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KNOWLEDGE IN ACTION

Faculty of Business Economics

Master of Management

Master's thesis

To investigate the key challenges and opportunities in operationalizing Article 6 of the Paris agreement in developing countries and provide policy recommendations.

Peter Karanja

Thesis presented in fulfillment of the requirements for the degree of Master of Management, specialization Data Science

SUPERVISOR :

dr. Sumit MAHARJAN

MENTOR :

De heer Francis MWANGI

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2024

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Preface

This study was motivated by the urgent need to address the growing impact of climate change on vulnerable communities. Rising sea levels, extreme weather events, and resource scarcity that underscore the necessity for immediate and effective action. Developing countries, despite their low contributions to global emissions and vulnerability to climate impacts, often struggle with limited resources and capacity to implement climate agreements fully.

This research aimed to provide a comprehensive analysis of how developing countries can better engage with and benefit from the Paris Agreement in exploring the challenges and opportunities associated with Article 6. It sought to identify key barriers, uncover potential opportunities for sustainable development, and offer policy recommendations to enhance the implementation of climate change actions.

The findings of this study will inform the policymakers, both nationally and internationally, helping to refine strategies that will promote equity and advance global climate action. By addressing the specific needs and constraints faced by developing nations, this research contributes to a more effective and inclusive approach to tackling climate change, ensuring that the Paris Agreement can fulfill its promise of a sustainable and resilient future for all.

The scope of this study included developing countries across Africa, Asia, Latin America, and Small Island Developing States (SIDS). We hope that the insights and recommendations presented in the research report will support efforts to overcome existing barriers and foster a more equitable and effective global climate governance system.

I am deeply grateful for the invaluable guidance and support provided by my supervisor Dr. Sumit Maharjan and co-supervisor Mr. Francis Mwangi throughout the course of my master's project.

I hope this project will inspire further research on environmental issues and significantly improve the implementation of Article 6 of the Paris Agreement in developing countries. The findings from this research will inform policy adjustments and practical measures that align with the goals of Article 6.

Abstract

The Paris Agreement (PA), which was established at COP21 in 2015, represents a global commitment to address climate change by limiting global temperature rise and reducing greenhouse gas emissions. The PA replaced the Kyoto Protocol with a more inclusive framework for emission reductions through nationally determined contributions (NDCs) and introduced innovative market mechanisms in Article 6. This study investigated the challenges and opportunities associated with implementing Article 6 of the PA in developing countries. The main objectives of the study included identifying institutional and regulatory barriers, exploring implementation opportunities, assessing mitigation efforts, and evaluating the anticipated environmental, social, and economic benefits.

This research employed a descriptive survey methodology, gathering insights from key stakeholders across diverse regions. The target population included key stakeholders from various developing regions such as Africa, Asia, Latin America, and Small Island Developing States from both government and private sector. Descriptive statistical techniques were used to analyze the collected data. the data was coded and presented using Excel. Ethical considerations such as confidentiality, informed consent, and anonymity were highlighted to ensure participant protection.

The research identified that the key challenges in implementing Article 6 included: financial constraints (82%), limited technology capacity (68%), inadequate institutional capacity (73%), policy coordination issues (57%), public awareness and engagement (56%), and environmental and social safeguards (41%). The research identified key opportunities for successful implementation that included: international collaboration (69%), access to climate finance (65%), technology transfer (65%), policy and governance (13%) and financial opportunities (15%). Mitigation efforts, such as renewable energy development and energy-efficient improvements, were rated highly, with 48% and 48% of respondents rating them as major or significant initiatives. The benefits of implementing Article 6 included reduced carbon emissions (70%), the promotion of sustainable practices (75%), and community empowerment (69%). To effectively operationalize Article 6 of the Paris Agreement, six key areas are recommended to be addressed: First, robust legal and regulatory frameworks are crucial, as they form the foundation for other efforts. Second, adequate financial support is essential, given that 82% of respondents identified financial constraints as a significant barrier. Third, stakeholder engagement and capacity building, were recommended by 25% and 16% of respondents respectively, are vital for inclusive decision-making. Fourth, Need for establishing carbon market infrastructure can enhance global participation, especially for developing nations. Fifth, need for technology transfer and innovation are necessary to overcome limited technological capacity. Finally, there is need for fostering international collaboration that was supported by 69% of respondents, that is key for sharing resources and best practices.

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Chapter 1: Introduction

1.1 Background

In 2015, from November 30to December 11, France hosted the 21st Conference of Parties (COP21) Conference on the United Nations Framework Convention on Climate Change (UNFCCC) for delegates from 196 countries to deliberate on the issue of global warming (Skjærseth et al., 2023). This Conference has been regarded as one of the most ambitious global climate change policy-making meetings ever assembled. The objective of the Conference was to arrive at a binding global agreement aimed at limiting the emission of greenhouse gases and preventing the global temperature from rising more than 2 degrees Celsius above the set limit at the start of the Industrial Revolution (Skjærseth et al., 2023). The Conference's outcome was the Paris Agreement, which has29 Articles that define what individual countries should do to contain the effects of global warming by containing emissions.

The Paris Agreement was established to replace the Kyoto Protocol, an earlier agreement meant to curb the increased emission of greenhouse gases (Tardi, 2023). The Paris Agreement entered into force on November 4, 2016, after being signed by 195 countries in attendance (Bodansky, 2023). It was later ratified in January 2021 by 190 countries that had attended the Conference in 2015. The Paris Agreement adopted a bottom-up approach for emission reduction targets using nationally determined contributions (NDCs), balanced by a top-down development of outstanding global emission goals and vital accountability provisions, such as reporting and reviewing (Skjærseth et al., 2023). As the first universal and legally binding agreement on climate change, the Paris Agreement is poised to significantly address climate change challenges, allowing the developed countries to support less developed and developing countries to reduce emissions and become more resilient towards the impacts of climate change. The Paris Agreement is considered one of the fundamental universal agreements on climate change that will have far-reaching implications in the fight against greenhouse gas emissions. However, financing remains a critical challenge to implementing this agreement.

Financial aid from affluent or ambitious nations to less economically developed countries with lower levels of development and climate policy ambition is crucial for successfully implementing the Paris Agreement. Strand (2019) argues that carbon market mechanisms are fundamental financial models that support countries in climate change endeavours. Article 6 of the Paris Agreement created two global carbon markets using cooperative approaches (CAs) outlined in Articles 6.2-6.3 and the sustainable development mechanism (SDM) described in Articles 6.4-6.7 (Gao et al., 2019).Before the Paris Agreement, talks about global carbon markets began in the 2010 UNFCCC16th Conference of the Parties (COP16) in Cancun, Mexico. At that Conference, delegates decided to look into establishing market mechanisms to make mitigation efforts more cost-effective and outlined the principles of such mechanisms. At COP17 in Durban, two global carbon markets were formally established: one based on a framework of several approaches and another using a new market mechanism. These two market systems have made very little headway since Durban. However, at COP21 in Paris, international carbon markets were re-incorporated into the agreement, new market mechanisms were replaced with CAs and

SDMs, and the framework of different methods was dismantled (Gao et al., 2019). Establishing more robust carbon markets and the ground rules for participation, such as accounting, reporting, auditing, and reviewing, makes the Paris Agreement more promising and dynamic in addressing climate change.

1.2: Statement of the Problem

Global warming is a worldwide crisis threatening the existence of humanity. Various measures have been put in place by individual nations to address the situation, but these measures have done little to address the rising global temperature. Glacier mass worldwide has dropped by 267 Giga tonnes per year between 2000 and 2019, contributing to a 21% rise in sea levels (Rance, 2023). This poses a threat to low-lying coastal areas and coastal communities. Thus, there is a need for an immediate action to contain the greenhouse emissions.

According to the United Nations, the effects of climate change have increased the competition over limited resources such as water, food, and land, leading to mass displacement. The Paris Agreement was established to ensure that the effects of global warming do not progress to catastrophic levels. The objective of the Paris Agreement was to develop a universal binding agreement that would help curb the rate of greenhouse emissions from reaching alarming Levels (Skjærseth et al., 2023). While most developed countries have well-established measures to control emissions, developing nations still struggle to implement Article 6 of the Paris Agreement.

Article 6 defines the instruments for facilitating ambition and increasing climate actions in developing countries. It allows parties to cooperate in implementing their nationally determined contributions (NDCs) (Marcu et al., 2019). The Article notes that the issue with climatic change requires a collective effort from different nations since action in one country affects the outcomes of another country, hence counting towards its NDC. This study seeks to investigate the key challenges and opportunities in operationalizing Article 6 of the Paris Agreement in developing countries to provide policy recommendations.

1.3: Objectives

This research aimed to examine the key challenges and opportunities in operationalizing Article 6 of the Paris Agreement in the context of developing countries and provide policy recommendations. The study analyzed the efforts of various developing countries in mitigating emissions and leveraging Article 6 mechanisms.

The specific objectives of the study were to:

i. Identify the primary challenges developing countries face in operationalizing Article 6 of the Paris Agreement.
ii. Explore the opportunities available in the implementation of Article 6 mechanisms in developing countries for sustainable development.

iii. Assess developing countries' efforts in containing emissions and their readiness to participate in Article 6 mechanisms.
iv. Analyse the potential benefits and risks associated with implementing the Article 6 initiative in developing countries.
v. Develop a policy recommendation for addressing the issues that affect the implementation of the Paris Agreement in developing nations.

1.4: Research Questions

This study sought to answer the main question: what are the key challenges and opportunities in operationalizing Article 6 of the Paris Agreement in developing countries?

The specific research questions for the study were:

i. What are the institutional and regulatory barriers hindering the effective operationalizing of Article 6 of the Paris Agreement in developing countries?
ii. What are the opportunities to implement Article 6 of the PA in developing countries?
iii. What mitigation efforts have developing countries undertaken to reduce emissions?
iv. What environmental, social, and economic benefits are anticipated from implementing Article 6 mechanisms in developing countries?
v. What policy interventions are necessary to address the issues affecting the implementation of the Paris Agreement in developing nations?

1.5: Significance of the Study

The research was motivated by the increasing calamities caused by the effect of global warming. The Paris Agreement is one of the best strategies to tackle the menace. Still, due to numerous underlying factors, developing countries cannot fully implement Article 6. Therefore, the findings from this study will generate policy recommendations for developing countries. The study will inform policymakers about decision-making at both national and international levels while promoting equity and advancing climate action for sustainable development.

1.6: Scope of the Study

The study covered developing nations in different parts of the World, including Africa, Asia, Latin America, and Small Island developing States (SIDS), among other least-developed countries.

CHAPTER 2
LITERATURE REVIEW

2.0 Introduction

This chapter examines the Paris Agreement, focusing more on Article 6. The chapter also addresses the challenges, opportunities, and recommendations related to Article 6 of the Paris Agreement. It addresses establishing the Paris Agreement, carbon markets, non-state actors, finance and governance, and environmental integrity risks.

2.1 The Paris Agreement and Article 6

The Paris Agreement (PA) was adopted at the 21st Conference of the Parties (COP21) in 2015. The agreement marked an essential step in the evolution of the climate change policy agreement, whose landmarks include the Kyoto Protocol and the UN Framework Convention on Climate Change (UNFCCC) (ADB, 2020). The Kyoto Protocol provides legally binding targets and commitments for developing countries to limit or reduce the emissions of greenhouse gases. It also offers stringent reporting and review requirements for these countries. However, there was no obligation from some of the developing countries that did not commit themselves to the climatic targets (ADB, 2020). Besides, developing countries cannot combat emissions due to underlying economic factors. The developed countries are responsible for the vast majority of the current emissions. Studies have shown that 23 rich, developed countries are responsible for over half of all the historical emissions (Popovich & Plumer, 2021). Therefore, the binding carbon targets have raised the concerns of unfair costs for developed economies (Barrett & Baker, 1999). This would give an advantage to companies located in the developing world, attracting more companies to relocate to developing economies. The UNFCC, just like the Kyoto Protocol, also purposed to stabilize GHG concentration in the atmosphere. All the members of the PA would cooperate in this objective. The developed countries would adopt the national policies and provide financial resources to curb the emissions. The Kyoto Protocol and the UNFCCC were a roadmap for the Paris Agreement.

