



**"MANO RIVER UNION ECOSYSTEM CONSERVATION AND INTERNATIONAL WATER RESOURCES MANAGEMENT" PROJECT**

**PROJECT GEF ID 4953**

**Strategic Action Program (SAP) of Mano River Union Basins  
CAVALLA, MAKONA, LITTLE&GREAT SCARCIES AND MANO**

**March 2024**

# **Ministerial Endorsement of the Strategic Action Programme**

MINISTERE DES EAUX ET FORETS  
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REPUBLIQUE DE COTE D'IVOIRE

Union – Discipline – Travail  
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MINISTERE DE L'ENVIRONNEMENT, DU  
DEVELOPPEMENT DURABLE ET DE LA  
TRANSITION ECOLOGIQUE  
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## **COMMUNICATION EN CONSEIL DES MINISTRES**

**Objet : Endossement et signature du Programme d'Actions Stratégiques (PAS) du Projet FEM – MANO**

L'Union du Fleuve Mano (UFM) couvre quatre (04) pays à savoir la Côte d'Ivoire, la Guinée, le Libéria et la Sierra Leone. Cette institution vise à promouvoir la coopération régionale et l'intégration économique dans les domaines du commerce, de l'industrie, des transports et des télécommunications, de l'agriculture, des ressources naturelles et des affaires monétaires et financières. Au niveau des ressources naturelles, l'UFM dispose d'importantes réserves d'eau souterraine et de surface, qui alimentent l'Afrique de l'Ouest, à travers de nombreux fleuves transfrontaliers dont le Cavally, le Sassandra et le Nuon qui irriguent le territoire ivoirien.

Face aux diverses menaces observées sur les ressources naturelles notamment les ressources en eau, sols, aires protégées le projet FEM-UFM « Conservation des écosystèmes et gestion des ressources en eau internationales» financé à hauteur de 6.970.000 de dollars américains (USD) à travers un Don du Fonds pour l'Environnement Mondial (FEM), a été initié en 2012 sous la houlette de la Banque Africaine de Développement, pour ensuite être transféré à l'Union Internationale pour la Conservation de la Nature (UICN) qui, depuis 2017 a assuré la mise en œuvre.

Approuvé en juillet 2016 par le Gouvernement ivoirien, le projet a démarré en Côte d'Ivoire en mars 2018 et a pris fin en décembre 2023. Les principales activités menées ont concerné les régions du Tonpki, du Cavally, de la Nawa et de San-pedro.

Les principaux acquis du projet sont : i) des Comités Consultatifs Locaux de Guiglo (eau) et de Danané (réserve intégrale du mont Nimba) créés ; ii) cinq études techniques réalisées; iii) des parties prenantes : administration, secteur privé, ONG formées pour la restauration et la protection des ressources naturelles ; iv) un Comité national de Gestion du Bassin hydrologique du Cavally et un Comité transfrontalier mis en place ; v) un reboisement de 5 000 plants à Gbapleu (département de Danané) réalisé ; vi) une Analyse Diagnostique Transfrontalière (ADT) des bassins du Cavally et du Nuon élaborée ; vii) une vision partagée adoptée pour la gestion concertée des ressources naturelles ; viii) un Programme d'Actions Stratégiques (PAS) assorti de son Plan d'Investissement (PI) élaborés.

Au niveau régional, l'acquis majeur concerne l'élaboration de l'ADT et le PAS assorti du PI de quatre (04) bassins transfrontaliers prioritaires qui sont :

- i. Bassin du fleuve Moa/Makona, avec une superficie de 19 500 km<sup>2</sup> partagée par la Guinée (43%), le Libéria (9%) et la Sierra Leone (48%) ;
- ii. Bassin du fleuve Cavally avec 29 400 km<sup>2</sup> partagés par la Côte d'Ivoire (54%), la Guinée (5%) et le Libéria (41%).
- iii. Bassins du fleuve Kolenté/Kabba avec 26 300 km<sup>2</sup> partagés par la Guinée (66%) et la Sierra Leone (34%);
- iv. Bassin du fleuve Mano avec 7700 km<sup>2</sup> partagés par la Guinée (0,5%), le Libéria (75%) et la Sierra Leone (24,5%).

L'ADT a identifié sept (07) problèmes transfrontaliers dont quatre (04) jugés prioritaires et trois (03) transversaux :

- **problèmes prioritaires :**

- 1) Déforestation et dégradation des forêts ;
- 2) Dégradation de la qualité de l'eau ;
- 3) Perte de biodiversité ;
- 4) Érosion des sols et dégradation des terres et des berges ;

- **problèmes transversaux :**

- 5) Changement et variabilité climatiques ;
- 6) Les vulnérabilités des couches sociales, en particulier le genre ;
- 7) Gouvernance des ressources naturelles.

Le PAS a mis l'accent sur la conservation et l'utilisation durable des ressources pour l'atteinte des objectifs de développement durable (ODD) dans les États membres de l'UFM et a établi une vision qui s'articule autour de quatre (4) objectifs à long terme de qualité de l'environnement (OLTQE), ainsi que de quatre (4) objectifs transversaux et de sept (7) objectifs spécifiques. Tous ces objectifs sont répartis en **90 actions** stratégiques réparties en **253 activités** évaluées à **140,287,200 USD soit environ 14 032 032 800 FCFA**. Il comporte quatre (04) phases de plans quinquennaux et s'étale sur un horizon de vingt (20) ans et sera mis en œuvre par la Côte d'Ivoire, la Guinée, le Libéria et la Sierra Leone, avec le soutien de l'UFM et de ses partenaires.

Ce document est la première initiative régionale de l'UFM en vue d'une meilleure gestion des forêts transfrontalières, des aires protégées partagées et des ressources en eau de surface et souterraine des quatre (04) bassins transfrontaliers retenus. Il permettra de renforcer les actions collectives pour la sécurité de l'eau, la sécurité alimentaire, la protection de la santé humaine et des écosystèmes, la résilience au changement climatique et divers avantages socio-économiques essentiels.

Le Comité Régional de Pilotage (CRP), organe politique dudit projet qui a tenu sa dernière réunion, du 18 au 19 décembre 2023 à Grand Bassam (Côte d'Ivoire), a recommandé l'endossement et la signature du PAS par tous les pays de l'UFM à

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travers les Ministères en charge des ressources en eau, de l'environnement, des aires protégées, du développement durable et du changement climatique impliqués dans le projet, en prélude à l'organisation de réunion des bailleurs de fonds prévue pour le financement du programme sous l'égide de l'UFM.

L'autorisation du Gouvernement est sollicitée pour l'endossement et la signature du programme d'actions stratégiques (PAS) du Projet FEM-MANO par le Ministre des Eaux et Forêts et le Ministre de l'Environnement, du Développement Durable et de la Transition Ecologique.

**Telle est l'économie de la présente communication soumise à l'approbation du Conseil des Ministres.**

Le Ministre de l'Environnement,  
du Développement Durable  
et de la Transition Ecologique



**ASSAHORE Konan Jacques**

Le Ministre des Eaux et Forêts



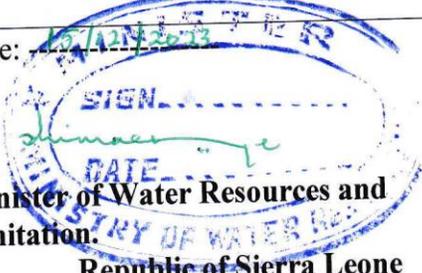
**Laurent TCHAGBA**

## Ministerial Endorsement of the Strategic Action Programme

Date : Le -----  <b>Ministre des Eaux et Forêts République de Côte d'Ivoire</b>	Date : Le -----  <b>Ministre de l'Environnement et du Développement Durable République de Côte d'Ivoire</b>
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Date : Le <u>26/1/24</u>  <b>Ministre de l'Environnement et du Développement Durable République de Guinée</b>	Date : Le <u>20/01/24</u>  <b>Ministre de l'Energie, de l'Hydraulique et Des Hydrocarbures République de Guinée</b>
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Date: <u>Jan 11 2024</u> Hon. Gesler E. Murray <b>Minister of Mines and Energy Republic of Liberia</b> 	Date: <u>Jan 14 2024</u>  Hon. C. Mike Doryen <b>Managing Director Forestry Development Authority Republic of Liberia</b> 
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Date: <u>16/12/2023</u>  <b>Minister of Water Resources and Sanitation. Republic of Sierra Leone</b>	Date: <u>06/02/24</u>  <b>Minister of the Environment and Climate Change. Republic of Sierra Leone</b> 
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## Foreword

This Strategic Action Programme (SAP) is the first regional initiative of the Mano River Union (MRU) that is identifying and addressing problems that are threatening the health and productivity of four transboundary forests including Protected Areas and four Transboundary River Basins. These transboundary forests, Protected Areas, and River Basins are essential and vital assets that provide a range of ecosystem services supporting the environmental security and socioeconomic development of the MRU Member States. This Strategic Action Programme is focusing on the conservation and sustainable use of these assets as a contribution to the implementation of the Sustainable Development Goals in the MRU Member States.

Because the basin's sustainable development and current water security issues can only be addressed through long-term perspectives, the SAP will be implemented over a twenty-year timeframe, with four phases of five-year plans. The Strategic Action Programme will be implemented through cooperation between the governments of Côte d'Ivoire, Guinea, Liberia, and Sierra Leone, together with the collaboration of all local and national stakeholders, and the MRU Secretariat. This SAP sets out a Vision and seven Long-Term Strategic Environmental Quality Objectives (LTEQO), to serve as a guide for all relevant stakeholders and reinforce collective actions to contribute to the water security, food security, human and ecosystem health protection, as well as actions for adapting and increasing the resilience to climate change, and providing other essential socioeconomic benefits.

Considering the critical importance of forests, protected areas, biodiversity, and wetland ecosystems of the four target river basins, this SAP is submitted to the MRU Council of Ministers and all local and national authorities for their consideration and support.

It is highly hoped that this Strategic Action Programme and the accompanying Investment Plan will find a favorable echo and unwavering support from all MRU Member Countries and the MRU Secretariat. Political support is essential for the commitment of national and local decision-makers and technical and financial support from multilateral and bilateral partners, as well as the private sector. The implementation of this SAP could then make a significant contribution to the efforts made to achieve the Sustainable Development Goals that will give people better living conditions through a sustainable use of their natural resources provided by the Forests, Protected Areas, and river basins of the MRU. Furthermore, forest ecosystems are of global importance due to their ability to sequester and reduce carbon emissions on the one hand and because they constitute niches of biodiversity of interest to local populations as well as to humanity.

Under the general supervision of the Mano River Union, this SAP has a great potential to positively shape the future of the natural resources, the health and productivity of the environment, and the socioeconomic development for present and future generations.

## Acknowledgements

This SAP for the Mano River Union is a result of a highly participatory process. All representatives of stakeholders at local, national, each of the four basin- level, and regional level, fully contributed to the process leading to this SAP. All representatives of relevant institutions/organizations gave their time and brought their expertise, knowledge, and experience to enrich the consultation process and the products that were tapped to develop this SAP.

The Mano River Union would like to express sincere gratitude to all contributors to this process including, local, national, and regional technical reviewers, focal point officers, National project coordinators, all stakeholders, and consultants.

The production of this SAP would not have been possible without the valuable contribution of a multidisciplinary expertise as well as the rigorous review processes by the National Teams from Côte d'Ivoire, Guinea, Liberia, Sierra Leone, and the Regional Technical Reviewers from the MRU and IUCN.

The Global Environmental Facility (GEF), through the IUCN, provided very important financial contribution for the SAP process.

The Mano River Union, sincerely, acknowledges all the technical and financial support and encouragement received throughout this process.

### **Participating institutions (see in Annex A)**

#### **Note:**

The names and information used in this technical publication , and the manner in which the data, maps, images and tables containing geographic information of the Mano River Union Member Countries are represented, do not constitute a judgment on any differences with regard to limits or territorial rights which may exist between the countries; this document shall not be interpreted or invoked to imply acceptance or renunciation, affirmation or modification, direct or indirect, express or tacit, of the position or interpretation that each country may hold on these matters.

## Table of Contents

<b>Foreword</b> .....	7
Acknowledgements.....	8
List of the tables.....	14
List of the figures .....	14
<b>Acronyms and Abbreviations</b> .....	15
<b>EXECUTIVE SUMMARY</b> .....	17
<b>1. METHODOLOGY AND USEFUL DEFINITIONS</b> .....	21
<b>1.1. Methodology</b> .....	21
<b>1.2. Useful definitions</b> .....	23
<b>2. INTRODUCTION</b> .....	25
<b>3. GLOBAL, TRANSBOUNDARY AND NATIONAL CONTEXT IN WHICH THE STRATEGIC ACTION PROGRAM IS EVOLVING</b> .....	26
<b>3.1. Global context</b> .....	26
<b>3.2. Regional and Geographic Context - Mano River Union (MRU)</b> .....	27
3.2.1. Geographic setting of priority Forests/ watersheds and Protected Areas .....	28
3.2.2. Geographic setting of Transboundary target River Basins .....	31
<b>3.3. Socio-economic context</b> .....	37
<b>3.4. Institutional, legislative and regulatory context</b> .....	37
<b>3.5. Strategic context, including existing or ongoing programmes</b> .....	39
3.5.1. Example of a regional programme operating in the same area and with similar objectives to this MRU project.....	39
3.5.2. Examples of strategies and programmes at the national level .....	39
3.5.3. Measures taken by the four countries to advance the implementation of particular Strategies and Programmes with a direct link to the SAP .....	42
3.5.4. National Adaptation Plans .....	42
<b>4. GLOBAL AND REGIONAL SIGNIFICANCE OF TARGET SYSTEMS/AREAS</b> .....	44
<b>5. COMPLEXITY OF THE PROJECT AND TARGET ECOSYSTEMS</b> .....	45
<b>6. TRANSBOUNDARY PROBLEMS OF TARGET FOREST AREAS AND TARGET RIVER BASINS OF MRU</b> .....	46
<b>6.1. Identification of all significant problems</b> .....	46
<b>6.2. Priority Transboundary Problems</b> .....	46
6.2.1. Deforestation/forest degradation .....	46
6.2.2. Water quality degradation .....	47

6.2.3. Biodiversity loss.....	47
6.2.4. Soil erosion and land and bank degradation. ....	47
<b>6.3. The cross-cutting problems of the MRU landscapes and river basins .....</b>	<b>47</b>
<b>7. APPROACH TO TRANSBOUNDARY DIAGNOSTIC ANALYSIS AND RELATIONSHIP WITH THE STRATEGIC ACTION PROGRAMME ADDRESSING PRIORITY PROBLEMS, CROSS-CUTTING PROBLEMS AND SPECIFIC ECOSYSTEM PROBLEMS.....</b>	<b>48</b>
<b>7.1. Basic features of this Strategic Action Programme .....</b>	<b>48</b>
<b>7.2. Vision Statement .....</b>	<b>48</b>
<b>7.3. Long-Term Environmental Quality Objectives (LTEQO), including forest ecosystems and River Basin ecosystems of MRU .....</b>	<b>49</b>
7.3.1. Four priority Long-Term Environmental Quality Objectives (LTEQO): .....	49
7.3.2. Four cross-cutting Long-Term Environmental Quality Objectives (LTEQO):.....	49
7.3.3. Seven Objectives specific to particular ecosystems .....	49
7.3.4. Close relationship between TDA and SAP .....	50
<b>8. SYNTHESIS OF THE TRANSBOUNDARY DIAGNOSTIC ANALYSIS AND THE STRATEGIC ACTION PROGRAMME PROCESS- TDA/SAP .....</b>	<b>50</b>
<b>8.1. Analysis of priority problems and proposed solutions .....</b>	<b>51</b>
Promotion of agroforestry as an alternative to extensive slash-and-burn agriculture.....	58
Mapping and study of the inventory of springheads of transboundary rivers.....	58
Development and implementation of restoration plans and rehabilitation of the heads of the most degraded springs .....	58
Mapping of the river banks most exposed to erosion and implementation of a restoration plan and stabilization of banks .....	58
Reforestation, and regeneration of soils most exposed to erosion .....	58
Promotion of soil and water management techniques (bunds, stone barriers, hill dams) on degraded mountainsides and hills and plateaus .....	58
<b>8.2. Analysis of cross-cutting problems and proposed solutions.....</b>	<b>59</b>
<b>8.3. Analysis of specific problems related to particular ecosystems and proposed solutions.....</b>	<b>65</b>
<b>9. KEY STRATEGIES FOR INTEGRATING AND IMPLEMENTING THE SAP AND INVESTMENT PLAN.....</b>	<b>74</b>
<b>9.1. Strategic partnerships with other regional initiatives .....</b>	<b>74</b>
<b>9.2. Subregional and bilateral agreements.....</b>	<b>74</b>
<b>9.3. Regional coordination or river basin organization .....</b>	<b>74</b>
<b>9.4. Coordination of SAP operational actions .....</b>	<b>74</b>
<b>9.5. Mechanisms for improving governance .....</b>	<b>75</b>

