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Enhancing Environmental Fiscal Strategies in Africa: The Case of Ghana and South Africa

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ABSTRACT

Objective: This paper examines environmental fiscal strategies for enhancing public benefits in Ghana and South Africa. **Methodology:** Utilizing secondary data and drawing on theoretical frameworks such as institutional economics and public choice theory, the study analyses the status and challenges of implementing environmental tax policies in both countries. **Findings:** The results indicate that while Ghana and South Africa have adopted various fiscal strategies to address environmental challenges, they face significant hurdles in terms of administrative capacity, political acceptability, and maximizing public benefits. In Ghana, weak institutional frameworks and limited resources hinder effective tax administration, while in South Africa, challenges include accurately assessing environmental externalities and high compliance costs. **Contribution:** Insights into strategies for maximizing the public benefits of environmental taxes, including earmarking revenues for specific environmental projects, integrating tax policies with broader sustainability objectives, and fostering partnerships between the public and private sectors. This study contributes to the literature on environmental taxation and offers valuable insights for policymakers, researchers, and practitioners aiming to address environmental issues globally. **Recommendations:** Recommendations for policymakers include transparency and accountability in revenue management processes, strengthening institutional capacity, improving stakeholder engagement, enhancing voluntary compliance, ensuring policy coherence, and promoting digital innovation in environmental taxes.

1. Introduction

Environmental degradation and the consequent depletion of natural resources are pressing global issues, prompting governments worldwide to explore innovative fiscal strategies to mitigate environmental harm and promote sustainable development (OECD, 2020), especially in the wake of challenges posed by global warm-

ing. Among these strategies, environmental taxes have emerged as a key policy instrument, designed to internalize the external costs associated with pollution and resource depletion by placing a price on environmental degradation (Stokoe, Haščič, Mante, Rodríguez, Zhan, Gonguet, & Wendling, 2023; Sarpong, Xu, Gyamfi, & Ofori, 2023). However, the effectiveness of environmental taxes hinges not only on their economic rationale but also on their political acceptability, administrability, and ability to deliver public benefits (Kallbekken, & SÅ|len, 2011; Jaccard, 2012). This paper focuses on the fiscal strategies employed for enhancing the political acceptability, administrability, and public benefits of environmental taxes in the African contexts of Ghana and South Africa. These two African countries present intriguing case studies due to their contrasting socio-economic landscapes, environmental challenges, and policy contexts.

The primary objective of this study is to analyse the status of fiscal strategies related to environmental taxes in Ghana and South Africa. By examining existing literature and policy documents, this analysis aims to provide a comprehensive overview of the fiscal mechanisms in place in both countries and their alignment with broader environmental policy objectives for the public good. Additionally, this study seeks to assess the level of political acceptability of environmental taxes in Ghana and South Africa and identify factors influencing it. Political acceptability is crucial for the successful implementation and longevity of environmental tax policies, as it determines the level of support from key stakeholders, including policymakers, industry players, and taxpayers (Dresner, Dunne, Clinch, & Beuermann, 2006).

Furthermore, the administrability of environmental taxes is evaluated, including an examination of the institutional frameworks, enforcement mechanisms, and compliance costs associated with tax implementation and collection in Ghana and South Africa. Administrability plays a pivotal role in the effectiveness of environmental tax systems, as complex or burdensome administrative procedures can undermine compliance and erode public trust (Goulder, 1995). Identifying challenges and potential solutions in this regard is essential for optimizing the efficiency and effectiveness of environmental tax administration in both countries.

Finally, this study aims to explore methods to enhance the public benefits derived from environmental taxes in Ghana and South Africa. Public benefits encompass various outcomes, including environmental quality improvements, revenue generation for sustainable development initiatives, and the promotion of green technologies and innovation (Heal, 2009). By critically assessing the design features and implementation strategies of environmental tax policies, this analysis identifies opportunities for maximizing the positive externalities associated with tax-induced behavioural changes and resource allocation.

This paper seeks to contribute to the existing literature on environmental taxation by offering insights into the fiscal strategies that can strengthen the political acceptability, administrability, and public benefits of such policies in Africa. By leveraging secondary data from scholarly articles, policy reports, and official documents, this study aims to provide evidence-based recommendations for policymakers and stakeholders in both countries, ultimately advancing the discourse on sustainable environmental governance in Africa.