The structure of the Paris Agreement framework is highlighted by three main sub-Articles of Article 6,namely;Articles 6.2, 6.4, and 6.8. Article 6.2 permits the countries to have a bilateral and voluntary agreement for trading carbon units. Article 6.4 advocates for a centralized governance system where countries and private sectors can form a common market for trading emissions anywhere worldwide (Farand, 2019). The sustainable development mechanism (SDM) system will replace the CDM under the Kyoto Protocol. Additionally, Article 6.8 creates a framework where countries can cooperate to reduce emissions by offering aid. The Paris Agreement calls for sharing proceeds from the market with developing economies to help them adapt to the impacts of climate change.

2.2 Carbon Market

Over the past two decades, a public debate has focused on designing a single global market for trading carbon units. The single global market for carbon units is one of the measures enforced by various nations to address the issue of climate change (Newell et al., 2013). The problem of global climate change requires a collective effort from all nations since one ton of greenhouse gas emitted

anywhere in the World has the same climatic change consequences for everyone (Mott, Razo & Hamwey, 2021). Thus, a single global market was viewed as an economically viable solution, equalizing incentives for reducing emissions globally.

The top-down global design solution to the climatic change design seems far away, if not impossible. Thus, the diversity of the regional, national, or even subnational markets, which reflects a bottom-up approach to climatic change, has proven more effective (Depledge, 2022). The diversity and fragmentation of the carbon market form the basis of the Paris Agreement (Ahonen et al., 2022). The decentralization of the carbon market, as indicated in Article 6 of the Paris Agreement, offers countries flexibility and choice of their suitable approach. This opens the room for innovation and national adaptation of the carbon market instruments. However, the lack of a centralized approach to carbon emissions means that comparability of the performance of different countries is difficult to attain. The centralized market acts as a reference point where countries measure their performance based on the baseline (ADB, 2020). The complexity of the bottom-up approach is also reflected in the ongoing negotiation of Article 6. There has been a continued struggle to agree on the guidance, rules, and implications for the participants. The ADB argues that since many elements of the Paris Agreement are new, the implementation might take longer. Compared to the Kyoto Protocol, which took four years to agree on the detailed rules after its ratification, Article 6 might take more than ten years to be implemented fully.

Article 6 of the Paris Agreement will enable countries to use their designed mechanism or Article 6.4 mechanisms subjected to centralized oversight by the UNFCCC framework. The latter provision is more attractive to developing countries with limited capacity since they do not have to establish their mechanisms (ADB, 2020). They can rely on the developed countries' financial support and technology exchange to develop mitigation plans. Article 6.2 of the Paris Agreement highlights the bottom-up ethos of the agreement, thus creating the opportunity for various designs for carbon market instruments. It makes a provision for domestic carbon pricing and the export of carbon credits in compliance with the accounting guidance under Article 6.2. The emerging challenge for the negotiators as they try to find an agreement on the guidance and rules for the two approaches includes transferring some of the Clean Development Mechanism (CDM) elements from the Kyoto Protocol to the Paris Agreement (ADB, 2020). The centerpiece of the discussion is regarding the relationship between 6.4 and 6.2 concerning accounting principles. The ADB has been proactive, offering capacity-building and policy development support to the developing member countries (DCMs) under its Carbon Market Program. It has helped the member states navigate the ongoing negotiations.

According to Farand (2019), Article 6 is the most relevant section of the Paris Agreement. In this chapter, countries agreed on setting up a global carbon market to help nations decarbonize their economies at a lower cost. They have tried to agree on the rules to govern the policy, but the last section of the Paris Accord rulebook poses the threat of breaking the efforts to curb emissions (Farand,

2019). This Article is divided into nine paragraphs that provide principles for how countries can achieve voluntary cooperation that would enable them to attain a climate target. However, the high-level principles intended to guide countries in achieving the carbon goals have proved contentious, leading to years of delays in implementing Article 6, mainly in developing countries.

Following several years of inconclusive negotiations on the implementation of Article 6 of the Paris Agreement, countries that had assembled at COP 26 in Glasgow in 2021 agreed on the package rules to govern the enforcement of the international carbon mechanisms under the UNFCCC (Crook, 2022). The Paris Agreement (PA) was meant to strengthen the global response to climate change. It established a wide array of mechanisms for achieving the set goals. It created targets for member states to mitigate, adapt, and finance the global responses (Raiser et al., 2020). It also established mechanisms for achieving the set targets. The array of mechanisms also included the pledge and review of the nationally determined contributions and the engagement of nonmember states. The effectiveness of the set mechanisms in achieving the targets has been questioned. Despite the diplomatic success of 195 member states agreeing on the lengthy test, the efficacy of the PA is under intense scrutiny.

The initial rounds of pledges by the members and nonmember states are characterized by a lack of ambitions, and global emissions have continued to rise, raising concerns about the viability of the measures enshrined in the PA (Raiser et al., 2020). Many interested parties have remained sceptical about the viability of the 'Pledge and Review' mechanisms in ensuring that global emissions have fallen below the $2^{o}C$ threshold (Cramton *et al.* 2017). The efficacy concerns are also evident in other mechanisms dictated by the PA. Thus, the ongoing discussion on the efforts to operationalize numerous mechanisms proposed by the PA is paramount in deciding whether its objectives can be achieved. The PA's mechanisms have, therefore, remained an essential task for academic research as the researchers try to unravel ways that they can help the member states achieve the objectives of the agreement.

Fuessler (2019) notes that while the core ambition of the PA was to achieve the balance between anthropogenic emissions and the removal of greenhouse gases, limiting the global temperature increase below 2^{o} C, parties still need to meet these objectives. Most countries that have developed their NDCs to achieve their carbon emission ambitions have significantly failed to achieve these objectives. The provisions in the PA were, therefore, aimed at increasing the ambition of the MS and non-MS in reaching their long-term goals. Fuessler (2019) highlights the shortcomings of the way Article 6 is implemented currently, and he also discusses the suitable ways of operationalizing Articles 6.2 and 6.4 mechanisms to foster higher ambitions in mitigations. Fuessler (2019) also notes that Article 6 of the PA explicitly introduces the means for increasing the aspirations of the member states. Besides, it provides perverse incentives against it. He asserts that the prospects of Article 6 transfers could incentivize the host countries to have less ambitious mitigation targets so that they can sell more significant mitigation outcomes (Fuessler, 2019).

Further, for developing countries to participate in the next generation of international carbon markets, as envisaged in Article 6 of the Paris Agreement, they need capacity building. Capacity building has been a significant issue among developing and least developed countries in their quest to comply with the Paris Agreement rules and regulations. Khan et al. (2021) argue that implementing nationally determined contributions (NDCs) to reduce emissions can be a win-win solution for all nations, including the least developed ones. This can help achieve sustainable development by promoting low-carbon and climate-resilient growth. The least developed countries (LDCs) and small island developing states (SIDS) are bearing the brunt of the growing number of adverse effects caused by climate change (Khan, Mfitumukiza, &Huq, 2021). They must receive support in creating the adaptation and cleaner development pathways.

One hundred thirty-nine developing nations (NDCs) have included capacity development (CB) as a prerequisite for implementing their NDCs; hence, CB is the most sought-after form of assistance. Moreover, following the adoption of the Article 6 rulebook at the Glasgow Climate Conference (COP26) in November 2021, attention turned from the negotiation process to the readiness of public and private stakeholders to participate in global market-based collaboration as outlined in Article 6 of the Paris Agreement (Steinebach & Limberg, 2022). There is a consensus that individuals and organizations involved in carbon markets, especially in developing nations, need capacity building to meet the new carbon market standards and regulations and fully capitalize on associated advantages.

Disagreements regarding the share of proceeds, especially on the transfer of Internationally Transferred Mitigation Outcomes (ITMOs) from the cooperative approaches stipulated in Article 6.2, can hinder the collective implementation of the agreement and Nationally Determined Contributions (NDCs). According to Mehling (2021), Article 6, paragraph 1, allows participating parties who engage in cooperative approaches are strongly urged to allocate resources towards adaptation efforts. This should primarily be done through contributions to the Adaptation Fund. Additionally, Parties should contribute proportionately to the rate determined by the mechanism outlined in Article 6, paragraph 4. These contributions will assist developing country Parties that are especially susceptible to the negative impacts of climate change in covering the expenses associated with adaptation. Several Parties, particularly developing country Parties and negotiation groups, have advocated for compulsory Standard Operating Procedures (SOP) regarding Article 6.2 activities to maintain equilibrium between Articles 6.2 and 6.4. Supporters of this stance reference the phrasing of Article 6.1 as evidence. Some developed countries and other parties have contended that the Paris Agreement deliberately excluded a specific procedure (SOP) for Article 6.2 (Mehling, 2021). They argue that making the SOP mandatory would discourage efforts to reduce greenhouse gas emissions and may not be feasible forms of cooperation, such as interconnected emissions trading systems or ITMOs that are not tradable units.

2.3 Non-state Actors

Certain Parties have expressed their willingness to consider a voluntary approach for Article 6.2 to find an agreement and address the dispute over the share of proceeds. This would involve using

persuasive language and potentially encouraging the commitment to a Standardized Approach for Mitigation (SOP), along with mandatory reporting of any SOP implemented. However, other Parties have raised concerns about whether this voluntary approach would generate enough reliable revenue for adaptation finance (Mehling, 2021). They have also mentioned the possibility of extending the mandatory SOP from the Clean Development Mechanism (CDM) to the other flexibility mechanisms of the Kyoto Protocol under the Doha Amendment. There are disagreements on various matters, including who should receive the funds collected, whether the SOP should be a monetary levy or a levy of units, and how the funds should be spent (Mehling, 2021). Some parties support contributing to the Adaptation Fund, while others prefer the flexibility to contribute to other funds or channels.

The cooperation between non-state actors (NSAs) and public agencies across all levels of government can be a significant opportunity towards fulfilling the Paris Agreement. Streck (2021) argues that Non-state actors (NSAs) actively seek to occupy the void created by the deficiencies in intergovernmental interaction. They do so through collaborations, networks, and other official and informal initiatives to develop answers for public policy issues. The enhanced cooperation and synchronization of policy objectives between non-state actors (NSAs) and public agencies at various levels of government outside of established diplomatic channels can result in the emergence of institutional innovation and novel modes of Governance (Streck, 2021).

Transnational collaboration has emerged as a prevalent characteristic in addressing complex issues that individual entities, such as governments, cannot resolve. This phenomenon is especially evident in climate change governance, where there is a significant increase in transnational partnerships aiming to tackle several areas of climate policy (Streck, 2021). These aspects include gathering and sharing information, developing skills and capabilities, implementing policies, and establishing rules and standards.

The UNFCCC Climate Action Portal highlights the commitments of various stakeholders in realizing the measures to curb climate change as stipulated in the PA (Streck, 2021). However, the role of NSAs in contributing to the aims of the PA is still uncertain. It is unknown how they are motivated to do so, how they should be held responsible, and how their efforts can enhance government actions. In this regard, Article 6 of the Paris Agreement creates opportunities that can help non-state actors participate in helping address climate change by promoting effective climate governance.