<b>9.6. Local management of forests and water resources</b> .....	75
<b>10. INSTITUTIONAL FRAMEWORK FOR SAP IMPLEMENTATION</b> .....	76
<b>10.1. Role of the Institutional Framework and the Stakeholder Coordination Mechanism</b> .....	76
<b>10.2. Key actors involved in building partnerships and strengthening their commitment</b> .....	77
10.2.1. At local/provincial/decentralized level .....	77
10.2.2. At national level .....	77
10.2.3. At the level of the MRU Target Basins.....	77
10.2.4. At MRU level.....	78
<b>10.3 Possible institutional reforms at the level of all MRU countries to improve the management and sustainable use of river basin resources:</b> .....	78
10.3.1. Establishment of an inter-ministerial body to combat pollution of water resources and ensure the protection of human health and the environment.....	78
10.3.2. Reactivation and revitalization of the functionality of the Multisectoral Technical Committee of the MRU” Ecosystem Conservation and International Water Resources Management Project”...79	
10.3.3. Revitalization of the Consultation Platform and the Transboundary Resource Management Committee of each target basin.....	79
10.3.4. Revitalization of women Associations, , youth Associations, and Village Saving and Loan Associations (VSLAs) to make them more functional. ....	79
<b>11. RELEVANT POLICIES, LEGISLATION AND PROGRAMMES</b> .....	79
<b>11.1. Liberia:</b> .....	79
<b>11.2. Guinea:</b> .....	80
<b>11.3. Côte d'Ivoire:</b> .....	81
<b>11.4. Sierra Leone:</b> .....	82
<b>12. POSSIBLE AND DESIRABLE REFORMS ON POLICIES, LEGISLATION AND REGULATIONS</b> .....	82
<b>12.1. Need to improve policies and laws through reforms</b> .....	82
<b>12.2. Possible reforms that could be common and shared by all MRU countries:</b> .....	83
12.2.1. Preparation and Adoption of a Water Charter.....	83
12.2.2. Review and update the National Biodiversity Strategies and Action Plans (NBSAPs) to adopt and domesticate the Kunming-Montreal Global Biodiversity Framework (GBF).....	84
12.2.3. Finalization of the creation and adoption of a sub-regional management structure for MRU transboundary water basins .....	84
12.2.4. Technological reform.....	85
<b>12.3. Reforms on laws and regulations at the level of each MRU country</b> .....	87
12.3.1. Reforms on laws and regulations on pesticides and herbicides .....	87

12.3.2. Reforms on mining laws and regulations.....	88
<b>13. INVESTMENT PLAN DEVELOPMENT PROCESS .....</b>	<b>89</b>
<b>13.1. Strategic Actions and Selected Activities .....</b>	<b>89</b>
<b>13.2 Purpose of the Investment Plan .....</b>	<b>90</b>
<b>13.3. Consistency with the GEF Strategy.....</b>	<b>90</b>
<b>13.4. Consistency with the GEF co-financing policy .....</b>	<b>90</b>
<b>13.5. Need for a diversity of funding sources.....</b>	<b>90</b>
13.5.1. Initiatives, programmes, projects under implementation or planned that can serve as sources of co-financing in Côte d'Ivoire. ....	91
13.5.2. Ongoing or planned initiatives, programmes, projects that can serve as sources of co-financing in Guinea.....	93
13.5. 3. Potential sources of co-financing for SAP implementation in Sierra Leone .....	95
<b>14. MODALITIES FOR THE IMPLEMENTATION OF THE SAP AND THE INVESTMENT PLAN.....</b>	<b>97</b>
<b>14.1. SAP Implementation.....</b>	<b>97</b>
<b>14.2. Implementation timetable .....</b>	<b>98</b>
<b>14. 3. Timetable for interventions during the first phase of the SAP and Investment Plan .....</b>	<b>100</b>
<b>14.4. Annual planning of the implementation of the Investment Plan at Regional level.....</b>	<b>109</b>
<b>14.5. National Action Plans and Country Planned Investments.....</b>	<b>111</b>
14.5.1. National Action Plans (NAPs) .....	111
14.5.2. Country-level Investment Plans .....	115
<b>14.6. Conducting Actions/Activities for the achievement of the SAP Priorities and the Investment Plan at regional level.....</b>	<b>117</b>
<b>14.7. Practical Execution of the of the SAP Priorities and the Investment Plan .....</b>	<b>117</b>
14.7.1. A project on Integrated Water Resources Management – IWRM .....	118
14.7.2. A project on Sustainable Forests Management (SFM) and Protected Areas for Terrestrial Biodiversity Conservation and Sustainable Use .....	118
14.7.3. A Project on Climate Change Mitigation /Adaptation and increasing the Resilience of Vulnerable groups of people and natural ecosystems .....	118
<b>15. STRATEGIC RISKS AND CHALLENGES.....</b>	<b>118</b>
<b>16. COMMUNICATION STRATEGIES AND PUBLIC ENGAGEMENT .....</b>	<b>119</b>
<b>16.1. Communication Strategy.....</b>	<b>119</b>
<b>16.2. Advocacy strategy .....</b>	<b>119</b>
<b>17. THE FUTURE OF THE STRATEGIC ACTION PROGRAMME.....</b>	<b>120</b>
<b>17.1. Endorsement of the SAP document and promotion of its implementation .....</b>	<b>120</b>

<b>17.2. Regular monitoring and periodic evaluation of the implementation .....</b>	<b>120</b>
<b>17.3. Need for Consistency with the GEF-8 Strategic Positioning Framework, including post-COVID-19 recovery.....</b>	<b>121</b>
<b>17.4. Access to some modern technologies .....</b>	<b>121</b>
17.4.1. Access to new technologies to monitor and manage Freshwater and preserve nature.....	121
17.4.2. Access to new technologies to monitor deforestation.....	122
17.4.3. Expanding the RADD radar alerts technology to West African rainforests of the Mano River Union.....	123
<b>17.5. Building Partnerships with relevant organizations to better implement the SAP .....</b>	<b>123</b>
<b>18. MONITORING AND EVALUATION (M&amp;E) MECHANISM OF THE SAP .....</b>	<b>125</b>
<b>18.1. General implementing provisions.....</b>	<b>125</b>
<b>18.2. Data collection .....</b>	<b>125</b>
<b>18.3. Planning and reporting.....</b>	<b>126</b>
<b>18.4. Monitoring and Evaluation Indicators .....</b>	<b>126</b>
<b>18.5. Draft List of Monitoring Indicators for Legal and Institutional Reforms and Stakeholder Capacity Building Measures .....</b>	<b>128</b>
<b>18.6. Draft List of indicators for monitoring LTEQOs and Strategic Actions.....</b>	<b>130</b>
<b>CONCLUSIONS .....</b>	<b>151</b>
<b>ANNEXES .....</b>	<b>153</b>
<b>REFERENCES.....</b>	<b>174</b>
<b>Annex A: Main contributors to the Transboundary Diagnostic Analysis and Strategic Action Programme of MRU River Basins.....</b>	<b>177</b>

## List of the tables

Table 1 : Investment needs (four five-year plans) and by objectives for 20 years .....	19
Table 2 : The national portions of the targeted basins.....	31
Table 3: Analysis of Problems (TDA) and Proposed Solutions (TDA and SAP) .....	51
Table 4: Distribution of actions and activities by SAP objectives .....	89
Table 5 : Possible co-financing of SAP actions in the Republic of Guinea .....	93
Table 6 : SAP chronological implementation plan for the four five-years (2024-2043) .....	100
Table 7: Relevant Acts, Policies and Regulations.....	115
Table 8 : Investments requested by objectives and by country .....	116
Table 9 : Monitoring and Evaluation Indicators of Legal and Institutional Reforms .....	128
Table 10 : List of indicators for monitoring LTEQOs and Strategic Actions .....	130

## List of the figures

Figure 1 MRU Member States .....	28
Figure 2: The Watersheds and Protected Areas .....	29
Figure 3: Wologisi-Wonegisi-Ziama Forests.....	29
Figure 4: Gola Forest.....	30
Figure 5: Sapo-Grebo-Taï Forest .....	31
Figure 6 : Target River Basins .....	32
Figure 7 : Great & Little Scarcies .....	33
Figure 8 : Moa Makona Basin .....	34
Figure 9 Mano River Basin .....	35
Figure 10 : Cavalla Basin .....	36
Figure 11 : Investment required for the first Five Years .....	109
Figure 12: Investment Plan for each LTEQO during the 1st Five-Year phase .....	110
Figure 13 : Investment needs for the four five-year periods of the SAP (2024-2043).....	110
Figure 14 : Investment plan by objective in the member States .....	116
Figure 15 : Investment portions for the member States for the first Five-Years Phase regarding the seven LTEQOs .....	117

## Acronyms and Abbreviations

AWF	African Water Facility
AMCEN	African Ministerial Conference on the Environment
AMCOW.	African Ministers' Council on Water
BNI	Banque Nationale d'Investissement
BRLI	BRLI is an engineering company specialized in the fields related to Water, Environment and Spatial Planning.
CO2	Carbon dioxide
EPA	Environmental Protection Agency
DAC	Development Assistance Committee of OECD
ECOWAS	Economic Community of West African States
ESIA	Environmental and Social Impact Assessment
FAO	Food and Agriculture Organization
FIP	The Forest Investment Project
FLR	Forest Landscape Restoration
F-Y P	Five -Years Phase (or Plan)
GBF	Global Biodiversity Framework
GCF	Green Climate Change Fund
GEF	Global Environment Facility
ICZM	Integrated Coastal Zone Management
iNAP	Initial National Adaptation Plan of Sierra Leone
IRBM	Integrated river basin management
IUCN	International Union for Conservation of Nature
IWRM	Integrated Water Resource Management
KBA	key biodiversity areas
LULC	Land Use and Land Cover
LDCs	Least Developed Countries
LTEQO	Long-Term Environmental Quality Objectives
MRU	Mano River Union
NAP	National Action Plan

NBSAPs	National Biodiversity Strategies and Action Plans
NDC	National determined Contribution
NPAA	National Protected Areas Authority of Sierra Leone
OECD	Organization for Economic Co-operation and Development
RADD	Radar for Detecting Deforestation
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SAP	Strategic Action Programme
SFM	Sustainable Forest Management
SLM	Sustainable Land Management
TDA	Transboundary Diagnostic Analysis
TRBMO	Transboundary River Basins Management Office
UEMOA	Union Economique et Monétaire des Pays de l'Afrique de l'Ouest
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USD or US\$	United States of America Dollar
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
VSLA	Village Savings and Loan Association
WABiLED	West Africa Biodiversity and Low Emission Development program

## EXECUTIVE SUMMARY

This Strategic Action Programme (SAP) for the Mano River Union (MRU) was prepared within the framework of the IUCN-MRU-GEF project entitled "Mano River Union Ecosystem Conservation and International Water Resources Management". The project is funded by the Global Environment Facility (GEF), the International Union for Conservation of Nature (IUCN) is the implementing Agency and the MRU is the executing Agency of this GEF project. It aims at the conservation and sustainable use of four transboundary river basins and their biodiversity resources in Mano River Union member States. These resources are of the utmost importance to the subregion, which is seriously affected by the socio-political problems of rural populations, and require support in these very difficult contexts. The project aims to promote holistic approaches to integrated ecosystem management and design participatory and community-based strategies, which will lead to in situ conservation and sustainable use of soil, water and biodiversity in target river basins. The project also covers forests from Upper Guinea to Sierra Leone, Guinea, Liberia and Côte d'Ivoire with the aim of strengthening transboundary natural resource management for sustainable ecological benefits and better livelihoods for adjacent forest communities.

This Strategic Action Programme Report for the Mano River Union project covers transboundary forests, protected areas and targeted river basins that are shared by Côte d'Ivoire, Guinea, Liberia and Sierra Leone. The report was commissioned by the Mano River Union Secretariat as part of the preparation of the next steps of the MRU project, including the development of a SAP document and an investment plan. National diagnostic analyses were carried out and the results were integrated into a regional Transboundary Diagnostic Analysis (TDA) which was used to identify the main transboundary problems and their causes. The TDA provided background information for the development of the SAP, including the definition of a vision, Long-Term Environmental Quality Objectives (LTEQO), and elements of strategies and interventions. This action programme responds to common regional concerns, sets out a regional framework for the implementation of the action programme, and includes immediate regional measures to address the challenges related to the conservation of natural resources and the sustainable use of forest resources and river basins. The SAP process was the subject of a consultative process led by the MRU and national stakeholders in each country and at the river basin level. The interventions were classified in such a way as to clearly show the timetable (short, medium, and long term); responsibilities (national and regional); types/categories of interventions (sustainable forest management, integrated water resources management, river basin management, governance, and investment); categorization of intervention cost (low, medium and high).

This SAP document is the final result of a lengthy consultation process, involving the four member States of the Mono River Union, with input from national government institutions, local communities, local traditional and administrative authorities and civil society.

The SAP focuses on the seven-priority regional environmental concerns identified in the Transboundary Diagnostic Analysis (TDA), namely:

- 1) Deforestation and forest degradation;
- 2) Degradation of water quality;
- 3) Biodiversity loss;
- 4) Soil erosion and degradation of land and riverbanks;
- 5) Degradation of mangroves and estuarine ecosystems;

- 6) Climate change and variability;
- 7) The vulnerabilities of social strata, in particular gender;
- 8) Governance of natural resources
- 7) Aquatic invasive plants.

The SAP establishes a Long-Term Vision for the conservation and sustainable use of MRU target landscapes, including four forest blocks and four river basins. The SAP also presents seven regionally agreed Long-Term Environmental Quality Objectives (LTEQOs). The implementation of LTEQOs is a means to conserve all healthy ecosystems and restore degraded areas in order to improve the quantity and quality of related ecosystem services that underpin the productivity of land, forests and water resources and have a direct impact on human well-being. The SAP also identifies a set of actions and interventions to achieve these objectives as well as Monitoring and Evaluation indicators to measure the effects of the programme. The seven LTEQOs identified are:

LTEQO 1: The forest ecosystems of the MRU basins are restored, protected and sustainably managed

LTEQO 2: Good quality water is available to meet the basic needs of ecosystems and people in MRU basins in accordance with SDG target 6.3.2.

LTEQO 3: The ecological integrity is restored and conserved and terrestrial and aquatic ecosystems in the MRU basins are sustainably managed.

LTEQO 4: Land, stream banks and spring heads are restored and protected.

LTEQO 5: The capacities of Member States to adapt and mitigate climate change as well as their resilience are strengthened at all levels.

LTEQO 6: Vulnerable groups including women, youth and children are involved in the implementation of the SAP.

LTEQO7: Transboundary cooperation between Member States, communities and other actors strengthened.

In addition to these seven LTEQOs, it was agreed to take into consideration an additional cross-cutting objective and seven specific objectives relating to key areas of biodiversity or of specific interest.

This SAP is a regional policy framework document enabling MRU Member States to work collectively to achieve the desired outcomes for the future environment that supports the socio-economic development of target populations. The long-term objectives should be achieved within twenty years and are designed within the responsibility of Member States, defined independently as components of their National Action Plans (NAPs), and collectively within the mandate of the MRU.

This SAP builds on and complements the NAPs and includes clear interventions for priority investments in the first five years as the first phase of a twenty-year programme. A detailed investment plan, identifying priority actions to be undertaken, is being developed for presentation at a donor conference at the end of 2023.

For all the LTEQO, 90 strategic actions subdivided into 253 activities were identified to ensure their fulfillment.

To carry out these different activities in order to achieve the LTEQOs, it will be necessary to undertake some reforms on the institutional and legal framework for the management of the environment and natural resources, in addition to measures aimed at strengthening the capacities of stakeholders.

To estimate the costs of the SAP, the following steps were taken: (1) development of a

Template for drafting the NAP (2) definition of the actions and activities for the implementation of each LTEQO; (3) estimated costs for each activity; (4) summary of all costs for each LTEQO. (5) Summary of total cost for the four phases of the investment plan, including the four target basins and specific ecosystems of interest.

