of slowing down which means with good planning renewable energy will pave the way. Long also stresses that state policies that mandate that a certain amount of the state's electricity comes from renewables produce economic, health and climate benefits. Investments in renewable energy, energy efficiency, green infrastructure and sustainable transportation not only help lessen emissions but also create jobs, improve air quality, enhance energy security and promote economic growth.

While Long addresses wind and solar energy and their role in fighting climate change, John Abraham on the other hand addresses the issue of biofuel and its importance as another form of renewable energy. It is significant here to explain that biofuel is a kind of fuel that is produced in a short amount of time, and it is a renewable energy like corn ethanol and biodiesel and biofuel is a good alternative because it emits fewer emissions and the carbon dioxide they release is recycled in the atmosphere. For Abraham, the great thing about biofuel is that new technologies are enabling biofuel production from non-edible gases, plant waste material and wood. The beautiful thing about them is that they suck carbon dioxide out of the air as they grow. When they are used in cars, they release the same amount of carbon dioxide as much as the plants need to absorb when they are growing so basically, they are zero net emitters. For Abraham, the trick for using biofuel is to find clean crops that do not need a lot of fertiliser, water and other inputs because others might be expensive so using marginal croplands such as switchgrass, it is important to note that Switchgrass

(Panicum virgatum) is a perennial warm-season grass known for its high biomass productivity and adaptability to a wide range of environmental conditions so for him there are a number of factors like the type of crop, the land and the other factors that come into play to produce the biofuels in an efficient and productive way so biofuels can have a wide range of environmental outcomes depending on exactly where and how those crops are grown and how climate benefits can be increased at relatively low cost.[37]

Renewable energy plays a vital role in climate justice by addressing both the urgent need to mitigate climate change and the inherent inequalities associated with traditional energy systems. By transitioning to renewable energy sources such as solar, wind and biofuel, we can significantly reduce greenhouse gas emissions, which disproportionately affect marginalised communities. Access to clean, affordable and reliable energy from renewable sources empowers communities to overcome energy poverty and its associated health and socioeconomic burdens. Additionally, the localised nature of renewable energy systems allows for greater community ownership, participation and economic benefits, ensuring that the transition to clean energy is inclusive and equitable. Embracing renewable energy as a central pillar of climate justice promotes environmental sustainability, resilience and a fairer future for all.

According to a UNFCCC issue,[38] a new report from UN Climate Change reveals that global efforts to reduce greenhouse gas emissions are insufficient to limit global temperature rise to 1.5 degrees Celsius by the end of the century. The combined climate pledges of 193 parties under the Paris Agreement could result in around 2.5 degrees Celsius of warming by the end of the century. Although emissions are projected to decrease after 2030, they are not declining rapidly enough to meet the necessary targets. The report emphasises the urgent need for nations to strengthen their climate action plans and implement them within the next eight years. In line with this, in a recently published article by Vicky

[37] John Abraham, 'Biofuels can help solve climate change, especially with a carbon tax' (*The Guardian*, 14 March 2018) <www.theguardian.com/environment/climate-consensus-97-per-cent/2018/mar/14/biofuels-can-help-solve-climate-change-especially-with-a-carbon-tax> accessed 15 April 2024.

[38] UNFCCC, 'Climate Plans Remain Insufficient: More Ambitious Action Needed Now' (*United Nations Climate Change*, 26 October 2022) <https://unfccc.int/news/climate-plans-remain-insufficient-more-ambitious-action-needed-now> accessed 15 April 2024.

Evans,[39] she suggests a potential solution to address the issue. Evans proposes that government officials should include education about climate justice and climate change in schools and universities around the world and to make sure that all state parties to the Paris Agreement recognise climate learning as an important operator to fight climate change. It is necessary here to clarify exactly that the term the Paris Agreement refers to an international treaty that was developed by UNFCCC that aims to combat climate change and its consequences. Education plays a significant role in raising awareness about the complex and interconnected issues related to climate change and social justice. By including climate justice in the curriculum, students can have a comprehensive understanding of the social, economic and environmental implications of climate change. It helps them develop a sense of urgency and empathy towards the challenges faced by marginalised communities who are largely affected by climate change. Climate justice education empowers students to become active global citizens and it provides them with the knowledge and skills to critically analyse environmental issues, understand the underlying systemic causes and advocate for equitable and sustainable solutions which in turn can help them when they grow up to have the needed skills to help eliminate it or fight its dangers. Furthermore, education can promote an understanding of the intersectionality between environmental degradation, economic imbalances and social injustice, and encourages students to work towards creating a more equitable and just society and have a genuine love for the environment. In the context of education, understanding intersectionality means acknowledging that environmental degradation, economic disparities and social injustices are not isolated issues but are interconnected and often disproportionately affect marginalised communities. Education that incorporates an intersectional perspective helps students grasp how systemic inequalities worsen environmental challenges, leading to disproportionate harm to vulnerable populations. It fosters a holistic understanding of these complex issues and encourages students to become advocates for justice, both in terms of social equity and environmental sustainability, promoting a genuine love for the environment as an integral part of a fair and equitable society. Including climate