International climate governance reached a watershed moment at the Glasgow meeting when the parties finally reached an agreement to finish the "Paris rulebook" that would guide the implementation of the Paris Agreement. Most of this direction had already been decided upon in Katowice in 2018, but a few hotly contested points needed more airing. Some topics covered were the Parties' market and non-market cooperation (Article 6) (Minas, 2022). There has been real progress thanks to the results of Article 6 on market measures. Notwithstanding their flaws, these results are more vitalthan

what many experts and participants had hoped for from Glasgow. More significantly, they have laid the framework for more robust and trustworthy carbon markets to step up their game in the race to meet the Paris targets. According to Minas (2022), parties must follow the conditions outlined in Article 6.2 when they voluntarily participate in cooperative approaches that utilize internationally transferred mitigation outcomes (ITMOs) towards their nationally specified contributions. All parties involved must work towards sustainable growth and maintain environmental integrity and openness. This includes good governance practices. Strong accounting measures like avoiding duplicate counting, will be implemented to follow the guidelines set by the CMA. Authorization from "participating Parties" is required before ITMOs may be used to achieve NDCs. In this regard, the primary purpose of Article 6 and the related CMA decisions is to aid in regulating carbon markets.

Due to their greater resource diversity, viewpoints, and competence, non-state actors offer several benefits over national government agencies. Outside of elected government leaders and the four-to-five-year election cycle, they operate at a minimum of a distance. According to MacLean (2020), the sheer volume of non-state actors increases the possibility of new avenues of cooperation across different tiers of climate regulation. The structural elements of the Paris Agreement mirror the increasing endeavours of NGOs, businesses, civil society, academic institutions, private governance arrangements, independent media organizations, transnational networks, and sub-national authorities to tackle the issue of climate change. The non-state actors tabs on how far along the path to compliance each state is, which makes states' compliance levels more transparent and, in theory, makes it easier for states to ramp up their policy goals (Hickmann & Elsässer, 2020). In the Non-State Actor Zone for Climate Action (NAZCA) platform, which is part of the Paris Agreement and overseen by the UNFCC, non-state actors are trying to take on different roles in governance. They are reducing greenhouse gas emissions on their own, forming partnerships in multi-level governance arrangements, and testing out ways to scale up their initiatives at higher levels of governance.

2.4. Financing and Governance

The implementation of Article 6 of the Paris Agreement demands a substantial amount of investment, especially in developing nations. In this case, access to low-cost financial resources can be a critical opportunity towards realizing the objectives enshrined in the Paris Agreement. As a result, Deschryver and De Mariz (2020) argue that more people are looking to green bonds and climate bonds to fund the shift to a low-carbon economy. Since its inception in 2007, when it was still a relatively small market, it has significantly expanded, attracting new kinds of investors and issuers. Sustainable development and environmental protection can be funded using green bonds, a fixed-income instrument. Any funds raised from these initiatives will go directly toward funding new and existing green initiatives, emphasizing infrastructure expenditures. During the Paris Climate Conference (COP 21), almost 200 countries agreed to a legally enforceable climate agreement. This agreement aims to reduce greenhouse gas emissions to prevent global temperatures from rising more than 2 degrees Celsius beyond pre-industrial levels.

The likelihood of achieving this goal is estimated to be 66% by the end of the century (Banga, 2019). At the 2016 Hangzhou G20 summit, world leaders also agreed to help build green bond markets in their own countries and to work together internationally to make it easier for people to invest in green bonds across borders. Under the Paris Climate Agreement, developing nations can fully utilize green bonds to fund adaptation and mitigation initiatives, provided they complete the necessary steps. Some possible actions include better communication between the environment and finance ministries, making better use of multilateral and national development banks as intermediaries in the management of green bonds, having local governments guarantee the issuance of green bonds, and encouraging the development of local bond markets where domestic investors could issue green bonds denominated in local currency. Developing nations might speed up the process of reaching sustainable development goals by doing this, which would improve the creation of green bonds.

A dedicated enhanced direct access envelope for SIDS under the GCF is another significant opportunity that can significantly help achieve SDGs and NDCs under the Paris Agreement. The intricacy of climate finance and sustainable development frameworks has made it difficult for small island developing states to obtain funds from multilateral sources. These obstacles highlight the need for a targeted financing mechanism that may help nations improve their systems while bolstering their institutional capabilities. Small Island Developing States (SIDS) may take a more decentralized and programmatic approach to climate and development funding if the Enhanced Direct Access pilot for SIDS was scaled up through a designated envelope.

Creating or enhancing national institutions, including entities like DAEs, funds, and appropriate financial mechanisms, is crucial for small island developing states (SIDS) to strengthen their direct access to climate financing(Wilkinson, Treichel, & Robertson, 2023). National financial entities and suitable financing vehicles are in high demand. It is necessary to find new ways for small and medium-sized developing states (SIDS) to connect their national investment plans and goals with international financing sources, as stated in their NDCs, NAPs, and LEDs. Thus, Public and grant-based resources are needed for adaptation, and the Paris Agreement and the UNFCCC both accept that small island developing states and low-income countries are especially susceptible to the negative consequences of climate change.

The government structures play a critical role in ensuring the effective functioning of market tools for environmental policy. Given the growing magnitude and intensity of climate action, along with its associated costs, voluntary cooperation through the transfer of could be a way to overcome political obstacles to ambitious climate goals and make better use of existing resources for abatement (MacLean, 2020).The adaptability of such collaborative methods is seen as a potential solution to political obstacles in pursuing ambitious climate goals. Political influence can significantly impact how the international carbon markets operate, hindering the overarching goal of promoting climate change policies (Minas, 2022). Thus, robust governance policies and regulations are inevitable to ensure that all parties

participate in carbon markets and contribute towards achieving national and global climate change mandates.

Fuessler recommends three approaches to ensure member states raise their ambitions through Article 6. They include adopting the more ambitious NDCs to engage in Article 6 and ensure environmental integrity in all Article 6 activities. Besides, countries should foster a range of actions, such as raising ambitions through a range of actions or implementing certain measures to participate in Article 6 cooperation. Additionally, forming climate clubs is a viable strategy for raising ambition through Article 6 of the PA. Notably, it is politically challenging to implement some of the interventions presented at the CMA and UNFCC levels due to the complexity of the negotiations (Fuessler, 2019). Thus, the clubs of countries can decide on the eligibility criteria. They can also restrict the members from buying from the host countries that adhere to the set criteria. The club members would be able to create a larger and more liquid market for selling their mitigation outcomes with minimal risks and price premiums. The clubs must offer increased transparency and provide additional capacity-building support to attract more host countries. They must also define the roles of different sectors and technologies.

2.5. Environmental Integrity Risks

Environmental integrity risks can be significant drawbacks to implementing Article 6 of the Paris Agreement, especially in using international carbon market mechanisms. Article 6 of the Paris Agreement outlines the inclusion of international market mechanisms to meet the requirements set out in nationally determined contributions (NDCs). Article 6.2 permits countries to utilize "internationally transferred mitigation outcomes" (ITMOs) in conjunction with cooperative ways to attain their Nationally Determined Contributions (NDCs) (Michaelowa et al., 2019). Additionally, Article 6.4 institutes a novel crediting mechanism subject to international scrutiny. Multiple sections of the Paris Agreement seek to guarantee the environmental integrity of global market procedures. Parties must ensure environmental integrity when accounting for their NDCs, as stated in Article 4.13, and the concept is directly addressed in Articles 6.1 and 6.2.

Additionally, Article 6.4 lays out many criteria for environmental integrity. According to Olsen et al. (2019), Environmental integrity necessitates the prevention of double-counting and necessitates strong accounting, monitoring, and transparent reporting procedures. Experts posit that double-counting can potentially transpire in three scenarios: when emission reduction units are issued many times from the same project, when the units are utilized multiple times, and when the same units are credited towards fulfilling the requirements of both the issuing country and the host country (Gershinkova, 2021). Transparency requires that all Parties openly disclose their intentions and account for their actions. The transparency system revolves around a worldwide evaluation of the implementation of Nationally Determined Contributions (NDCs), where the Parties review their collective endeavors to achieve the global temperature objective. Such measures play a critical role in preventing environmental integrity risks, which can hinder the implementation of Article 6 of the Paris Agreement.

Over the past two decades, there has been a rise in the number of countries and private firms pledging to participate in the call for global carbon neutrality by the mid-century. However, due to a lack of coordination and aggregation among peers and inadequate strategic measures to achieve these ambitious targets, the World is far from realizing global sustainability as far as containing the emission rate is concerned. (Raiser et al., 2020) Notes that the disagreements between nations on the international climate change negotiations have obstructed the efforts by individual states to achieve carbon neutrality. Raiser et al. note that the disputes can be handled through the political governance framework based on the club's interpretation of Article 6 of the PA. He also proposes carbon emission mitigation sharing per capita (Raiser et al., 2020). This ensures the efficiency, equity, and political feasibility of the parties. Raiser also discusses how the certified emissions mitigation can be itemized as carbon credits through operationalizing Article 6 of the PA.

The integrity of the environment and the provision of transparency regarding climate action depend on robust accounting. The total amount of greenhouse gas (GHG) emissions worldwide can be greater than what countries declare if the correct accounting of international transfers is not done. We need accurate accounting to know if nations are on pace to meet their mitigation commitments and if collective action is enough to reach the Paris Agreement's long-term objectives. According to Spalding-Fecher (2021), Article 6 requires host nations to assign certain governmental tasks to designated agencies. The Article 6 cooperation structure of the host nation should consider the transferring country's needs and possible functions to be transferred to new or existing authorities. Constructing upon preexisting institutions has significant advantages in maximizing efficiency, reducing expenses, and capitalizing on preexisting interactions. It is crucial to prioritize encouraging cooperation and coordination among respective ministries in this regard. When planning their national climate policies and involvement in Article 6 initiatives, countries should think about establishing appropriate governing structures to coordinate and make decisions (Spalding-Fecher, 2021). The national infrastructure already set up to govern the country's involvement with the CDM or JI should also be considered as part of the institutional arrangements outlined in Article 6. However, current institutions may need to revise their mission, power, makeup, and abilities to carry out these duties. In building institutional arrangements and implementing cooperation as outlined in Article 6, there are substantial chances to draw upon the knowledge and expertise of independent crediting programs on an international level. Possible advantages of this approach include shorter implementation times, lower expenses, and enhanced trust in emerging global marketplaces.

Global climatic change has been a major problem threatening the existence of life. This global problem, as described by Ari & Sari, 2017, requires a global solution. The UNFCCC is an international treaty for combating climate change by stabilizing GHG emissions. The differentiation of the developed and developing countries has been the greatest challenge in operationalizing the Paris Agreement. The agreement was prepared under the guidance of the INFCCC to include all countries in the fight against climate change. Party countries are expected to reduce emissions by contributing to global climate

change. The responsibilities of the countries towards curbing the emissions were defined based on the Annexes of UNFCCC. The countries classified under Annex-1 are supposed to lead the drive to mitigate the GHG (Ari & Sari, 2017).

On the other hand, Annex-II countries must offer financial support and technology transfer to developing countries. Besides, non-Annex countries are not obligated to follow any binding emission reduction targets. Although their efforts to reduce emissions contribute to the global GHG emission goals, they still need to achieve sustainable development pathways.