The overall cost of the SAP is estimated at USD 146,051,200

**Table 1 : Investment needs (four five-year plans) and by objectives for 20 years**

LTEQO	F-Years 1	F-Years 2	F-Years 3	F-Years 4	Total
LTEQO 1	4,514,000	3,164,000	6,455,000	5,100,000	19,233,000
LTEQO 2	7,022,500	4,312,500	3,582,500	1,032,500	15,950,000
LTEQO 3	3,567,000	3,350,000	3,317,000	3,106,000	13,340,000
LTEQO 4	4,457,000	3,266,000	2,991,000	0	10,714,000
LTEQO 5	14,194,800	7,600,800	11,066,800	6,275,800	39,138,200
LTEQO 6	803,000	695,000	783,000	55,000	2,336,000
LTEQO 7	1,980,000	790,000	80,000	40,000	2,890,000
LTEQO 8	685,000	680,000	400,000	230,000	1,995,000
LTEQO 9	900,000	1,125,000	650,000	50,000	2,725,000
LTEQO 10	2,550,000	2,405,000	2,180,000	2,130,000	9,265,000
LTEQO 11	2,590,000	1,620,000	1,645,000	1,645,000	7,500,000
LTEQO 12	1,570,000	1,490,000	950,000	1,240,000	5,250,000
LTEQO 13	1,445,000	1,350,000	1,170,000	1,170,000	5,135,000
LTEQO 14	2,645,000	2,645,000	0	0	5,290 000
LTEQO 15	2,645,000	2,645,000	0	0	5,290 000
Total	51,568,300	37,138,300	35,270,300	22,074,300	146,051,200
Percentage	35,3%	25,4%	24,1%	15,1%	100,0%

Funding for the first five-year phase for the implementation of the SAP is estimated at US\$ 51,568,300

Medium- and long-term funding is estimated at US\$ 37,138,300 for the second five-year period, US\$ 35,270,300 for the third five-year period and US\$ 22,074,300 for the fourth quinquennial, respectively.

The TDA and SAP will be reviewed every 5 years to reflect results achieved and lessons learned from successive phases. To this end, a Monitoring and Evaluation system is established and must be applied as interventions are carried out.

# 1. METHODOLOGY AND USEFUL DEFINITIONS

## 1.1. Methodology

The methodology of this SAP is primarily based on the GEF Handbook on International Waters. The methodology used for the development of this SAP document strictly followed and adhered to the requirements of all recommended key steps to enable all those involved in the development of the SAP to know the process and requirements necessary (government representatives at national and local levels, traditional and administrative local authorities, project staff, national consultants and experts, civil society, private sector).

Thus, the following steps were applied:

### Strategic thinking:

- a. Vision Definition.

During an immersion workshop for the preparation of NAPs and SAP with national and regional project teams, national, regional, and international consultants, a vision and objectives were identified to underpin the socio-economic development of the region while preserving and rehabilitating the terrestrial and aquatic ecosystems of the MRU areas. Subsequently, the reflection was deepened during the consultations in the basins in order to agree on a common vision for all the basins.

- b. Set goals to achieve the vision.

Basin-level consultations were also an opportunity to define and agree on long-term environmental quality objectives to achieve the vision.

- c. Brainstorming innovative ideas and opportunities to achieve goals.

A brainstorming was helpful in identifying innovative ideas and opportunities to achieve long-term environmental quality objectives. Thus, it appears necessary to take into account vulnerable groups of populations and governance issues to meet social challenges beforehand. Key biodiversity areas appear also as an opportunity favorable to the achievement of the objectives. In addition, it seemed inevitable to take climate change into consideration because it has a significant impact on all human activities, on terrestrial and aquatic ecosystems and on the biodiversity. Develop strategies for new ideas and opportunities – prioritize alternatives.

New ideas and opportunities were all analyzed in relation to the causes of the problems identified by the regional TDA.

### Strategic Planning:

- a. National and regional consultation processes.

Under the supervision of the project coordination, consultations were carried out at each basin level. The outcomes of the basin workshops were then discussed with the central technical services at the national level, which are in charge of decision-making.

b. Definition of implementation strategies

These exchanges with the central technical services made it possible to establish the SAP and NAP implementation strategy. This strategy includes, among other things, the mobilization of national resources, the private sector and civil society, the monitoring and evaluation of actions and the mobilization or even the participation of actors.

c. Definition of actions, timetables, priorities and indicators

The actions to be implemented to meet each of the long-term environmental quality objectives have been agreed during the consultations in the basins on the basis of the problems identified in the TDA and the resulting causal analysis.

### Drafting the SAP

a. Development of National Action Plans (NAPs).

In order to maintain a consistency that would facilitate the drafting of a synthesis, the international consultant proposed to the national consultants a framework for drafting the NAPs

b. Integration of NAPs into the SAP document.

The consideration of the NAPs in the SAP was done gradually to consider on the one hand the dates of submission of the NAPs but to analyze the actions and budgets proposed for the development of the investment plan. The SAP implementation schedule per phase was also reviewed for overall planning.

c. Development of an Investment Plan for the implementation of the SAP.

In addition, the SAP was also prepared using the knowledge and experience of the consultants (international and regional) as well as the findings of the TDA. In this regard, the SAP document is the result not only of the application of the GEF guidelines, but also of some innovative reflections as follows:

- a. Fundamentally, the Methodology recognizes that promoting landscape management, including sound land, forest and water use practices, is essential to address the causes of priority environmental degradation identified by the TDA.
- b. The proposed SAP methodology takes into account the TDA causal chain analysis, which has shown that unsustainable industrial and artisanal mining practices are by far the most devastating factor for water resources and the environment in the Mano River Union (MRU) area, while the economic benefits of the mining sector fall far short of expectations. The dominant forms of agricultural practices also contribute greatly to the environmental degradation of the MRU river basins, with in particular extensive and shifting slash-and-burn agriculture, the conversion of large areas of primary forest into crop plantations, the use of large quantities of chemical fertilizers and pesticides prohibited by international regulations, poor drainage systems for agricultural land, etc. In addition to these factors, there is large-scale exploitation of timber, inappropriate fishing techniques, etc.
- c. Given these conclusions drawn through the TDA, the proposed SAP methodology recommends adopting and implementing landscape approaches that protect and sustainably use the resources of the MRU's vital ecosystems, through collaborative work at local, national, and regional levels to

adopt a vision, define long-term environmental quality objectives and carry out appropriate actions to achieve the objectives that support the vision.

## 1.2. Useful definitions

Throughout the process for the preparation of this SAP several terms come up frequently, including the term "restoration" as well as other concepts for which it would be useful to clarify in what sense they are used. Thus, for the purposes of this Strategic Action Programme, the terms "landscape, restoration, sustainable landscape management, sustainable forest management, integrated water resources management, rehabilitation and remediation" are used with the following definitions:

**Landscape:** here, a landscape can refer to a region, forest block, watershed, sub-watershed, micro-watershed or smaller area.

**Restoration:** We use the terms "restoration" and "restore" to refer to the diversity of approaches used to counter land degradation and biodiversity loss and to restore the ecological system, including ecological restoration, sustainable land management and landscape rehabilitation to a pre-degradation state. Recognizing that it is not easy to restore the landscape and its ecosystem functions and services to a state prior to degradation, the term "restoration" is also used here to imply and mean "**rehabilitation**", which actually means: repairing and restoring degraded land to a more productive and functional state, but not necessarily to a state prior to degradation. Species that were not originally present in the landscape may be used (Lamb and Gilmour 2003).

**Sustainable Land Management (SLM):** WOCAT (2008) defined SLM as "the use of land resources, including soil, water, animals and plants, for the production of goods responding to changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions".

**Sustainable Forest Management (SFM)<sup>1</sup> :** The objective of sustainable forest management (SFM) is to ensure that forests provide goods and services in ways that meet present and future needs and contribute to the sustainable development of communities. The United Nations General Assembly recognizes SFM as a dynamic and evolving concept that aims to maintain and enhance the economic, social and environmental values of all types of forests, for the benefit of present and future generations, considering the following seven thematic elements as a framework of reference: (1) extent of forest resources; (2) forest biodiversity; (3) forest health and vitality; (4) productive functions of forest resources; (5) protective functions of forest resources; (6) socio-economic functions of forests; and (7) legal, policy and institutional framework.

**Integrated Water Resources Management (IWRM<sup>2</sup>)** - The definition of integrated water resources management formulated by the Global Water Partnership is now authoritative. It states that "IWRM is a process that promotes the integrated development and management of water, territory and related resources in order to maximize, equitably, the resulting economic and social well-being, without compromising the sustainability of vital ecosystems.

**Integrated river basin management (IRBM):** "the process of coordinating the conservation, management and development of water, land and related resources among sectors of a given river basin, in order to

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<sup>1</sup> Sustainable Forest Management - <https://www.fao.org/sustainable-forests-management/fr/>

<sup>2</sup> Integrated Water Resources Management (IWRM)-<https://ise.unige.ch/isdd/spip.php?article254>

maximize the economic and social benefits derived from water resources in an equitable manner while preserving and, where necessary, restoring freshwater ecosystems" (Global Water Partnership, 2000).

**Remediation:** suppression and "reversal of the effects of contamination or pollution" in soil (Burton et al. 2014, in Mansourian 2018)

**Forest Landscape Restoration (FLR)** is the ongoing process of restoring the ecological functionality of degraded and deforested landscapes while improving the well-being of the people who coexist with these places.<sup>3</sup>

**Nature-based solutions** "actions to protect, sustainably manage and restore natural or modified ecosystems, to directly address societal challenges effectively and adaptively while ensuring human well-being and biodiversity benefits."<sup>4</sup>

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<sup>3</sup> Forest Landscape Restoration (FLR) <https://www.bonnchallenge.org/about-flr>

<sup>4</sup> IUCN- The World Conservation Congress, at its session held in Hawai'i, United States of America, from 1 to 10 September 2016:

## 2. INTRODUCTION

This Strategic Action Programme aims to understand the current situation, its evolution, and trends in natural resources, environmental and socio-economic opportunities and challenges in order to define and implement a long-term vision and objectives that provide sustainable benefits for human populations and the environment. The selected actions to be carried out within the framework of the SAP are expected to contribute significantly to the sustainable development efforts of MRU member countries to contribute to the conservation and sustainable use of natural resources at local, national, transboundary, and global levels. These benefits are expected to generate sustained ecological and socio-economic benefits and contribute to the improvement of the livelihoods of communities living in the vicinity of the forest areas and river basins targeted by the programme. They will contribute to keeping intact transboundary ecosystems, including protected areas and their surroundings where integrated land and water resources management strategies are implemented.

It is important to recall that consultations involving stakeholders took place at the level of the target basins. To this end, three workshops were organized at basin level with the aim of defining the vision and setting the environmental quality objectives for each basin:

- i. The first workshop was held in Kindia (Guinea) for the **Kolente/Kaba basins** from 14 to 16 January 2023.
- ii. The second workshop for the **Moa – Makona and Mano River basins** was held from 23 to 25 January 2023 in Kenema, Sierra Leone.
- iii. The third workshop for the **Cavally Basin** took place in Danane, Côte d'Ivoire from 30 January to 1 February 2023.

The results of the three workshops reveal that all target basins face the same problems, in line with the conclusions of the TDA. Because all basins face the same problems, all three workshops recognize that it is realistic to establish a common vision for all basins. Therefore, the agreed vision statement as well as the agreed long-term environmental quality objectives were the same for all target river basins. There is therefore a single Strategic Action Programme (SAP) for all four target basins.

This SAP aims to promote holistic approaches to integrated ecosystem management, and to design and implement participatory and community-based strategies that will lead to in situ conservation and sustainable management of soil, water resources, plants, livestock, wildlife and fisheries resources in forest landscapes, river and coastal areas of the Mano River Union Ecosystem Conservation and International Water Resources Management Project Area.

This SAP document identifies policy, legislative and institutional reforms and investments required to address cross-border priority issues that have been described by the Transboundary Diagnostic Analysis. Thus, the SAP must be negotiated to reach a regional consensus by the riparian countries, under the aegis of the MRU, with conclusions and recommendations specific to each priority basin. To this end, the SAP promotes:

- conducting strategic thinking for the definition of a vision and its objectives with a view to reducing the impact of transboundary problems;
- conducting strategic planning to develop the Strategic Action Programme (considering the priority areas identified by the regional TDA synthesis with a funding plan into a short-, medium, and long-term action plan to address transboundary environmental issues).
- the proposal for an institutional framework and its implementation;

- the proposal for a stakeholder capacity-building plan to achieve efficiency in the implementation of the SAP;
- the proposal of a monitoring / evaluation mechanism based on environmental and socio-economic indicators selected in connection with the SDGs for the target basins.
- This SAP has been prepared with practical measures to address key challenges in order to meet the demands of the current generation in a way that preserves the interests of future generations and preserves their ability to effectively enjoy all the benefits derived from MRU landscapes, including forests, water resources, and biodiversity and food sources.
- The SAP is informed by a series of intergovernmental, multi-sectoral and multi-stakeholder consultations, including local, national and regional stakeholders.

The SAP seeks not only to address current problems but also to prevent the loss of sources of well-being in the future by taking a longer-term perspective. It is with this in mind that the Vision and the Long-Term Environmental Quality Objectives (LTEQO) should be implemented over the next 20 years through short (2025-2029), medium (2030-2034), long-term (2035-2039) and (2040-2044) measures, taking into account the interests of all the actors.

Improving people's livelihoods requires strategic approaches and operational actions to maintain healthy landscapes, restore degraded areas and increase the multifunctionality of forests, river basins and agricultural land to ensure that landscapes provide a wide range of services. Increased multifunctionality means that there are more diverse land uses in every target landscape of the Mano River Union.

### **3. GLOBAL, TRANSBOUNDARY AND NATIONAL CONTEXT IN WHICH THE STRATEGIC ACTION PROGRAM IS EVOLVING**

#### **3.1. Global context**

The preparation process of this SAP takes into account the Sustainable Development Goals (SDGs), including some recent developments that are highly relevant to the Vision and the LTEQO including SDG2, SDG3, SDG5, SDG6, SDG13, SDG14, SDG15 and SDG 17. This Strategic Action Programme places particular emphasis on the factors that contribute to achieving SDG 3 - *Empower people to live healthy lives and promote well-being at all ages*. In this perspective, the fight against all pollution contaminating water appears to be a major concern that focuses on reducing or even eradicating the causes of degradation of forest ecosystems and water resources. Recent developments concerning Biodiversity, the relationships between ecosystem health and human health as well as the interactions between water quality and human health are among the major concerns of this SAP. It is worth noting below some recently adopted global strategies that the SAP takes into account:

- a. The preparation period for this SAP coincides with the adoption of the new Global Biodiversity Framework (GBF) which sets targets for 2030 to live in harmony with nature by 2050. This new Global Framework is more inclusive, more comprehensive, more SMART (specific, measurable, achievable, relevant and time-bound) and more complex than the Aichi Biodiversity Targets that preceded it. It includes quantified targets for resource mobilization, including a target that "aims to substantially and progressively increase the level of financial resources from all sources to at least USD 200 billion per year by 2030." The implementation of the GBF "should be facilitated by

decisions on resource mobilization and capacity-building and technical and scientific cooperation aimed at bridging funding and capacity gaps" between developed and developing countries.<sup>5</sup>

b. It is also useful to note that in preparing this SAP, the launch of the report "Forests and trees for human health: pathways, impacts, challenges and policy options" highlights the links between forests and human health. This report published by the International Union of Forest Research Organizations (IUFRO) Vienna, Austria, 2023, highlights some facts relevant to the vision and objectives of this SAP:

- Forests, trees and green spaces impact human health at all stages of life and offer positive health outcomes that far outweigh the negatives.
- The relationship between forests and health offers solutions to global crises.
- Integrative and cross-sectoral approaches are needed to improve the linkages between forests and health.

The report suggests that *"decision-makers from different sectors and scales, particularly those interested in forests, land use and human health, need access to the latest knowledge on forest health outcomes at different life stages in order to effectively integrate the human health benefits of forests and trees into their strategies and policies. While forests and trees have an impact on human health at all stages of life, significant impacts on children, primarily due to impacts later in life, must be noted and considered in decisions. A good understanding of the complex relationships between forests and human health will enable tailored forest management that maximizes health benefits at all stages of life."*<sup>6</sup>

Therefore, this SAP is expected to contribute to improved policy coherence and collaboration between the health sector and natural resource sectors.

c. The 2023 UN Water Conference, held from 22 to 24 March at the United Nations in New York, generated more than 700 commitments to drive the transformation towards a water-secure world. The common goal of the Conference is to put the world on track to achieve Sustainable Development Goal 6 (water and sanitation for all by 2030) and, in doing so, accelerate progress on all SDGs. This SAP plans to contribute to SDG 6 through actions aimed at strengthening the place of water as a critical element of Sustainable Development and especially contributing to reducing the pressures on the hydrological system of MRU countries, while strengthening the links between ecosystem health and human health.