2. Theoretical Framework

The theoretical framework of the study is based on institutional economics and public choice theories, emphasizing the role of environmental taxation in addressing market failures associated with environmental degradation as well as a source of revenue for the state. According to Raudla (2014), institutional economics is a

theory concerned with the interactions between institutions and the economy, thus how institutions influence the performance, functioning, and development of the economy and, in return, how changes in the economy impacts the institutions. Spash and Villena (1999) argue that the theory of institutional economics expresses different views on the definition of environmental problems and how to deal with them, and as an open framework of analysis, institutional economics encourages differences of opinion and approaches. Institutional economic theory encompasses multicomplex issues of environmental taxes. For instance, Söderbaum (1990, 1991; 1992), as cited in Kombat and Wätzold, (2019) in many of his papers argues that the adoption of a theoretical framework based on institutional economics is a better approach than the neo-classical because it has a methodology which can allow for complex nature of current environmental problems (e.g., multidisciplinary, multidimensional, monetary and non-monetary).

Institutional economics focuses on the role of institutions in shaping economic outcomes and is also relevant to understanding the application of fiscal strategies in Africa. Institutions, such as the executive, legislative, and administrative arms, play a crucial role in determining the effectiveness of environmental taxation. For instance, the existence of a robust legal framework and effective enforcement mechanisms are essential for ensuring compliance with environmental regulations and the collection of environmental taxes (Acheampong, 2024). Institutional economics provides frameworks for assessing the effectiveness of tax systems in aligning private incentives with societal welfare objectives, thus offering insights into optimizing environmental governance in both countries.

Kombat and Wätzold, (2019) posit that public choice applies the principles, methods, and theories of economics to the study of political processes. It assumes that rules of rationality exist according to which individuals act and that these rules also apply within the realm of politics (Ostrom, 1975; Kirchner, 2007). The theory examines the political process to unveil goals, interests, and strategies of economic agents. Additionally, this theory concentrates on how political decision-making results in outcomes that conflict with public choices (Kombat, & Wätzold, 2019). Public choice theories, as applied to environmental policy-making, emphasize the role of collective decision-making and the influence of special interest groups on policy outcomes (Yandle, 1999). In the African context, this theory suggests that the success of environmental taxation depends on the ability of governments to balance competing interests and create incentives for sustainable practices (Abubakari, Abane, Braimah & Abukari, 2021). The study by Abubakari, et al. (2021) found that public officials were likely to pursue sectorial interests rather than promote the public interest and that institutions were unable to exact the right rewards and punishments for officials who engage in rent-seeking behaviour.

Institutional economics and public choice theories play a crucial role in guiding the analysis by considering political acceptability, administrability, and public benefits. Furthermore, these theories inform the decision-making processes and institutional characteristics that emerge in the context of designing environmental fiscal policy. In Ghana, the government has employed various fiscal strategies aimed at enhancing public benefits and addressing environmental concerns. For instance, the country has introduced specific taxes to encourage environmental protection, such as a 20% tax on plastic materials and penalties on over-aged vehicles (Green Fiscal Policy Network, 2017; Acheampong, 2024). Additionally, Ghana has implemented a progressive increase in water tariffs to reflect the environmental costs of water resource withdrawal (Green Fiscal Policy Network, 2017). The government also instituted the sanitation and pollution levy (SPL) of 10 Ghana

pesewas on the price per litre of petrol/diesel under the Energy Sector Levies Act (ESLA) in 2021 (Energy Sector Levies (Amendment) Act, 2021 (Act 1064).

The rationale for the imposition of the sanitation and pollution levy was stated as to improve urban air quality and combat air pollution; support the re-engineering of landfill sites at Kpone and Oti; support fumigation of public spaces, schools, health centres, and markets; revamp/reconstruct poorly managed landfill facilities; construct more sustainable state-of-the-art waste treatment plants both solid and liquid in selected locations across the country; construct waste recycling and compost plants across the country; construct more sanitation facilities to accelerate the elimination of open defecation; construct final treatment and disposal sites for solid and liquid waste; provide dedicated support for the annual maintenance and management of major landfill sites and other waste treatment plants and facilities across the country; and construct medical waste treatment facilities to prevent a generation of infectious diseases especially under the Coronavirus Treatment Programme (Section 5B(3) of the Energy Sector Levies (Amendment) Act, 2021 (Act 1064). In effect, all these actions are intended to create incentives for sustainable practices and reduce environmental degradation.