The Paris Agreement, adopted in 2015, categorized countries as developed and developing rather than using the Annexes system despite being based on UNFCCC. However, it does not elaborate on which countries are growing and which have not (Ari & Sari, 2017). Thus, this undefined classification poses a challenge in the implementation of the PA. The main challenge is that countries may need to find a way to keep the status quo rather than having a fair burden sharing on emission reductions. This challenge was experienced when the non-annexed countries refused to set emission mitigation targets despite most of them having a higher responsibility and capabilities than the annexed countries. Ari & Sari notes that the resistance of the non-annexed countries and the insufficient effort by annex-1 have led to the failure of the efforts to contain the emissions of GCG and climate change. Therefore, the poor classification of nations as developed and developing has hampered the effort to operationalize Article 6 of the PA.

Risk Factors

Even though Article 6 of the Paris Agreement was aimed to boost international cooperation while addressing climate change and offering financial support to developing countries, it was associated with some risk factors. Mraz (2021) has acknowledged a series of risk factors associated with Internationally Transferrable Mitigation Outcomes (ITMO). This source highlights that it is important for the mitigation measures to be employed since failure to employ the measures to control these risks can influence the willingness of countries to engage in international cooperation regarding policy approaches within Article 6. Michaelowa et al. (2019) highlight that high transaction costs are a risk. The main reason is there has not been experience in the past in implementing policy approaches within varying countries while also comprehending the existing political economy dynamics. Moreover, the lack of uncertainty if the countries would adhere to the NDCs has affected the process of acquiring the governments' willingness to cooperate further.

The other risk is overselling among cooperating countries. Overselling is likely to compromise the host countries' NDC compliance, making the acquiring countries less willing to trade and show commitment to the following adjustments (Mehling, 2021). Moreover, failure to comply with the NDCs could cause these countries to incur reputational risks. Overselling risks has been one of the main factors influencing the willingness of the countries since it includes varying types of risks that call for varying policy responses. One critical factor determining if there will be a risk of overselling is the

quality of data used for decision-making. For example, if the country has a weaker framework for data collection, there will be a high degree of overselling risks.

Since these risks could negatively impact the countries' willingness, it is important to employ policy safeguards. However, most of the policy safeguards that have been suggested are sometimes complicated. Furthermore, the overselling concerns could affect whether the countries will be willing to participate in the ITMO transactions that are represented under Article 6. The other major risk is purchasing hot air (Mehling, 2021). This risk has the countries to limit it through testing and assessing the NDC's ambition. Furthermore, most countries have started to employ additional tests to assess the developed policy approaches.

Corresponding Adjustment

Corresponding adjustments have been known as a critical ITMO transaction step that is aimed at preventing double counting. In most instances, double counting happens whenever the seller countries transfer their reduction unit to the acquiring country while also claiming the emission reductions, prompting one emission unit to be reported twice. The corresponding adjustment is known as the ITMO trading partner countries' joint adjustments that show the emissions reductions that have been attained (Mraz, 2021). When a corresponding adjustment happens, it is a sign that the parties have knowingly transferred the mitigation outcome to the other mitigation pledge party.

The only way to solve it is through the party agreeing to transfer it to uncount it. Even though most people view it as a transparent process, there have been questions about when and how the corresponding adjustment is supposed to be applied. For example, the country should increase its emission reduction level within its NDC to correct the emissions reductions it sold to other countries (Müller et al., 2019). On the other hand, the country that bought these credits is supposed to reduce its credits. Since the corresponding adjustment perspective has remained a major issue, it is important to have more clarity about the calculation methods clarity. The main reason to focus on calculation methods is that their clarity will show economic implications that adhere to the adjustment, making it a critical component to building strategies capacity.

Conclusion

A lot of literature and research exists evaluating the efficacy of implementing Article 6 of PA, especially in developing countries. No research shows the synthesized findings on factors that have dragged the implementation of Article 6, which is the most critical element of the Paris Agreement. Besides, most studies on implementing Article 6 of the PA do not highlight the key challenges and opportunities in operationalizing its elements in developing countries. While developing countries contribute minimally to global GHG emissions, they suffer the most when calamity strikes. Article 6 provides recommendations on how governments can cooperate to achieve international goals.

Therefore, there is a big study gap concerning the challenges and opportunities of developing countries in implementing Article 6 of the Paris Agreement. While current studies indicate that the member states disagree on the approach, they would take to operationalize numerous mechanisms proposed by the PA. They fail to address and highlight how different approaches would affect developing economies. The findings from this study will provide policy recommendations on the development and implementation of Article 6 of the PA and ensure that developing countries benefit a lot.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlights the methodology used in conducting the study. It defines the research design, the target population, the technique used to determine the sample, and the appropriate sample size for the study. This chapter also includes the data collection tools and analysis techniques, which help the document consumer understand how the information was collected and the decision arrived at.

3.2 Research Design

The research design process is a systematic and structured approach to conducting research. It is the comprehensive framework linking conceptual research issues to pertinent and achievable empirical research. It is an investigative approach that offers clear guidance for the methods employed in a research study (Creswell, 2014).Developing an empirical test to support or refute the existing knowledge is necessary. The process is essential to ensure that the study is valid, reliable, and produces meaningful results. The research design highlights how the problem under investigation was solved. The research employed a descriptive survey to collect the research data. The research design considered the aims and objectives of the study, which would help design the applicable theoretical framework. It also involved developing the timeframe and the ethical considerations when conducting the study. The process ensured that the study was well-planned, rigorous, and ethical.

3.3 Target Population

The target population in research defines all members of any well-defined class of people, events, or objects the research will focus on (Krieger, 2012). A member of the population must have at least one attribute or characteristic common to all of them. The research focuses on implementing Article 6 of the Paris Agreement in developing countries. The study will cover developing nations in different parts of the World, including Africa, Asia, Latin America, and Small Island developing states (SIDS), among other less developed countries.The respondents will be key stakeholders from the regions with deep knowledge of Article 6 of the PA implementation. They include government officials, project developers, civil society organizations (CSOs), Private sector representatives, and international organizations.

3.4 Sample Size

A sample is a small population set that the researcher uses to study the dynamics of the entire population. It can be defined as a group of a relatively smaller number of people selected from a population for investigation purposes (Oribhabor & Anyanwu, 2019). Sampling helps research and enhances the understanding of the target population's characteristics without interacting with every element in the larger population. The accuracy of the outcome is dependent on the sample taken; thus, the sample size determines the error size. They are inversely proportional, which means the more significant the sample size, the smaller the error. Thus, the study will cover developing nations in different parts of the World, including Africa, Asia, Latin America, and Small Island developing states (SIDS), among other less developed countries.The study, therefore, focuses on the following groups:

government officials, project developers, civil society organizations (CSOs), Private sector representatives, and international organizations.

3.5 Data Collection Tools

Based on the scope of the research and the nature of the data required for the study, the researcher employed the questionnaire as the data collection tool. The questionnaire was a highly preferred collection technique since it is suitable for collecting data from large populations simultaneously (Rea & Parker, 2014). Besides, it offers a seamless accumulation of data, enabling the researcher to analyze and interpret data easily. The open-ended questions formedpart of the questionnaire enabled the respondents to provide their opinions or views on some issues.

3.6 Data Analysis

The descriptive statistical technique is the most suitable approach for analyzing the research data collected using the survey (Mishra et al., 2019). It evaluated factors such as mean, percentages, and frequencies of the user responses. The data was coded into a common format to facilitate analysis. Further analysis was conducted on the responses, whereby they were transformed and organized in a format that is easy to interpret, reflecting the research problem in the study. The data was populated into statistical tools such as Excel to generate statistical output, which was presented graphically using charts and in tabular format.

3.7 Ethical considerations

The nature of the research called for ethical considerations to ensure that everyone involved remained protected before, during, and after the study. Below is a list of ethical considerations made when conducting the questionnaire.

I. Confidentiality: the confidentiality of the user was guaranteed since no personal data was captured

II. Informed consent: the respondents were required to state that they agreed to participate in the study without being coerced or unduly pressured. Besides, they were guaranteed that the information collected would only be used for the intended purpose and would not be shared with a third party.

Anonymity: The respondents were guaranteed to remain anonymous, and no personal information would be shared with a third party. The respondents were required to provide consent agreeing to participate in the study and how the information would be used. Informed consent is the fundamental ethical principle in a research study (Millum & Bromwich, 2021).This ensures that the participants agree to the purpose, the benefits, and the risks of participating in the given research. Before the respondents confirm that they have agreed to take part in the given study, they should be provided with clear and concise information describing the type of data to be collected and the purpose of the study. This should also explain how the data will be used, stored, and shared.

In conclusion, this chapter provides a comprehensive overview of the methodology employed to address the research objectives centered on investigating the challenges and opportunities in operationalizing Article 6 of the PA in developing countries. The choice of research method, the questionnaire, is grounded in the need for a deeper understanding of the complexities associated with

implementing Article 6 of the Paris Agreement. The qualitative research method allows for a detailed analysis of the factors influencing the operationalization of Article 6, including political, social, and economic dimensions. The approach, which includes an online questionnaire, helps the researcher collect primary data from the relevant stakeholders.

CHAPTER 4
DATA ANALYSIS, PRESENTATION AND INTERPRETATION

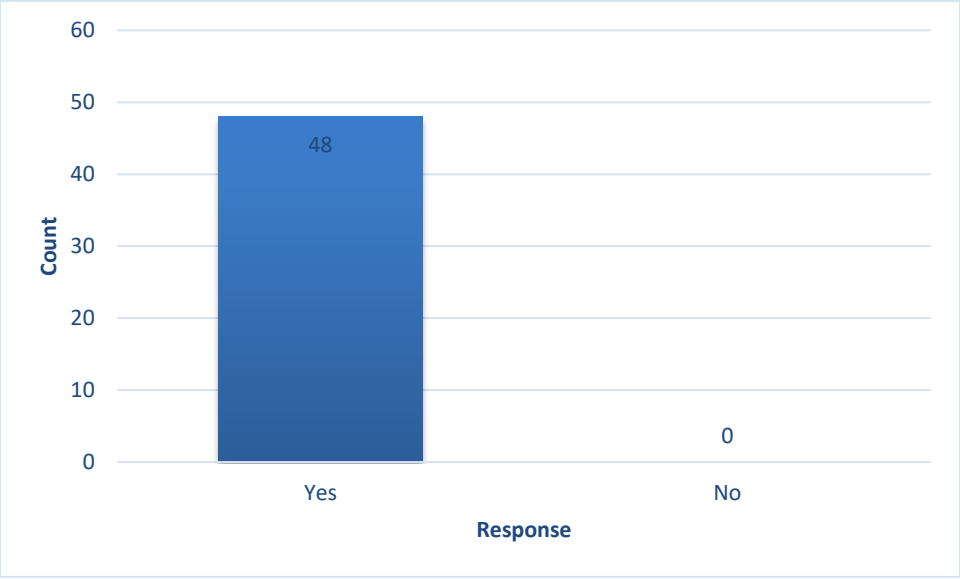
4.0 Introduction

This chapter presents detailed findings and insights from the research data collected regarding the respondents' views on implementing Article 6 of PA in developing countries. It begins with exploring participant consent to confirm their willingness to participate in the survey. It also provides a comprehensive analysis of survey findings. It offers valuable insights into participant demographics, experiences, perceptions of challenges and opportunities, and attitudes towards mitigation and benefits related to Article 6 of the Paris Agreement. These insights are crucial for informing policy decisions to enhance environmental sustainability and climate resilience in developing countries. The countries that responded to the questionnaire include Brazil, Burundi, Cameroon, Egypt, Ethiopia, Eswatini, Kenya, Nepal, Nigeria, Rwanda, South Africa, Tanzania, Togo, Tunisia, Uganda, and Zambia. Excel was used to analyze the data since it helps manage large and complex data sets and perform complex data analysis and visualization.