### 3.2. Regional and Geographic Context - Mano River Union (MRU)

The Mano River Union (MRU) is an intergovernmental organization with a Secretariat based in Freetown, Sierra Leone. It was established in October 1973 by the presidents of Liberia and Sierra Leone, taking its

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<sup>5</sup> Global Biodiversity Framework (GBF) -<https://sdg.iisd.org/news/global-framework-sets-targets-for-2030-to-live-in-harmony-with-nature-by-2050/>

<sup>6</sup> "Forests and Trees for Human Health: Pathways, Impacts, Challenges and Options for Action".  
[http://sdg.iisd.org/news/iufro-report-highlights-linkages-between-forests-and-human-health/?utm\\_medium=email&utm\\_campaign=SDG%20Update%20-%202013%20April%202023&utm\\_content=SDG%20Update%20-%202013%20April%202023+CID\\_138fc93c3a4042ffb55514382051a327&utm\\_source=cm&utm\\_term=Read](http://sdg.iisd.org/news/iufro-report-highlights-linkages-between-forests-and-human-health/?utm_medium=email&utm_campaign=SDG%20Update%20-%202013%20April%202023&utm_content=SDG%20Update%20-%202013%20April%202023+CID_138fc93c3a4042ffb55514382051a327&utm_source=cm&utm_term=Read)

name from a river that runs along the border between the two countries (Mano River). Guinea joined the MRU in 1980 and Côte d'Ivoire in 2008. These four countries together constitute the MRU subregion and possess not only common borders but also important historical, cultural, and social similarities, including tribal characteristics and common traditions.

The MRU had been established as a customs union to foster economic growth, social and cultural progress by promoting trade. Over time, its mandate has been expanded to include environmental issues, natural resource management, agriculture, communications, natural resources, education, social services, industry, transport, monetary issues and security cooperation.

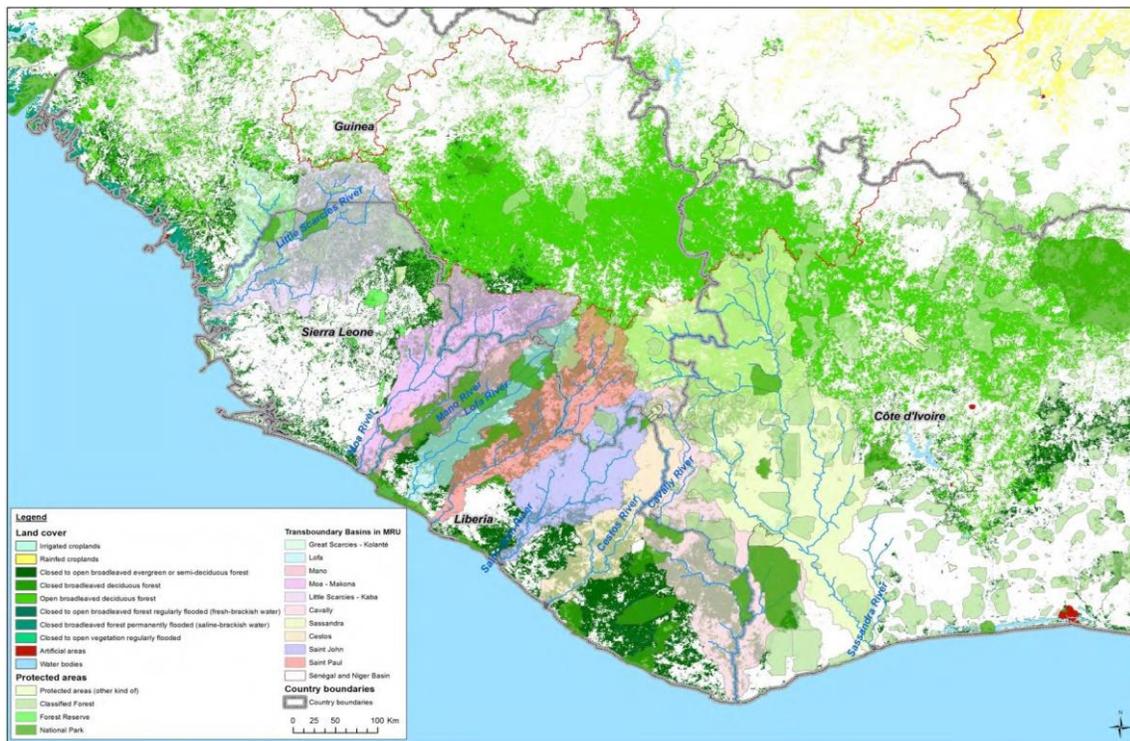


Figure 1 MRU Member States

The vision of the MRU is to ensure a peaceful, stable and prosperous sub-region, and its mission seeks to design and implement programmes that improve the well-being and living conditions of the people of the sub-region, while maintaining peace and stability. It is to this end that all the Member States of the Union are also member states of the Economic Community of West African States (ECOWAS) which has set up a Water Resources Coordination Centre for the implementation of IWRM in West Africa.

### 3.2.1. Geographic setting of priority Forests/ watersheds and Protected Areas

Map of the transboundary watersheds and protected areas within the four Member States of the MRU  
 Source: BRLi, SRTM/UEMOA 2011 and ProtectedPlanet.net





Source: BRLi, SRTM/UEMOA 2011 and ProtectedPlanet.net

### Transboundary Gola Forest (Liberia and Sierra Leone)

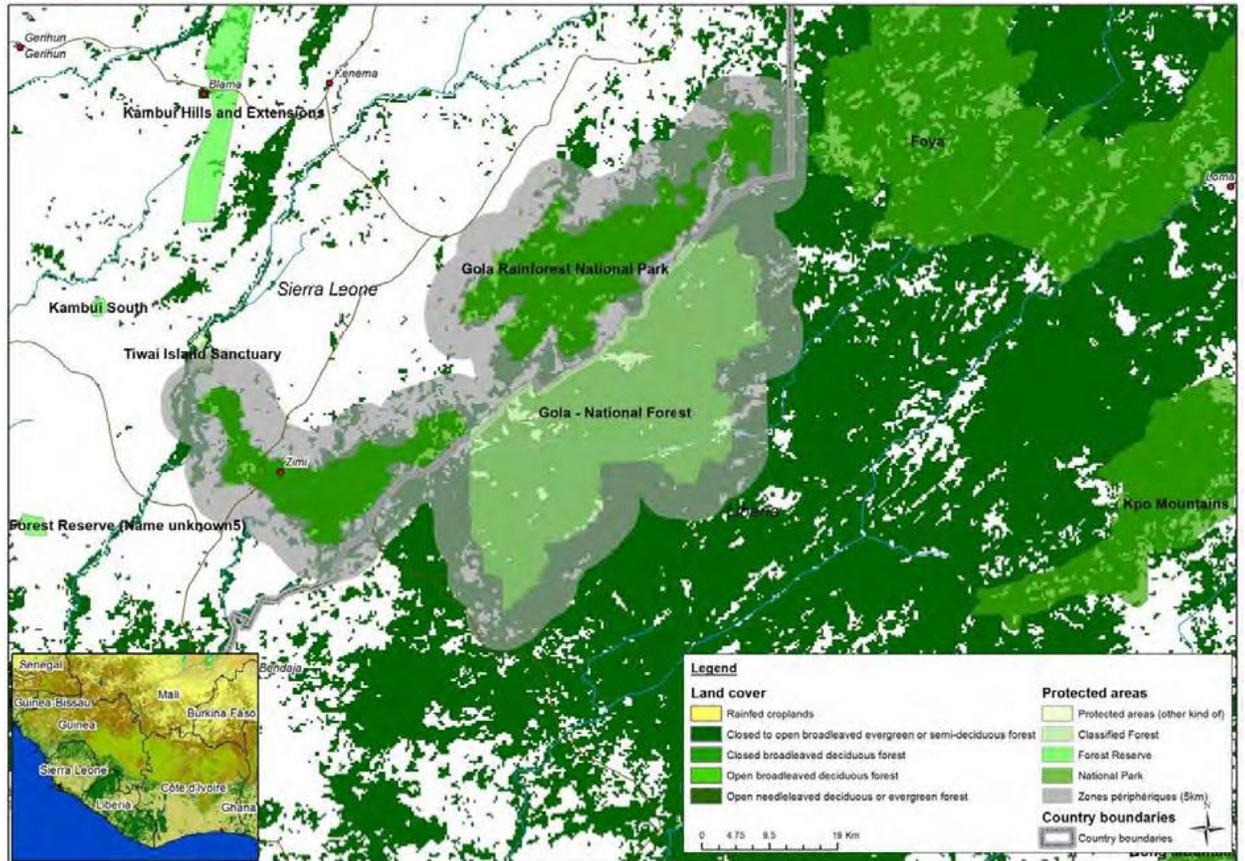


Figure 4: Gola Forest

Sapo-Grebo-Tai (Liberia and Côte d'Ivoire)

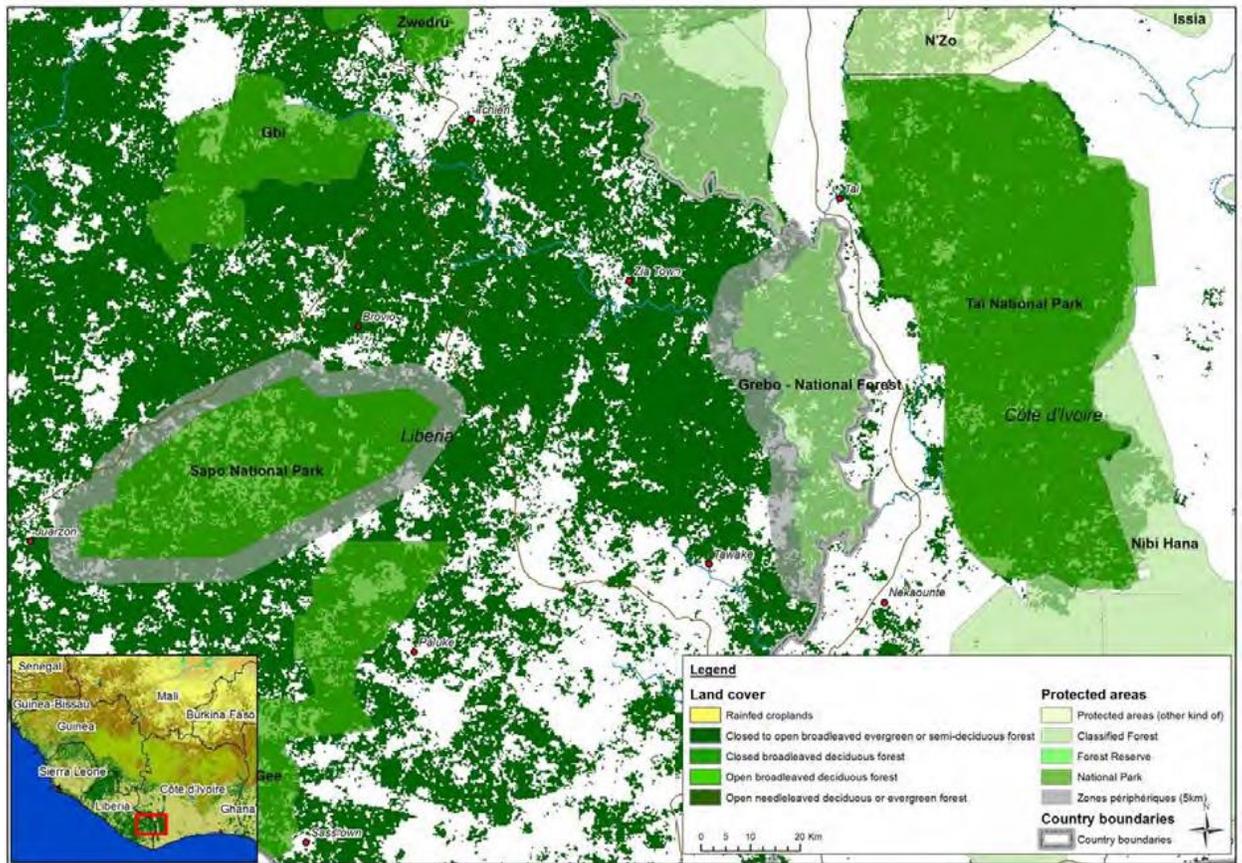


Figure 5: Sapo-Grebo-Tai Forest

Source: BRLi, SRTM/UEMOA 2011 and ProtectedPlanet.net

3.2.2. Geographic setting of Transboundary target River Basins

In addition to the Mano River, the project is targeting three additional River Basins as shown on the maps below Figures 3-7? The table below shows the areas of these target basins as well as the national portions of each of them.

Table 2 : The national portions of the targeted basins

	Côte d'Ivoire	Guinée	Libéria	Sierra Leone	Areas
Cavally	54%	5%	41%		29 400 km <sup>2</sup>
Great and Little Scarcies (Kolenté & Kaba)		66%	34%		26 300 km <sup>2</sup>
Moa, Makona		43%	9%	48%	19 500 km <sup>2</sup>
Mano		0,5%	75%	24,5%	7 662 km <sup>2</sup>

### 3 Target River Basins: Moa Makona, Scarcies, and Cavalla

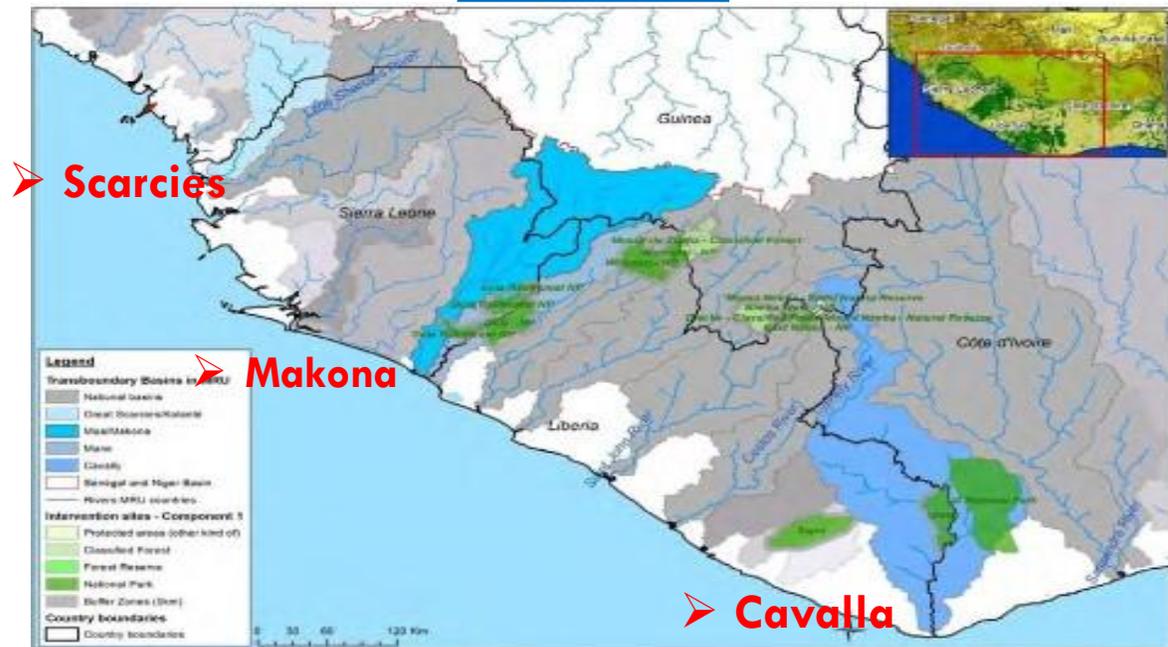


Figure 6 : Target River Basins

Source: BRLi, SRTM/UEMOA 2011 and ProtectedPlanet.net

GREAT AND LITTLE SCARCIES / KOLENTÉ basins shared by Guinea 66% and Sierra Leone 34%.