In South Africa, the government has also implemented environmental taxes, including a carbon emissions tax on vehicles (Mpofu, 2022). This tax aims to reduce emissions and promote cleaner transportation options. The tax is adjusted for inflation annually and has been updated in 2019 and 2022 (Mpofu, 2022). South Africa's experience with environmental taxation highlights the importance of considering the economic and social implications of such policies. Institutional economics and public choice theories provide valuable insights highlighting the importance of considering the fiscal benefits, public benefits, administration, political acceptance, and institutional factors that influence policy outcomes and the need for governments to balance competing interests and create public incentives for sustainable practices.

3. Literature Review

The complex energy transition landscape is shaped by various economic, political, and institutional factors. Promoting sustainable environmental governance requires sound policy design, stakeholder engagement, and developing institutional capacity. In Ghana, environmental taxation has gained increasing attention to address environmental degradation and promote sustainable development (Kombat, & Wätzold, 2018). Despite the existence of environmental tax instruments such as the Environmental Excise Tax and the Energy Sector Levies, their effectiveness remains limited due to challenges in enforcement, inadequate institutional capacity, and resistance from affected industries (European Environmental Agency (EEA) Report, 2008; Kombat, & Wätzold, 2018).

Additionally, the lack of comprehensive data on environmental tax revenues (Kombat, & Wätzold, 2018) and their utilization further complicates the assessment of Ghana's fiscal strategies in this regard. Conversely, South Africa has a more established framework for environmental taxation, including levies on carbon emissions, energy, and water usage (SARS, 2020). However, research indicates that the design and implementation of these taxes face significant challenges, including concerns about regressive impacts on low-income households and the difficulty of accurately pricing environmental externalities (Winkler, Marquard & Mwase, 2017). Furthermore, the fragmented nature of South Africa's tax system and overlapping mandates between different government departments hinder the coherence and effectiveness of fiscal strategies related to environmental taxes (Cockburn, Stone & Bernhofen, 2018). Despite these challenges, both countries have made strides in

incorporating environmental considerations into their fiscal policies, reflecting a growing recognition of the importance of environmental sustainability (Mpofu, 2022).

The political acceptability of environmental taxes in Ghana and South Africa highlights a range of factors that shape public and stakeholder attitudes toward these fiscal instruments. In Ghana, despite the recognition of the importance of environmental taxation as a policy tool, the level of political acceptability varies across different sectors and interest groups. Antwi-Agyei, Kyere, Ahenkan and Ampofo (2016) note that while environmental taxes are generally supported in principle, there is resistance from certain industries, particularly those with high carbon emissions or significant environmental footprints. This resistance stems from concerns about the potential impact of taxes on profitability, competitiveness, and employment levels, as well as perceptions of unfairness or inequity in the distribution of tax burdens (Kombat, & Wätzold, 2018). Additionally, the effectiveness of environmental tax policies in Ghana is hindered by challenges in communication and stakeholder engagement, with limited efforts made to garner public support or address concerns raised by affected parties (Nketiah-Amponsah, Amoah & Essel, 2019). In contrast, South Africa has seen more significant progress in building political acceptability for environmental taxes, driven in part by the country's commitment to addressing climate change and promoting sustainable development (Winkler et al., 2017).

