

# Sustainable Wetland Management Using the Kunming-Montreal Global Biodiversity Framework as a Guide in the Sierra Leone Case

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## Abstract

The Sustainable Wetland Management adopted for this study depicts that, the identification of drivers and impacts is needed first, in other to get a clearer roadmap, after which the Kunming-Montreal Global Biodiversity Framework would come into play to serve as a pathway for Sustainability. The study evaluates how Sierra Leone might implement the Framework's proposed strategies in National Wetland Management. As a result, the research tried to thoroughly examine the factors that contribute to wetland degradation as well as the effects they have on the people who live nearby. The purposive sampling method was used to administer 385 structured questionnaires to inhabitants. The data was then processed in an Excel spreadsheet. Microsoft Publisher was used to draw the framework and a descriptive analysis was done. Results indicated that; the majority of the inhabitants of Aberdeen Creek are traders/self-employed, furthermore, the majority chose the place because it's less expensive and nearer to the workplace, settlement expansion and pollution are the two most common degrading activities, while flooding and health-related issues are some of the consequences, and the Kunming-Montreal Global Biodiversity Framework is regarded to be a perfect tool for wetland management. It was concluded that to accomplish the objectives in the framework, it is necessary to have both political and social will. Satellite data and water quality research are further needed to validate the report.

## Keywords

Kunming-Montreal, Wetland Management, Urbanization, Biodiversity, Aberdeen Creek

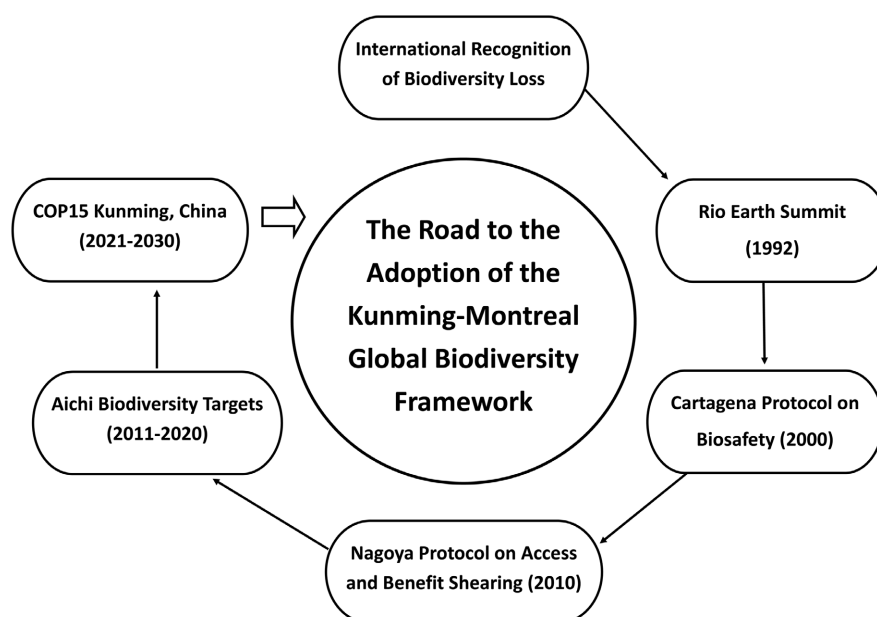
## 1. Introduction

Urbanization may result in the continuous loss, homogeneity, and degradation of wetlands in a couple of decades (McCauley, Jenkins, & Quintana-Ascencio, 2013). Coastal wetland conversion to urban land use is small but at a gradually increasing proportion (Lin & Yu, 2018). As opposed to industrial or transportation lands, the vast majority of the wetland loss has been triggered by the expansion of urban built-up areas (Mao et al., 2018). Also, Coastal wetlands are going through two types of stress under development pressures, first is land conversion loss and the second is ecological degradation (Lin & Yu, 2018). Furthermore, the most affected types of wetlands are; mangroves, lagoons, and marine waters (Ballut-Dajud et al., 2022). Some of the main drivers of land use land cover include; the accessibility to public services, economic opportunity, political influence, and population growth (Basu et al., 2021). Furthermore, it is noted that land-use activities along wetlands undermine the quality and sustainability of the environment therefore there should be the establishment of buffers to mitigate human encroachment and to further raise awareness of the values and benefits of the wetlands (Danso, Takyi, Amponsah, Yeboah, & Owusu, 2021). Finally, because wetland values and benefits are overlooked, residents residing in the vicinity bear the direct and greatest impacts of such actions (Loveline, 2015). Therefore, it is expedient for authorities to implement laws that allow wetland protection (Adhya & Banerjee, 2022).

