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Examining the Role of Regional Integration Policies to the Climate Changes in Africa

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Abstract: *This study examines the role of regional integration policies in addressing climate change in Africa, a continent disproportionately vulnerable to its impacts despite minimal historical emissions. Adopting a qualitative research methodology based on secondary data, this study uses the East African Community (EAC) as a case study to investigate the contributions, challenges, and strategic enhancements of regional climate action. The findings reveal that EAC policies have made significant contributions, primarily by establishing institutional frameworks for transboundary resource management, promoting harmonized policies, and facilitating a collective economic approach to renewable energy development. However, the study also identifies critical challenges to implementation, including a heavy reliance on external funding, conflicting national interests, and substantial disparities in institutional capacity among member states. To overcome these hurdles, the research suggests key strategies such as mobilizing autonomous financing, strengthening governance mechanisms, and fostering a unified diplomatic voice in global climate negotiations. in conclusion, this study posits that regional integration is an indispensable strategy for Africa's climate resilience. It demonstrates that the success of the continent's response to climate change is contingent upon the ability of regional bodies like the EAC to transition from policy formulation to effective, collaborative, and integrated action, thereby ensuring a tangible and sustainable future for the region.*

Keywords: regional integration policies, climate changes, EAC, challenges for regional integration

1.Introduction

Africa is encountering intensified effects of climate change, which include quicker warming compared to the worldwide average. This results in severe heatwaves, heightened droughts in specific areas, and increased flooding in others. These extreme occurrences disrupt farming, jeopardize food security, induce mass displacement, and worsen health problems (United Nations, 2020; IPCC, 2022; Biesbroek, 2021). African nations are required to create strong measures to adapt and reduce the effects of climate change to safeguard their people and economies. However, individual countries often do not have the financial, technical, and institutional capabilities to effectively address these extensive and intricate problems on their own, emphasizing the need for more cooperative and coordinated approaches to climate action (Kareem, 2018; Mensah & Gumbo, 2020; Kamara ,2018; Osei & Aidoo ,2021).

In reaction to these inherent weaknesses, the notion of regional integration has become increasingly popular as an effective framework for coordinated efforts. Regional integration measures, carried out by organizations such as the African Union and different Regional Economic Communities (RECs), provide a means for countries to combine resources, exchange information, and formulate unified plans to address common challenges (Fagbenle & Agyeman, 2020; Onyango & Kimani, 2019). These measures focus not only on economic collaboration but also on forming a cohesive stance against threats on a continental level that cannot be resolved by individual nations alone (Kalogiannidis, et al, 2024; Doblas-Reyes, et al, 2021).

The success of these measures is especially noticeable when dealing with cross-border challenges that disregard national boundaries. An example of this is seen in the joint management of rivers that flow through multiple countries, combating desertification in the Sahel area, and protecting important ecosystems. These tasks necessitate coordination between different nations (Mulugeta, 2020; Traore, 2022). Regional cooperation establishes the framework for such partnerships, guaranteeing that strategies are coordinated and resources are not wasted, ultimately resulting in more effective and beneficial results for all participating countries (Makarova, et al.,2024; Omarbakiyev, et al.,2023).

Additionally, the process of regional integration can help in creating a cohesive strategy for adapting to climate change. Through the exchange of successful methods in fields like farming practices that can withstand drought, early-warning systems for disasters, and technologies for managing water resources, nations can gain insights from both accomplishments and setbacks of others (Abdirahman, 2019; Mutuku & Gichuhi, 2021). This sharing of knowledge across borders speeds up the implementation of viable solutions and strengthens the continent, making communities more equipped to handle and bounce back from the impacts of climate change (Ledda, et al.,2021; Omarbakiyev, et al.,2023).

Regional integration policies have the potential to stimulate sustainable development by encouraging the shift toward a green economy when viewed through an economic lens. Joint policies could aid in the establishment of regional energy networks that are

fueled by sustainable sources such as solar, wind, and hydropower, diminishing the dependence on fossil fuels (Eze & Chibueze, 2020; Alao, 2023). These collaborative projects for infrastructure not only decrease energy expenses and improve energy stability but also lead to a notable decrease in greenhouse gas emissions in the area, aligning with international climate objectives (Tay, 2021; Adams & Kaffo Fotio, 2024). Nevertheless, there are challenges on the road to successful regional climate initiatives. Regional policy enforcement can be hindered by a shortage of political support, conflicting national priorities, and constrained financial means (Dube, 2019; Kanyamuneza, 2022). Inequalities in economic progress and institutional capabilities within member nations may additionally pose difficulties, with certain countries finding it difficult to fulfill the requirements of regional pacts, resulting in unequal execution and less than ideal outcomes (Zunaidi, et al.,2024; Doblas-Reyes, et al, 2021; Alao, 2023).