However, challenges persist, particularly regarding the perceived distributional impacts of environmental taxes on different socio-economic groups. Cockburn et al. (2018) highlight concerns about the regressive nature of certain environmental levies, which may disproportionately burden low-income households and exacerbate inequalities. Moreover, the political acceptability of environmental taxes in South Africa is influenced by broader socio-political dynamics, including the role of interest groups, lobbying efforts, and electoral considerations (Kaseke, Chigumira & Muhwava, 2020). Despite these challenges, there is growing recognition among policymakers and stakeholders in both Ghana and South Africa of the need for proactive measures to enhance the political acceptability of environmental taxes. This includes strategies such as conducting robust stakeholder consultations, providing targeted support for vulnerable groups affected by tax policies, and implementing communication campaigns to raise awareness about the rationale and benefits of environmental taxation (OECD, 2013). Furthermore, efforts to align environmental tax policies with broader policy objectives, such as poverty alleviation, job creation, and economic diversification, can help build political consensus and facilitate the successful implementation of these fiscal instruments (Gbetibouo, Hassan, Ringler, Segura & Zhu, 2019).

The administrability of environmental taxes in Ghana and South Africa reveals a multitude of challenges stemming from institutional capacity, enforcement mechanisms, and compliance costs. In Ghana, the administrability of environmental taxes is hampered by weak institutional frameworks and limited resources for tax administration (Antwi-Agyei et al., 2016). The Ghana Revenue Authority (GRA) faces significant challenges in monitoring compliance with environmental tax regulations, particularly in sectors characterized by informality and limited record-keeping (Nketiah-Amponsah et al., 2019). Moreover, the fragmented nature of environmental governance in Ghana, with multiple agencies responsible for different aspects of environmental regulation, complicates coordination and enforcement efforts (Kombat, & Wätzold, 2018).

Similarly, South Africa grapples with administrative challenges related to environmental tax implementation, despite having more robust institutional structures (Cockburn et al., 2018). The South African Revenue Service

(SARS) faces difficulties in accurately assessing and collecting taxes on environmental externalities, such as carbon emissions and energy usage, due to the complexity of measuring and monitoring these activities (Winkler et al., 2017). Additionally, the high compliance costs associated with environmental tax reporting and verification pose a burden on both taxpayers and tax authorities, potentially undermining the effectiveness of these fiscal instruments (Mpofu, 2022). To address these challenges, scholars and practitioners have proposed various potential solutions. Strengthening institutional capacity and coordination mechanisms is crucial, with calls for improved collaboration between revenue authorities, environmental agencies, and other relevant stakeholders (OECD, 2013). Additionally, leveraging technology and data analytics can enhance the efficiency of tax administration and compliance monitoring, enabling authorities to identify non-compliant taxpayers and mitigate tax evasion (Bahl et al., 2012). Simplifying tax regulations and procedures, as well as providing taxpayer education and support, can also reduce compliance costs and improve voluntary compliance with environmental tax obligations (Bird & Gendron, 2007). Furthermore, exploring innovative approaches to revenue collection, such as market-based instruments or pollution permits, could offer alternative mechanisms for internalizing environmental costs while minimizing administrative burdens (Boadway & Keen, 1996).

In Ghana, environmental taxes are increasingly recognized as a means to promote sustainable development and address pressing environmental challenges (Kombat, & Wätzold, 2018). However, realizing the public benefits of these taxes requires careful policy design consideration, implementation mechanisms, and revenue utilization strategies. Research suggests that earmarking environmental tax revenues for specific environmental projects or sustainability initiatives can enhance their public acceptability and transparency (Antwi-Agyei et al., 2016). For example, directing revenues toward investments in renewable energy infrastructure, afforestation programs, or pollution control measures can demonstrate tangible benefits to the public and garner support for environmental tax policies (Nketiah-Amponsah et al., 2019). Moreover, integrating environmental tax revenues into broader fiscal frameworks, such as national budgets or development plans, can ensure their efficient allocation and alignment with strategic priorities (OECD, 2013). In South Africa, similar considerations apply, with scholars advocating for innovative approaches to enhance the public benefits of environmental taxes (Parry, 2013; Cockburn et al., 2018). For instance, leveraging market-based mechanisms, such as emissions trading systems or carbon offset programs, can incentivize emissions reductions, and promote investment in low-carbon technologies (Winkler et al., 2017). Additionally, exploring partnerships between the public and private sectors, as well as international donors or development agencies, can unlock additional resources and expertise to support environmental initiatives funded by tax revenues (Mpofu, 2022). Furthermore, enhancing the transparency and accountability of revenue management processes, through mechanisms such as public reporting and auditing, can foster trust and confidence in the governance of environmental tax revenues (Gbetibouo et al., 2019).