[39] Vicky Evans, 'Why is education important in tackling climate change?' (*Cambridge*, 2022)

justice in education is vital for raising awareness, empowering students, addressing inequalities, promoting sustainable practices and building resilience and it fosters critical thinking, problem-solving and engagement in civic actions, encouraging students to participate in addressing climate change and promoting social justice. Future generations whether they are school communities, teachers, researchers and learners should be provided with the right curriculum, education, knowledge and practical skills to protect the present and future generations and contribute to societal transformation and reduce the huge impact on our natural world for a more sustainable world. Moreover, education missions develop the understanding and the learning of the people to participate in combating climate change and its effects which in turn promote human rights.

Zachary Stillings states that: '[r]eports demonstrate that the least responsible parties for climate change, i.e. developing countries, are the most vulnerable to the impacts of climate change'. Citizens in undeveloped countries should start asking questions such as why big corporations are allowed to pollute their own environment without any responsibilities and take advantage of the poor people in their countries by polluting their environment and even by paying workers low wages to work in oil rigs or even coal mines because they live in undeveloped countries where justice is not carried out. Additionally, citizens of the developed countries will start asking why these big corporations are polluting the environment without any questioning from their own governments which might help in detecting the corruption in those countries. Stillings carries on explaining: 'Through the lens of corrective justice, then, the worst emitters should, at the very least, be obligated to help those nations who will bear the brunt of climate change deal with its effects'. Stillings suggests the idea that there are no regulations for big corporations by their governments to limit greenhouse emissions and how are they even allowed to do so without any accountability and how big companies go to third world countries where laws are not enforced, take advantage of low wages and pass the burden to poor countries and subsequently pollute their environment. Big corporations often have significant political influence through lobbying, campaign contributions and other means. This influence can shape policy decisions and regulatory frameworks, which delays measures aimed at holding corporations accountable for their environmental impact. They

can also create an environment where regulations and enforcement are not strict. Moreover, some corporations may lack transparency regarding their environmental effect, making it harder to assess their contribution to climate change. Limited disclosure and reporting requirements can make it challenging for stakeholders, including the public, to fully understand a corporation's climate-related practices and emissions.[40] Overall, Stillings' argument highlights the injustices in the developing countries and the influence that big corporations have in diminishing the impact of climate change and how it emphasises the need for equitable and accountable action to address climate change and protect human rights.

Efforts to address corporate accountability for climate change include increased transparency and reporting requirements, pressure from stakeholders such as consumers and investors and advocacy for stronger regulations. Additionally, global initiatives like the United Nations Global Compact and frameworks like the Task Force on Climate-related Financial Disclosures (TCFD) aim to encourage corporate responsibility and disclosure related to climate change. TCFD is an international initiative established by the Financial Stability Board (FSB), a global organisation that promotes financial stability and regulates international financial systems. The TCFD was created in 2015 to develop a set of voluntary recommendations for companies to disclose climate-related financial information. Regulatory and control measures by the governments in which they should apply regulations on the big corporations to limit greenhouse emissions and limit also the burning of fossil fuels like oil and coal because by holding these corporations responsible we can create accountability which therefore starts by solving the climate change problem because when big corporations start paying taxes for example or limit their greenhouse emissions the number of their activities will be reduced by a huge percentage which can affect the climate positively. Thus, government actions are required to alleviate the climate change problem and there should be an implementation of regulations and standards which also include taxes and charges for the big corporations because these corporations are used to profit and they are funded

[40] Zackary L Stillings, 'Human Rights and the New Reality of Climate Change: Adaptation's Limitations in Achieving Climate Justice' (2014) 35 Michigan Journal of International Law 643, 648 <https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1066&context=mjil accessed> accessed 1 June 2023.

by human beings because they are the ones that use their products so if they don't have maximum profit their pyramid of income will crumble and by creating regulations, standards and taxes we in turn create accountability for these economic actors which will decrease their industrial and business activities which will help to reduce the problem of climate change. As a result, transparency and accountability should be introduced immediately by all the governments all around the world. Efforts to hold corporations accountable for their contributions to climate change must involve various stakeholders to ensure a comprehensive and effective approach to climate justice. Transparency and reporting requirements, while essential, are most impactful when accompanied by engagement from stakeholders such as consumers and investors. When consumers are informed about a company's environmental practices, they can make more sustainable choices and apply pressure on corporations to adopt eco-friendly measures. Likewise, investors can play a significant role by divesting from companies with poor environmental records and shifting funds towards businesses committed to climate responsibility. This financial leverage motivates corporations to prioritise climate action.