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One of the main functions of regional integration is to help with shared investment and funding for climate-resilient projects. Regional Economic Communities (RECs) can attract more investors by creating a larger and more appealing market, which can help raise the necessary funds for projects like constructing climate-smart infrastructure, tree planting programs, and initiatives to reduce disaster risks (Opoku & Sambo, 2021; Juma & Otieno, 2020). This combined financial strength is important for obtaining support from international donors and private investors who might be reluctant to invest in smaller national projects (Wu & Sun, 2023; Biesbroek, 2021).

Moreover, working together at a regional level is crucial for developing a unified stance in global climate governance. When African countries join forces, they can increase the impact of their issues, call for increased responsibility from those who have contributed to climate change historically, and push for fairer opportunities for climate funding and technology sharing (Ndiaye, 2018; Shiferaw, 2023). This united front in diplomacy boosts Africa's influence internationally, guaranteeing that the continent's unique requirements and goals are properly considered in global climate deals (Biesbroek, 2021; Doblas-Reyes, et al, 2021). Promoting knowledge sharing and enhancing capacity is a fundamental aspect of regional integration that has a direct influence on climate resilience. It is crucial to provide platforms where researchers, policymakers, and local communities can share information on climate science, policy advancements, and adaptation strategies within communities (Mwangi & Omwenga, 2021; Zongo & Diallo, 2022). This collaborative environment for learning guarantees that viable solutions are spread broadly and adjusted to different local circumstances, resulting in a more informed and empowered population (Xu & Cui ,2024; Nassani, et al.,2025).

Hence, this research argues that regional integration policies are not just an additional tool but a crucial and necessary approach for African countries to effectively address the challenges of climate change. By allowing coordinated efforts on cross-border issues, combining resources, and improving diplomatic influence, regional integration presents a strong and practical answer to the continent's climate risks. The progress of Africa's climate destiny is closely connected to the effectiveness of its unified and coordinated reaction ((Adekunle & Ibrahim, 2019; Kironde, 2020).

The East African Community (EAC) is crucial in addressing climate change by developing regional policies, implementing projects, and advocating diplomatically (Mperejekumana, et al.,2024; Nabawanda,2023). Recognizing the significant risks posed to the region's agriculture, energy, and water industries, the EAC has created a comprehensive framework for climate change. This framework includes the EAC Climate Change Policy and Strategy, which serves as a collective plan for member countries to carry out adaptation and mitigation measures (Mburu & Macheru, 2024; Ali& Borruso, 2025). The EAC also organizes technical workshops and national roundtable discussions to enhance capacities and align national priorities on climate change, which contribute to a unified African stance in global climate negotiations, such as the United Nations Framework Convention on Climate Change (UNFCCC). These initiatives help ensure a united and impactful voice for the region in the international arena (Solomon, et al.,2018; Jiang & Jiang, 2024: Adekunle & Ibrahim, 2019).

Despite the contributions it has made, the East African Community (EAC) is facing several challenges in its efforts to address climate change, especially when it comes to implementation and securing funding (Braam, et al.,2023). One major obstacle is the limited financial resources available to the secretariat and individual member states, making it hard to put ambitious climate projects and programs into action (Tang, 2022). In addition, there are significant gaps in institutional and human capacity, especially at the sub-national levels, which make it difficult to enforce policies effectively and implement on-the-ground initiatives. This lack of capacity is highlighted as a hindrance by the International Union for Conservation of Nature (Sackeyfio & Kaba, ,2022; John,2024).). Moreover, the absence of joint, coordinated management plans and conflicting socio-economic interests among member states can make transboundary resource management and collective action more complicated. These issues often result in delays and inefficiencies in addressing common environmental threats (Nibaruta & Bwalya, 2025; Mashariki RPC, 2024).

The consequences of climate change in East Africa act as a multiplier of threats, worsening existing social and economic vulnerabilities. Climate variations, including more frequent droughts and floods, have resulted in food insecurity, water scarcity, and heightened competition for natural resources, potentially leading to violent conflicts (Mashariki RPC, 2024). The heavy dependence on rain-fed agriculture and hydropower makes the area particularly vulnerable to these climate changes. Dealing with these challenges necessitates more than just policy frameworks; it calls for substantial financial investments to enhance resilience,

diversify economies, and assist at-risk communities. The EAC's initiatives to mobilize climate funding, such as its Climate Finance Access and Mobilization Strategy, are vital steps, but they need to bridge the substantial gap between the needed funding and the funds currently accessible in the region (Ali, 2025; Emupenne & Small, 2024).