4. Methods

This study employs a qualitative research approach, utilizing secondary data sources such as academic journals, government reports, policy documents, and international databases on fiscal strategies for energy transition. This qualitative research aims to explore the fiscal strategies for enhancing public benefits and environmental taxes in Ghana and South Africa. The study seeks to gain a deeper understanding of the experiences, perceptions, and perspectives of stakeholders involved in the design and implementation of fiscal policies as documented in both countries on the political acceptability, administration, and public benefits.

Data collection involves a comprehensive literature review and analysis to identify key themes, trends, and challenges related to environmental taxation in Ghana and South Africa. Relevant fiscal policy documents, reports, and legislative frameworks were analysed to gain insight into the fiscal strategies and environmental tax policies in both countries. The study synthesizes information from diverse sources to provide a comprehensive understanding of the fiscal strategies employed and their effectiveness. The analysis includes examining the political, economic, social, and environmental dimensions of environmental tax policies in both countries.

5. Results

The results of this study reveal diverse challenges and opportunities in environmental tax policies in Ghana and South Africa using secondary data. While both countries employ fiscal strategies to address environmental concerns, political acceptability, administrative effectiveness, and public benefits remain pivotal. Political acceptability hinges on fairness and stakeholder engagement, while administrative challenges require capacity-building and technology integration. Enhancing public benefits necessitates earmarking revenues and leveraging market mechanisms. Addressing these issues holistically can promote sustainable development and mitigate environmental risks.

5.1 Current fiscal strategies related to environmental taxes

The current fiscal strategies related to environmental taxes reflect a mix of policy instruments aimed at internalizing environmental externalities, promoting sustainable development, and addressing climate change challenges. In Ghana, environmental taxation is primarily implemented through instruments such as the environmental excise tax and the energy levy (Antwi-Agyei et al., 2016). These taxes target specific environmental pollutants or activities, such as carbon emissions from fuel combustion or energy consumption. The revenues generated from these taxes are intended to finance environmental protection and conservation initiatives, as well as support the transition to a low-carbon economy (Metcalf, & Weisbach, 2013; Antwi-Agyei et al., 2016).

Similarly, in South Africa, environmental taxation forms part of a broader fiscal reform agenda aimed at aligning economic incentives with environmental objectives (Metcalf, & Weisbach, 2013; Cockburn et al., 2018). The country has implemented various environmental taxes and levies, including taxes on carbon emissions, energy, and water usage. These taxes are designed to discourage environmentally harmful behaviour while generating revenues to fund environmental programs and projects. Additionally, South Africa has introduced market-based mechanisms such as emissions trading systems to incentivize emissions reductions and promote investment in cleaner technologies (Cockburn et al., 2018).

The results indicate that both Ghana and South Africa have adopted a range of fiscal strategies to address environmental challenges through taxation. By internalizing environmental costs and incentivizing sustainable behaviour, these strategies aim to achieve multiple objectives, including environmental protection, resource conservation, and climate change mitigation. However, the effectiveness of these fiscal strategies depends on various factors, including the design of tax instruments, the level of compliance and enforcement, and the allocation of tax revenues to environmental initiatives.

5.2 Political acceptability of environmental taxes

The level of political acceptability of environmental taxes in Ghana and South Africa varies depending on several factors. In Ghana, political acceptability is influenced by the perceived fairness and effectiveness of

environmental tax policies (Gibson, 2020). Stakeholder engagement, including consultations with industry representatives, civil society organizations, and the general public, plays a crucial role in shaping political perceptions and building consensus around environmental tax measures. Moreover, the alignment of environmental tax policies with broader development goals and national priorities, such as poverty reduction and sustainable development, can enhance their political acceptability.

Similarly, in South Africa, the political acceptability of environmental taxes is influenced by economic considerations, distributional impacts, and stakeholder interests (Muller, Rohani, Wang, & Gomez, 2019). Concerns about the potential regressive effects of environmental taxes on low-income households and vulnerable populations can dampen political support for these measures. However, effective communication and outreach efforts that emphasize the environmental and social benefits of taxation can help mitigate resistance and garner broader political acceptability.