To deal with the issue of biodiversity a powerful decision was made. In late 2021, a range of experts from around the world came together to provide input to the Kunming-Montreal global biodiversity framework, which serves as a new strategic framework under the Convention on Biological Diversity that will guide interventions to conserve biodiversity and ecosystem services for the next 3 decades (Obura, 2023). The Fifteenth Conference of the Parties (COP15) of the Convention on Biological Diversity approved the Kunming-Montréal Global Biodiversity Framework, marking a major triumph for our planet and the entire human race, also paving the way for a shift away from the relentless destruction of habitats and species (Joly, 2023). The Global Biodiversity Framework offers fixed four goals, composed of 23 objectives (and a chain of supporting annexes) which discover the options for conservation, healing, and sustainable use of biodiversity, and the mobilization of important assets to maintain the existence on the earth (Hughes & Grumbine, 2023). Most of those 23 targets are directly or indirectly relevant to ecosystem scopes and people, it also represents both a challenge and a promising possibility to increase biodiversity conservation agenda in approaches that enhance quality of life (Schröter et al., 2023). Even though the GBF is proposed to be a game changer, its successful implementation might face many challenges such as harmonizing conservation with sustainable development, the integration of local values and indigenous understanding, adopting a holistic landscape approach, and giving priority to effective local governance (Li, Ge, & Sayer, 2023). Furthermore, it ignores the numerous ways

that the goals of biodiversity and climate change complement each other. Although some may prefer to keep these objectives apart, nature-based solutions necessitate synergies, and failing to acknowledge these can result in an inability to maintain biodiversity or effectively mitigate climate change (Hughes & Grumbine, 2023; Pörtner et al., 2023; Zhu et al., 2021). However, the framework emphasized the needs of specific geographical locations in the implementation of the policies.

According to the literature, several conventions have been held from time to time “Figure 1”. As one target ends another target is born, so the Kunming-Montreal Global Biodiversity Framework succeeded the Aichi Biodiversity Target. The vision of the Aichi Biodiversity Target which ended in 2020 was to restore, value, and conserve biodiversity for the benefit of all people by 2050 (O’Connor et al., 2015) but, the weaknesses (Lack of specific targets, limited stakeholders’ engagements, insufficient equity, and social justice, weak enforcement mechanism, and poor financing) of the Aichi Biodiversity Targets (Buchanan, Butchart, Chandler, & Gregory, 2020), these gave rise to the Kunming-Montreal Biodiversity Framework (2022-2030). However, sufficient information is lacking in the case of Sierra Leone for the implementation of the KMGBF especially when it comes to Wetland Management. A sustainable Approach to Wetland Management lies in its emphasis on the importance of managing wetlands in Sierra Leone in a more sustainable manner. This highlights the recognition of the value and ecological significance of wetlands in the Country and the need to protect and conserve them for the long-term benefit of both the environment and the people. To achieve such, the adoption and implementation of the insights from the Kunming-Montreal Global Biodiversity Framework can be of great importance.



**Figure 1.** Inception & Conventions on Biological Diversity (CBD).

## 2. Materials and Methods

### 2.1. The Study Area

The Republic of Sierra Leone is positioned in coastal West Africa between 06°55'N and 10°14'N and between 10°14'W and 13°17'W, bordered by the Republic of Guinea to the north and north-east, through Liberia to the south-east and by way of the Atlantic Ocean to the west and south-west. The study area is Aberdeen Creek which is a portion of the Sierra Leone River Estuary “Figure 2”. On December 13<sup>th</sup>, 1999, it was designated as a wetland of international importance by the Ramsar Convention. Aberdeen Creek is situated in a heavily populated neighborhood of Freetown, the capital of the country. Study shows that Freetown has grown massively over the last 100 years, from only less than 100,000 at the beginning of the 20<sup>th</sup> Century to over 1 million at the beginning of the 21<sup>st</sup> which in turn is posing threats to natural systems (Lynch, Nel, & Binns, 2020). The population is ever-increasing with no end in sight.