According to Simon Caney, one of the things that governments can do to help fight climate change is the implementation of rules, and those who possess or potentially possess political authority to establish such rules may have a responsibility to do so. For instance, the World Trade Organization (WTO) should apply trade sanctions against countries that fail to appropriately decrease their greenhouse gas emissions. Moreover, apart from enforcing compliance, one could also need an entity to reveal the range of its greenhouse gas emissions. While this enforced transparency alone does not guarantee compliance, it often encourages greater adherence because entities do not want to appear unfavourably in the eyes of others. Caney emphasises the vital role of governments in implementing rules to address environmental challenges. Governments, as the holders of political authority, have a responsibility to establish regulations that promote sustainability. Caney proposes the utilisation of trade sanctions by international bodies like the WTO against countries that fail to sufficiently reduce their greenhouse gas emissions because by imposing trade sanctions, governments can incentivise compliance and create economic consequences for non-compliance, thereby encouraging nations to take more decisive climate action

in reducing their carbon footprint. In addition to enforcement measures, Caney highlights the importance of transparency initiatives in promoting compliance. Requiring entities to disclose their greenhouse gas emissions levels can foster greater adherence to environmental regulations. While enforced transparency does not necessarily mean compliance on its own, it often has a significant impact. Entities are motivated to comply because they want to maintain a favourable reputation and avoid negative perceptions from other countries. The fear of appearing unfavourably in the eyes of stakeholders and the public serves as a powerful incentive for entities to take steps towards reducing their greenhouse gas emissions and adopting environmentally friendly practices. Because in today's interconnected world, public perception plays an important role in the success and sustainability of businesses and organisations. Negative publicity or public backlash resulting from a perceived lack of environmental responsibility can damage an entity's reputation and brand image. This can lead to decreased consumer trust, loss of customers and potential financial implications for the country itself. Caney also proposes an alternative approach to combat climate change, which involves incentivisation. In other words, instead of imposing burdens on non-compliant entities, incentivisation aims to provide benefits to encourage compliance. International organisations such as the WTO and the European Union (EU) can set specific criteria that members and aspiring members must meet. By doing so, these organisations can withhold membership and the associated benefits from entities that fail to comply with the established criteria. Caney suggests that alongside enforcement measures, incentivisation can play a significant role in addressing climate change. Rather than solely focusing on imposing burdens on non-compliant entities, incentivisation offers benefits to promote compliance. International organisations like the WTO and the EU have the authority to establish criteria that entities must meet to gain membership and access associated benefits. By leveraging this power, these organisations can withhold membership from entities that fail to meet the criteria, thereby incentivising compliance with environmental standards. This method recognises the significance of providing positive incentives and rewards to encourage entities to adopt environmentally friendly practices and contribute

to the global efforts in mitigating climate change.[41] Caney's argument highlights the role of governments in implementing essential rules and regulations, emphasising their responsibility in promoting sustainability and protecting human rights and of the importance of climate action in the face of a climate emergency.

As mentioned by Barbara Adams and Gretchen Luchsinger in their work *Climate Justice for a Changing Planet: A Primer for Policy Makers and NGOs*, climate change is a critical global challenge with far-reaching impacts on various aspects of life, transcending geographical and socioeconomic boundaries. Understanding and addressing the inequalities arising from climate change is something that is very important. Individuals with the lowest carbon emissions often bear the brunt of its impacts due to limited resources and vulnerabilities. Therefore, the concept of climate justice appears as a necessary framework to tackle these inequities. Climate justice calls for transformative changes and urges us to go beyond national boundaries, recognising that climate change is a shared responsibility that affects us all and not just one place on earth. By adopting a climate justice perspective, it becomes apparent that addressing climate change requires an all-inclusive approach that acknowledges and rectifies societal inequalities and the need for collective climate action. There are three very significant steps that should be addressed. The first one is to place justice at the forefront as the foundation. This is the sole approach that includes the range needed to address climate change, encourage sustainable economies and gain political acceptance from most nations. Climate change negotiations often encounter differences and struggle to reach agreement, but the urgency to reach agreements at any cost can possibly delay decisions aimed at reducing inequities, while the threats of climate change continue and intensify. It is crucial to recognise that any important global agreement must have justice as its central principle, as it forms the root for a fair and effective response to climate change. Therefore, any meaningful global agreement must be built upon the core principle of justice, as it provides the foundation for an equitable and resilient response to the climate crisis. The second step is making efforts to adapt to climate change which should be