This study seeks to explore the varied role of regional integration policies by initially assessing their influence on managing environmental issues that cross borders. Next, it will examine how these policies contribute to economic advantages by encouraging the use of sustainable energy and funding for climate-related projects. The research also addresses the difficulties and possibilities in establishing a collective African stance in international climate talks. The overall argument is that a stronger and more united regional strategy is essential for ensuring a sustainable and resilient future for the continent,

2.Literature Review

A significant amount of academic literature discusses the two challenges of climate change and development in Africa, with an increasing emphasis on the importance of regional cooperation. Scholars generally agree that Africa is highly susceptible to climate-related disasters, despite its small role in global greenhouse gas emissions (IPCC, 2022). This vulnerability is due to various socioeconomic factors such as heavy reliance on sectors impacted by climate, like agriculture, limited ability to adapt, and existing institutional shortcomings (Ogunjimi & Odunuga, 2021). It is commonly believed that addressing the magnitude and complexity of the issue requires more than fragmented, country-specific responses.

Many researchers examine the theoretical framework for regional integration as a climate strategy, considering it a natural continuation of traditional economic cooperation. One crucial point they make is that regional organizations can address positive externalities and prevent the issue of free-riding that is common in national climate policies (Amobi & Chukwu, 2019). Scholars often refer to the New Regionalism Theory when discussing this topic, proposing that integration is motivated not just by economic reasons but also by the necessity to tackle non-traditional security challenges, such as climate change, a significant shared risk (Igbokwe & Nnamdi, 2020). Moreover, Case studies that focus on Regional Economic Communities (RECs) present concrete examples of how this framework is put into action. For example, research conducted on the Southern African Development Community (SADC) showcases its efforts in managing water resources through the SADC Water Protocol. This illustrates how agreements at the regional level can be more effective in managing shared river basins compared to individual national endeavors (Moyo, 2018). Similarly, examinations of the Economic Community of West African States (ECOWAS) delve into its Renewable Energy and Energy Efficiency Policy. This policy is designed to establish a regional energy market and decrease dependence on fossil fuels, showcasing the potential for synchronized energy strategies within the region (Ayodele & Agboola, 2022).

Furthermore, the literature about managing natural resources across borders is extensive, highlighting that several of Africa's important climate-related challenges, like desertification in the Sahel or deforestation in the Congo Basin, involve multiple countries. Experts such as Traore (2022) and Mulugeta (2020) suggest that regional organizations offer the essential legal and political frameworks for coordinating conservation and resource distribution activities. In the absence of this coordination, national strategies may prove ineffective or harmful, resulting in conflicts over resources and environmental deterioration that affect the whole region.

Economic research has also explored how regional integration can facilitate a shift towards a more environmentally friendly economy. Studies have shown that combining resources and expanding markets can support the development of large renewable energy projects that individual countries would struggle to fund and build alone (Eze & Chibueze, 2020). Additionally, it is believed that cooperation among neighboring countries can encourage foreign direct investment (FDI) in green technologies by minimizing regulatory risks and creating a more predictable investment environment (Alao, 2023). This economic partnership plays a vital role in addressing the substantial climate finance shortfall experienced by African countries. However, despite the positive assessment, a significant part of the literature focuses on the real difficulties of putting regional climate policies into practice. One major obstacle pinpointed is the absence of political determination, which could hinder the approval and execution of agreements (Dube, 2019). The literature also highlights notable financial limitations, as numerous regional organizations and member nations are lacking the resources needed to completely carry out ambitious climate plans (Kanyamuneza, 2022). These researches frequently suggest that there is a disconnect between creating policies at the regional level and effectively putting them into action on the field.

Literature also suggests that the influence of regional integration on food security and agriculture is a widely studied topic. Studies conducted by Abdirahman (2019) and Mutuku & Gichuhi (2021) demonstrate that regional networks enable the exchange of effective agricultural methods, such as utilizing drought-resistant seeds and implementing climate-smart farming strategies. Through aligning agricultural regulations and promoting regional supply chains, these initiatives have the potential to strengthen food systems, decreasing the susceptibility of rural communities to crop failures caused by climate change and severe weather conditions. Additionally, experts examine how regional integration can help boost Africa's influence in international climate talks. Research consistently shows that a united African stance, especially with the African Group of Negotiators, has played a crucial role in promoting climate justice principles and obtaining commitments for climate funding from developed countries (Ndiaye, 2018). This joint diplomatic strength serves as a balance to the dominance of stronger nations, guaranteeing that Africa's specific concerns and difficulties are voiced at a global level (Shiferaw, 2023).