### 2.2. Study Design

This research was carried out between July to September 2023, before that the consent of appropriate authorities was sought and permissions were granted. To mitigate the consequences of wetland degradation on the local population, the study attempted to determine how the Kunming-Montreal Global Biodiversity Framework may be utilized to slow down the deterioration of wetland areas. The KMGBF provides an insight that this study used. A comprehensive examination

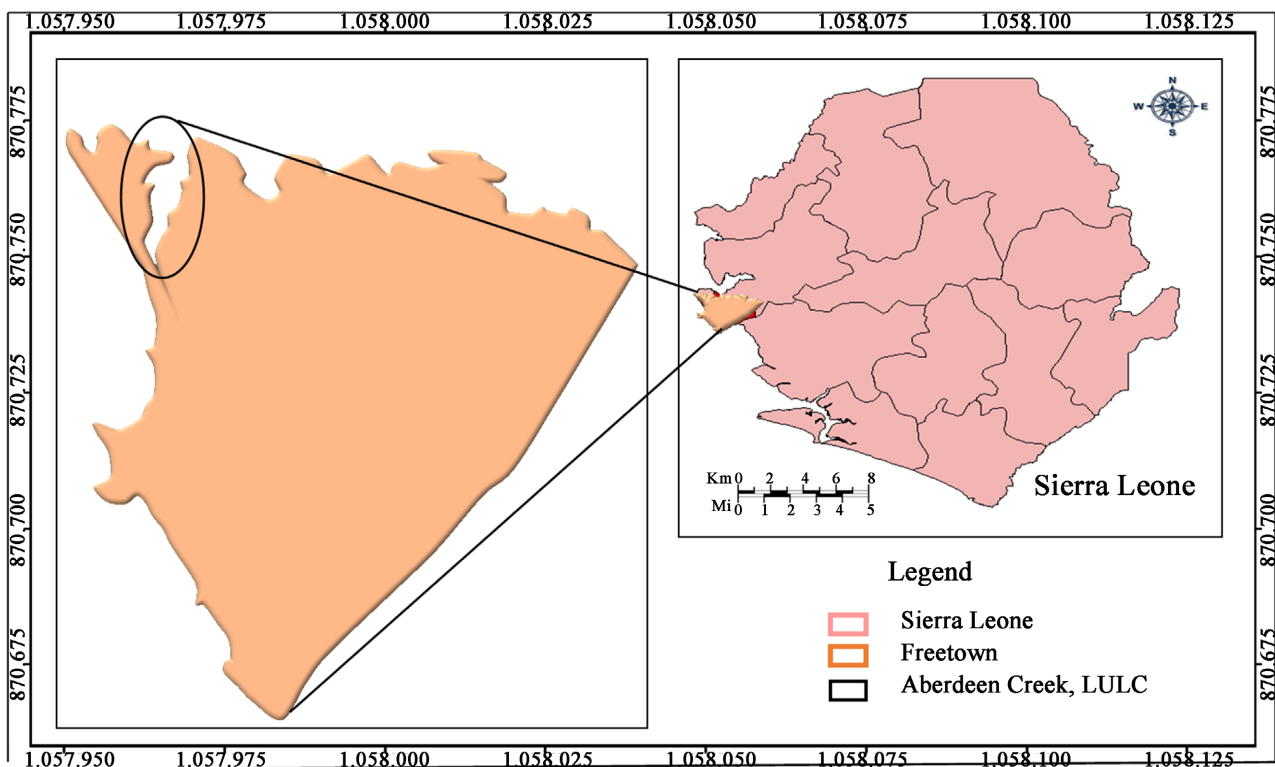


Figure 2. Study area map.

of the Framework's 23 targets and its pillars was utilized. Then these goals were adjusted to make them more appropriate for Sierra Leone. A thorough review of the literature led to the development of a framework that is believed to address the problems associated with wetland degradation and all of its ramifications. Hence, the Global Biodiversity Framework would be known as GBF, and Kunming-Montreal Global Biodiversity is known as KMGBF.

### 2.3. Data Collection

Purposive sampling was used to administer 385 structured questionnaires to inhabitants who were 18 years of age or older. The data was collected using close-ended questionnaires. In-person interviews were conducted with respondents. These respondents then fill out the questionnaires by selecting appropriate response options, through the help of research assistants. Four key questions were asked;

- 1) What is your Occupation?
- 2) Why do you choose this Place?
- 3) Which activities do you think are causing the degradation of the wetland?  
(Multiple)
- 4) What are the impacts or challenges you face for living around this wetland?  
(Multiple)

### 2.4. Sample Size Determination

Since the population is unknown, a mathematical formula was used to determine the required number of survey responses to accurately represent the diverse perspectives of the entire population. This formula is instrumental in ensuring that the survey results are statistically significant and reliable, providing a comprehensive understanding of the population's viewpoints. Therefore, Cochran's Formula was used to determine the sample size.