## Great and Little Scarcies

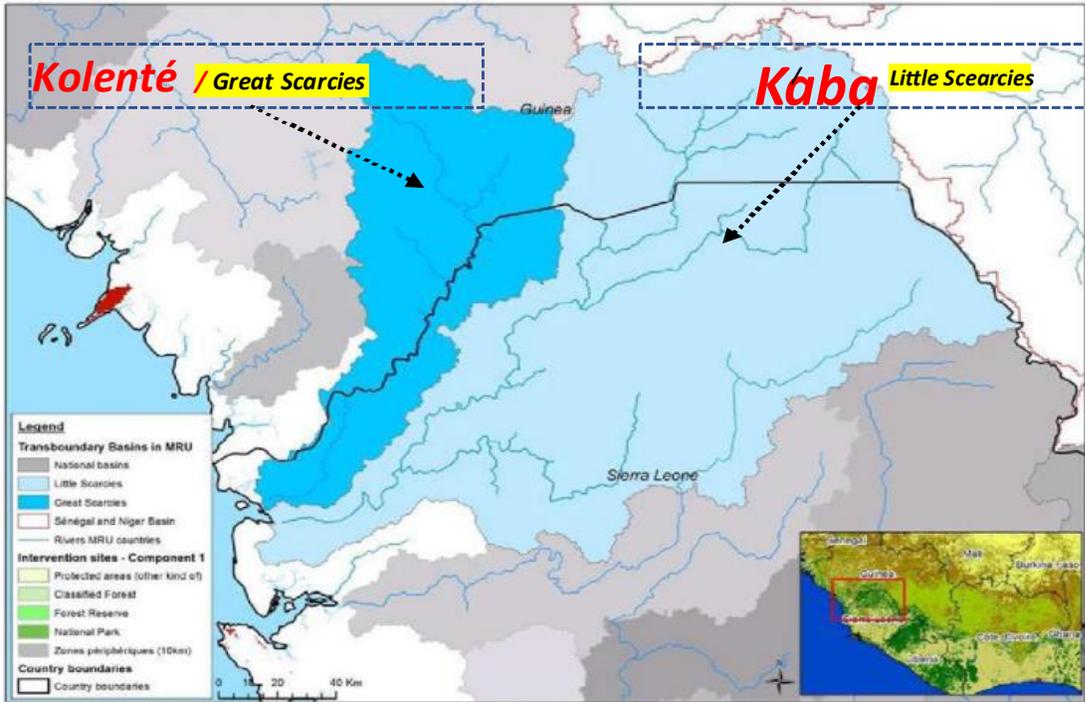


Figure 7 : Great & Little Scarcies

Source: BRLi, SRTM/UEMOA 2011 and ProtectedPlanet.net

## MOA/ MAKONA BASIN

The Moa/Makona basin within the Mano River Union (MRU) countries of Guinea, Liberia and Sierra Leone: In Guinea- covering about 8,300 km<sup>2</sup>; in Liberia – covering about 1830 km<sup>2</sup>; and within Sierra Leone – covering about 9,520 km<sup>2</sup>.

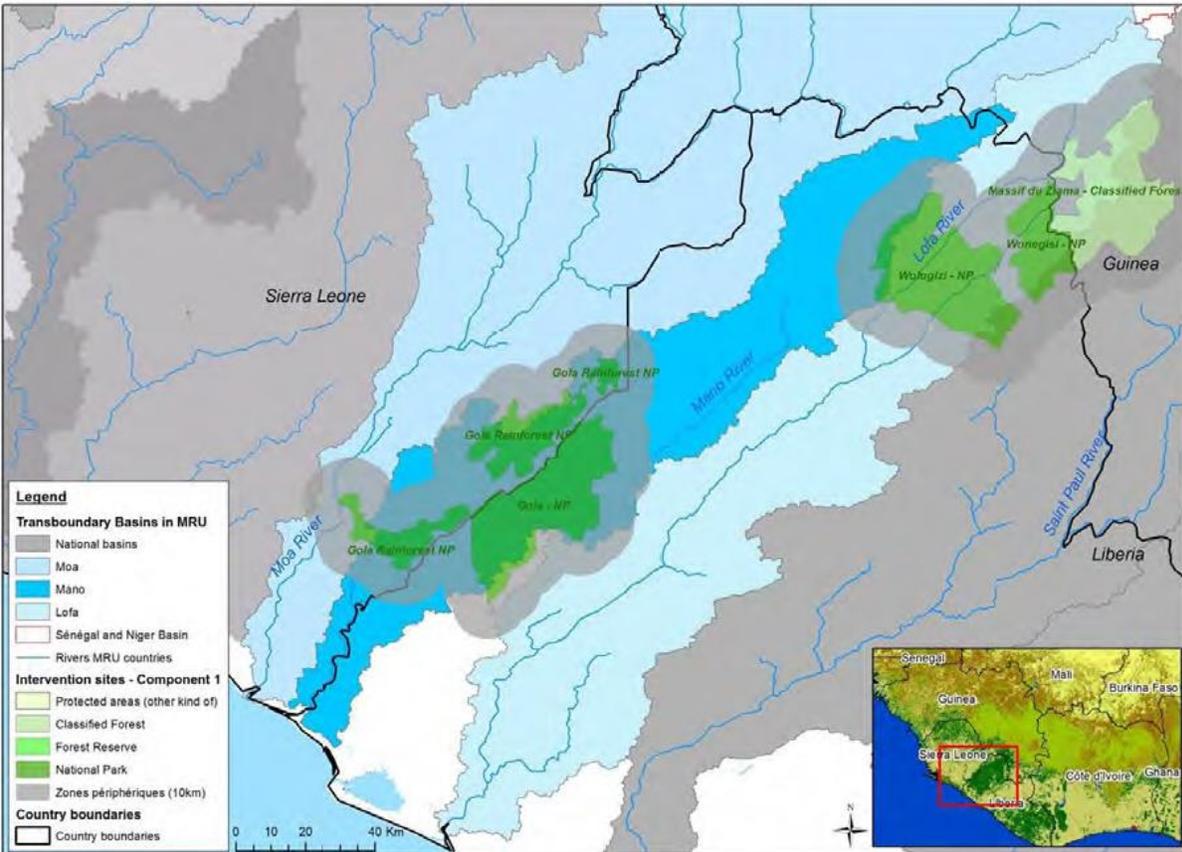
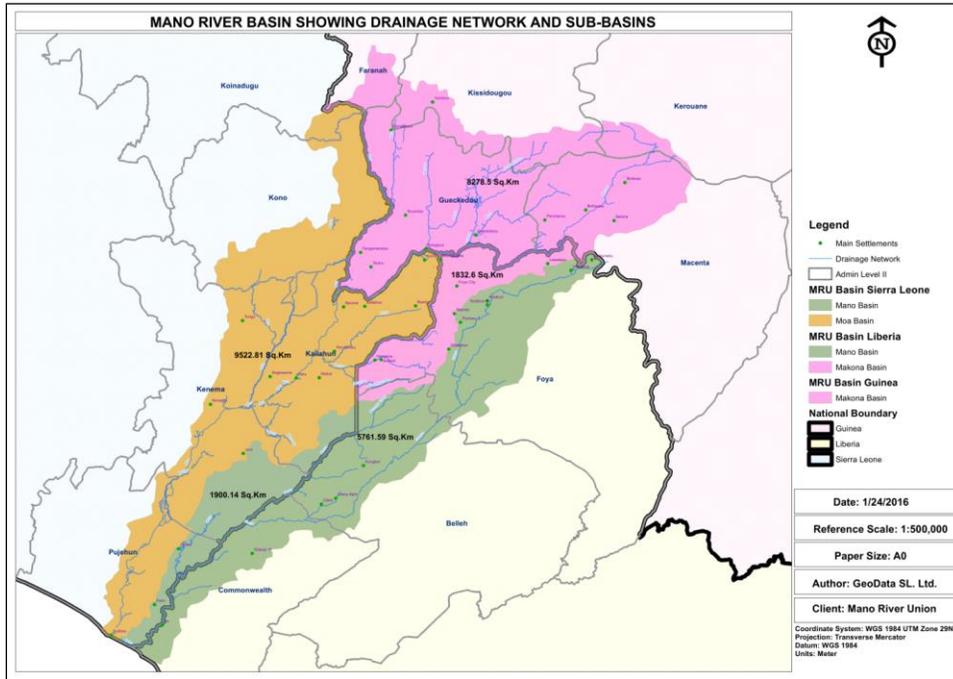


Figure 8 : Moa Makona Basin

Source: BRLi, SRTM/UEMOA 2011 and ProtectedPlanet.net

**MOA and MANO RIVER BASIN Shared between Sierra Leone, Liberia, and Guinea**



**Figure 9** Mano River Basin

Source Bridge Project

CAVALLA BASIN shared by Côte d'Ivoire ,Guinea, and Liberia.

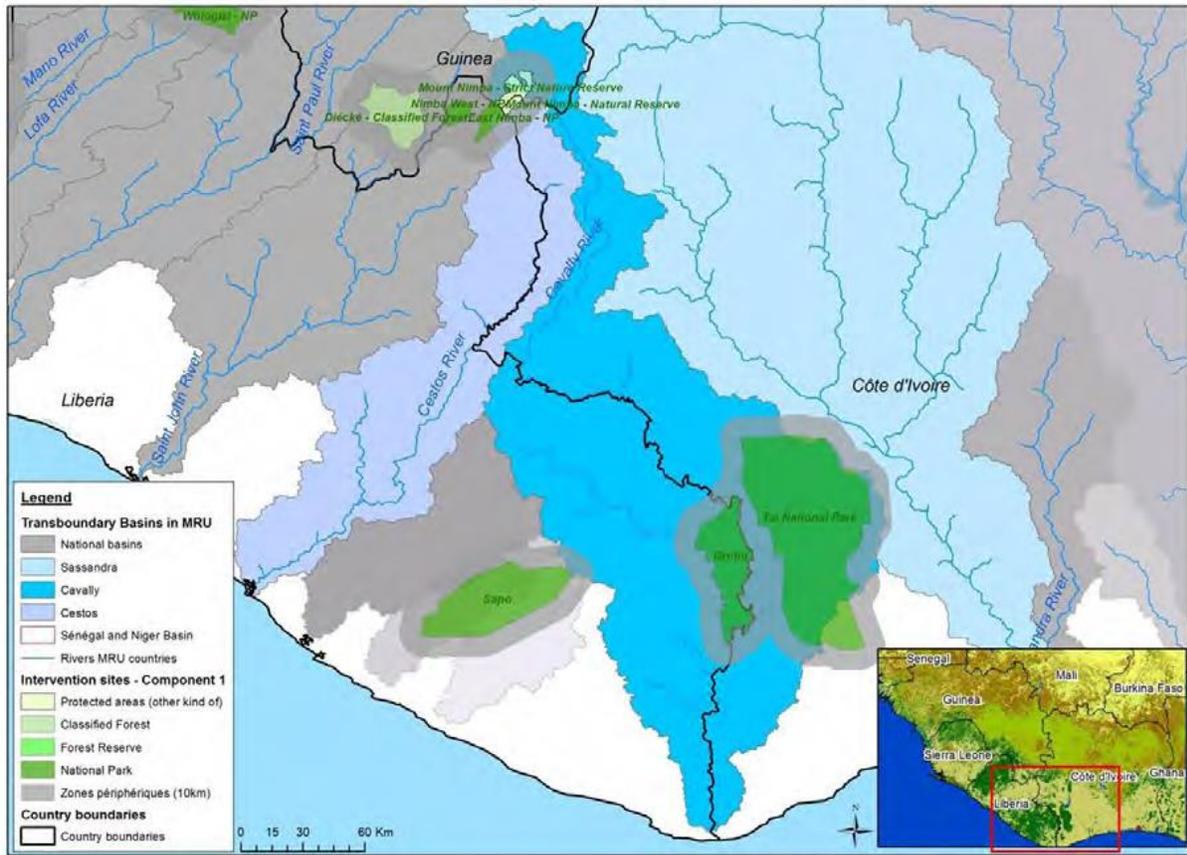


Figure 10 : Cavalla Basin

Source: BRLi, SRTM/UEMOA 2011 and ProtectedPlanet.net

### 3.3. Socio-economic context

Most people in MRU countries depend directly and heavily on natural resources and ecosystem services for their daily well-being. Therefore, it is essential to prepare and implement a SAP that respects and integrates the management of nature's contributions to people, including improving the rights and livelihoods of local communities.

### 3.4. Institutional, legislative and regulatory context

Institutional, legislative and regulatory failures are among the main drivers of environmental problems and ecosystem degradation. The SAP is an opportunity to address some weaknesses, including legislative and policy failures such as the lack of secure property rights for farmers. For example, agroforestry, which promotes more productive, diversified, integrated and intensified trees and agricultural systems to provide livelihoods and environmental benefits, can only succeed if farmers' ownership of trees and land is legally secured and protected.

Fortunately, it should be noted and taken into account that new policies, laws and regulations continue to be adopted to update the legislative framework and correct the shortcomings observed.

#### a. Example in Sierra Leone

Supplement to the Sierra Leone Act Vol. CXLVIII, No. 48 dated 17 August 2017: National Water Resources Management Act 2017. This law aims to ensure the equitable, beneficial, efficient and sustainable use and management of the country's water resources; establishing a National Water Resources Management Agency; Provide a watershed management board and watershed management committees for water resources management and other related matters.

Establishment and functions of the National Water Resources Management Agency in Sierra Leone: There is hereby established an agency to be known as the National Water Resources Management Agency, which is responsible for ensuring that the country's water resources are sustainably controlled, taking into account: (a) the adoption of the natural boundaries of river basins and aquifers as basic units of water resources management; (b) protecting water resources to ensure the sustainability of resources and the protection of aquatic systems and recognizing the polluter pays principle; (c) provide for existing customary uses of water and avoid significant harm to other users; (d) promote the efficient and beneficial use of water resources in the public interest; (e) promoting community participation and gender equity in the allocation of water resources; (f) promote conservation and recognize the economic value of water resources; (g) reducing and preventing pollution and degradation of water resources; and (h) compliance with international obligations for the protection and management of transboundary water bodies.

It is therefore essential to ensure that the SAP has the approval and full commitment of this Agency as well as other government institutions working on integrated water resources management (IWRM) and sustainable forest management (SFM).<sup>7</sup>

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<sup>7</sup> See ACT Supplement to Sierra Leone Gazette Vol. CXLVIII, No. 48 dated 17 August 2017. <https://ewrc.gov.sl/wp-content/uploads/2021/10/NWRMA.pdf>

#### b. Example: in Côte d'Ivoire - A New Water Code

A draft law on the water code was adopted, Wednesday, September 28, 2022, in Abidjan, by the Council of Ministers, under the Ministry of Water and Forests. The adoption of this Water Code by Parliament and its promulgation by the Head of State would bring useful legislative reforms for the management of water resources in Côte d'Ivoire. Water, within the framework of this code, belongs to the national common heritage. This water code incorporates a new system that ensures the conditions for the sound and sustainable use of water resources. It also improves the framework for preserving sites and wetlands against the effects of climate change and sets new rules for the valorization and restoration of surface water, groundwater and territorial sea water. The Water Code, in addition, reorganizes the institutional framework of the government body that is in charge of enforcement of water laws and regulations and introduces new violations of law with heavier penalties. <sup>8</sup>However, the implementing legislation of the new law will need to be adopted and implemented for the law to be effective on the ground.