4.1 Response to respondents agreement to participate

The given questionnaire contained a brief explanation about the researcher and the purpose of the study to help the respondent make an informed decision about participating or not. All 48 respondents (100%) of the participants confirmed that they agreed to participate in the study by selecting "Yes." This meant they willingly responded to the questionnaire without coercion, as depicted in Figure 1 below.

Figure 1: Distribution of the respondents' consent.



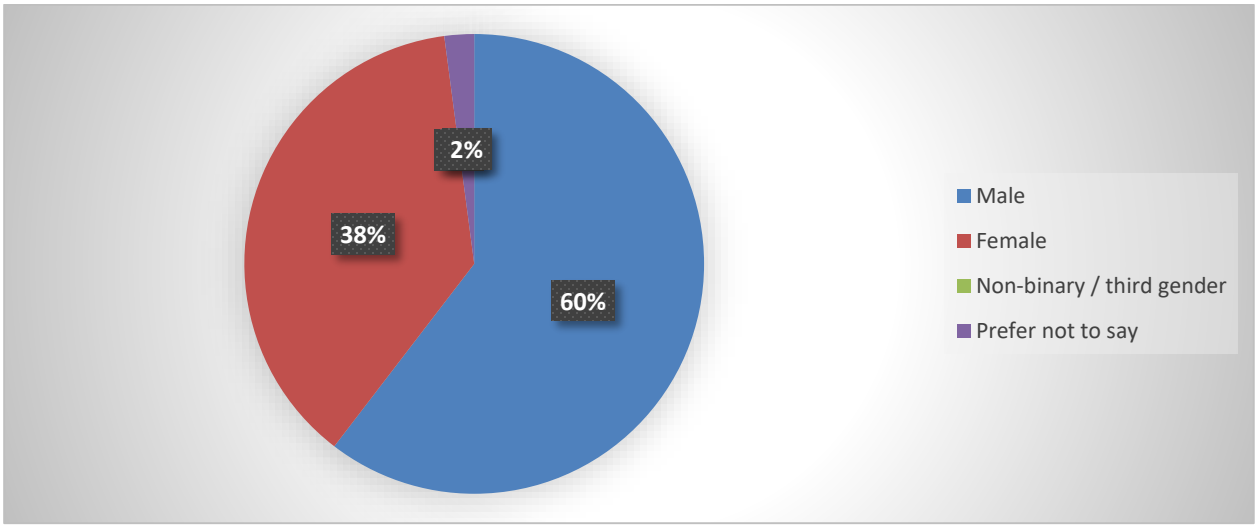
Source: Research 2024

4.2 Responses on gender of the respondents

This question sought to establish the trend and the preferences of specific genders and their thoughts on the application of the PA in developing countries. The question also promoted diversity and inclusion. This question also helped the researcher establish the role of gender orientation in the distribution of the responses.

The majority of respondents, 29(60%),were male, 38% were female, and 1 (2%) preferred not to state their gender. The distribution of the responses to this question indicates that more males than females are aware of environmental matters in Article 6 of PA. Figure 2 below presents the distribution of the respondents according to their gender orientation.

Figure 2**: Distribution of the Respondent's Gender.**



Source: Research 2024

4.3 Respondents' experience in climate-related Field

Most of the respondents (38%) stated that they have experience of 5 to 10 years in the climate-related field. This group represents most of the respondents and has a solid understanding of the Paris Agreement. 25% had 10-15 years of experience, while 10% had more than 15 years of experience, meaning they are highly experienced and deeply understand the Paris Agreement and the specific challenges developing countries face. Only a small group of the respondents, at 4%, have less than one year of experience in the climate-related field.

These indicators showed that most of the respondents had a moderate to high level of experience (5-15 years), accounting for 63% of the respondents. Since many of the respondents were

highly experienced in the climate-related field, they have a deep knowledge of the subject of the study, leading to more insightful responses and ensuring high-quality data. Besides, experienced respondents enhance the credibility and reliability of the responses by providing a well-informed opinion. Additionally, experienced respondents understand the complex issues and provide practical solutions and policy recommendations.

Table 1: Years of experience of the respondents

Years of experience in climate-related field	Percentage	Count
Less than 0ne	4%	2
More than 1 to 5	23%	11
More than 5 to 10	38%	18
More than 10 to 15	25%	12
More than 15	10%	5

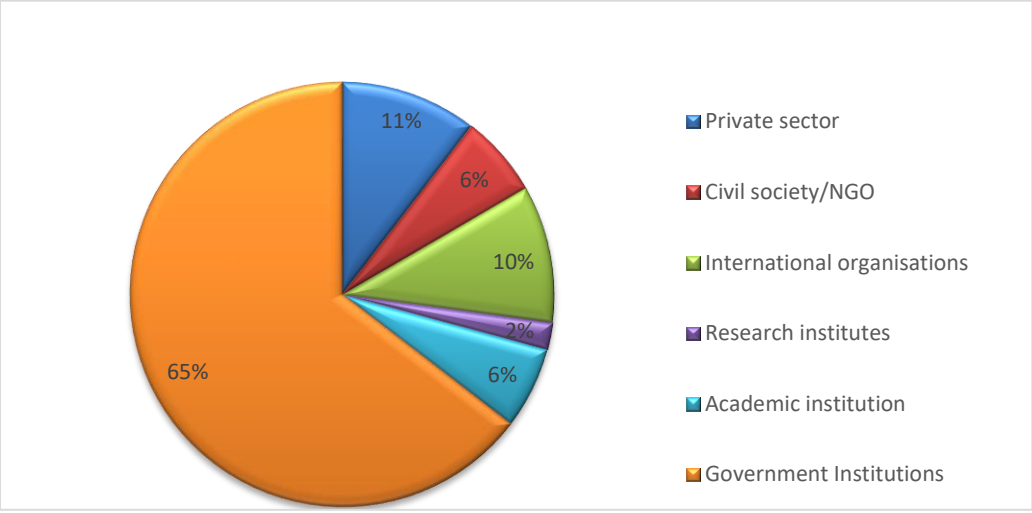
Source: Research 2024

4.4 Respondents Organization

The majority of the respondents (65%) stated that they come from government organizations, indicating that government agencies are very concerned about matters affecting the environment. 11% of the respondents confirmed that they are from the private sector, suggesting that the private sector is also interested in climate-related matters. The private sector is vital in developing climate-related industries since it has a high potential to invest in and influence the policies and practices promoting environmental sustainability in developing countries. International organizations accounted for 10% of the respondents who are key players in global climate initiatives. 6% of the respondents represented civil society organizations and NGOs. Respondents from these groups also provided thoughtful insights since they are directly involved in developing strategies that affect the communities, including climate-related plans. They usually advocate for policies that ensure the sustainability of the communities, which would include the implementation of Article 6 of the Paris agreement.

Academic institutions also accounted for 6% of the respondents, which is notable. In comparison, research institutes accounted for 2% of the responses, which cements their importance in carrying out research related to climate change and informing policies that would help combat these challenges. This distribution of the responses indicated that people from diverse organizations participated in the survey and were conversant with Article 6 of PA. Figure 3 below presents the distribution of the respondent's organization.

Figure 3: Distribution of the respondent's organizations.

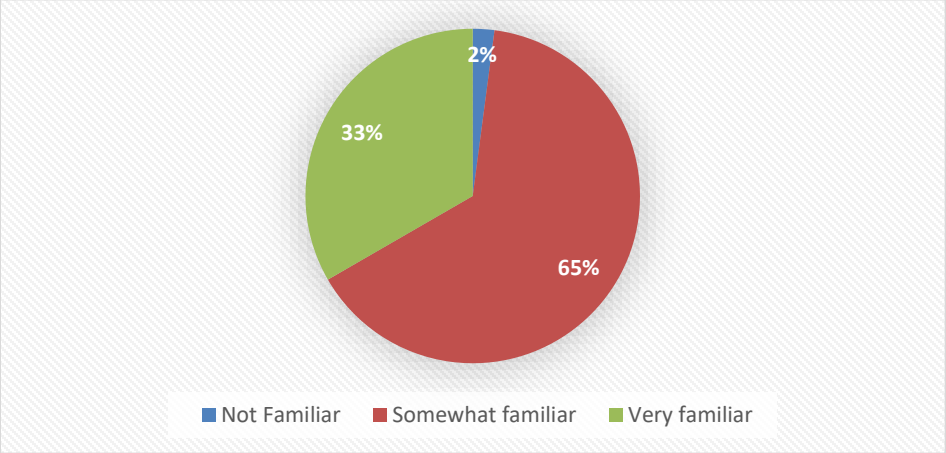


Source:Research 2024

4.5 Experience with Article 6 of the Paris Agreement by the respondents

Most respondents (65%) stated that they were somewhat familiar, and 33% were very familiar, indicating that the researcher had settled for the respondents who would provide reliable responses. Figure 5 below presents the distribution of respondents' experience in Article 6 of the PA.

Figure 4: Distribution of employee based on their years of experience in Article 6 of the PA.



Source: Research 2024

4.6 Rating of challenges for the operationalization of Article 6 of the Paris Agreement in developing countries.

Understanding the significance of every barrier informed the policy development and the level of priority each countermeasure should be given. Financial constraints were rated by 82% of the participants as a major and significant challenge to the implementation of PAs in developing countries. Limited technology capacity was also considered a significant challenge that needed special attention, with over 68% of the respondents rating it as either a major or significant challenge. Capacity building was also viewed as the other challenge that highly affected the implementation of the Article 6 of the PA, with over 67% of the respondents rating it as either a major or significant challenge. Inadequate institution capacity also requires special attention, with 73% of the respondents considering it a major and significant challenge. The other challenges that were regarded as less significant include policy coordination issues, public awareness and engagement, and environmental and social safeguards. Their percentage score was 57%, 56%, and 41 %, respectively.

Table 2 below presents the distribution of the rating of the challenges affecting the implementation or Article 6 of the PA.

Table 2 Distribution of the rating of the challenges affecting the implementation or Article 6 of the PA.

Challenges affecting the implementation or Article 6 of the PA.	None 1	Minor 2	Moderate 3	Major 4	Significant 5
i. Financial Constraints	1(2%)	0(0%)	8(17%)	20(42%)	19(40%)
ii. Limited Technological Capacity	0(0%)	3(6%)	12(25%)	17(35%)	16(33%)
iii. Inadequate institutional capacity	0(0%)	3(6%)	10(21%)	25(52%)	10(21%)
iv. Policy Coordination Issues	0(0%)	5(10%)	16(33%)	19(40%)	8(17%)
v. Public Awareness and Engagement	0(0%)	6(12%)	15(31%)	16(33%)	11(23%)
vi. Environmental and social safeguards	2(4%)	7(15%)	19(40%)	15(31%)	5(10%)
vii. Capacity building	0(0%)	4(8%)	12(25%)	19(40%)	13(27%)

Source: Research 2024

4.7 Other challenges developing Countries face in operationalizing Article 6 of the Paris Agreement.

The respondents also described other challenges of implementing Article 6 of the PA in developing nations, as shown below. The scores were distributed as policy and institutional issues (21%), Financial and economic constraints (23%), technical and capacity gaps (21%), social-cultural and geopolitical factors (13%) and implementation and operational challenges (13%). Given that the majority of the respondents provided other challenges that affect the implementation of Article 6 of the PA in developing countries, it indicated that the respondents clearly understand the unique challenges that their countries face in implementing Article 6 of the PA.

Table 3: Other Challenges Developing Countries Face in Operationalizing Article 6 of the Paris Agreement.