Finally, Knowledge exchange and enhancing skills are continuously recognized as important advantages of regional integration. Networks for working together on research and transferring technology, supported by RECs, have been proven to quicken the progress and implementation of climate-resilient technologies and strategies (Mwangi & Omwenga, 2021). This cooperative learning atmosphere not only strengthens organizational capability but also gives local communities the resources and knowledge necessary to adjust to shifting environmental circumstances (Zongo & Diallo, 2022).

In essence, the research shows that regional integration is an important but difficult strategy for Africa to address climate change. Previous studies indicate that it plays a key role in managing shared resources, promoting renewable energy, and enhancing diplomatic influence. Despite the challenges in putting, it into practice, the literature consistently identifies regional integration as the best way to build a unified, strong, and enduring future for the continent.

3.Research Methodology

This research uses a qualitative research method to critically analyze how regional integration policies in Africa address climate change. The approach chosen is well-suited for this study because it allows for a detailed and interpretive examination of complex institutional structures, policy papers, and the underlying reasons for their creation (Savin-Baden & Major, 2023; Lichtman, 2023). Instead of concentrating on statistical figures, this method aims to understand the mechanisms and reasons for policy execution, offering a nuanced view of the obstacles and achievements of regional cooperation on climate issues. Due to the exploratory nature of the study, which seeks to decipher and combine existing information, a qualitative framework is the most suitable way to explore the intricate connection between regional integration and climate change mitigation. The main method of collecting data for this research is conducting a thorough examination of existing sources. This involves carefully studying official papers, academic articles, and reports from various institutions (Ahmed, 2010; Trautrims, et al.,2012). The primary sources to be consulted includes key agreements and plans related to climate change, the environment, and the management of natural resources within the East African Community (EAC). Additionally, information from global organizations like the United Nations Environment Program (UNEP) and the Intergovernmental Panel on Climate Change (IPCC), as well as reports from non-governmental groups and research organizations, were considered. By using this approach, the study benefit from a broad and diverse range of perspectives, relying on respected and peer-reviewed materials to establish a strong foundation of evidence for the analysis.

The East African Community (EAC) has been chosen as the specific case study for this research because of its advanced level of regional integration and its proactive, though challenged, approach to environmental policy (Okello & Novelli, 2014; Gastorn & Masinde, 2017; Binda, 2017). Being one of Africa's prominent Regional Economic Communities, the EAC offers a pertinent and detailed setting for examination, with a clearly defined institutional framework and numerous agreements addressing cross-border issues. The region's varied ecological terrain, which includes collective water resources like Lake Victoria and different climate vulnerabilities, presents an ideal representation for exploring how regional integration strategies are developed and executed to address common environmental risks (Chingarande, et al.,2013). Through this case study, a thorough and focused analysis were conducted, highlighting specific instances that can help draw broader conclusions about African climate policy.

The information gathered from these additional sources were examined through thematic analysis. This approach involves recognizing, examining, and understanding recurring themes or trends within the data collection (Joffe, 2011; Vaismoradi, et al.,2013; Clarke, V., & Braun, 2014). The examination concentrated on pinpointing themes like the effectiveness of EAC protocols, the obstacles of harmonizing policies among member nations, the significance of negotiation in global forums, and the effect of integration on sustainable development ventures. Finally, moral factors were maintained by meticulously and correctly referencing all sources to guarantee academic honesty and avoid plagiarism. This methodical approach offered a strict and trustworthy framework for assessing the efficiency of regional integration as a critical tactic for Africa's response to climate change.

4.Findings and Results

This study's findings are structured according to the research's three main goals, derived from a thorough review of qualitative data. The outcomes emphasize the notable, though frequently contested, importance of the East African Community (EAC) as a model for examining how regional integration strategies can tackle climate change in Africa. The examination uncovers an intricate interaction of institutional benefits, ongoing obstacles, and the possibility for targeted improvements to promote more successful climate initiatives.

4.1. The Contributions of EAC Regional Integration Policies for Climate Change Action

The East African Community (EAC) displays how a regional group can address climate change together. By aligning policies among member countries, the EAC establishes a solid structure for managing the environment, avoiding conflicting regulations that could slow progress. Cooperation also includes managing natural resources collaboratively, such as protecting shared ecosystems like the Lake Victoria Basin through joint efforts (Radeny, et al.,2022). Additionally, the EAC's dedication to working together on research and development supports the development of solutions and technologies specific to the region; while promoting renewable

energy sources helps member countries shift to low-carbon economies. This collective approach not only builds the region's ability to withstand climate impacts but also strengthens its unified voice in international discussions, allowing it to advocate more effectively for climate funding and highlight the unique needs of East Africa (Jarso, 2011).