[41] Simon Caney, 'Two Kinds of Climate Justice: Avoiding Harm and Sharing Burdens' (2014) 22(2) The Journal of Political Philosophy 125, 136-37 <www.ceu.edu/sites/default/files/attachment/event/11873/caney-two-kinds-climate-justice_0.pdf> accessed 15 April 2024.

prioritised alongside increased measures to mitigate its effects, both at the international and national levels. Industrialised countries' financial contributions towards adaptation should be connected to the extent of their own mitigation efforts, their capacity to provide support and their historical greenhouse gas emissions. In other words, this means that while we work towards reducing greenhouse gas emissions and tackling the root causes of climate change, we must also focus on building resilience and adapting to the changes that are already happening on our planet. By adaptation, we mean preparing for and adjusting to the changing conditions and effects of climate change, such as rising temperatures, extreme weather events, sea-level rises and other environmental changes aligning with the guidance provided by IPCC. Adaptation efforts focus on building resilience and finding ways to adapt to these changes to reduce vulnerability and ensure the well-being of societies, ecosystems and economies. This includes implementing measures like improving infrastructure, developing early warning systems, implementing sustainable land and water management practices, and enhancing community resilience to climate-related risks. This linkage ensures that those countries with greater responsibility for climate change contribute accordingly to supporting vulnerable regions and communities in adapting to the changing climate. By emphasising the urgency of adaptation, aligning it with mitigation efforts and ensuring fair and equitable financial contributions, we can foster a more comprehensive and effective approach to addressing the impacts of climate change on a global scale. The third step is to revolutionise the systems and institutions responsible for causing climate change. The usual response to climate change has mostly involved making minor adjustments, which falls short of what is truly essential. While the world lingers, only a select few continue to benefit from existing political and economic structures, leaving billions of others at a disadvantage. In order to address this, governance and development frameworks should be constructed based on principles of fairness and equality, with the goal of working towards the well-being of both the planet and all its inhabitants, while addressing unsustainable imbalances. Discussing only low-carbon solutions through technology, for instance, is inadequate without at the same time reevaluating current models of production, global trade and consumption patterns. A comprehensive transformation is required to tackle the root causes of climate change and create a more just

and sustainable future. For Adams and Luchsinger, to effectively fight climate change, it is vital to essentially transform the systems and institutions that have contributed to its emergence in the first place. Merely making superficial adjustments and incremental changes will not be enough. The present response to climate change has allowed a privileged few to reap the benefits, while leaving billions of people behind. In order to rectify this, governance and development models must prioritise justice and equity, aiming to work for the collective well-being of the planet and its inhabitants, while addressing the unsustainable disparities that exist. It is not enough to focus solely on technological solutions and low-carbon pathways; it is equally important to re-examine and reimagine the prevailing models of production, global trade and consumption patterns. A comprehensive overhaul is required which means changing the system, a system that tackles the underlying causes of climate change and fosters a more equitable and sustainable future for all.[42]

One crucial aspect of advancing climate justice is the incorporation of green crimes within climate laws and the collaborative efforts of international criminal law, environmental law and human rights law. These three legal domains are intricately interconnected and interdependent in the pursuit of achieving climate justice on a global scale. As suggested by Zoi Aliozi,[43] recognising the criminal dimensions of climate change, climate justice specialists can conduct a comprehensive analysis that delves into the accountability of individuals and entities responsible for exacerbating climate change. This analysis prompts important questions, such as whether the leaders of developed countries, who were aware of the threat of climate change since the 1960s and were alerted by scientists, should bear legal responsibility for their failure to alert the public and take proactive climate action. The inclusion of green crimes in climate laws is instrumental in addressing the systemic failures that have contributed to the climate emergency we face today. At this point, it is essential to provide a precise explanation of green crimes which means criminal activities

[42] Barbara Adams and Gretchen Luchsinger, *Climate Justice for a Changing Planet: A Primer for Policy Makers and NGOs* (UN Non-Governmental Liaison Service 2009) 1, 33-34.