	Category	Count	**% Score**
1	Policy and Institutional Issues	10	21%
2	Financial and Economic Constraints	11	23%
3	Technical and Capacity Gaps	10	21%
4	Socio-Cultural and Geopolitical Factors	6	13%
5	Implementation and Operational Challenges	6	13%

Source: Research 2024

4.8Rating of opportunities for the operationalization of Article 6 of the Paris Agreement in developing Countries

This question was posed to help the researcher understand the opportunities for successful implementation of the PA in developing countries so that they can enhance its operationalization and achieve global climate goals. Most of the opportunities were considered significant, having received high ratings on the major and significant criteria. International collaboration received the highest rating of 33 respondents (69%), followed by access to climate finance, technology transfer and innovation, and carbon markets development, with 31 responses, equivalent to 65%. Capacity building follows with 30 responses (62%). Although still important, renewable energy initiatives (50%) received a lower rating than other opportunities.

Table 4below presents respondents' ratings on the opportunities of Article 6 of the PA in developing countries.

Table 4: Respondents' rating on the opportunities to implement Article 6 of the PA in developing countries.

Rating of opportunities for the operationalization of Article 6 of PA in developing countries	None 1	Minor 2	Moderate 3	Major 4	Significant 5
i. Access to Climate Finance	2(4%)	7(15%)	8(17%)	16(33%)	15(31%)
ii. Technology Transfer	0(%)	8(17%)	9(19%)	12(25%)	19(40%)
iii. Innovation and carbon market development	1(2%)	5(10%)	11(23%)	19(40%)	12(25%)
iv. Capacity Building	1(2%)	3(6%)	14(29%)	16(33%)	14(29%)
v. International Collaboration	0(0%)	3(6%)	12(25%)	19(40%)	14(29%)
vi. Renewable Energy Initiatives	0(0%)	6(13%)	18(38%)	9(19%)	15(31%)

Source: Research 2024

4.9 Other opportunities For operationalizing Article6 Of PA in developing Countries

The respondents provided other opportunities for operationalizing Article 6 of the PA in developing countries. The responses were categorized and tallied in common groups. They include Policy and governance (13%), financial and economic opportunities (15%), technological and sectoral innovations (8%), and social and environmental impact (3%). While 48% of the respondents responded to this question, 52% did not provide other opportunities for operationalizing Article 6 of the PA in developing countries.

Table 5: Other opportunities for operationalizing Article 6 of PA In developing countries

	Category	Count	**% Score**
1	Policy and Governance	6	13%
2	Financial and Economic Opportunities	7	15%
3	Technological and Sectoral Innovations	4	8%
4	Social and Environmental Impact	3	6%

Source: Research 2024

4.10Rating on the application of various mitigation efforts to reduce CO_2 emissions

Renewable energy development was considered a significant mitigation effort, with the highest rating among all the mitigation measures. 23 respondents (48%) thought it was a major or considerable initiative. Energy-efficient improvements and afforestation were regarded as moderate initiatives, with the majority of the respondents rating them highly at the moderate scale. Renewable energy development had 23 responses rated as moderate, which is 47% of the reactions, while afforestation had 25 responses rated as moderate, amounting to 52%.

Low carbon transportation, the establishment of climate finance to finance mitigation measures and carbon pricing mechanisms were considered the least significant efforts, with the majority of the respondents, 32 (67%), 33 (69%), and 36 (75%), respectively, considering them as minor or none efforts. The findings from this question suggest key mitigation gaps, which would inform future action. It also helped in policy recommendations, where the policymakers understood which measures required more effort. Table 6 below presents the respondents' rating on the extent to which the given mitigation efforts have been applied to reduce CO_2 emissions in their respective countries.

Table 6: Respondents' rating of the extent to which the given mitigation efforts have been applied to reduce CO_2 emissions in their respective countries.

Source: Research 2024

Respondents rating on the application of various mitigation efforts to reduce CO_2 emissions.	None 1	Minor 2	Moderate 3	Major 4	Significant 5
i. Renewable energy development	1(2%)	5(10%)	19(40%)	10(21%)	13(27%)
ii. Energy-efficient improvements	1(2%)	6(12%)	23(48%)	13(27%)	5(10%)
iii. Afforestation	0(%)	8(17%)	25(52%)	7(15%)	8(17%)
iv. Substantial land use practices	1(2%)	26(54%)	16(33%)	3(6%)	2(4%)
v. Low carbon transportation	6(13%)	26(54%)	12(25%)	1(2%)	3(6%)
vi. Establishment of climate finance to finance mitigation measures	12(25%)	21(44%)	9(19%)	2(4%)	4(8%)
vii. Carbon Pricing Mechanisms	12(25%)	24(50%)	7(15%)	2(4%)	3(6%)

4.11 Other Mitigation efforts put forward by developing countries to educe CO_2 emissions

The respondents provided other mitigation efforts by different developing countries to reduce the emission of greenhouse gases and enhance the implementation of Article 6 of the PA. The responses were categorized and tallied in common groups. They include waste management recycling (6%), sustainable agricultural practices (4%), forestation and land restoration (6%), fuel technology and energy mix (6%) and biodiversity projects and nature-based solutions (6%). Other recommended mitigation measures include enforcing education and public awareness programs (2%), technology and regulatory initiatives (8%), and aviation industry efforts (4%). While 44% of the respondents responded to this question, 56% did not provide alternative mitigation measures employed by developing countries to prevent emissions and enhance the operationalization of Article 6 of the PA.

Table 7: Other mitigation efforts put forward by developing countries to reduce CO_2 emissions

	Category	Count	**% Score**
1	Waste Management and Recycling	3	6%
2	Sustainable Agricultural Practices	2	4%
3	Forestation and Land Restoration	3	6%
4	Fuel Technology and Energy Mix	3	6%
5	Biodiversity Projects and Nature-Based Solutions	3	6%
6	Education and Public Awareness	1	2%
7	Technological and Regulatory Initiatives	4	8%
8	Aviation Industry Efforts	2	4%

Source: Research 2024

4.12Rating on the benefits of implementing Article 6 mechanisms in developing Countries.

The rating for each benefit was high, indicating their high level of significance: reduce carbon emission (70%), promote sustainable practices (75%), job creation (47%), community empowerment (69%), investment and economic growth (66%), and creation of carbon credit (73%), indicates that proper implementation of Article 6 of the PA agreement would highly benefit developing nations and help contain the menace of environmental degradation. Table8 below presents respondents' ratings on the benefits of implementing Article 6 mechanisms in developing countries in different areas.

Table 8: Respondents rating of the significance of the benefits of implementing Article 6 mechanisms in developing countries in different areas.

Respondents rating on the signifiance of the benefits of implementing Article 6 mechanisms in developing countries.	None 1	Minor 2	Moderate 3	Major 4	Significant 5
i. Reduce Carbon Emission	0(0%)	6(13%)	8(17%)	17(35%)	17(35%)
ii. Promote Sustainable Practices	0(0%)	5(10%)	7(15%)	15(31%)	21(44%)
iii. Job Creation	2(4%)	13(27%)	10(21%)	14(29%)	9(18%)
iv. Community Empowerment	0(%)	8(17%)	7(15%)	18(38%)	15(31%)
v. Investment and Economic Growth	1(2%)	4(8%)	11(23%)	17(35%)	15(31%)
vi. Creation of carbon credits	1(2%)	3(6%)	9(19%)	17(35%)	18(38%)

Source: Research2024

4.13 Other benefits experienced by developing countries in operationalizing Article6

The respondents provided other benefits of operationalizing Article 6 of the PA in developing countries. These benefits were categorized into 7 groups, namely environmental protection (8%), capacity building (8%), job creation (2%), Finance Flow Improvement (2%), Technology Transfer and Innovation (6%), International partnerships (4%) and cooperation and reduction of CO2 Emissions (4%). 28 (58%) of the respondents did not provide personal responses to this question.

Table 9: Other benefits of implementing Article6 in developing countries.

	Other Benefits	**Count**	**% Score**
1	Environmental Protection	4	8%
2	Capacity Building	4	8%
3	Jobs Creation	1	2%
4	Finance Flow Improvement	4	8%
5	Technological Transfer and Innovation	3	6%
6	International Partnerships and Cooperation	2	4%
7	Reduction of CO2 Emissions	2	4%

Source: Research2024

4.14 Respondents policy recommendations to address the challenges Of operationalizing Article 6 In developing Countries.

The respondents provided the following recommendations that addressed critical areas necessary for operationalizing Article 6. The primary responses could be grouped into 6 distinctive categories: legal frameworks, capacity building, financial support, stakeholder engagement, technology transfer, and market infrastructure development. The legal and regulatory frameworks received the highest recommendations 21 (43%), highlighting the foundation of law and regulations in implementing Article 6 of the PA. The stakeholders believed their effort would be effective if supported by the legal guidelines.

Both financial support and stakeholder engagement had 12 responses (25%) highlighting the importance of financial support and engaging different groups in implementing Article 6 of the PA. Article 6 of the PA creates mechanisms that allow parties to engage in cooperative approaches to achieve emission reductions and contribute to the progressive revision of the NDCs (Lennon, 2018). 8 (16%) respondents recommenced capacity building and technology transfer and innovation, indicating the importance of diverse skills and technology in implementing the Article of the PA. The carbon market was recommended by 7 respondents (15%).

Table 10: Policy recommendations to address the challenges of operationalizing Article 6 in developing countries

	Framework Category	**Count**	**% Score**
1	Legal and regulatory frameworks	21	43%
2	Financial support and incentives	12	25%
3	Stakeholder engagement	12	25%
4	Capacity Building	8	16%
5	Technology transfer and innovation	8	16%
6	Carbon Market infrastructure development	7	15%

Source: Research 2024

Chapter 5

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1: Introduction

This section provides a summary of the findings from the research. It delves into the diverse policy recommendations from respondents, highlighting critical areas necessary for operationalizing Article 6 of the PA in developing countries. This chapter provides a clear overview of the respondents' recommendations and provides the basis for a deeper exploration of the challenges and opportunities in operationalizing Article 6 of the PA. It highlights respondents' diverse perspectives and experiences regarding the implementation of Article 6 of the PA in developing countries. It highlights a gender disparity among participants, with a higher proportion of men engaged in environmental matters. The respondents, mostly experienced professionals, provided valuable insights and policy recommendations, enhancing the study's credibility. The involvement of various sectors, including government, private, international organizations, and academia, underscores a collaborative approach to climate action. The study identifies significant challenges in implementing Article 6 and mitigation measures. It also illustrates the benefits of operationalizing and policy recommendations to enhance its operationalization.

5.2: Summary of findings

The research on implementing Article 6 of the Paris Agreement (PA) in developing countries provided comprehensive insights from a survey of 48 respondents. All participants consented to the study, with a majority having substantial experience in the climate field—63% with 5 to 15 years of experience, thus having enough expertise to offer credible insights on environmental matters. Besides, the experienced respondents provided practical solutions and well-informed policy recommendations that would enhance the implementation of Article 6 of the PA in developing countries. While 65% of the respondents confirmed they were somewhat familiar with Article 6 of the PA, 33% stated they were very familiar. The gender distribution of the respondents was comprised of men (60%), calling for further study to determine why women (38%) are reluctant to participate in environmental matters and why non-binary respondents kept away from the study.

The diverse organizational backgrounds of the respondents highlighted the commitment of different disciplines to addressing climate-related challenges. The respondents were predominantly from government organizations (65%), followed by the private sector (11%) and international organizations (10%). While the involvement of government organizations underscores other sectors, the participation of the private sector, international organizations, civil society, academia, and research institutes demonstrates how a collaborative approach is essential for effective climate action. This enhanced the richness of the insights and recommendations in developing policies that would foster the implementation of Article 6 of the PA in developing countries.