#### c. Example in Guinea)

In Guinea, there is remarkable convergence and coherence of laws and regulations on water resources management and the protection of human health. Thus, the provisions of the Environmental Code, the Water Code, and the Public Health Code of Guinea are all relevant for the management of wetland ecosystems and the management of water resources, in order to contribute to the protection of the environment and human health. For example, the Environmental Code that is in force, in its Article 20 stipulates "The Ministry in charge of the Environment elaborates, in a participatory manner, the National Action Plan for the Environment, taking into account the objectives of sustainable development. Sectoral policies, programmes, projects and strategies are based on the principles developed in the National Action Plan for the Environment". <sup>9</sup> Similarly, Article 34 of the Water Code stipulates that "The various departments in charge of the administration enact all regulatory measures within their responsibilities, in agreement with the Ministry of Hydraulics for the establishment and management of protected areas". Article 33 of the Public Health Code stipulates "Article 33: Any dumping or burial of toxic products of organic, chemical or radioactive waste in the bed of a watercourse (river, lake, pond ) and in the sea, is prohibited by the law that specifies the related penalties. Article 57 of the Public Health Code states: «The public and private sectors shall contribute to the regular establishment of standards regulating the distribution and use of pesticides in accordance with the provisions of international conventions. »

#### d. Example in Liberia

Liberia has adopted a national integrated water resources management policy in collaboration with the Ministry of Health and Social Welfare, the Ministry of Rural Development, the Ministry of Planning and Economic Affairs, the Ministry of Agriculture, the Ministry of Public Works, the Liberian Environmental Protection Agency and the Liberia Water and Sewer Corporation. This SAP must involve all of the above institutions to ensure participation and commitment to endorse and implement the SAP collectively. The policy recognizes that there is a pressing need for a well-coordinated and integrated approach to the

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<sup>8</sup> See publication of the Agence Ivoirienne de Presse <https://www.aip.ci/cote-divoire-aip-le-gouvernement-adopte-un-projet-de-loi-portant-code-de-leau/>

<sup>9</sup> See Law L/2029//0034/AN of 4 July 2029

<https://gn.test.chm-cbd.net/sites/gn/files/2021-08/CODE-ENVIRONNEMENT-GUINEE%202019.pdf>

development and management of the country's water resources (integrated water resources management). In addition, there is a need for a framework for prioritizing, planning and implementing the protection and optimal use of water resources. In addition to the lack of access to adequate sanitation and the contamination of water bodies by various wastes, the Government is concerned that the majority of its population does not have access to clean and safe drinking water. The major challenge is to ensure that this social service is provided to all. The urgency of an integrated approach to water resources management with full coordination among water-related sectors cannot be overemphasized. Unlike in the past, Liberia now has its first comprehensive national integrated water resources management policy. This policy will guide development efforts to make the most of these resources in a sustainable manner for the livelihoods of present and future generations. The SAP takes into account all these challenges and the national priorities adopted to progressively address these challenges.<sup>10</sup>

### **3.5. Strategic context, including existing or ongoing programmes**

Recognizing that "no project can exist in a vacuum", the key elements of this SAP focus on project-related issues, but throughout the process, it is also recognized that success or failure depends not only on the project itself, but also on the dynamic interactions of organizational factors at the local level, national and regional. This SAP examines the interactions of explicit and implicit organizational factors in this complex situation and their potential effects on SAP outcomes. In addition, the SAP development process identified "leverage points" to heaviness existing baseline information. Thus, it is important to consider the strategies, programmes and projects being implemented or planned in this same area of the MRU and having as their objectives the management of forest landscapes and wildlife, water resources, river basins, including the coastal area. This consideration is essential to avoid duplication or harmful competition and rather to stimulate and maintain an efficient synergy with this SAP and its Investment Plan. These programs and projects offer co-funding opportunities that are important to review and make effective to support the Vision and LTEQO of the SAP.

#### **3.5.1. Example of a regional programme operating in the same area and with similar objectives to this MRU project**

For example, the West Africa Biodiversity and Low Emission Development (WABiLED) programme is a programme operating in the same landscape, funded by the United States Agency for International Development (USAID) with 3 main objectives: reduce deforestation, forest degradation and biodiversity loss in key transboundary forest landscapes; combating wildlife trafficking and improving great ape conservation; and reducing greenhouse gas emissions and increasing carbon sequestration from land use. The objectives of this project are focused on the management and sustainable use of the four forest areas targeted by the MRU project. It is therefore logical to establish a strong partnership between this USAID project and the MRU/IUCN/GEF project. This type of partnership is an opportunity to obtain a co-financing agreement but also for mutual support between the two projects that should complement each other by sharing responsibilities.<sup>11</sup>

#### **3.5.2. Examples of strategies and programmes at the national level**

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<sup>10</sup> See Liberia National Integrated Water Resources Management Policy <https://faolex.fao.org/docs/pdf/lbr180020.pdf>

<sup>11</sup> See WABULED <https://wabuled.exposure.co/>

a. Côte d'Ivoire REDD+

In order to fight against deforestation and its harmful consequences and manage the effects of climate change and stop the degradation of the agro-ecological environment, Côte d'Ivoire has been engaged in the International Mechanism for the Reduction of Greenhouse Gas Emissions from Deforestation and Forest Degradation (REDD+), since 2011. In November 2017, the Council of Ministers of Côte d'Ivoire approved the National REDD+ Strategy which aims to restore national forest cover to reach 20% of the territory while ensuring the objectives of poverty reduction, human and social development of local communities within a framework of social, cultural and gender equity.<sup>1213</sup>

It is in these dynamics that the Cavalla region is committed to developing in a participatory and socially inclusive way a strategic plan for zero-deforestation agricultural production, aligned with the objectives of REDD+ and the national policy for the preservation, rehabilitation and extension of forests as well as the Regional Plan for Territorial Planning and Development, with a green growth strategy. The regional strategic plan for zero- deforestation agricultural production in the Cavalla region is an important process to be taken into account in the formulation and implementation of the Côte d'Ivoire NAP as well as the SAP and its Investment Plan. Like the SAP, the regional strategic plan for zero- deforestation agricultural production in the Cavalla region is the result of a participatory process of analysis of land use dynamics and the role of different categories of stakeholders, before proposing options and measures to protect and progressively restore forest cover in the region, while improving conditions for local communities through sustainable agricultural production.

b. Guinea REDD+ and National Climate Change Strategy

In Guinea, the process for preparing a roadmap for REDD+ was based on a participatory approach and benefited from the contributions of various stakeholders at national and regional levels and in all sectors of activities that affect land use (agriculture, livestock, energy, mining, land use planning...). The REDD+ process in Guinea is not very advanced, but to address the challenges and risks associated with climate change, the Ministry of Environment, Water and Forests, with the support of UNDP, has commissioned the development of a national strategy to combat climate change with an action plan. This strategy integrates and complements the efforts and commitments of the Guinean Government for a resilient development process to the impacts of climate change, with low greenhouse gas emissions. This National Strategy on Climate Change thus aims at the sustainable and coherent integration of the two components of climate change (adaptation and mitigation) into the country's national development policies, within the framework of effective coordination and convergence of initiatives in the fight against climate change. The strategy was designed in a participatory and inclusive manner, involving all categories of actors, particularly stakeholders working in sectors vulnerable to climate change.<sup>14</sup>

c. Liberia REDD+

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<sup>12</sup> See the National REDD+ Strategy Côte d'Ivoire adopted by the Government  
<https://reddplus.ci/la-strategie-nationale-redd-cote-divoire-adoptee-par-le-gouvernement/>

<sup>13</sup> See National REDD+ Strategy of COTE D'IVOIRE  
[https://chm.cbd.int/api/v2013/documents/9D0035D2-D17D-EA58-E844-97D8870F0EF5/attachments/212263/R%C3%A9sum%C3%A9%20SNREDD%20VF\\_%2003102017%20REDD%2B.pdf](https://chm.cbd.int/api/v2013/documents/9D0035D2-D17D-EA58-E844-97D8870F0EF5/attachments/212263/R%C3%A9sum%C3%A9%20SNREDD%20VF_%2003102017%20REDD%2B.pdf)

<sup>14</sup>See the National Strategy on Climate Change of the Republic of Guinea  
<https://faolex.fao.org/docs/pdf/gui208220.pdf>

Liberia has adopted the REDD+ Agenda to promote local livelihoods through sustainable forest management and biodiversity conservation, carbon reduction and equitable benefit-sharing. The Liberia Forest Sector Programme is funded (\$36.7 million) and the World Bank administers the fund.<sup>15</sup>

Liberia is covered with 7.5 million hectares of rainforest that support communities and contribute to the national economy. However, the country faces the challenge of increasing incomes and creating jobs for a rapidly growing population, while sustainably managing the forest for future generations. Deforestation is a growing threat. Those who depend most on the forest will suffer the most from its loss. To avoid this, the country has worked with national and international partners to reform the forest sector so that it can bring community, conservation and commercial benefits. Liberia's domestic reform agenda is supported by international climate change agreements and voluntary partnership agreements that provide funds to reduce Emissions from forest loss. The national strategy sets out Liberia's ambition for REDD+ implementation through the Liberia Forest Sector Project. The strategy complements the existing pilot project in Wonegizi, Lofa County, by preparing key elements of the governance framework for REDD+. The Strategy guides REDD+ developments with 5 strategic priorities: (1) Helping communities manage forests sustainably, (2) Sustainably managing commercial forestry, (3) completing the network of protected areas, (4) Protecting high carbon stock and conservation value forests in agricultural and mining concessions, and (5) generating equitable and sustainable benefits from REDD+.<sup>16</sup>

#### d. Sierra Leone- Gola Forest REDD+ - Gola REDD+ Forest

With the help of carbon finance, the Gola Rainforest National Park was created to better protect the 70,000-hectare park, the 70,000-hectare buffer zone and the millions of tons of carbon stored there. The previous status of Gola Forest Reserve did not prohibit small-scale logging, industrial and artisanal mining, and agricultural activities, and the forest area was threatened with rapid deforestation and degradation. This project enables local stakeholders (government, communities and national NGOs) to manage this entire landscape in a sustainable way, for the benefit of local communities and wildlife. All of the project's efforts, from employment opportunities for the National Park Forest Rangers to the creation of a cocoa farmers' cooperative, are helping to rebuild lives after a decade of civil war and the recent Ebola outbreak. This "REDD+" initiative will save more than 5 million tons of CO<sub>2</sub> equivalent in the first ten years.

The Gola REDD+ project is a unique forest conservation project that has become the first effectively managed national park in Sierra Leone. In addition to conserving more than 70,000 hectares of sub-Saharan rainforest, the project simultaneously supports the livelihoods of 122 "forest edge communities" (approximately 24,000 people). The project is implemented by Gola Rainforest Conservation Company Limited by Guarantee (GRCLG), a non-profit organization formed by 3 partners: the Government of Sierra Leone, represented by the Ministry of Environment, the Conservation Society for Sierra Leone (CSSL) and the Royal Society for the Protection of Birds (RSPB).<sup>17</sup>

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<sup>15</sup> See The Status of Liberia's REDD+ Process - Environmental Protection Agency (EPA) of Liberia June 13, 2022

[https://redd.unfccc.int/files/liberia\\_status\\_of\\_redd\\_\\_in\\_liberia\\_xxx\\_boon\\_june\\_2022\\_1.pdf](https://redd.unfccc.int/files/liberia_status_of_redd__in_liberia_xxx_boon_june_2022_1.pdf)

<sup>16</sup>See National Strategy for Reducing Emissions from Deforestation and Forest Degradation (Redd+) in Liberia <https://faolex.fao.org/docs/pdf/lbr179067.pdf>

<sup>17</sup> See Gola Frest REDD + reports- Sierra Leone <https://golarainforest.org/our-work>

### 3.5.3. Measures taken by the four countries to advance the implementation of particular Strategies and Programmes with a direct link to the SAP

The four MRU Member States are engaged in a number of programmes, projects and initiatives, with different levels of achievements, including development initiatives at local, national, and regional levels through nature-based solutions, targeting sustainable livelihoods and poverty reduction issues. These programmes and projects are developed and implemented under different integrated approaches, e.g. Integrated Wetland Management (IWM), Integrated Water Resources Management (IWRM), Integrated River Basin Management (IRBM) and Integrated Coastal Zone Management (ICZM). More or less satisfactory or mixed progress has also been made on the ground in poverty reduction by working with local communities in forested areas, river basins and coastal areas. It is essential to the success of this SAP to ensure that the level of achievements of existing strategies and processes is properly considered to build partnerships to better achieve shared objectives, including the Vision and long-term environmental quality objectives.

Industrial or artisanal interventions for forestry, agricultural development, fisheries and mining must also be taken into account as an integral part of the context in which this SAP operates.

### 3.5.4. National Adaptation Plans

These NAPs are important to consider because not only they put in place the basis on which this SAP can be developed and implemented, but also the funding that is deployed at the national level can serve as sources of co-financing for this SAP.

#### a. Public policy, planning and budgeting of the National Adaptation Plan of Côte d'Ivoire<sup>18</sup>

Côte d'Ivoire's development strategy is articulated in the National Development Plan (NDP) 2021 – 2025 as well as the five-year NDP by 2035. The National Climate Change Programme, an operational body, and the Agency for the Fight against Climate Change, a political body, coordinate the climate change response strategy through the Ministry of Environment and Sustainable Development. The strategy presents the main climate projections for Côte d'Ivoire and the impacts of climate change on the agricultural sector, water resources, energy, biodiversity, health and coastal resources. The Nationally Determined Contribution (NDC) (2016) estimates the total cost of implementing adaptation actions at \$1.76 billion and identifies the 11 sectors most vulnerable to climate change. This includes agriculture, livestock, aquaculture, land use, energy and coastal areas. Plans have also been developed for the implementation of the Paris Agreement and NDC for 2016-2020.

#### Means of implementing adaptation actions in Côte d'Ivoire

There are several complementary projects in the field of climate change in Côte d'Ivoire. These projects and their sources of funding can serve as "leverage points" for the development and implementation of the SAP Investment Plan. These projects include:

- Improving access to climate finance in Côte d'Ivoire: the project aims to facilitate access to the Green Climate Change Fund (GCF) resources in Côte d'Ivoire through the allocation of national direct access entities – Banque Nationale d'Investissement (BNI). The project identifies and strengthens the capacities of national direct access entities to improve the preparation and

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<sup>18</sup> See Focus on the PNA of Côte d'Ivoire

[https://www.adaptation-undp.org/sites/default/files/resources/civ\\_french\\_country\\_brief\\_nap-gsp.pdf](https://www.adaptation-undp.org/sites/default/files/resources/civ_french_country_brief_nap-gsp.pdf)

management of climate change projects. It is also about developing a national funding strategy to identify funding options. The latter includes recommendations to mobilize private sector investment for priority climate actions.

- Increase climate ambition regarding land use and agriculture through NDC and NAPs (2020-2025, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety): the project supports Côte d'Ivoire and 11 countries in the implementation of NAPs and NDCs with a focus on agriculture and land use.

b. Initial National Adaptation Plan (iNAP) - Sierra Leone

Sierra Leone has also developed and adopted a first national adaptation plan (initial National Adaptation Plan) to address climate change. This document is an integral part of the components of the country's updated Nationally Determined Contribution (NDC) for the effective implementation of the Paris Agreement. The Government of Sierra Leone has begun to integrate climate change adaptation measures into national development processes, strategies, policies, programmes and climate-smart budgeting. It will therefore facilitate the process of mainstreaming climate change adaptation measures at different levels, as appropriate. The preparation of this initial NAP is in line with the national climate change policy, strategy and action plan, as well as the National Medium-Term Development Plan (2019-2023), which includes a cluster of questions on vulnerability management and resilience building. The initial NAP covers five priority sectors of agriculture and food security, water resources and energy, coastal zone management, environment and disaster management, as well as two cross-cutting priorities identified: gender equality and social inclusion and hard and soft infrastructure. This document can therefore be an opportunity to catalyze national and international financing for the implementation of climate change adaptation strategies and actions.<sup>19</sup>

c. National Adaptation Plan (NAP) in Liberia

Liberia also developed the National Climate Change Response Strategy in 2018 and has a National Readiness Plan as a fundamental milestone to address its vulnerability and resilience to climate change.<sup>20</sup> The NAP was developed through a process of cooperation and consultation involving stakeholders from the Government, the private sector and civil society, with the support of the United Nations Development Programme (UNDP). UNDP supports the implementation of NAPs through the design, financing and implementation of priority actions. The effective implementation of the NAP will be supported by the establishment of enabling governance structures, including those set out in the promulgated Climate Change Law. Additional support and increased partnerships will be needed for Liberia to achieve its adaptation goals. The Government of Liberia is fully committed to addressing climate change at the national level and to demonstrating leadership in the global fight against climate change. This document is an essential part of Liberia's response to climate change, fulfilling the mandate of the Climate Change Act and reflecting Liberia's commitment to fulfilling its international obligations under the UNFCCC.

d. Public policy, planning, and budgeting in Guinea

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<sup>19</sup> See National Adaptation Plan Sierra Leone  
[https://unfccc.int/sites/default/files/resource/SierraLeone\\_iNAP\\_Final.pdf](https://unfccc.int/sites/default/files/resource/SierraLeone_iNAP_Final.pdf)

<sup>20</sup> See Liberia National Adaptation Plan 2020-2030  
[https://unfccc.int/sites/default/files/resource/LIBERIA\\_%20NAP\\_%20FINAL\\_%20DOCUMENT.pdf](https://unfccc.int/sites/default/files/resource/LIBERIA_%20NAP_%20FINAL_%20DOCUMENT.pdf)

Key strategies include a 25-year national development vision (Vision 2040) and a five-year Vision 2040 implementation plan – called PNDES. The activities proposed by the PNDES are linked to: (i) capacity building to combat climate change; (ii) the promotion of green energy and energy efficiency; (iii) greenhouse gas mitigation in the transport and agriculture sectors; (iv) the promotion of household appliances using green technologies; and (v) increasing carbon absorption capacity through agroforestry. Guinea also submitted a first (2002) and a second (2018) national communication to the UNFCCC and developed its Nationally Determined Contribution (NDC) in 2015 under the Paris Agreement. The NDC defines priority actions: i) preservation of the quality and quantity of water resources; ii) the implementation of measures necessary to protect, conserve and manage ecosystems, revive economic activities and strengthen the resilience of communities in coastal areas; and (iii) support for the adaptation of rural communities for the development of agro-sylvo-pastoral techniques. The NAP also supported the submission of a proposal for preparation and preparatory submission to the Green Climate Fund (GCF) with the aim of supporting the formulation and implementation of a NAP in Guinea. The project proposal "Capacity Building for the Development of the National Adaptation Plan in Guinea" was approved and entered into force on 17 August 2020.