Formula

$$n = \frac{Z^2 p(1-p)}{e^2}$$

where:

$n$  = Sample size;

$Z$  = Z-score;

$p$  = the estimated proportion of the Population;

$e$  = Confidence interval or margin of error.

Calculation

$$\begin{aligned} n &= \frac{(1.96)^2 \times 0.5 \times (1-0.5)}{(0.05)^2} \\ &= \frac{3.8416 \times 0.5 \times 0.5}{0.0025} \\ &= \frac{0.9604}{0.0025} = 385 \text{ Samples} \end{aligned}$$

## 2.5. Data Analysis

A quantitative analysis was made. Excel spreadsheet was then used for data analysis, in which the frequencies and percentages were calculated. Using Microsoft Publisher, the framework was created, and a descriptive-analytical method was then applied. There is a brief discussion followed by a conclusion.

## 3. Results and Discussions

This section presents the key findings related to the objective of the study.

### 3.1. Socio-Economic Assessment of Drivers and Impacts of Wetland Degradation

There is a cause for every action, and finding the sources is necessary to treat the problem. One of the goals of this study was to be addressed in the socioeconomic portion. This section's goal was to identify the elements that contribute to wetland degradation in the research area, as well as the difficulties and outcomes that result from such acts "Table 1".

According to "Table 1", regarding occupation; 57.66% of respondents identified themselves as merchants or self-employed, 23.12% as employed, 10.13% as unemployed, 8% as students, and 1% either expressed uncertainty or did not comprehend the question. Regarding the reasons for choosing the area; 44.42% of respondents indicated that the place is more affordable, 15.58% mentioned its proximity to their work/business locations, 14.55% stated that they owned the house, 10.65% mentioned living with family members or relatives, 10.39% just

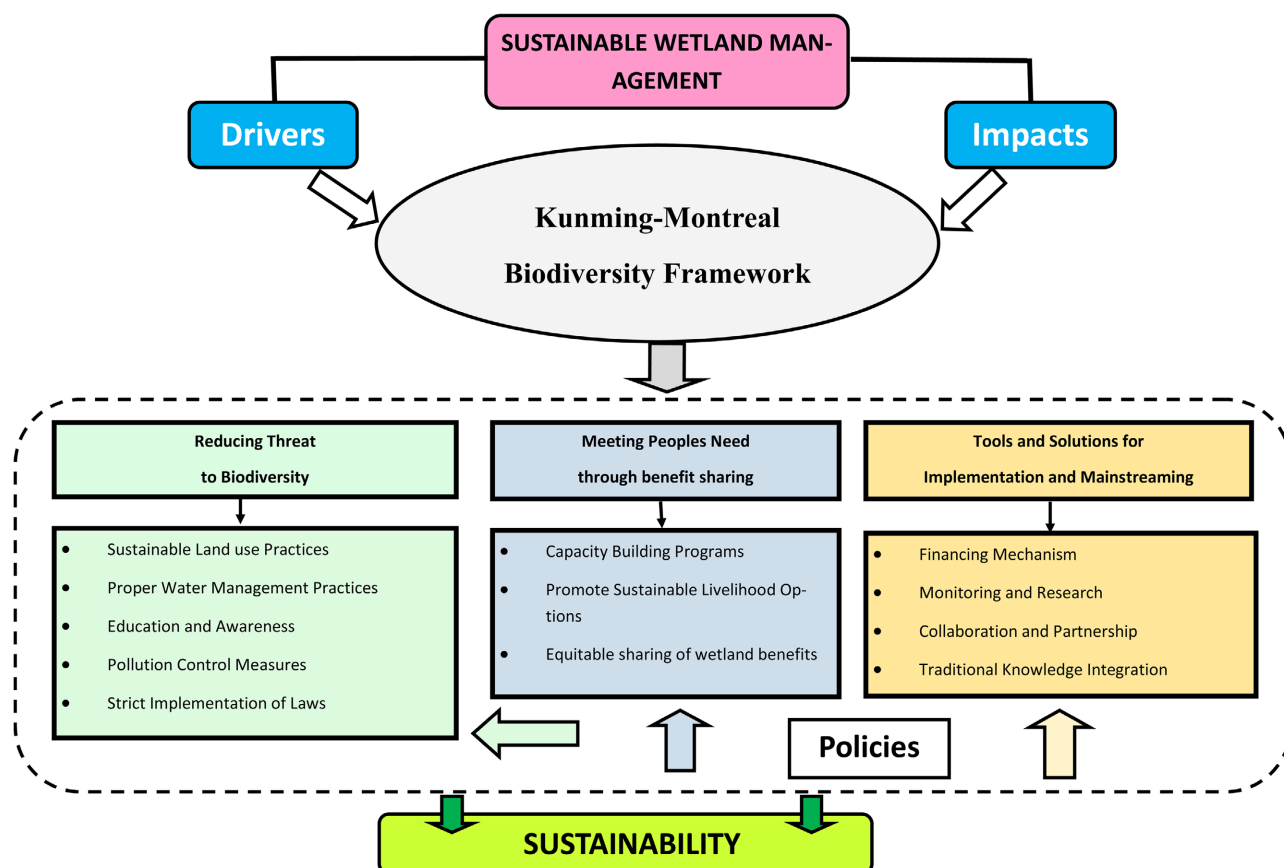
**Table 1.** Shows the occupations, reasons for choosing the place, degrading activities, and effects/challenges.