Thirdly, developing countries face significant challenges in operationalizing Article 6 of the PA. They include financial constraints (82%), limited technological capacity (68%), and inadequate institutional capacity (73%). Other noted challenges included policy coordination issues (57%), public awareness (56%), and environmental safeguards (41%). To ensure the effective implementation of Article 6 of the PA, addressing these significant barriers should be a priority for policymakers. While issues like policy coordination, public awareness, and environmental and social safeguards are also important, they are relatively less critical. A focused approach to the most pressing challenges, supported by targeted investments and capacity-building initiatives, is essential for advancing climate action in developing countries.

Besides, the study highlights the opportunities of operationalizing Article 6 of the PA in developing countries. It suggests that international collaboration (69%) is the most critical opportunity, followed by access to climate finance, technology transfer, and development of carbon markets (65% each). Renewable energy initiatives were seen as important by 50%. Thus, developing countries should prioritize international collaboration and ensure robust mechanisms for climate finance, technology transfer, and capacity building to enhance the operationalization of Article 6 and achieve global climate goals.

The study also covered the mitigation efforts employed by developing nations to prevent and curb emissions and enhance the implementation of Article 6 of the PA. Mitigation efforts such as renewable energy development were rated highly (48% major or significant), while efforts like low-carbon transportation and carbon pricing mechanisms were considered less significant by 67% and 75%, respectively. The benefits of implementing Article 6 were recognized as substantial, with 70% noting the reduction of carbon emissions and 75% highlighting the promotion of sustainable practices. Other benefits include job creation (47%), community empowerment (69%), and investment growth (66%).

Policy recommendations emphasized the need for robust legal frameworks (43%), financial support (25%), and stakeholder engagement (25%), along with capacity building and technology transfer (16% each) and carbon market infrastructure development (15%). Overall, the findings underline the importance of addressing financial, technical, and institutional barriers while leveraging international collaboration and innovative opportunities to enhance the implementation of Article 6 in developing countries.

5.3: Conclusion

The 2015 COP21 Conference in Paris resulted in the Paris Agreement, a landmark accord aimed at combating global warming by limiting greenhouse gas emissions and keeping global temperature rise well below 2 degrees Celsius. However, since its ratification in January 2021, the Paris Agreement has faced significant challenges, particularly in developing countries where financial constraints, limited technical capacity, and insufficient institutional support hinder effective implementation of Article 6. This

research outlines the challenges and opportunities of operationalizing Article 6 of the PA. It has also included policy recommendations from the respondents.

This study employed a descriptive survey approach to ensure a structured and comprehensive investigation to explore the implementation of Article 6 of the Paris Agreement in developing countries. The target population included the stakeholders in implementing Article 6, including government officials, project developers, civil society organizations, private sector representatives, and international organizations. It covered regions like Africa, Asia, Latin America, and Small Island Developing States (SIDS). The questionnaire was used for data collection since it effectively gathers data from a large population and allows for detailed insights through closed and open-ended questions. Data analysis employed descriptive statistical techniques to process and interpret the survey

The results from the study presented a high level of engagement and expertise among participants, with 100% of respondents confirming their voluntary participation in the survey. The demographic analysis revealed that 60% of respondents were male, while 38% were female. 2% chose not to specify their gender. The study involved very experienced respondents, with most respondents (38%) having 5 to 10 years of experience in climate-related fields. This ensured that the data reflects informed opinions. The distribution of the respondent's organizations presented the need for a multiagency approach in handling climate-related matters. A significant portion (65%) comes from government organizations, with smaller representations from the private sector (11%), international organizations (10%), civil society organizations (6%), and academia and research institutes (8%).

Key challenges identified include financial constraints, highlighted as a major or significant issue by 82% of respondents, followed by limited technological capacity (68%) and inadequate institutional capacity (73%). These challenges point to critical areas needing targeted interventions to improve the operationalization of Article 6. Policy coordination issues, public awareness, and environmental safeguards were noted but considered less significant. The findings indicate that developing countries often lack funds to build sustainable infrastructure that can help meet the stipulations of Article 6 of the PA. Thus, stakeholders need to ensure that the developing countries are adequately funded to meet their NGDs and advance the implementation of Article 6 of the PA. Institutional capacity also poses a significant challenge to the implementation of the PA.

The survey also uncovered various opportunities for enhancing the implementation of Article 6 of the PA in developing countries. 69% of respondents rated international collaboration highly significant, with access to climate finance, technology transfer, and innovation also receiving substantial support (65% each). Despite the lower rating for renewable energy initiatives (50%), these opportunities are vital for advancing climate goals. Furthermore, the benefits of implementing Article 6 were recognized as substantial, with 70% of respondents noting the reduction of carbon emissions as a significant benefit and 75% emphasizing the promotion of sustainable practices. Job creation (47%), community empowerment (69%), and investment and economic growth (66%) were also seen as important outcomes.

In conclusion, the successful implementation of Article 6 of the Paris Agreement (PA) hinges on several critical factors. Legal and regulatory frameworks are essential, emphasizing the need for robust laws and regulations to underpin all other efforts. Majority of the respondents provided policy recommendations focusing on legal frameworks (43%), financial support (25%), and stakeholder engagement (25%). Financial support and incentives were crucial in helping developing countries implement their Nationally Determined Contributions (NDCs). Additionally, stakeholder engagement is essential since engaging diverse groups, including government bodies, local communities, and the private sector, in a collaborative decision-making process helps developing nations meet the provisions of the PA. Capacity building and technological advancement would also ensure that developing countries have the proper skills and resources to implement Article 6 of the PA. Developing Carbon Markets would also help developing countries participate in global climate initiatives. These recommendations are essential for addressing the identified challenges and leveraging the opportunities to enhance the effectiveness of Article 6 in developing countries. They would ensure that the developing countries progress in implementing Article 6 of the PA.

5.4: Recommendations

To effectively operationalize Article 6 of the Paris Agreement (PA), it is crucial to address six key areas.

i. Establish robust legal and regulatory frameworks: As highlighted by the respondents, legal and regulatory frameworks received the highest number of recommendations (43%). The legal and regulatory frameworks are essential since they provide the foundation for all other efforts.

ii. Establish adequate financial support and incentives: Financial constraints were identified as a significant challenge by 82% of respondents. Therefore, sufficient funding is crucial for overcoming barriers and facilitating the implementation of climate projects, including those related to carbon markets and emission reductions.

iii. Stakeholder engagement and capacity building: Stakeholder engagement and capacity building were recommended by 25% and 16% of respondents, respectively. Thus, engaging diverse stakeholders, including government bodies, local communities, and private sectors, in inclusive decision-making would enhance the implementation process of Article 6 of the PA.

iv. Carbon market infrastructure: 15% of the respondent's market infrastructure is an effective policy for enhancing the operationalization of Article 6 of the PA and curbing the emission menace. Thus, establishing an adequate carbon market infrastructure would improve the participation of developing nations in the global climatic initiative.

v. Technology transfer and innovation: Limited technology capacity was cited as a significant challenge by 68% of respondents. Technology transfer and innovation are vital in helping developing nations achieve the goals of Article 6 of the PA.

vi. Fostering international collaboration: 69 % of the respondents cited international collaboration as a significant opportunity for operationalizing Article 6 of the PA. International collaboration

helps countries to share best practices and resources related to the operationalization of Article 6 of the PA. It also encourages joint efforts of the international community to address the climatic challenges.

5.5: Limitations of the study

Below are the Limitations of the Study.

Limited Time and Funding constraints: The limited time constraint may affect the project outcome through increased pressure, reduced research depth and limited feedback opportunities. This challenge was overcome by prioritizing the objectives and developing a detailed timeline. The limited funding constraint would also affect the project's outcome by affecting the ability to access specific resources.

5.6: Suggestions for further studies

Below are key recommendations for future studies on the implementation of Article 6 of the Paris Agreement (PA) in developing countries:

i. Future studies should focus on longitudinal analysis to track the changes in the operationalization of Article 6 over time. Challenges and opportunities evolve, affecting the strategies for operationalizing Article 6 of PA.
ii. Future studies should assess the effectiveness of various mitigation efforts, such as renewable energy initiatives, afforestation, and carbon pricing mechanisms. Future studies should evaluate the real-world impact of these efforts and identify best practices for scaling up successful initiatives.
iii. Analyze the effectiveness of different financial mechanisms and policy frameworks in supporting the implementation of Article 6. Research could focus on identifying optimal financial models and policy structures that can be adapted to different contexts within developing countries.
iv. Future studies should cover detailed case studies in selected countries to evaluate specific challenges and successful mitigations and challenges of implementing Article 6 of the PA. Since the current study provided general insights on implementing Article 6 of the PA in various developing countries, future studies should cover an in-depth analysis of the PA in specific countries.
v. Examine the effectiveness of legal and regulatory frameworks in supporting the implementation of Article 6. Future research could focus on evaluating the impact of different governance models and identifying key components of successful legal frameworks.
vi. Investigate strategies for enhancing public awareness and engagement related to climate policies and Article 6. Understanding how to effectively communicate and involve the public in climate actions can help increase support and compliance with environmental initiatives.

vii. Conduct comparative studies between developing countries and more developed nations to identify differences in the implementation of Article 6. This could highlight best practices and strategies that could be adapted or scaled for use in developing countries.

Appendix
Research Questionnaire
Section 1: Respondents Information.

i. Gender: _____

ii. Kindly indicate your Country _____

iii. Years of experience in climate-related field _____

iv. What is your organization?(**Choose One**)

	Government	Private Sector	Civil Society/ NGO	International Organizations	Research Institutes	Other
Organization Type						

Section 2: Familiarity with the Paris Agreement:

Briefly describe your experience with Article 6 of the Paris Agreement. (**Choose one**)

	Not Familiar	Somewhat familiar	Very familiar
Familiarity with PA			

Section 3: Challenges Operationalizing Article 6 of PA in developing countries.

Please rate the following challenges on a scale from 1 to 5, where 1 is "Not a Challenge" and 5 is "Significant Challenge". (**Choose One**)

		Challenges of operationalizing Article 6 of PA in developing countries				
		None	Minor	Moderate	Major	Significant
i	Financial constraints:					
ii	Limited Technological Capacity:					
iii	Inadequate institutional capacity					
iv	Policy Coordination Issues:					
v	Public Awareness and Engagement					
vi	Environmental and social safeguards					

Vii.In your opinion, what are other challenges faced by developing countries in operationalizing Article 6? _____

Section 4: Opportunities of Operationalizing Article 6 of PA in developing countries.

Please rate the following opportunities on a scale from 1 to 5, where 1 is "Not an Opportunity," and 5 is "A significant Opportunity."(**Choose one**)

		Opportunities of operationalizing Article 6 of PA in developing countries.				
		None	Minor	Moderate	Major	Significant
i	Access to Climate Finance					
ii	Technology Transfer					
iii	Innovation and market development					
iv	Capacity Building					
v	International Collaboration					
vi	Renewable Energy Initiatives					

vii. In your opinion, state other opportunities for operationalizing Article 6 of PA in developing countries. _____

Section 5: Mitigation efforts by developing countries to reduce emissions.