Policies framework

The main focus of the East African Community (EAC) in addressing climate change is based on its comprehensive EAC Climate Change Policy and Strategy. This foundational document acts as a guide for all member states, promoting a synchronized and unified approach to a common regional threat. The policy acknowledges the specific vulnerabilities of the EAC region, which is particularly at risk of severe consequences from climate change like droughts, floods, and food insecurity (Namanya, 2016; Viljoen, 2013; Seitz & Nyangena,2009; Kaahwa, 2017). By establishing a shared framework, the policy assists member states in harmonizing their individual climate action plans and Nationally Determined Contributions (NDCs) with a larger regional vision, enhancing overall impact. This alignment is essential for dealing with cross-border challenges such as safeguarding shared water resources such as Lake Victoria or addressing the impacts of extreme weather events that affect multiple countries. Ultimately, this alignment of policies ensures that climate efforts complement each other and do not unintentionally harm neighboring nations (Kupika & Nhamo, 2016; Radeny, et al.,2022).

The EAC not only creates policies but also puts them into action by promoting collaboration across borders and carrying out specific projects. For example, joint projects on managing natural resources such as forests and water are crucial. These projects showcase how the EAC's policies are put into practice, turning broad objectives into concrete actions that enhance resilience. By coordinating these projects, the EAC can better mobilize and oversee global climate funding, allocating resources to major initiatives that benefit multiple member countries. This cooperative strategy enhances the region's appeal and credibility as a partner for global donors and organizations seeking to support effective climate solutions (Radeny, et al.,2022; Jarso, 2011). Ultimately, the EAC serves as a strong supporter for its member states on a global scale. By engaging in global gatherings such as the UNFCCC, the EAC makes sure that the specific climate issues and priorities of East Africa are listened to and acted upon. The bloc's capacity to express a joint stance boosts the region's influence, surpassing what any individual member state could achieve alone. This united front is vital for pushing for more climate funding, technology sharing, and capacity building tailored to the region's requirements. Through this joint advocacy, the EAC plays a critical role in shaping global climate pacts to better represent the welfare of its citizens, making sure that East Africa plays an active part in the formation of climate policies rather than just receiving them passively (Radeny, et al.,2020).

Natural Resources Management

The EAC's strategy for addressing climate change is closely connected to how it manages the natural resources of the region, which serve as the foundation of East African economies and people's ways of life. The Protocol on Environment and Natural Resources Management establishes a critical legal and policy framework that allows member states to collaborate on issues that go beyond national boundaries. This is especially important for resources that cross borders, such as the Nile and Mara rivers and the expansive Lake Victoria Basin (Nasania, 2024). These shared ecosystems are highly susceptible to pressures caused by climate change, such as droughts and floods, which can deplete resources and jeopardize the stability of communities reliant on them. Through promoting a unified approach, the EAC helps prevent potential conflicts over dwindling resources and ensures their sustainable utilization, preserving them for future generations (Masai, 2025; Nikolskaya, et al., 2024).

One important aspect of this plan is the protection of biodiversity and forests. In East Africa, there are diverse ecosystems like the rainforests in the Congo Basin and the savannas in the Serengeti. The changing climate directly endangers these habitats, putting species at risk and threatening ecosystem stability (Nibaruta & Bwalya, 2025). The policies of the EAC regarding forestry and conservation aim to address issues like deforestation and habitat destruction, which contribute to greenhouse gas emissions and worsen environmental risks. Through collaboration, member countries can enhance the management of protected areas, combat illegal logging, and support reforestation projects that help absorb carbon and enhance ecological resilience (Chaudhry & Ayoma, 2024; Masai, 2025).

The EAC has a strong focus on sustainable land use and agriculture. Most East Africans rely on agriculture as their main source of income, but it is vulnerable to climate changes. The EAC advocates for climate-smart agriculture to assist farmers in adjusting to shifting weather conditions and decreasing their ecological impact (Carmel & Zhong, 2025; Rwigema, 2024). This involves endorsing methods like cultivating drought-resistant crops, enhancing irrigation practices, and practicing agroforestry. Through promoting sustainable land management, the EAC aims to reduce soil erosion and land degradation, which are major causes of environmental susceptibility and greenhouse gas emissions. These efforts not only improve food security but also convert the agricultural sector into an ally in addressing climate change (Mvile & Bishoge, 2024).

In the end, the main goal of the EAC in regard to natural resource management is to proactively tackle climate change at its core. By legally and politically obligating member states to a shared framework, the EAC establishes a cohesive stance against environmental harm. This collaboration reduces the likelihood of conflicts over resources due to climate-related scarcity and guarantees fair and sustainable management of the region's natural riches. This comprehensive strategy, which merges climate initiatives with environmental regulation, enhances the resilience of the entire East African community against a threat that disregards boundaries (Mburu & Macheru, 2024).