#### Implementation plans for adaptation actions in Guinea

Several projects have been implemented in Guinea to reduce the social and economic costs of climate change, including (non-exhaustive list): • Building resilience and adapting to climate change in vulnerable coastal areas of Guinea (2009): Integration of Guinean coastal zone management into local development policies, strategies and plans, prefectural and national. • Strengthening climate information and early warning systems for resilient development and adaptation to climate change in Guinea (2019-2023, GEF Fund for LDCs, UNDP TRAC, Ministry of Transport, Ministry of Agriculture): Improve climate monitoring, disaster prediction and early warning, and strengthen the capacities of key actors in Guinea.

The production of documents, such as Nationally Determined Contributions and the project document "Capacity Building for the Development of the National Adaptation Plan in Guinea", provide guidance for implementing adaptation measures. The latter is funded by the GCF and came into effect in August 2020. A project will be proposed to address the gaps identified during this phase and to develop the NAP document. The second phase will build on the results of the first phase, including climate risk and vulnerability assessments, and prioritization of adaptation options in priority sectors of agriculture, livestock, forestry, coastal zones and water resources.<sup>21</sup>

## 4. GLOBAL AND REGIONAL SIGNIFICANCE OF TARGET SYSTEMS/AREAS

The area covered by the MRU is part of the sub-region constituting the third largest biodiversity reserve in the world, after the Amazon basins in South America and the Congo in Central Africa. There have been more than 9000 species of plants of which at least 25% are endemic, an abundant and varied fauna of which several species are also endemic such as the viviparous toads of the Nimba Mountains, the chimpanzees of Bossou and Tai, etc.

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<sup>21</sup> See Focus on the National Plan d; Adaptation of Guinea (PNA)  
[https://www.adaptation-undp.org/sites/default/files/resources/guinea\\_french\\_oct\\_21.pdf](https://www.adaptation-undp.org/sites/default/files/resources/guinea_french_oct_21.pdf)

The region has an important reserve of fresh underground and surface water as well as forest blocks. However, ecosystems and water resources are highly threatened by unsustainable exploitation methods such as slash-and-burn farming, uncontrolled logging (export of logs, timber and charcoal), the exploitation of iron ores, bauxite, gold and diamonds, etc. without restoration of degraded spaces after operation. The MRU area covers at least ten watersheds and four of them are transboundary in scope.

## **5. COMPLEXITY OF THE PROJECT AND TARGET ECOSYSTEMS**

It is worth noting that the development and future implementation of the SAP is characterized by an unusual and complex situation because the project does not only involve a single transboundary basin, but also includes the following elements:

- a. The project has two major components that are interconnected:
- b. The first component focuses on the sustainable management of transboundary forests shared by the four MRU member countries;
- c. The second component focuses on the management of international waters shared by MRU member countries.

For the first component of the project, there are four target forest massifs:

- i. Mount Nimba Integrated Forest Reserves (Guinea/Côte d'Ivoire) and East Nimba National Park (Liberia);
- ii. the complex of protected areas of the national forests of Wonegisi-Ziama National Park (Liberia/Guinea);
- iii. The Gola Forest National Park Protected Area Complex (Sierra Leone) and the Gola National Forest (Liberia);
- iv. Sapo National Park Protected Area Complex (Liberia), Grebo National Forest (Liberia) and Tai National Park (Cote d'Ivoire).

For the second component of the project, four river basins are targeted:

- i. Transboundary Moa/Makona River Basin, with an area of 19,500 km<sup>2</sup> shared by Guinea (43%), Liberia (9%) and Sierra Leone (48%).
- ii. Cavalla transboundary river basin 29,400 km<sup>2</sup> shared by Côte d'Ivoire (54%), Guinea (5%), and Liberia (41%);
- iii. Great Scarcies/Kolenté and Litte Scarcies transboundary river basin 26,300 km<sup>2</sup> shared by Guinea (66%) and Sierra Leone (34%);
- iv. Mano Transboundary River Basin 7700 km<sup>2</sup> shared by Guinea (0.5%), Liberia (75%) and Sierra Leone (24.5%).

The preparation, adoption, and implementation of the transboundary SAP must also be carried out in line with the Mano River Union Strategic Plan as well as the priorities of each Member State, regarding the Sustainable Development Goals (SDGs), the implementation of the new biodiversity framework and climate change mitigation/adaptation.

## **6. TRANSBOUNDARY PROBLEMS OF TARGET FOREST AREAS AND TARGET RIVER BASINS OF MRU**

### **6.1. Identification of all significant problems**

Based on the literature review, national diagnostic analyses and the impact of the problem, the Transboundary Diagnostic Analysis document identified the following nine (9) cross-border problems:

1. Biodiversity loss
2. Deforestation and forest degradation
3. Degradation of mangroves and estuarine ecosystems
4. Degradation of water quality
5. Climate variability and change
6. Water-related diseases
7. Changes in river morphology – bank erosion
8. Aquatic Invasive Plants
9. Erosion, degradation of soils and river headwaters

The nine problems were then reduced to 8 by combining problem 7 (Changes in river morphology and bank erosion) and 9 (Erosion, degradation of soils and river heads).

Without posing it as transboundary problem, the TDA raised the issue of climate change and variability as a cross-cutting issue and made it a causal study. The same is true for the issue of vulnerable social component including gender and natural resource governance. Then these eight (8) issues were prioritized.

### **6.2. Priority Transboundary Problems**

Based on five criteria (impact, level of interaction, cross-border dimension and consequences of the problem on other targeted basins) of stratified scoring from 0 (0 = nil, irrelevant, undocumented) to 5 (5 = very high, very important/significant, optimal), the TDA has selected transboundary priority problems : deforestation and forest degradation, degradation of water quality, loss of biodiversity and soil erosion and degradation of land and riverbanks.

#### **6.2.1. Deforestation/forest degradation**

Logging, mostly uncontrolled, leads to deforestation and forest degradation. The uncontrolled cutting of wood (firewood, timber and service wood) by local populations as well as by the logging and mining industries and sawmills contribute to a continuous degradation of forest ecosystems in all basins of the

MRU area. The degradation of vegetation cover then results in the degradation of forest ecosystems and watersheds resulting in the loss of terrestrial fauna and aquatic biodiversity habitat.

### 6.2.2. Water quality degradation

Releases of chemicals such as mercury and cyanide used in artisanal and industrial mining as well as those used in agriculture (pesticides, herbicides, and fertilizers,) negatively affect water quality (surface water and groundwater). The deterioration of water quality has negative consequences on flora, fauna and in particular ichthyofauna as well as on human and animal health. Water quality degradation is a general problem in the MRU landscapes and river basins (TDA 2022).

### 6.2.3. Biodiversity loss

In forest ecosystems, deforestation and forest degradation lead to the containment of endangered wildlife and plant species in small areas or specific niches, increasing their vulnerability. Meanwhile, poaching, bushfires, expansion of agricultural land and reduced availability and quality of water resources contribute to reducing existing potential. Population growth and migration movements contribute significantly to the loss of biodiversity and ecosystem services, which also negatively impact socio-economic activities.

### 6.2.4. Soil erosion and land and bank degradation.

Under the effect of gullies and water erosion, land and especially soils are gradually being degraded. Land and soil degradation results in increased turbidity and solid loads in river beds, reshaping the course of water sources and deteriorating river heads. Land and soil degradation also creates, over time, siltation of river beds, thus modifying their regime (narrowing river beds, drying or diverting watercourses and widening river banks).

The TDA also considers that the other four problems are "shared or common" problems, which means that they can also be considered as "transboundary problems" because they are cross-border and common to at least two countries in a given water system or eco-geographical landscape. All listed problems in this category are therefore considered to be transboundary problems, and the first four are considered as priority problems..

Furthermore, the examination of priority problems shows that the issue of "water-related diseases" stems from "degradation of water quality". Thus the priority transboundary problems of the Mano River Union area can be reduced to four.

Apart from these four priority problems, four major cross-cutting problems have been identified and seven specific problems are considered to contribute to the preservation of key biodiversity areas and consolidate the achievements of the ongoing project "Ecosystem conservation and sustainable management of the International Waters Resources of the Mano River Union".

## 6.3. The cross-cutting problems of the MRU landscapes and river basins

Some so-called cross-cutting problems are also noted because they are not specific to river basins but concern all riparian countries. Four of them are environmental: degradation of mangroves and estuarine ecosystems, climate change and vulnerability, invasive aquatic vegetation and plastics expansion.

Environmental governance is a pressing issue in all MRU member states. Indeed, mine operators dump substances that are not conducive to human, animal and ecosystem health. The same is true regarding agricultural practices that not only operate on slash-and-burn but also contribute to contaminating soils and

water sources with pesticides, fungicides and herbicides that are often illegal. Uncontrolled logging is a major contributor to forest landscape degradation. In addition, the problem of vulnerable groups, in particular concerning women, children, young people and persons with disabilities, if not taken into account in a context of social conflicts and epidemics, could jeopardize the success of the SAP. This aims at their progressive integration into the strategic and operational actions of the SAP as well as into policies, strategies, laws, action plans, programmes, projects and all socio-economic activities (water supply, agriculture, livestock, fisheries, artisanal mining). Moreover, in the absence of regulations, in all the countries of MRU space, there is a propensity for the use of non-biodegradable plastic which negatively affects human and animal health through its components which are ingested and also affects the environment (infiltration of rainwater, olfactory pollution, etc.).

This requires legal and institutional reforms that can update and balance natural resource management policies in the MRU area. Countries are often parties to international and regional environmental conventions and treaties but they rarely domesticate these agreements through adoption of laws and regulations for implementing them. Similarly, as the SAP is a policy document negotiated among Member States, it is necessary to have an appropriate institutional framework for its implementation both within countries and at the level of the Mano River Union. Finally, the development of invasive aquatic plants is of great concern in the subregion because it affects most water bodies, contributes to their eutrophication and consequently negatively affects fish resources (potential and diversity) as well as socio-economic activities.

## 7. APPROACH TO TRANSBOUNDARY DIAGNOSTIC ANALYSIS AND RELATIONSHIP WITH THE STRATEGIC ACTION PROGRAMME ADDRESSING PRIORITY PROBLEMS, CROSS-CUTTING PROBLEMS AND SPECIFIC ECOSYSTEM PROBLEMS

### 7.1. Basic features of this Strategic Action Programme

The TDA identified and prioritized seven transboundary problems in the four MRU target forest areas and river basins. The priority and cross-cutting problems identified are major areas of concern, the root causes of which are the subject of strategic and operational actions through the definition and implementation of an appropriate long-term vision and objectives for environmental quality.

### 7.2. Vision Statement

The statement of the vision adopted by consensus during the sessions in the basins is:

*" The countries sharing the MRU basins cooperate in solidarity for peace, security and sustainable management of natural resources while adapting to climate change for the health and socio-economic well-being of the communities and member states by 2043".*

This vision puts at its center solidarity between peoples for a secure social environment and social peace, a sine qua non condition for the sustainable management of natural resources. Due to the context of climate change and the need to ensure health and socio-economic well-being for all the communities living in the

basins, the vision takes these two factors as milestones to hope for sustainable and harmonious development in the basins in member States of the MRU space in four five-year phases, i.e. by 2043.

### **7.3. Long-Term Environmental Quality Objectives (LTEQO), including forest ecosystems and River Basin ecosystems of MRU**

In order to participate in the resolution of the problems identified, the consultations in the basins as well as those at the national level made it possible to retain four priority objectives, three cross-cutting objectives and five specific objectives. Each of the problems identified corresponds to an objective.

#### **7.3.1. Four priority Long-Term Environmental Quality Objectives (LTEQO):**

LTEQO 1: Forest ecosystems in MRU basins are restored, protected and sustainably managed.

LTEQO 2: Good quality water is available to meet the basic needs of ecosystems and people in MRU basins in accordance with SDG indicator 6.3.2.

LTEQO 3: Restored and conserved ecological integrity and terrestrial and aquatic ecosystems in the MRU basins are sustainably managed.

LTEQO 4: Land, stream banks and spring heads are restored and protected.

#### **7.3.2. Four cross-cutting Long-Term Environmental Quality Objectives (LTEQO):**

LTEQO 5: The Member States' capacities to adapt, mitigate and be resilient to climate change are strengthened at all levels.

LTEQO 6: Vulnerable groups including women, youth and children are taken into account in the implementation of the SAP.

LTEQO 7: the Cross-border cooperation between Member States, communities and other actors is strengthened.

LTEQO 8: The utilization of plastic is eradicated.

#### **7.3.3. Seven Objectives specific to particular ecosystems**

LTEQO 9 Specific Objective 1: The infestation of aquatic invasive species is reduced to a level that does not adversely affect aquatic ecosystems and socio-economic activities in the MRU basins.

LTEQO 10 Specific Objective 2: The forest ecosystem of Mount Nimba is restored and a better organized management system is established.

LTEQO 11 Specific Objective 3: The forest ecosystem of the Tai-Grabo-Krahn-Sapo complex is restored and a management system established.

LTEQO 12 Specific Objective 4: The forest ecosystem of the Gola complex is restored and a management system is established.

LTEQO 13 Specific Objective 5: Mangroves in estuarine ecosystems are restored and a system for their management is established.

LTEQO 14 Specific Objective 6: The forest ecosystem of the Penselly-Soya-Soubaya and Outamba national parks is restored and a management system established.

LTEQO 15 Specific Objective 7: The forest ecosystem of the Wologisi-Ziama park is restored and a management system established.

#### 7.3.4. Close relationship between TDA and SAP

Each Long-Term Environmental Quality Objective is addressed through actions subdivided into activities that address the root causes of degradation of targeted landscapes. At the national and regional levels, Member States and international partners are expected to work collectively to complete the steps that are required to achieve the objectives of the SAP. At the national level, interventions are defined and implemented through a National Action Plan and a Financing Plan.

As TDA and SAP are part of the same process (the Transboundary Diagnostic Analysis Process/Strategic Action Program), it is important to group and analyze together the results of the two components of the same process that are highly interconnected to better illustrate the interrelationships while recognizing that:

- a. The TDA is the analytical component that identifies and analyses transboundary problems, their impacts and causes.
- b. The SAP is the strategic component that focuses on strategic thinking, planning and implementation. As shown in Table 1, the SAP sets clear priorities for action to address the priority, cross-cutting and specific transboundary issues identified in the TDA.

The content of Table 1 is the result of a highly collaborative process involving consultations at local and national levels, connecting relevant stakeholders and leading to the development of a National Action Plan by each of the four MRU countries. The approach used finally facilitated the possibility to have a consultation at the level of each river basin, bringing together the countries sharing the same basin.

## **8. SYNTHESIS OF THE TRANSBOUNDARY DIAGNOSTIC ANALYSIS AND THE STRATEGIC ACTION PROGRAMME PROCESS- TDA/SAP**

Table 1: Analysis of Problems (TDA) and Proposed Solutions (TDA and SAP)

This table is a summary of the results of the consultations at local and national level, the reports of the meetings held at the level of each basin and the content of the National Action Plans which present all the details (see Annexes.).