To what extent have the following mitigation efforts been applied in your country to reduce emissions? Please rate the effort on a scale from 1 to 5. (**Choose one**)

		Efforts applied by your country to reduce emissions?				
		No effort	Minimal	Some effort (Room for improvement)	Moderate (Noticeable Impact)	Substantial (Significant Impact)
i.	Renewable energy development					
ii.	Energy-efficient improvements					
iii.	Afforestation and deforestation					
iv.	Substantial land use practices					
v.	Low carbon transportation					
vi.	Climate Finance and Technology Transfer					
vii.	Carbon Pricing Mechanisms					

viii. In your opinion, state other mitigation efforts developed by developing countries to reduce emissions._____

Section 6: On a scale of 1 to 5, please rate the anticipated benefits of implementing Article 6 mechanisms in developing countries in the following areas. (**Choose One**).

			Anticipated Benefits				
			Very low	Low	Moderate	High	Very High
i	Environmental Benefits	Reduce Carbon Emission					
		Promote Sustainable Practices					
ii	Social Benefits	Poverty Alleviation					
		Community Empowerment					
iii	Economic Benefits	Investment and Economic Growth					
		Market Access and Trade Opportunities					

Section 7: Policy Recommendations

1. Kindly Provide or State three policy recommendations to address the challenges of operationalizing Article 6 in developing countries.

   i. _____
   ii. _____
   iii. _____

References

ADB. (2020). Decoding Article 6 of the Paris Agreement-Version II. Asian Development Bank. https://www.adb.org/sites/default/files/publication/664051/Article6-paris-agreement-v2.pdf

Ahonen, H. M., Kessler, J., Michaelowa, A., Espelage, A., & Hoch, S. (2022). Governance of fragmented compliance and voluntary carbon markets under the Paris Agreement. Politics and governance, 10(1), epub.

Ari, I., & Sari, R. (2017). Differentiation of developed and developing countries for the Paris Agreement. Energy Strategy Reviews, 18, 175–182. https://doi.org/10.1016/j.esr.2017.09.016

Banga, J. (2019). The green bond market: a potential source of climate finance for developing countries. Journal of Sustainable Finance & Investment, 9(1), 17-32.

Barrett, J., & Baker, D. (1999). Cleaning up the Kyoto Protocol: Emission permit trading would let developing nations reap profits from Green Policies. Economic Policy Institute. https://www.epi.org/publication/issuebriefs_ib131/#:~:text=Currently%2C%20the%20Kyoto%20Protocol%20does,for%20obvious%20economic%20reasons%2C%20are.

Bodansky, D. (2023). Paris agreement. United Nations. https://legal.un.org/avl/ha/pa/pa.html

Crook, J. (2022). COP27 FAQ: Article 6 of the Paris Agreement explained. Carbonmarketwatch. https://carbonmarketwatch.org/2022/11/02/cop27-faq-Article-6-of-the-paris-agreement-explained/

Depledge, J. (2022). The "top-down" Kyoto Protocol? Exploring caricature and misrepresentation in the literature on global climate change governance. International Environmental Agreements: Politics, Law and Economics, 22(4), 673–692. https://doi.org/10.1007/s10784-022-09580-9

Deschryver, P., & De Mariz, F. (2020). What future of the green bond market? How can policymakers, companies, and investors unlock the potential of the green bond market? Journal of Risk and Financial Management, 13(3), 61.

Farand, C. (2019). What is Article 6? The issue climate negotiators cannot agree. Climate Home News. https://www.climatechangenews.com/2019/12/02/Article-6-issue-climate-negotiators-cannot-agree/

Fuessler, J. (2019). Swedish Energy Agency Article 6 in the Paris Agreement as a ... - infras. infras. https://www.infras.ch/media/filer_public/4a/76/4a760f3e-2156-4486-abfe-2955806cc55f/report-ambition-raising_final.pdf

Gao, S., Li, M. Y., Duan, M. S., & Wang, C. (2019). International carbon markets under the Paris Agreement: Basic form and development prospects. Advances in Climate Change Research, 10(1), 21-29.

Gershinkova, D. (2021). Unresolved issues of Article 6 of the Paris Agreement–Is a compromise possible in Glasgow? International Organizations Research Journal, 16(3), 79-98.

Hancock, B., Ockleford, E., &Windridge, K. (2001). An introduction to qualitative research. London: Trent focus group.

Hickmann, T., &Elsässer, J. P. (2020). New alliances in global environmental Governance: How intergovernmental treaty secretariats interact with non-state actors to address

transboundaryenvironmental problems. International Environmental Agreements: Politics, Law and Economics, 20, 459-481.

Khan, M., Mfitumukiza, D., &Huq, S. (2021). Capacity building for implementation of nationally determined contributions under the Paris Agreement. In Making Climate Action More Effective (pp. 95-106). Routledge.

Lennon, E. (2018) Reflection Note on the necessity for stakeholder consultations, avenues for redress, and environmental and social safeguards under Article 6 of the Paris Agreement , carbonmarketwatch.org. Available at: https://carbonmarketwatch.org/wp-content/uploads/2023/02/CMW-briefing-on-intermediaries-1.pdf (Accessed: 20 July 2024).

MacLean, J. (2020). Rethinking the role of non-state actors in international climate governance. Loy. U. Chi. Int'l L. Rev., 16, 21.

Marcu, A., &Duggal, V. K. (2019). Negotiations on Article 6 of the Paris Agreement: Road to Madrid. https://doi.org/10.22617/wps190559-2

Mehling, M. (2021). Advancing international cooperation under the Paris Agreement: Issues and options for Article 6. MIT Center for Energy and Environmental Policy Research.

Mehling, M. (2021). *Advancing international cooperation under the Paris Agreement: Issues and options for Article 6*. MIT Center for Energy and Environmental Policy Research. https://www.sipotra.it/wp-content/uploads/2021/11/Advancing-International-Cooperation-under-the-Paris-Agreement-Issues-and-Options-for-Article-6-The-tenth-in-a-series-of-annual-discussion-papers-supported-by-the.pdf

Michaelowa, A., Hermwille, L., Obergassel, W., & Butzengeiger, S. (2019). Additionality revisited: guarding the integrity of market mechanisms under the Paris Agreement. *Climate Policy*, *19*(10), 1211-1224.https://doi.org/10.1080/14693062.2019.1628695

Michaelowa, A., Hermwille, L., Obergassel, W., &Butzengeiger, S. (2019). Additionality revisited: guarding the integrity of market mechanisms under the Paris Agreement. Climate Policy, 19(10), 1211-1224.

Millum, J. and Bromwich, D., 2021. Informed consent: What must be disclosed and what must be understood?. The American Journal of Bioethics, 21(5), pp.46-58.

Minas, S. (2022). Market making for the planet: the Paris Agreement Article 6 decisions and transnational carbon markets. Transnational Legal Theory, 13(2-3), 287-320.

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., &Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. Annals of cardiac anaesthesia, 22(1), 67-72.

Mraz, M. (2021). Identifying potential policy approaches under Article 6 of the Paris agreement: Initial lessons learned. *The Global Green Growth Institute*. https://gggi.org/wp-content/uploads/2021/01/Policy-Approaches-under-PA-Article-6210121.pdf

Müller, B., & Michaelowa, A. (2019). How to operationalize accounting under Article 6 market mechanisms of the Paris Agreement. *Climate Policy*, *19*(7), 812-819. https://www.zora.uzh.ch/id/eprint/175352/1/ZORA175352_1.pdf

Mwita, K. (2022). 'Factors to consider when choosing data collection methods,' International Journal of Research in Business and Social Science (2147–4478), 11(5), pp. 532–538. doi:10.20525/ijrbs.v11i5.1842.

Newell, R. G., Pizer, W. A., &Raimi, D. (2013). Carbon Markets 15 years after Kyoto: Lessons learned, new challenges. Journal of Economic Perspectives, 27(1), 123–146. https://doi.org/10.1257/jep.27.1.123

Olsen, K. H., Bakhtiari, F., Duggal, V. K., &Fenhann, J. V. (2019). Sustainability labelling as a tool for reporting the sustainable development impacts of climate actions relevant to Article 6 of the Paris Agreement. International Environmental Agreements: Politics, Law and Economics, 19, 225-251.

Popovich, N., &Plumer, B. (2021, November 12). Who has the most historical responsibility for climate change?.TheNewYorkTimes. https://www.nytimes.com/interactive/2021/11/12/climate/cop26-emissions-compensation.html

Raiser, K., Kornek, U., Flachsland, C., & Lamb, W. F. (2020). Is the Paris agreement effective? A systematic map of the evidence. Environmental Research Letters, 15(8), 083006. https://doi.org/10.1088/1748-9326/ab865c

Raiser, K., Kornek, U., Flachsland, C., & Lamb, W. F. (2020a). Is the Paris agreement effective? A systematic map of the evidence. Environmental Research Letters, 15(8), 083006. https://doi.org/10.1088/1748-9326/ab865c

Rance, L. (2023, February 7). What are the consequences of glacial melting? Earth.Org. https://earth.org/glacial-melting/#

Regmi, P. R., Waithaka, E., Paudyal, A., Simkhada, P., & Van Teijlingen, E. (2017). Guide to the design and application of online questionnaire surveys. Nepal Journal of Epidemiology, 6(4), 640–644. https://doi.org/10.3126/nje.v6i4.17258

Schneider, L., & La HozTheuer, S. (2019). Environmental integrity of international carbon market mechanisms under the Paris Agreement. Climate Policy, 19(3), 386-400.

Skjærseth, J. B., Andresen, S., Bang, G., &Heggelund, G. M. (2021). The Paris Agreement and key actors' domestic climate policy mixes: Comparative patterns. International Environmental Agreements: Politics, Law and Economics, 21(1), 59–73. https://doi.org/10.1007/s10784-021-09531-w

Soezer, A. (2022) What is Article 6 of the Paris Agreement, and why is it important?, UNDP. Available at: https://www.undp.org/energy/blog/what-Article-6-paris-agreement-and-why-it-important (Accessed: 20 July 2024).

Spalding-Fecher, R., Martin, M., Saines, R., & Schneider, L. (2021). Designing governance structures and transactional documentation for mitigation outcome transactions under Article 6 of the Paris Agreement. Summary Report, Global Green Growth Institute, Seoul.

Steinebach, Y., &Limberg, J. (2022). Implementing market mechanisms in the Paris era: the importance of bureaucratic capacity building for international climate policy. Journal of European Public Policy, 29(7), 1153-1168.

Strand, J. (2019). Climate finance, carbon market mechanisms and finance'blending'as instruments to support NDC achievement under the Paris Agreement. World Bank Policy Research Working Paper, (8914).

Streck, C. (2021). Strengthening the Paris agreement by holding non-state actors accountable: Establishing normative links between transnational partnerships and treaty implementation. Transnational Environmental Law, 10(3), 493-515.

Tardi, C. (2023). What is the Kyoto Protocol? Definition, history, timeline, and status. Investopedia. https://www.investopedia.com/terms/k/kyoto.asp

Tenny, S., Brannan, J. M., & Brannan, G. D. (2017). Qualitative study.

Tripathy, J. P. (2013). Secondary data analysis: Ethical issues and challenges. Iranian journal of public health, 42(12), 1478.

Wasti, S. P., Simkhada, P., van Teijlingen, E., Sathian, B., & Banerjee, I. (2022). The growing importance of mixed-methods research in health. Nepal Journal of Epidemiology, 12(1), 1175–1178. https://doi.org/10.3126/nje.v12i1.43633

Wilkinson, E., Treichel, P., & Robertson, M. (2023). Enhancing access to climate finance for Small Island Developing States.Mott, G., Razo, C., &Hamwey, R. (2021). Carbon emissions anywhere threaten development everywhere. UNCTAD. Recuperado de: https://unctad.org/news/carbon-emissions-anywhere-threaten-development-everywhere

Zubkov, P., &Pondi, K. (2022). Writing the Methodology Chapter. The SAGE handbook of qualitative research in the Asian context. London: Sage, 379-396.