[43] Zoi Aliozi, 'Climate Justice and Human Rights, in a World in Climate Emergency' (Global Campus of Human Rights Policy Briefs 2021) < http://dx.doi.org/10.25330/1232>.

that harm the environment or violate environmental laws and regulations. These crimes typically involve actions that cause significant damage to ecosystems, biodiversity and natural resources, or contribute to climate change and encompass a wide range of activities, including but not limited to, industrial pollution, illegal deforestation, illegal wildlife trafficking and non-compliance with environmental regulations. By explicitly recognising these actions as criminal offences within climate laws, governments can establish clear standards for the prosecution of individuals and corporations involved in activities that harm the environment and contribute to climate change. This approach not only holds responsible parties accountable but also acts as a deterrent, signalling the seriousness with which societies view the preservation of the environment and the pursuit of climate justice. The collaboration between international criminal law, environmental law and human rights law is vital for ensuring a comprehensive and effective response to the challenges posed by climate change. Climate justice cannot be achieved in isolation from these interconnected legal frameworks. International criminal law provides a mechanism for prosecuting individuals responsible for severe environmental harm, including actions that contribute to climate change. Environmental law establishes the regulatory framework for addressing ecological challenges, while human rights law emphasises the protection of vulnerable populations affected by climate change. By combining the strengths of these legal domains, there is a greater potential to address climate injustices and seek redress for the harm caused by the failure to act on climate change in a timely and responsible manner. In evaluating the legal responsibility of leaders in developed countries regarding climate change, climate justice specialists must carefully examine the evidence and consequences of their actions or inactions. While the question of legal responsibility is complex, it underscores the importance of holding individuals accountable for their role in perpetuating climate change. By considering legal consequences for leaders who had knowledge of the climate change threat but failed to take sufficient climate action, it sends a powerful message that those in positions of power have a duty to protect the environment and future generations. Such an evaluation can contribute to the development of stronger legal frameworks, policies and practices that prioritise climate justice and work towards a sustainable future for all. The incorporation of green crimes within climate laws and

the collaboration of international criminal law, environmental law and human rights law creates a comprehensive framework that intertwines climate justice and human rights, emphasising accountability for environmental harm and promoting the protection of vulnerable populations affected by climate change.

However, for Catriona McKinnon,[44] she presents a controversial argument, arguing that individuals who deny climate change, commonly referred to as climate change deniers, should be subject to international law as they perpetuate dangerous trends. By denying or ignoring the reality of climate change, there is a high risk of catastrophic global changes and a diminishing of the significance of climate justice, obstructing the collective efforts to combat climate change. She suggests that this denial can delay necessary climate actions and policies to mitigate climate change, leading to potentially severe and irreversible environmental impacts. She also asserts that economic and political leaders can no longer afford to maintain the status quo and continue with business as usual. It indicates that an active response is necessary, urging leaders to acknowledge the existential threat posed by climate change and take appropriate climate actions to address it. McKinnon also emphasises the need for holding states and corporations accountable for their actions or inaction regarding climate change. Whether through actively inducing environmental harm or ignoring the gravity of the situation, the call is for a sense of responsibility and consequences for actions or negligence that undermine efforts to fight climate change. She also suggests the proposal of expanding international criminal law to include a new criminal offence called 'postericide'. The offence of postericide would include intentional or reckless conduct that is deemed capable of causing the extinction of humanity. Postericide, as proposed, refers to a criminal offence that involves intentional or reckless actions that have the potential to lead to the extinction of the human species. The proposal calls for an expansion of the existing international criminal law framework to incorporate the offence of postericide. The offence would encompass a wide range of intentional or reckless conduct. This may include actions that directly contribute to environmental degradation or worsen climate

[44] Catriona McKinnon, 'Climate crimes must be brought to justice. The ethical challenges of climate change' (2019) 3 The UNESCO Courier 10, 10-12 <www.iau-hesd.net/sites/default/files/documents/370032eng.pdf> accessed 15 April 2024.

change. This shows the need for international consensus and co-operation to recognise this new crime and establish the appropriate legal mechanisms to investigate, prosecute and punish individuals or entities involved in conduct that could lead to the extinction of humanity. However, a major criticism of McKinnon's study is that it's important to note that discussions about the use of international criminal law and the accountability of various entities in relation to climate change are complex and subject to diverse perspectives. Different legal and ethical frameworks exist, and opinions may vary on the most proper approaches to address climate denial and promote environmental responsibility because the existing legal frameworks related to international criminal law and environmental issues are still evolving and may not fully address the complexities of climate change. The study of McKinnon's argument would have been far more interesting if it had included an examination of the underlying factors that contribute to the divergence of opinions on how to hold entities accountable in the absence of a comprehensive legal framework targeting climate change. By delving into those factors, McKinnon's study would have provided a more comprehensive understanding of how the absence of a comprehensive legal framework specifically targeting climate change can foster different perspectives on holding entities accountable. Such an analysis would have shed light on the complexities of the issue and enriched the discourse surrounding climate change and international law.