The results suggest that the level of political acceptability of environmental taxes in Ghana and South Africa is influenced by a combination of economic, social, and political factors. Stakeholder engagement, communication strategies, and policy coherence are critical for building consensus and overcoming resistance to environmental tax policies. By addressing concerns about equity, transparency, and effectiveness, governments can enhance the political acceptability of environmental taxes and create an enabling environment for their implementation.

5.3 Administrability of environmental taxes

The administrability of environmental taxes in both Ghana and South Africa faces significant challenges stemming from institutional capacity, enforcement mechanisms, and compliance costs. In Ghana, limited institutional capacity and enforcement difficulties hinder effective tax administration (Atuoye, Vercillo, Antabe & Galaa, 2017). The Ghana Revenue Authority (GRA) struggles with monitoring compliance with environmental tax regulations, particularly in sectors characterized by informality and limited record-keeping. Additionally, the fragmented nature of environmental governance complicates coordination and enforcement efforts. Similarly, in South Africa, despite a more established framework for environmental taxation, challenges persist (Soobramoney, von Blottnitz & Donald, 2017). The South African Revenue Service (SARS) faces difficulties in accurately assessing and collecting taxes on environmental externalities, such as carbon emissions and energy usage. Moreover, the high compliance costs associated with environmental tax reporting and verification pose a burden on both taxpayers and tax authorities.

Addressing these challenges requires multifaceted solutions. Strengthening institutional capacity and coordination mechanisms is crucial, with calls for improved collaboration between revenue authorities, environmental agencies, and other relevant stakeholders (Van Den Berg, 2018). Leveraging technology and data analytics can enhance the efficiency of tax administration and compliance monitoring, enabling authorities to identify non-compliant taxpayers and mitigate tax evasion (Cannady, Franzsen, & Meincken, 2019). Simplifying tax regulations and procedures, as well as providing taxpayer education and support, can also reduce compliance costs and improve voluntary compliance with environmental tax obligations (Bird & Gendron, 2019). Furthermore, exploring innovative approaches to revenue collection, such as market-based instruments or pollution permits, could offer alternative mechanisms for internalizing environmental costs while minimizing administrative burdens (Aravena, Martinez-Vazquez & Vulovic, 2020).

The results indicate that both Ghana and South Africa encounter challenges in administering environmental taxes due to institutional, enforcement, and compliance issues. However, by adopting a combination of institutional reforms, technological innovations, and policy adjustments, governments can enhance the administrability of environmental taxes and ensure their effectiveness in promoting sustainable development.

5.4 Enhancing public benefits derived from environmental taxes

Various methods can enhance the public benefits derived from environmental taxes in both Ghana and South Africa. In Ghana, earmarking environmental tax revenues for specific environmental projects or sustainability initiatives can improve public acceptability and transparency (Antwi-Agyei et al., 2016). Investing in renewable energy infrastructure, afforestation programs, or pollution control measures can demonstrate tangible benefits to the public and garner support for environmental tax policies. Similarly, in South Africa, leveraging market-based mechanisms such as emissions trading systems or carbon offset programs can incentivize emissions reductions and promote investment in low-carbon technologies (Cockburn et al., 2018). Additionally, exploring partnerships between the public and private sectors, as well as international donors or development agencies, can unlock additional resources and expertise to support environmental initiatives funded by tax revenues.

The results suggest that exploring innovative approaches such as earmarking tax revenues, leveraging market-based mechanisms, and fostering partnerships can enhance the public benefits derived from environmental taxes in both Ghana and South Africa. By directing tax revenues towards targeted environmental projects and initiatives, governments can demonstrate the tangible benefits of environmental taxation to the public, thereby enhancing public support and compliance. Furthermore, market-based mechanisms offer opportunities to internalize environmental costs efficiently while stimulating innovation and investment in sustainable technologies. Collaborative partnerships can also facilitate knowledge sharing and resource mobilization, enabling governments to maximize the impact of environmental tax revenues on sustainable development goals.