Occupation				Activities that degrade the Wetland			
#	Responses	Freq.	Per.	#	Responses	Freq.	Per.
1	Student	31	8%	1	Vegetation Clearance	209	26.32%
2	Trader/Self Employed	222	57.66%	2	Settlement Expansion	321	40.43%
3	Employed	89	23.12%	3	Pollution	215	27.08%
4	Unemployed	39	10.13%	4	Fishing	33	4.16%
5	Others	4	1%	5	Others	16	2.02%
Reason for Chosen the Place				Impacts/Challenges			
#	Responses	Freq.	Per.	#	Responses	Freq.	Per.
1	Less Expensive	171	44.42%	1	Floodings	317	47.46%
2	Owned the House	56	14.55%	2	Sanitation	268	40.12%
3	Near to work/Business Place	60	15.58%	3	Health issues	49	7.34%
4	To Live with Relatives	41	10.65%	4	Others	34	5.09%
5	Just like the place	40	10.39%				
6	Others	17	4.42%				

expressed a preference for the place, and 4.42% provided additional reasons. Regarding the causes of deterioration or activities that degrade the wetland area; settlement growth or expansion was mentioned by 40.43% of respondents, wetland pollution by 27.08%, vegetation clearance by 26.32%, Fishing by 4.6%, and other factors by 2.02%. Regarding the impacts and difficulties experienced; a significant majority of 47.46% indicated that flooding is the primary effect they encounter. Additionally, 40.12% noted sanitation concerns, 7.34% mentioned health problems, and 5.09% listed other effects or obstacles.

### 3.2. The Application of the Kunming-Montreal Global Biodiversity Framework

The Kunming-Montreal Global Biodiversity Framework was adopted during the fifteen meetings of the conference of parties (COP 15). It is a framework that makes use of indigenous people, local communities, values, whole of government, whole of society approach, circumstance-specific, human-based, scientific, research, and a collective effort of everyone. "Figure 3", depicts that, for Sustainable Wetland Management, we first need to identify the drivers and impacts of Wetland Degradation to get a clearer roadmap. After getting a clearer roadmap on the drivers and Impacts, then the Kunming-Montreal Global Biodiversity



**Figure 3.** Kunming-Montreal Global Biodiversity shows the Drivers and Impacts of degradation and the possible policies that would change the game in achieving the Frameworks Agenda 2030.



Framework would come into play to serve as a pathway for Sustainability.

Policies in “**Figure 3**” are discussed below for better understanding and clarification of each point. Starting from Reducing Threats to Biodiversity, Meeting People’s Needs through benefits sharing, and Tools and Solutions for Implementation and Mainstreaming.

### **3.2.1. Reducing Threats to Biodiversity**

Under this target, 8 sub-targets were suggested by the framework, but since it calls for territory-specific needs for interventions. For the Sierra Leone case, the researcher suggested the following measures.