According to Newell and others, they recognise the need for fundamental societal transformations and changes to address the root causes of climate change and its unequal impacts to reach a better climate justice that includes issues related to justice, law, democracy and climate justice beyond national boundaries. It is crucial to strengthen and enhance democracy in the context of climate change to challenge existing power structures and amplify the voices and representation of marginalised groups and those most vulnerable to climate injustices. Developing democracies in countries without democratic systems can contribute to raising awareness of climate justice by fostering an environment that promotes freedom of expression, encourages civic participation and empowers civil society organisations. With democratic reforms, individuals and groups can voice their concerns about climate justice, advocate for policy changes and engage in collective climate action. Access to information, open debates and inclusive

decision-making processes can lead to increased awareness and understanding of the intersection between democracy, social equity and environmental sustainability. This, in turn, can drive public pressure, create platforms for dialogue and mobilise communities to address climate injustices on both local and global scales. The strategies for achieving access to climate justice will vary across different regions, depending on factors such as the type of governance, political systems, strength of civil society and presence of a free media for enabling freedom of expression. As highlighted by Margot Hurlbert, effective communication and engagement strategies must be tailored to specific audiences and cultural contexts. Hurlbert emphasised the significance of recognising the inherent diversity among cultures, acknowledging that each culture possesses distinct values, norms and communication preferences.[45] Nonetheless, the fundamental aspect lies in deepening democratic processes and engaging citizens in shaping pathways for addressing climate change. Developing democracies in authoritarian regimes that have little to do with greenhouse emissions is as important as developing it in developed countries that release a high amount of greenhouse gas emissions because when marginalised and poor communities recognise the inequality they can, in turn, encourage a change on a global scale to fight climate change and raise awareness about climate justice and its powers. Climate justice calls for the advancement of access to justice, democratic principles and climate justice beyond national boundaries. A key aspect of this involves enhancing democratic governance and citizen engagement, allowing for the active involvement of marginalised groups and vulnerable communities in decision-making processes related to climate change. By developing democracy, empowering excluded voices and promoting inclusive participation, the structural imbalances of power can be addressed, climate injustices tackled and collectively forge pathways towards a more just and sustainable future for every individual on earth. As the growth of emissions has not been effectively reduced, the pressing requirement to adjust to the escalating and more distinct consequences of climate change is currently needed. This adaptation involves adjusting ecosystems, infrastructure, service provision and

[45] Margot Hurlbert, 'Climate Justice: A Call for Leadership' (2015) 8(2) Environmental Justice 51, 51-55 <www.researchgate.net/publication/275221229_Climate_Justice_A_Call_for_Leadership> accessed 13 April 2024.

society to a warming world, which presents various justice-related challenges, including procedural, distributive and recognitional issues. Both public and private entities are involved in implementing numerous interventions to address these challenges. Considering the limited time remaining to effectively respond and mitigate the worst consequences of climate change, existing institutions, policy processes and economies must be utilised to achieve the best possible outcomes. Simultaneously, we should advocate for and develop alternative approaches that address deeper structural concerns. Utilising existing institutions, policy processes and economies to combat climate change and raise awareness about climate justice involves a multi-layered approach. It requires incorporating climate considerations into existing policies and regulations, encouraging sustainable practices and implementing mechanisms to reduce greenhouse gas emissions and promote renewable energy sources. Moreover, it involves engaging with governmental and NGOs to advocate for climate justice, emphasising the importance of equity, fairness and the inclusion of marginalised communities in decision-making processes. Additionally, leveraging economic systems entails promoting green technologies, incentivising sustainable investments and transitioning to low-carbon industries. By working within the framework of existing institutions, policy processes and economies, significant change can happen, widespread understanding of climate justice can be promoted, which in turn lays the foundation for a sustainable and equitable future.[46] This underscores the critical interplay between climate justice, democracy and addressing the root causes of climate change. By deepening democratic processes, amplifying marginalised voices and promoting inclusive participation, we can challenge existing power structures and forge a more equitable response to climate change. This not only enhances awareness but also mobilises communities to tackle climate injustices on both local and global scales which in turn help human rights to progress on different levels.