Research development

Effective climate action in the East African Community (EAC) relies on thorough research and sharing of information, which is a key component of its climate change policy. The EAC emphasizes the importance of using reliable data for making well-informed decisions, and encourages a collaborative effort in scientific research, monitoring, and forecasting of climate change within all member states. This approach guarantees that the region's climate strategies are grounded in solid evidence tailored to the East African context, rather than assumptions. The collective knowledge plays a crucial role in recognizing the specific vulnerabilities of the region and in creating effective and efficient action plans (Namanya, 2016; Viljoen, 2013).

A typical instance of this collaborative study is the program, which focuses on Planning for Resilience in East Africa through Policy, Adaptation, Research, and Economic Development. This initiative, supported by entities such as USAID, has played a key role in carrying out thorough vulnerability and impact evaluations in vital sectors like agriculture and water. The information and perspectives derived from these evaluations are priceless, offering the essential data required to guide the formulation of climate policies and specific adaptation plans. Through the combination of resources and expertise, the EAC and its partners can create a more comprehensive understanding of climate threats compared to what a single country could accomplish independently (Radeny, et al.,2022).

This regional research network is essential for several reasons. Initially, it ensures that climate actions are customized to the specific requirements of the region, which often differ significantly from those of other regions. Secondly, it enables the exchange of successful practices and experiences, preventing member states from starting from scratch and encouraging a quicker, more efficient reaction to climate issues. For example, a productive drought-resistant crop type created in one country can be promptly introduced to another, and insights from a flood management initiative can be utilized throughout a joint river basin. This cooperation promotes a sense of harmony and collective issue-solving (Kupika & Nhamo, 2016). Ultimately, the EAC's dedication to scientific research improves its capacity to draw in and protect specific climate financing. Donors and funds worldwide are more interested in initiatives that are clearly outlined, effective, and based on reliable scientific research. The collaborative research endeavors of the EAC offer the crucial information and proof needed to showcase the feasibility and probable benefits of its climate initiatives. This collective knowledge base makes the entire region a more appealing and credible hub for climate financing. Consequently, the EAC can secure the funding required to carry out extensive, impactful projects that boost resilience and promote a sustainable future for all member states (Seitz & Nyangena, 2009).

Renewable Energy

The East African Community (EAC) acknowledges that shifting towards a cleaner energy mix is a vital part of its climate change strategy, with the aim of both mitigating climate change and improving energy access for its rapidly growing population. The EAC's energy policies are carefully crafted to support the development and effective utilization of various renewable energy sources like hydropower, geothermal, solar, and wind. A key element of this initiative is the establishment of the East African Centre for Renewable Energy and Energy Efficiency (EACREEE), an important institution that drives the region's transition to green energy (Nabaweesi, et al.2024).

The EACREEE plays a crucial role in this transition by creating a favorable environment for investments in renewable energy. This is achieved through promoting policy consistency among member states, which helps to standardize regulations and reduce administrative obstacles. As a result, the EAC enhances the region's appeal and reduces risks for private sector investment in green energy projects. Additionally, the EACREEE focuses on enhancing technical expertise within member states, ensuring the region has the necessary skills to develop, implement, and maintain renewable energy infrastructure. This collaborative approach guarantees the security of investments and the sustainability of projects in the long term (Nabaweesi, et al.,2024; Mabea, 2020).

4.2. The Challenges for EAC Regional Integration Policies

Although the East African Community recognizes the abundant potential for hydropower, it also acknowledges a significant weakness: dependence on a single energy source is risky. Even though hydropower is environmentally friendly, it is vulnerable to droughts caused by climate change, which can disrupt electricity supply and jeopardize energy security. To address this issue, the EAC's plan focuses on diversifying the energy sources. By actively promoting and incorporating other resilient sources such as solar and geothermal energy, the region can decrease its reliance on rainfall and establish a more stable and dependable power grid

(Chisika & Yeom, 2021; Mabea, 2020). This diversification serves not only to protect against the effects of climate change but also to open up new opportunities for economic growth and job creation in the renewable energy field. Ultimately, the EAC's energy strategy also focuses on creating a regional power infrastructure. Projects like the East African Power Pool play a vital role in linking the electricity networks of member countries. This interconnected setup facilitates more effective energy distribution and enables nations with extra electricity to trade with those in need. By working together regionally, energy security is strengthened as countries can rely on each other during supply disruptions. This collaborative effort not only lowers the region's overall carbon emissions but also paves the way for a stable, eco-friendly, and low-carbon energy future in East Africa (Ali, 2025).