#### **1) Sustainable Land Use Practices**

There should be sustainable land use practices not only in the city but in the entire country. The framework suggested that there should be an urgent management action to reduce human-induced extinctions of known threatened species. Unsustainable land use practices are one key driver of wetland degradation in Sierra Leone due to rapid urbanization. The quest for housing and entertainment complexes has greatly affected the wetlands around Freetown. Therefore, the study urges the Ministry of Lands, Ministry of Environment, National Protected Area Authority (NPAA), Freetown City Council, local community leaders, and the entire populace to take the preservation of wetlands as an existential thing. Citizens should know that wetlands are not dumping sites, mangrove species are special types of plants that should not be cut down indiscriminately and the banking of wetlands is dangerous to the environment as a whole. Wetland protection should be incorporated into development plans to ensure its sustainability.

#### **2) Education and Awareness**

Education and awareness can greatly help in the reduction of biodiversity threats. If you educate the people and increase their environmental awareness, the tendency to degrade the wetland can be greatly reduced. A significant number of the residents that are greatly impacting the wetlands are unable to read and write or they are environmentally illiterate. A massive awareness-raising campaign and incorporating environmental education in school curriculums can greatly influence the habits of the drivers of wetland degradation. Public awareness is so much vital, as it helps people to understand the importance of the wetlands and the consequences that follow if they continue to destroy them. This is so important, especially among the uneducated population. Education can help reduce disaster because it would broaden the awareness level of the people.

#### **3) Pollution Control Measures**

Pollution control measures can positively affect the quality of the wetland. Results from water quality tests indicated that the creek is polluted heavily. Most people use the wetland as a dumping site and open defecation fishing activities. In addition, runoff from stormwater and discharge from heavy-duty machines are all contributing to the degradation of the wetland. To put an end to these practices, there should be robust pollution control measures such as raising heavy fines on defaulters of the laws and letting there be proper drainage sys-



tems. Plastic pollution is becoming a huge concern; therefore, it is also recommended for tougher measures on plastic pollution.

#### **4) Restoration of Degraded Wetlands**

As stated in the framework by 2030 at least 30% of degraded areas must have been or under an effective restoration process. It is good to embark on such to reduce the threat to biodiversity. To enhance biodiversity and ecosystem functions and services, when people see that restoration is ongoing by a deliberate effort, that would instill fear in them to try anything that goes against environmental ethics. Restoration of degraded wetlands can reduce the threat to biodiversity and can enhance wetland preservation. This will help to reduce hazards and risks to people and the wetlands. By adopting sustainable land use practices, educating and increasing the awareness of the people, adopting robust pollution control measures and the restoration of degraded wetlands can significantly reduce the threat to wetland degradation and biodiversity as a whole.

### **3.2.2. Reducing Threats to Biodiversity**

Under this target, 5 sub-targets were suggested by the framework, but since it calls for territory-specific needs for interventions. For the Sierra Leone case, the researcher suggested the following measures.

#### **1) Climate Change Adaptation Initiatives**

Climate Change adaptation initiatives can greatly meet people's needs through benefit sharing. Climate change resilience solutions include disaster risk reduction, adaptation, and mitigation. Numerous problems, including flooding, ocean acidification, declining water tables, and other health-related problems, are brought on by climate change. Thus, efforts to adapt to climate change may make individuals more silent when discussing climate-related topics.

#### **2) Promoting Sustainable Livelihood Outcomes**

The wetland can benefit greatly from the promotion of sustainable livelihood outcomes. Offering them finance, skill training, and more possibilities can help meet their required needs, as the majority of residents in wetland regions are low-income earners and frequently untrained. Encouraging sustainable means of subsistence can deter wetlands residents from causing more environmental harm. The framework also mentioned fostering innovation and facilitating access to technology transfer, as well as capacity building and development and technical and scientific collaboration, particularly for the benefit of poor nations.

#### **3) Equitable Sharing of Wetland Benefits**

The equitable sharing of wetland benefits can meet people's needs. The use of natural resources should be accessible to all individuals, as they are intended to provide advantages to all living organisms and hence, ecosystem services should be available to everyone. The framework also proposes a 30% augmentation of these benefits, by relevant international agreements on access and benefit sharing. One such technique is the practice of gender mainstreaming, which will be addressed below. Implementing climate change adaptation measures, fostering sustainable livelihood outcomes, and ensuring fair distribution of wetland bene-

fits can effectively fulfill people's needs through benefit sharing.

### **3.2.3. Tools and Solutions for Implementation and Mainstreaming**

Under this target, 10 sub-targets were suggested by the framework, but since it calls for territory-specific needs for interventions. For the Sierra Leone case, the researcher suggested the following measures.