[46] Peter Newell and others, 'Towards transformative climate justice: An emerging research agenda.' (2021) Wiley Interdisciplinary Reviews: Climate Change 12-14 <https://sro.sussex.ac.uk/id/eprint/100540/3/Towards%20transformative%20climate%20justice%20rev1%2025%20June%20clean%20accepted.pdf> accessed 15 April 2024.

This chapter highlights the multidimensional nature of climate justice, encompassing issues like public health, corporate accountability, international law and democracy. It emphasises the importance of acknowledging the rights and responsibilities of various stakeholders in addressing climate change, aligning with the central theme of the thesis. Whether through climate policies, corporate accountability initiatives as affirmed by the SDGs as a global common goal, international law, grassroots movements or education, the overarching goal is to ensure fairness, equity and sustainability in combating climate change's adverse impacts on both humanity and the environment. These diverse perspectives collectively reinforce the need for a comprehensive approach that recognises the interconnectedness of climate justice and human rights, emphasising the urgency of mitigating global temperature rise and environmental degradation to protect fundamental human rights.

Conclusions

This thesis delves into the intricate nexus of climate justice and human rights, shedding light on the detrimental consequences of human-made environmental damage, such as carbon emissions and deforestation, which adversely affect both the environment and human rights. Climate justice, as a concept, necessitates the recognition of the rights and responsibilities of various stakeholders in the fight against climate change, with a particular focus on the disproportionate burden shouldered by marginalised and vulnerable communities. It calls for the fair distribution of resources, safeguarding the rights of vulnerable groups and holding accountable those responsible for historical and ongoing contributions to climate change. This research underscores the imperative for comprehensive climate action in alignment with the United Nations' SDG 13. It also highlights the vulnerability principle as a guiding factor for targeted climate policies, emphasising the urgency of protecting the planet's future. For example, consider the impact of climate change on a small island nation like Tuvalu, which faces rising sea levels due to global warming. This jeopardises the livelihoods, land and well-being of the Tuvaluan people, illustrating the link between climate change and human rights violations.

Furthermore, this thesis investigates the argument that climate justice is not confined to environmental concerns alone but encompasses broader issues of social justice, human rights and historical injustices. This perspective reveals that marginalised communities bear the brunt of climate change's effects, perpetuating systemic inequalities. The research underscores the importance of recognising the global responsibilities and addressing entrenched power imbalances rooted in systems such as colonialism and capitalism. Climate justice advocates for amplifying the

voices and experiences of marginalised communities, particularly indigenous peoples who have contributed the least to climate change but face its harshest consequences. For instance, the indigenous communities in the Amazon rainforest have historically lived in harmony with their environment. Still, they now suffer the consequences of deforestation, which is often driven by international demand for commodities like beef and soy, further emphasising the connection between human rights and climate justice.

The first chapter of this study delves into the historical context of climate justice and its scientific foundations. It highlights the role of colonialism, patriarchy and capitalism in driving climate injustice, particularly among marginalised communities. The chapter also underscores the challenges in conveying climate change, such as its invisibility and the disconnect between its causes and effects. These challenges reinforce the importance of addressing historical responsibility, differential impacts, equitable strategies and global cooperation within the realm of climate justice. This comprehensive perspective underscores the urgency of recognising climate justice as an integral component of human rights, emphasising collective responsibility in mitigating environmental degradation and safeguarding human rights amid a changing climate. Consider the Industrial Revolution's role in the historical context, where industrialised nations, through their emissions, contributed significantly to the current climate crisis. The impacts of this historical injustice are now disproportionately borne by countries that had little to do with its causes.

The second chapter delves into the moral and ethical dimensions of climate change and climate justice, emphasising the need to approach climate change from a moral standpoint rather than merely as an environmental issue. It highlights how climate change affects equality and fundamental human rights, particularly for marginalised communities, emphasising the intrinsic connection between human rights and a clean environment. The research questions the lack of accountability for major corporations in greenhouse gas emissions, especially when they operate in developing countries with lax environmental regulations. The chapter also addresses the global issue of government subsidies for fossil fuels and how various countries, including developing nations, contribute to climate change through such subsidies. It also critiques political hypocrisy and inaction on climate justice, emphasising how leaders often prioritise short-term economic

interests over long-term sustainability due to pressures from powerful industries. The thesis underscores the moral responsibility of current leaders to protect the rights and well-being of future generations by taking decisive action to address climate change. Consider the scenario where multinational fossil fuel corporations knowingly contribute to carbon emissions while obstructing climate policy. This aligns with the argument for greater accountability and regulation of such entities.