Table 1. Environmental fiscal strategies

Environmental fiscal strategies	GHANA	SOUTH AFRICA
Tax policy in place	Sanitation and pollution levies, environmental levies on plastics and waste materials, tariff on water, emission levy.	Carbon tax, Energy taxes (electric filament lamps and electricity generation), transport taxes (motor vehicle (CO ₂) emission) and pollution taxes (tyres and plastic bags)
Political acceptability	Low acceptance	Modest acceptance
Administrability	Largely difficult due to multiple institutional involvement	Moderately difficult due to multiple institutional involvement
Enhancing public benefits	Investment in renewable energy, improve air quality, fumigation of public spaces, construct medical waste treatment plant, construct state-of-the-art waste treat-	Investment in renewable energy, emission reduction, additional resources to support environmental initiatives, revenue improvement, improve air quality

	ment plants across the country.	
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Source: Authors' compilation.

6. Discussion

This section analyses the implications of the findings and synthesizes them with existing literature to provide insights into the effectiveness of fiscal strategies related to environmental taxes in Ghana and South Africa.

The results indicate that both Ghana and South Africa have implemented fiscal strategies aimed at addressing environmental challenges through taxation. This aligns with findings from the literature review, which highlights the growing attention to environmental taxation as a tool for promoting sustainability in both countries (Kombat, & Wätzold, 2018; SARS, 2020; Mpofu, 2022). However, while South Africa has a more established framework for environmental taxation, including a variety of levies targeting carbon emissions and energy usage (SARS, 2020), Ghana faces challenges in enforcement, institutional capacity, and data availability (Antwi-Agyei et al., 2016; Nketiah-Amponsah et al., 2019). This suggests that while both countries are moving towards incorporating environmental considerations into their fiscal policies, there are differences in the effectiveness and implementation of these strategies. Additionally, both the results and the literature review point to concerns about the regressive impacts of environmental taxes on low-income households and the need for better coordination and coherence in policy implementation (Winkler et al., 2017; Cockburn et al., 2018).

Moreover, the results suggest that the political acceptability of environmental taxes in Ghana and South Africa is influenced by various economic, social, and political factors, echoing findings from the literature review. In Ghana, while there is general support for environmental taxation in principle, there exists resistance from certain industries due to concerns about profitability and competitiveness (Antwi-Agyei et al., 2016). Additionally, challenges in communication and stakeholder engagement hinder the effectiveness of environmental tax policies (Nketiah-Amponsah et al., 2019). Conversely, South Africa has made strides in building political acceptability for environmental taxes, driven by the country's commitment to sustainable development (Winkler et al., 2017). However, concerns persist regarding the distributional impacts of these taxes on different socio-economic groups (Cockburn et al., 2018). Despite challenges, there is recognition of the need for proactive measures to enhance political acceptability, including stakeholder consultations and alignment with broader policy objectives (OECD, 2013; Gbetibouo et al., 2019).

Additionally, the results indicated that both Ghana and South Africa face challenges in administering environmental taxes due to institutional, enforcement, and compliance issues, a sentiment echoed in the literature review. In Ghana, weak institutional frameworks and limited resources for tax administration hinder the effective implementation of environmental taxes (Antwi-Agyei et al., 2016; Nketiah-Amponsah et al., 2019). Similarly, South Africa encounters difficulties in accurately assessing and collecting taxes on environmental externalities, exacerbated by the complexity of monitoring these activities (Cockburn et al., 2018; Winkler et al., 2017). High compliance costs further undermine the effectiveness of environmental tax policies in both countries (Mpofu, 2022). However, the literature review suggests potential solutions to these challenges, including strengthening institutional capacity, leveraging technology, simplifying tax regulations, and exploring innova-

tive revenue collection mechanisms (OECD, 2013; Bahl et al., 2012; Bird & Gendron, 2007; Boadway & Keen, 1996).