#### **1) Financing Mechanism**

Finance plays a crucial role in accomplishing the objectives set for the year 2030 and the long-term goals for 2050. The financing mechanism can significantly impact the effective implementation of the framework. The framework proposes the elimination, gradual removal, or modification of incentives, such as subsidies, that hurt biodiversity. This should be done in a fair, effective, and equitable manner, to reduce these incentives by at least 500 billion US dollars annually by 2030. The process will begin by targeting the most harmful incentives and increasing the use of positive incentives to promote the conservation and sustainable use of biodiversity. There should be severe penalties for those who damage wetlands, and those who wish to destroy them should be required to pay a higher cost. However, it is important to ensure that these actions are carried out sustainably. The framework additionally demands a significant and gradual augmentation in the amount of financial resources from various origins, in an efficient, prompt, and readily available manner, encompassing domestic, international public, and private resources, by Article 20 of the convention, to execute national biodiversity strategies and action plans by 2030. These financial systems can address people's needs and mitigate the indiscriminate loss of wetlands.

#### **2) Integration of Biodiversity initiatives in national Policies**

Every governmental policy should incorporate biodiversity programs. To do this, government agencies must prioritize addressing wetland degradation, as these vague objectives cannot be attained without strong political determination. Government agencies sometimes modify regulations for various reasons, but by integrating these policies and rigorously enforcing them, they can effectively reduce threats to biodiversity. Stringent policies can function as safeguards for the preservation of biodiversity. This is a very vital tool in dealing with wetland degradation in Sierra Leone.

#### **3) Monitoring and Research**

Regular monitoring and scientific investigation are highly effective strategies that can aid in mitigating the risk to biodiversity. Government agencies should conduct frequent monitoring of wetlands in urban areas as well as other significant wetlands. Additionally, consistent studies on the factors contributing to wetland degradation, such as water quality and land use changes, can aid in the conservation of wetlands. By the framework's recommendation, it is imperative to guarantee that decision-makers, practitioners, and the general public have access to the most reliable and up-to-date data, information, and knowledge. This would facilitate the direction, incorporation, enhancement of communica-

tion, promotion of awareness, provision of education, monitoring, implementation of novel methods, and incorporation of traditional knowledge into managerial practices. Before acquiring knowledge from individuals, it is essential to gain their informed permission.

#### **4) Collaboration and Participation**

Attaining these objectives necessitates the collective endeavor of all individuals. It encompasses a complex network of several players, both at the local and international levels. There should be a collaborative and partnership approach between countries, agencies, unions, governments, and communities at all levels. Attaining this goal necessitates the inclusion of all ethnic groups, races, geographical areas, beliefs, and philosophies. The interconnectedness of all things means that any impact on one element will have consequences for all. Consequently, we must unite and collaborate to combat the deterioration of wetlands on a global scale.

#### **5) Special Gender Quota**

One crucial technique for achieving the Agenda 2030 is the implementation of gender quotas, commonly referred to as mainstreaming. While acknowledging the capabilities of males, it is imperative to prioritize the empowerment of women for them to succeed in this demanding environment. To fulfill the objectives outlined in the previous targets, it is crucial to guarantee that indigenous people and local communities have equal and fair representation and participation in decision-making processes. This includes providing them with access to justice and information regarding biodiversity. It is important to respect their cultures and acknowledge their rights over lands, territories, resources, and traditional knowledge. Additionally, it is essential to ensure the same level of representation and protection for women, girls, children, youth, and individuals with disabilities.

The execution of the framework may be substantially facilitated by adopting suitable financial mechanisms, including biodiversity efforts into national policies, conducting monitoring and research, fostering cooperation and participation, and promoting gender mainstreaming.

### **3.3. Discussion**

The rising population of Freetown has undoubtedly placed significant strain on the wetlands. According to “**Table 1**”, the primary factors contributing to the deterioration of wetlands in Aberdeen Creek and the wider Freetown are the increase of settlements, followed by pollution which conforms to the study of (2018) who stated that; Coastal wetlands are going through two types of stress under development pressures, first is land conversion loss and the second is ecological degradation. Following the conclusion of the 11-year Civil War, Freetown has become the primary hub for those from the provinces seeking to relocate. When individuals with limited incomes strive to obtain resolution at whatever expense, the outcome often manifests as impoverished communities. While

some individuals mentioned selecting the wetland area due to its proximity to their businesses or workplaces, the majority indicated that the primary reason for choosing the location was its affordability. While some individuals possess a residential property, others have disclosed that they reside with family members due to financial constraints preventing them from renting or constructing their dwelling.