Despite the contributions made, the EAC encounters significant obstacles that impede the effective execution of its regional climate policies. One significant hurdle is the financial limitations and heavy dependence on donor contributions. The execution of ambitious protocols and strategic plans often demands substantial financial backing that member nations are incapable of providing from their own budgets (Mukasa & Mutesi, 2023). Relying heavily on external partners for financial support can result in a lack of ownership over projects and susceptibility to changing donor priorities, jeopardizing the long-term viability of regional climate endeavors. The lack of a dedicated and independently financed EAC climate fund continues to be a major barrier to the consistent implementation of policies. Another important obstacle is the existence of contrasting national interests and a shortage of political determination. Although the EAC agreements and guidelines are ambitious in theory, their execution can be hindered by a lacking of political dedication from participating countries (Ondieki, 2022). Different national development objectives, specifically the promotion of fossil fuel extraction in certain member nations compared to a regional focus on renewable energy sources, can result in policy inconsistency and tension within the alliance. This disunion makes it challenging to establish a unified stance on environmental issues, causing setbacks in approving and implementing crucial treaties, and ultimately diminishing the region's combined reaction.

Inequality in institutions and capacity among EAC member states is a major obstacle. Some countries in the EAC lack equal levels of institutional capacity, technical knowledge, and financial resources for the successful execution of regional climate policies as pointed out by Tadesse & Assefa (2021). Consequently, this imbalance can result in uneven policy implementation, with certain countries falling behind others. The centralized institutions of the regional organization may lack the power to ensure adherence to policies, and in the absence of a strong system for oversight and assistance, the notion of collective responsibility can deteriorate, putting the most vulnerable members at a disadvantage. The absence of robust enforcement and compliance mechanisms weakens the effectiveness of EAC policies. Without strong regional sanctions or rewards for adherence, even ratified protocols are often followed only voluntarily (Karanja & Wafula, 2022). This disconnects between creating policies and putting them into practice diminishes the trustworthiness of regional agreements and hinders their actual impact. The EAC's capability to influence actions at the national level is frequently restricted, making it hard to turn regional pledges into concrete climate results.

4.3. Key Strategies for Enhancing the Role of EAC Regional Integration Policies

In order to address the obstacles that have been identified, there are various important tactics that can be utilized to improve the impact of EAC regional integration policies on climate change initiatives. One key tactic is to strengthen the institutional frameworks and governance structures. This can be accomplished by giving more power to EAC bodies to oversee and enforce adherence to climate agreements (Ndege & Kagombe, 2024). Additionally, by improving transparency and accountability measures, and advocating for a more inclusive approach to creating policies that involves a broader spectrum of stakeholders including non-governmental organizations, educational institutions, and businesses there can be an increase in the legitimacy and effectiveness of regional climate management.

One important approach is to utilize internal and creative funding methods. Relying too heavily on external funding can be minimized by investigating funding options within the region, like establishing a specific EAC Climate Fund supported by a small regional carbon tax, a portion of trade profits, or a green bond program (Onyango & Wanjiru, 2023). These inventive financial instruments would offer a consistent and independent funding source, enabling the EAC to establish its climate objectives and carry out projects without being limited by donor preferences. This would greatly enhance the ownership and durability of regional climate efforts.

In addition, it is crucial to improve the significance of public-private partnerships (PPPs) in expanding climate-resilient initiatives. The East African Community (EAC) can lure private sector funding for extensive renewable energy projects, climate-friendly agriculture, and eco-conscious tourism by establishing a steady and foreseeable regulatory setting (Githinji & Mugo, 2021). These collaborations can help bridge the financial and technological disparities by bringing in the private sector's knowledge and investment to supplement government endeavors. The EAC can support this by formulating a uniform regional PPP structure that streamlines processes and lessens investment uncertainties, making the area more appealing to environmentally friendly investments.

Ultimately, the EAC must actively strive to advance a cohesive diplomatic stance on the world stage. Through establishing a common position during global climate discussions, the EAC can enhance its combined influence and advocate more efficiently for fair climate funding, technology sharing, and support for capacity-building (Wambugu & Chege, 2022). This unified position would

provide the region with more power to demand responsibility from developed countries and guarantee that the particular vulnerabilities and priorities of East Africa receive sufficient attention in international climate pacts. This approach is essential to ensure that worldwide climate solutions are impartial, equitable, and attuned to the needs of the EAC and the wider African continent.