Furthermore, the results suggest that exploring innovative approaches such as earmarking tax revenues, leveraging market-based mechanisms, and fostering partnerships can indeed enhance the public benefits derived from environmental taxes in both Ghana and South Africa. This aligns with findings from the literature review, which emphasizes the importance of strategic policy design and implementation mechanisms in maximizing the effectiveness of environmental tax policies. For example, in Ghana, Antwi-Agyei et al. (2016) highlight the potential benefits of earmarking environmental tax revenues for specific environmental projects or sustainability initiatives to enhance public acceptability and transparency. Similarly, in South Africa, Cockburn et al. (2018) discuss the advantages of leveraging market-based mechanisms, such as emissions trading systems or carbon offset programs, to incentivize emissions reductions and promote investment in sustainable technologies. Additionally, partnerships between the public and private sectors, as well as international donors or development agencies, can provide additional resources and expertise to support environmental initiatives funded by tax revenues (Mpofu, 2022). However, while the literature emphasizes the potential benefits of these approaches, it also underscores the need for careful consideration of policy design, revenue utilization strategies, and transparency and accountability mechanisms to ensure the efficient allocation and alignment of environmental tax revenues with strategic priorities (Parry, 2013, 2019; OECD, 2013; Gbetibouo et al., 2019).

Comparing the results with the theoretical framework, the challenges identified in administering environmental taxes align with theoretical predictions. For instance, the difficulties in enforcing compliance and allocating tax revenues reflect issues of institutional capacity and rent-seeking behaviour. Moreover, the importance of stakeholder engagement and policy coherence highlighted in the results corresponds with theories of public choice and institutional economics, which emphasize the role of interest groups and institutional arrangements in shaping policy outcomes.

7. Conclusion

In conclusion, this study sheds light on the complexities and challenges surrounding the implementation of fiscal strategies related to environmental taxes in Ghana and South Africa. Despite both countries' efforts to address environmental challenges through taxation, the study's findings reveal significant hurdles in terms of administrative capacity, political acceptability, and maximizing public benefits. However, by leveraging innovative approaches such as earmarking tax revenues, fostering partnerships, and aligning policies with broader sustainability objectives, governments can overcome these challenges and enhance the effectiveness of environmental tax policies. Additionally, the analysis underscores the importance of addressing institutional weaknesses, improving stakeholder engagement, and ensuring policy coherence to achieve sustainable development goals. Moving forward, policymakers should prioritize these recommendations to build robust environmental tax systems that promote both environmental protection and socio-economic development in Ghana, South Africa, and beyond. This study contributes to the growing body of literature on environmental taxation and offers valuable insights for policymakers, researchers, and practitioners striving to address environmental challenges globally.

8. Recommendations

- a. Strengthen institutional capacity: Governments in Ghana and South Africa should invest in enhancing the administrative capacity of relevant agencies such as tax authorities and environmental regulatory bodies to effectively implement and enforce environmental tax policies. The effective and efficient collaboration between the tax authorities (GRA and SARS) with the relevant environmental regulatory bodies is key to achieving the needed results.
- b. Improve stakeholder engagement: Policymakers should engage with a diverse range of stakeholders, including businesses, civil society organizations, and local communities, to garner support for environmental tax policies and address concerns related to fairness, transparency, and effectiveness. This will engender voluntary tax compliance in the reporting and payment of the respective environmental levies and taxes to not only boost government revenue but also aid in addressing the environmental challenges the revenues are earmarked for.
- c. Enhance policy coherence: Governments should ensure coherence between environmental tax policies and broader sustainability objectives by aligning them with national development plans, climate action strategies, and other relevant policy frameworks.
- d. Earmark tax revenues: Governments should consider earmarking a portion of environmental tax revenues for specific environmental projects and initiatives to demonstrate tangible benefits to the public and enhance public support for tax policies.
- e. Foster partnerships: Collaboration between governments, private sector entities, international donors, and non-governmental organizations can help mobilize additional resources and expertise to support environmental initiatives funded by tax revenues.
- f. Promote innovation: Governments should incentivize innovation and investment in sustainable technologies through market-based mechanisms such as emissions trading systems, carbon pricing, and green bonds.
- g. Ensure transparency and accountability: Establishing mechanisms for public reporting, auditing, and oversight of environmental tax revenues can foster trust and confidence in the governance of tax policies and enhance their legitimacy. It will also promote voluntary tax compliance as the taxpayers can see what the revenues are being used for.
- h. Provide capacity-building support: International organizations, development agencies, and multilateral institutions can provide technical assistance and capacity-building support to governments in Ghana and South Africa to strengthen their capacity for implementing environmental tax policies effectively.

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