Moreover, the data shown in “**Table 1**”, revealed that the majority of individuals are engaged in trading or self-employment, indicating their involvement in small and medium companies to support themselves and their family members. While some individuals are now employed, the inadequate incomes about housing costs leave them with little choice except to choose to live in marsh areas. This conforms to the study of (2018) who stated that; as opposed to industrial or transportation lands, the vast majority of the wetland loss has been triggered by the expansion of urban built-up areas. A small number of respondents said that they are now unemployed and lack the necessary skills. Authorities have noted that these individuals are perceived as troublemakers within their communities.

The urban development and planning challenges facing Freetown are thought to be typical of the significant issues that most cities in Africa are facing (Lynch et al., 2020). Wetlands located in the urban and peri-urban areas are undoubtedly the most threatened ecosystems in the World (Imdad et al., 2023). With the increasing urbanization, the impact of human activities on the environment is unavoidable, and nature is prepared to respond promptly. One kind of retribution mentioned in “**Table 1**” is flooding, which is prevalent among the majority, 47.46% of respondents experienced floods, while 27.08% reported pollution caused by sewage, plastic garbage, open defecation, and poor disposal of solid wastes. This conforms to an earlier study which stated that; Land use changes that are associated with urbanization may increase ecological risk as well as subsequent geohazard risk (Jin, Cui, Wu, & Cheng, 2020). Furthermore, this has in turn been followed by problems such as infill developments, overcrowding, pressure on amenities, and the growth of slum settlements (Chigudu, Chavunduka, Maja, & Chirisa, 2020). The driving factors of wetland degradation can result in the increasing fragmentation of the wetland environment and a decrease in the ecosystem values provided by the wetland (Athukorala et al., 2024). Consequently, sanitation is a significant obstacle, with 7.34% of individuals reporting health-related problems. To prevent adverse ecological consequences, humans must refrain from degrading wetlands and instead employ sustainable practices in utilizing natural systems.

The Kunming-Montreal Global Biodiversity Framework is an effective tool for addressing the present environmental challenges. Because most of the targets provide relatively precise measures (Ekardt et al., 2023). Given that human settlements have already been established in the wetland, the areas have undergone deterioration, and the resulting consequences are widespread, it is imperative for society to actively seek solutions to mitigate the pace of degradation and enhance

the ability of people to adapt to the problems they face. Authorities should prioritize the strict implementation of policies, rehabilitate degraded areas, conduct regular monitoring and research, improve the living conditions of residents in slum communities, establish skill training centers for unemployed individuals, offer incentives to small and medium enterprises, expedite financing mechanisms, empower community leaders, and incorporate gender mainstreaming in all activities as highlighted in “**Figure 3**”. Conclusively, the political and social will is needed to achieve this through adequate financing mechanisms, capacity building, technical and scientific cooperation, and access to the transfer of technology to least-developed countries (Joly, 2023). To this end, Community behavioral change is also as important as that of institutional reforms and financial incentives (Kookana, Drechsel, Jamwal, & Vanderzalm, 2020). Lastly, different players should better prepare for the GBF’s successor in 2030 and the lessons learned from the negotiation process, which might include how to guarantee that future agreements can avoid problems that could have undermined the current one (Hughes & Grumbine, 2023).

#### **4. Conclusion**

It is worth knowing that a correlation exists between urbanization and wetland degradation in both developed and developing countries but a significant difference between the two lies in the paradigm shift in management strategies. Therefore, the issue of wetland degradation needs an immediate response. Minimizing the risk to biodiversity necessitates a collective endeavor in which all individuals are included, as the consequences will impact everyone, either directly or indirectly. The Kunming-Montreal Global Biodiversity Framework is an exceptionally potent instrument that, if effectively and earnestly employed by world leaders, has the potential to provide abundant benefits for the human race. To accomplish these objectives, it is necessary to have both political and social determination, to ensure the attainment of sustainability for the present and future generations. Achieving this might not be easy due to low financing mechanisms, political instability, and the Global Economics and Political Dynamics in supporting this vision. In the face of the limitation of the study, the research proposed the acquisition of satellite data to assess the extent of deterioration in the wetland, as well as the implementation of a water quality test to evaluate the amount of pollution in water bodies.

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## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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