5.Discussions of findings

The results of this study regarding the East African Community (EAC) largely support and provide evidence for the broader theoretical and empirical literature on the significance of regional integration in addressing climate change in Africa. The EAC's institutional contributions, especially in managing resources across borders and developing coordinated policies, directly align with the "New Regionalism Theory" which emphasizes the importance of regional organizations in addressing non-traditional security threats that cross national boundaries (Igbokwe & Nnamdi, 2020). The effectiveness of the Lake Victoria Basin Commission (LVBC) reflects arguments made by scholars that regional platforms are essential for managing shared resources and enhancing collective resilience against climate-related water shortages and ecosystem degradation (Moyo, 2018).

The results of this study regarding the economic impact of the EAC, particularly in advancing a regional renewable energy market and infrastructure, align with previous research that emphasizes the potential of economic integration for sustainable development. According to Eze and Chibueze (2020) and Alao (2023), a unified regional market can attract more investment in large-scale renewable energy projects, which may be too costly for individual countries to undertake alone. The EAC's initiatives to link national power grids and encourage a variety of energy sources support these arguments, illustrating how a collaborative economic strategy can not only improve energy stability but also make a significant contribution to continent-wide climate change mitigation objectives.

Nevertheless, the difficulties identified in the EAC example demonstrate a well-known disparity between regional policy creation and practical application in Africa. Academic research frequently highlights the significant hurdles of heavy dependence on donor support and the persistent problem of conflicting national interests as key barriers to successful regional climate initiatives (Dube, 2019; Kanyamuneza, 2022). The challenges faced by the EAC in terms of protocol ratification delays and policy inconsistencies stemming from differing national agendas for economic advancement, including the extraction of fossil fuels, are not uncommon but instead represent a widespread problem highlighting the intricate political dynamics involved in regional collaboration.

Likewise, the results regarding differences in institutions and capabilities within the EAC align with academic criticisms of the unequal implementation of regional policies. According to Tadesse and Assefa (2021) and Karanja and Wafula (2022), the lack of effective enforcement mechanisms and the differing institutional capabilities of member states may result in a failure to uphold shared responsibilities. The findings of this research support the idea that, in the absence of strong enforcement and accountability measures, regional commitments may remain merely aspirational, thereby limiting the practical impact of even the most well-meaning policies. This underscores the importance of more practical and enforceable regional governance frameworks.

The primary tactics suggested to strengthen the EAC's role also align with current academic suggestions. The emphasis on improving institutional frameworks and utilizing innovative financing methods corresponds with a growing body of literature supporting the use of internal funding sources like regional carbon taxes or green bonds to decrease external reliance and enhance policy ownership (Onyango & Wanjiru, 2023). Additionally, advocating for public-private partnerships (PPPs) and a united diplomatic stance are strategies that scholars have endorsed as effective ways to address the climate finance gap and bolster Africa's influence in global negotiations (Githinji & Mugo, 2021; Wambugu & Chege, 2022).

Ultimately, the EAC case study demonstrates that regional integration policies are necessary yet complex for addressing climate change in Africa. The research shows the advantages of working together on issues like managing shared resources and transitioning to a more sustainable economy. However, it also reveals the difficulties in putting these policies into practice. The challenges faced by the EAC reflect those seen across the continent, underscoring the importance of enhancing regional institutions, securing independent funding, and creating a united front against climate change for Africa's future resilience.

6.Conclusion

In conclusion, the East African Community (EAC) examination reveals significant proof that regional integration is a crucial, not just an additional, tactic for addressing the serious challenges of climate change in Africa. This research has demonstrated that regional collaboration makes important contributions, especially by establishing frameworks for effective cross-border resource management and promoting a collective economic approach to sustainable development. Regional organizations like the EAC can enhance national efforts by harmonizing policies and collaborating on infrastructure projects, thus forming a stronger defense against environmental threats. Nevertheless, the study also emphasizes a significant gap between policy creation and practical implementation, influenced by financial reliance, conflicting national interests, and institutional differences among member states (Dube, 2019; Kanyamuneza, 2022). Ultimately, Africa's climate resilience future is closely connected to overcoming these challenges in implementation and strengthening regional structures. While the advantages of a united, coordinated approach are evident, achieving them demands a united campaign to secure independent funding, improve governance and compliance mechanisms, and consolidate a unified diplomatic voice in global forums. The EAC's experience mirrors the entire continent,

highlighting that an effective climate response is not about individual nations working independently, but about establishing a strong, cooperative, and unified strategy. By adopting the main strategies outlined in this study, African regional organizations can progress beyond mere rhetoric to deliver practical, sustainable, and fair climate results for their members.

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The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

The author affirms that no advanced generative AI technologies, such as Large Language Models (e.g. ChatGPT, COPILOT, etc.) or text-to-image generators, were utilized in the creation or revision of this manuscript. The written content is authentic and not a result of AI generation.

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