The concept of a 'perfect moral storm' is introduced, likening climate change to a situation where various detrimental factors align, making it challenging to make ethical choices and take effective climate action. The dispersion of causes and effects in climate change is highlighted as a limitation, as responsibility is distributed among various actors, including governments, businesses, individuals and international organisations. The inadequacy of existing global governance systems is discussed as a hindrance to effective climate action. Various ethical perspectives are presented, including corrective justice, which emphasises the need to hold major emitters accountable for their impact on climate change and provide remedies to affected communities. The role of belief systems, particularly those associated with free-market capitalism, in shaping attitudes and behaviours related to climate change is explored, with an emphasis on addressing perceived inequities and promoting climate justice. Intersectionality is acknowledged as a vital aspect of understanding climate justice, recognising that people's experiences of climate change are shaped by multiple aspects of their identity. The vulnerability principle is introduced, emphasising the moral obligation to protect the most vulnerable communities disproportionately affected by climate change. The role of the Global South in the climate justice movement is highlighted, along with the need to address historical injustices and support these regions in facing the challenges of climate change. This chapter highlights the importance of fairness, responsibility and justice in addressing this global crisis. For example, you can consider the ethical debate surrounding carbon offsets, where individuals or corporations in affluent countries pay for emissions reductions in developing nations. It is questionable whether this is a genuine climate justice approach, or if it simply perpetuates global power imbalances based on capitalism's theory.

The third and final chapter focuses on effective communication and raising awareness as pivotal ways to address the climate emergency, but they face formidable challenges, such as climate denialism driven largely by influential actors within the fossil fuel industry. To counteract this misinformation, transparency, accuracy and accessibility of climate science information are crucial. Grassroots movements leverage social media and public demonstrations to mobilise global awareness. Governments and international organisations must collaborate to regulate and hold accountable those responsible for spreading false information. Climate justice, emphasising fair distribution of resources and benefits, should be at the forefront of climate action. Policies that promote renewable energy, disaster preparedness and resilience-building can mitigate climate change while reducing socio-economic disparities. Awareness serves as a bridge between climate justice principles and policy implementation, creating a more equitable and sustainable future for all. Additionally, long-term and sustained engagement in climate communication, including the use of visualisation and the arts, can enhance understanding, empathy and commitment to climate justice. Raising awareness about climate justice is crucial, but it must translate into concrete actions through well-crafted climate policies. Such policies can drive transformative societal shifts by encouraging sustainable practices, reducing greenhouse gas emissions and fostering healthier, more equitable communities. Consider the example of the 'Fridays for Future' movement led by Greta Thunberg, which used grassroots activism and social media to raise awareness about climate change and mobilise millions of young people worldwide to demand climate action.

One major finding of this study is the significance of education to promote climate justice and empower individuals with a holistic understanding of climate issues, inspiring action. However, challenges arise from the lack of accountability for major corporations and their influence on climate change. Efforts to hold corporations accountable involve transparency, stakeholder engagement and potential trade sanctions. Governments' role in implementing rules and policies, with entities like the WTO being urged to enforce climate-related measures, is critical. Additionally, incentivisation is suggested as an alternative approach to encourage compliance with environmental standards. These combined actions underscore the urgency of addressing climate change as

a global emergency and the critical role of governments, international organisations and individuals in achieving climate justice and a sustainable future. For example, consider the role of educational institutions in promoting climate literacy and empowering the younger generation to demand climate action, in contrast to the influence of large corporations on policy decisions.

The concept of climate justice is a vital framework for addressing the inequalities arising from climate change and calls for transformative changes to collectively address this global challenge. It emphasises placing justice at the forefront of climate efforts, prioritising adaptation alongside mitigation, and revolutionising systems and institutions responsible for causing climate change. Incorporating green crimes within climate laws and expanding international criminal law to hold individuals and entities accountable for exacerbating climate change is essential. Strengthening democracy is key to challenging existing power structures and promoting inclusive participation in climate action. Utilising existing institutions, policy processes and economies, while advocating for structural changes, is vital for addressing the root causes of climate change. To sum up, the multidimensional nature of climate justice encompasses public health, corporate accountability, international law and democracy, all aiming to ensure fairness, equity and sustainability in combating climate change's adverse impacts on both humanity and the environment. It is evident that climate justice is a multifaceted and pressing issue, demanding global cooperation, ethical consideration and meaningful action to secure a more sustainable and equitable future for all.

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GC Headquarters
Monastery of San Nicolò,
Riviera San Nicolò, 26
I-30126 Venice Lido (Italy)

www.gchumanrights.org

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