Table 3: Analysis of Problems (TDA) and Proposed Solutions (TDA and SAP)

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
<b>8.1. Analysis of priority problems and proposed solutions</b>					
<b>Deforestation and forest degradation</b>	Population increase	Identification and		1.1. Restore degraded forests, protect and manage all transboundary forest landscapes of the MRU.	Relevant governmental structures at the national level
	Increase in rural population densities	Designation of primary forests and valuable ecosystems as protected areas		1.2. Develop/strengthen, harmonize and implement national policies and legislation/regulations to minimize deforestation and forest degradation.	Central governments and parliaments of each country.
	Declining fertility of agricultural land	Reforestation of deforested areas	of	1.3. Promote sustainable agriculture systems	
	Influx of immigrants in search of livelihoods	Implementation of reforestation, compensatory reforestation	of	1.4. Prevent or control bushfires and diseases that can affect forests and wildlife.	Ministries in charge of Agriculture,

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
	<p>Poverty</p> <p>Lack of jobs for youth</p> <p>Weaknesses in the implementation of legislation and regulations related to Forest production</p>	<p>programmes for lost forests</p> <p>Restoration of degraded forests, through reforestation or natural regeneration</p> <p>Strict regulation of forest harvesting</p> <p>Strict supervision to ensure compliance with the conditions for granting timber licenses</p> <p>Promotion of intensive agriculture (irrigation, agroforestry, fertilizer use, etc.)</p>	<p><b>LTEQO1: Forest ecosystems in MRU basins are restored, protected and sustainably managed.</b></p>	<p>1.5. Improve the management of Protected Areas (IP Zone, Buffer and Transition)</p> <p>1.6. Ensure compliance with wood and non-wood forest products regulations for sustainable management</p> <p>1.7. Carry out detailed land cover mapping and establish the baseline</p>	<p>Forestry, Livestock, and Rural Development in each country.</p> <p>Protected Areas Agencies and other Relevant governmental structures at the national level</p>

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
		<p>Supervision of mining activities by preserving protected areas, primary forests and forest ecosystems of special interest</p> <p>Promotion of mining practices that minimize deforestation and ensure the rehabilitation of mine sites</p> <p>Promotion of employment and income-generating activities as alternatives to unsustainable logging and informal and clandestine mining</p>			

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
<i>Degradation of water quality</i>	<p>Low level of knowledge about water quality issues</p> <p>Lack of education and awareness</p> <p>Deficiencies in national legal and institutional</p>	<p>Mining: better supervision of small-scale and/or artisanal mining activities</p> <p>Mining: Information and awareness activities targeting stakeholders in artisanal and small-scale mining</p>	<b>LTEQO 2: Good quality water is available to meet the basic needs of ecosystems and people in MRU basins in accordance with SDG indicator 6.3.2.</b>	<p>2.1. Strengthen the scientific, technical and financial capacities of the technical services of the Member States, in charge of the management of water resources.</p> <p>2.2. Establish a network of monitoring measures and share data on the quantity and quality of water and food contained in natural waters.</p>	

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
	<p>frameworks or in their practical effectiveness</p> <p>Low level of harmonization of water quality standards and governance frameworks</p> <p>Low level of cross-border cooperation</p>	<p>Mining: Better waste rock management to prevent mercury or cyanide contamination of water and ecosystems</p> <p>Mining: Better monitoring of water quality in and around mine sites</p> <p>Agriculture: Promoting agroforestry</p> <p>Agriculture: Improving Agricultural Water Drainage</p> <p>Governance framework: Encouraging agribusiness membership (oil palm)</p> <p>Governance framework: support to States to operationalize:</p>		<p>2.3. Protect aquatic resources from contamination of heavy metals and other pollutants (physical, chemical and biological).</p> <p>2.4. Promote and encourage good practices in human activities (agriculture, livestock, fisheries, mining, etc.)</p> <p>2.5. Promote wastewater treatment (agricultural, domestic, industrial and mining) before discharge and support wastewater and plastics recycling actions</p>	

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
		Stockholm Convention on Persistent Organic Pollutants; Minamata Convention on Mercury; relevant provisions of the water conventions: 1997 New York Convention and 1992 Helsinki Convention			
<i>Biodiversity loss</i>	<p>Population growth</p> <p>Urbanization</p> <p>Political instability, civil wars, insecurity</p> <p>Deficiencies in the environmental governance framework</p> <p>Low level of transboundary cooperation in environmental</p>	<p>Identification and designation as protected areas of ecosystems that support rich biodiversity or are part of the last refuges for rare or threatened species</p> <p>Formulate and implement credible management plans for existing and newly established protected areas</p> <p>Identification of wetlands and study of their ecological</p>	<b>LTEQO 3: The ecological integrity, terrestrial and aquatic ecosystems in the MRU basins are restored and conserved and sustainably managed.</b>	<p>3.1. Ensuring sustainable conservation of protected areas and key biodiversity areas (KBAs)</p> <p>3.2. Monitor endemic and endangered species.</p> <p>3.4. Encourage communities to value medicinal plants and species of socio-economic interest.</p>	

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
	and biodiversity management	<p>functions including for avian fauna</p> <p>Designation of wetlands of ecological, economic, cultural and scientific importance as Ramsar sites</p> <p>Domesticate and implement CITES Convention provisions at national level and MRU</p> <p>Encourage private stakeholders to join networks promoting good natural resource management practices (e.g. for oil palm crop promoters)</p> <p>Established an early warning system against the introduction and proliferation of invasive species</p>			

<p><b><i>Erosion/degradation of land, river banks and headwaters</i></b></p>	<p>Rapid increase in urban and rural population</p> <p>Increase in population densities</p> <p>Increased need for agricultural land</p> <p>Increase in livestock numbers</p> <p>Low level of supervision, use and management of resources (agriculture)</p> <p>Low level of supervision and governance of mining activity</p>	<p>Promotion of agroforestry as an alternative to extensive slash-and-burn agriculture</p> <p>Mapping and study of the inventory of springheads of transboundary rivers</p> <p>Development and implementation of restoration plans and rehabilitation of the heads of the most degraded springs</p> <p>Mapping of the river banks most exposed to erosion and implementation of a restoration plan and stabilization of banks</p> <p>Reforestation, and regeneration of soils most exposed to erosion</p> <p>Promotion of soil and water management techniques (bunds, stone barriers, hill dams) on degraded mountainsides and hills and plateaus</p>	<p><b>LTEQO 4: Land, stream banks and headwaters are restored and protected</b></p>	<p>4.1. Develop and implement plans for the restoration and rehabilitation of river banks and degraded springheads</p> <p>4.2. Promote sound mining and agricultural practices that integrate land and water restoration.</p> <p>4.3. Restore vegetation cover in degraded watersheds</p> <p>4.4. Track the accumulation, transport and physical, chemical, microbiological and even nuclear characteristics of sediments/solids in watercourses</p> <p><b>4.5.</b> Promote the hydro-ecological approach to reduce soil loss and land degradation, particularly in the development of wetlands (nature-based solution)</p>	
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TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
<b>8.2. Analysis of cross-cutting problems and proposed solutions</b>					
<i>Climate change and variability</i>	<p>Strong pressure on forest resources</p> <p>Rapid expansion of agro-industrial plantations</p> <p>Frequency and generalization of slash-and-burn practices, multiplication of industrial and artisanal mining sites</p> <p>Poaching</p>	<p>Conduct a study on climate change scenarios in the MRU space or target basins</p> <p>Conduct a study of vulnerability analysis to climate change in target basins</p> <p>Investing in basic infrastructure work for water control</p> <p>Promoting irrigated agriculture</p> <p>Develop and implement a climate resilience capacity building program</p> <p>Ensuring effective implementation of the NAPs at the national level</p>	<p><b>LTEQO 5: Member States' capacity to adapt, mitigate and their resilience to climate change are strengthened at all levels</b></p>	<p>5.1. Develop and implement resilience programs for communities vulnerable to climate change.</p> <p>5.2. Support collaboration between agricultural research centers in Member States and strengthen their technical capacities for the identification and production of climate-resilient agricultural seeds.</p> <p>5.3. Develop and implement a regional climate change adaptation and mitigation programme based on Member States' Nationally Determined Contributions.</p> <p>5.4. Strengthen the capacities of technical services in charge of climate risk and natural disaster management.</p>	<p>Government institutions, NGO and Technical and financial partners</p> <p>Research centers, universities, Agriculture service and technical and financial partners</p>

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
				<p>5.5.. Promote sanitation and drinking water infrastructure that is resilient to climate risks.</p> <p>5.6. Develop and implement programs to promote the use of new and renewable energy resources for mitigation and adaptation to the impacts of climate change.</p>	<p>Meteorological services and other government structures in charge of i Agriculture, forestry, water resources</p> <p>Experts on climate change and technical partners</p> <p>Experts on WASH and technical &amp; financial partners</p>

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
					Experts on energy, foresters, and technical & financial partners
<i>The gender dimension</i>		<p>Consider the need for disaggregated data within MRU programmes and the Member States.</p> <p>Initiate development programs targeting women and youth: income-generating activities, aquaculture, small-scale irrigation, market gardening, sustainable use of non-timber forest products</p> <p>Initiate non-renewable energy projects (substitution for firewood)</p>	<b>OLTQE 6: Vulnerable groups including women, youth and children are taken into account in the implementation of the SAP.</b>	<p>6.1. Integrate gender issues into SAP implementation to contribute to social, economic equity and sustainable management of natural resources.</p> <p>6.2. Create a framework for the participation of women, youth, children and other vulnerable groups in decision-making on the management of the Basin's resources.</p>	Social experts working with government structures, various Associations including women Association, Youth Association, NGO, and local communities.

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
		Carry out information and awareness-raising activities targeting women in sectors such as: small-scale mining or artisanal exploitation, prevention and management of waterborne diseases.			
<i>Water governance</i>	<p>Insufficient legislation on natural resource management</p> <p>Institutional framework generally below international standards</p> <p>Insufficient harmonization of legal frameworks</p>	<p>Provide support for the revision of national frameworks in line with international and regional standards</p> <p>Provide support for the ratification of international and regional conventions (Stockholm 1992; New York 1997)</p> <p>Assistance in the harmonization of legislation such as: on</p>	<b>OLTQE 7: Transboundary cooperation between Member States, communities and other actors is strengthened:</b>	<p>7.1. Harmonize laws and regulations related to natural resource management in the MRU region</p> <p>7.2. Finalize the process of creating the Basin Authority within the MRU</p> <p>7.3. Develop and adopt a water charter for all MRU basins</p> <p>7.4. Support member countries in ratifying and implementing international conventions</p> <p>7.5. Promote the concerted management of protected</p>	<p>Government and Parliaments of Members States of MRU</p> <p>MRU Secretariat and Members States of MRU</p>

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
	<p>within MRU Member States including water quality, biodiversity, deforestation, land degradation, climate change and international water flows.</p>	<p>the quality of water resources, deforestation, loss of biodiversity, land degradation, transboundary waters</p> <p>Capacity building in Information/Awareness on Emerging Natural Resource Governance Frameworks</p> <p>Create a basin organization within the MRU</p> <p>Create an environmental observatory within the MRU</p>		<p>areas between Member States through bilateral/tripartite agreements.</p> <p>7.6. Establish/strengthen a partnership between the public sector, the private sector, civil society, and local communities for the sustainable management of natural resources.</p>	<p>Secretariat and Members States of MRU</p> <p>MRU and technical &amp; financial partners</p> <p>Government structures in charge of Protected Areas, Forest management, wetlands, and wildlife.</p> <p>Government structures, civil society, private sector, and local communities</p>

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
<i>Expansion of the utilization of plastics</i>	<p>Population increase</p> <p>Urbanization</p> <p>Lack of rules on plastic production, import, trade and utilization of non-biodegradable plastics</p> <p>Institutional framework generally under international standards</p> <p>Non harmonization of legal framework</p> <p>Weaknesses in the</p>	<ul style="list-style-type: none"> <li>• Provide support for the development of regulatory texts to combat the proliferation of plastic bags</li> <li>• Assistance in the harmonization of legislation on the production and trade of non-biodegradable plastic bags</li> <li>• Capacity building in Information/awareness on non-biodegradable plastic bags</li> <li>• Strengthen the capacities of small and medium-sized enterprises for the transformation and recycling of plastic waste</li> </ul>	<b>LTEQO 8: The use of non-biodegradable plastic is eradicated</b>	<p>8.1. Develop regulations on the production, import, marketing and use of non-biodegradable plastic bags</p> <p>8.2. Ensure the appropriation of the regulations by the technical services in charge of the environment.</p> <p>8.3. Provide the managers in charge of inspections with appropriate means for control</p> <p>8.4. Promote alternatives to non-biodegradable plastic bags</p> <p>8.5. Set up collection, processing and recycling units for plastic bags.</p>	National services in charge of environment

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
	implementation of legislation and regulations related to plastic production				
<b>8.3. Analysis of specific problems related to particular ecosystems and proposed solutions</b>					
<i>Aquatic Invasive Species</i>	Introduction of alien species  Poor watershed management	Eradication or reduction of invasive species by mechanical and/or biological methods.	<b>LTEQO 9 Objective Specific 1: Reduce the level of infestation of aquatic invasive species to a level that does not adversely affect aquatic ecosystems and socio-economic activities in Union basins.</b>	Take stock of aquatic invasive plant species  Develops and implements a research program on aquatic invasive plants: species biology, hydro-chemical and biological conditions of their proliferation  Develop and implement an integrated programme for the control and restoration of aquatic invasive plant on infested sites	

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
				Socio-economically valuing aquatic invasive plants	
<p><i>The degradation of the forest of Mount Nimba = 72,956 ha (Mount Nimba Strict Reserve 6480 ha, Mount Nimba in CI 27,035 ha, in Guinea 14,562 ha, in Liberia 13.254+11.625 ha)</i></p> <p>The complex of protected areas national forests of Wonegisi-Ziama National Park (Liberia/Guinea);</p>	<p>Population growth</p> <p>Urbanization</p> <p>Political instability, civil wars, insecurity</p> <p>Failures in the environmental governance framework</p> <p>Low level of transboundary cooperation in environmental management, and biodiversity</p>		<p><b>LTEQO 10 Objective Specific 2: The forest ecosystem of Mount Nimba is restored and a better management system is organized and set up.</b></p>	<p>Develop the texts of the scheme for the designation of protected areas and the Ramsar sites</p> <p>Develop a management plan to be revised periodically by a joint inter-state team</p> <p>The planning and management team composed of representatives of the States-parties is functional Regulating mining activities to preserve forest ecosystems of special interest</p> <p>Declare wetlands of international ecological, economic, cultural and scientific importance as Ramsar sites</p>	<p>Government departments in charge of Water and Forest, Protected Areas and Wildlife</p>
<p><i>Degradation of the Tai-Grebo-Krahn-Sapo forest complex 1,174,076 ha (Grebo</i></p>	<p>Population growth</p> <p>Urbanization</p>	<p>Identification and classification as protected areas of ecosystems that support</p>	<p><b>LTEQO 11 Objective Specific 3: The forest ecosystem</b></p>	<p>Develop the texts of the scheme for the designation of protected areas and Ramsar sites</p>	<p>Government departments in charge of Water and Forest,</p>

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
<p><i>282,195 ha, Sapo-Grebo Corridor 197,421 ha, Sapo National Park 155,084 ha and Tai National Park and N'Zo Wildlife Reserve 539,376 ha) Transboundary protected areas between Liberia and Côte d'Ivoire</i></p>	<p>Political instability, civil wars, insecurity</p> <p>Deficiencies in the environmental governance framework</p> <p>Low level of transboundary cooperation in environmental management, biodiversity</p>	<p>rich biodiversity or are part of the last refuges for rare or threatened species</p> <p>Formulate and implement credible management plans for existing and newly established protected areas</p> <p>Identification of wetlands and study of their ecological functions including for avian fauna</p> <p>Designation of wetlands of ecological, economic, cultural and scientific importance as Ramsar sites</p> <p>Domesticate and implement CITES</p>	<p><b>of the Tai-Grabo-Krahn-Sapo complex is restored and a management system put in place</b></p>	<p>Development of a management plan to be reviewed periodically by a joint inter-state team</p> <p>The planning and management team composed of representatives of the States-parties is functional</p> <p>Regulating mining activities to preserve forest ecosystems of special interest</p>	<p>Protected Areas and Wildlife</p>

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
		<p>Convention provisions at national level and MRU</p> <p>Encourage private stakeholders to join networks for the promotion of sound natural resource management practices</p> <p>Establish an early warning system against the introduction and proliferation of invasive species</p>			
<p><i>Degradation of the Gola-Lofa_Mano Forest Complex = 512,466 ha (Gola Forest Reserve 74,612 ha and Lofa-Mano Complex 437,854 ha)</i></p>	<p>Population growth</p> <p>Urbanization</p> <p>Political instability, civil wars, insecurity.</p> <p>Deficiencies in the</p>	<p>Identification and designation as protected areas of ecosystems that support rich biodiversity or are part of the last refuges for rare or threatened species</p> <p>Formulate and implement credible management plans for</p>	<p><b>LTEQO 12</b></p> <p><b>Objective Specific 4 : The forest ecosystem of the Gola complex is restored and a management system put in place.</b></p>	<p>Develop the texts of the scheme for the designation of protected areas and Ramsar sites</p> <p>Develop a management plan to be reviewed periodically by a joint inter-state team</p> <p>The planning and management team composed of</p>	<p>Government departments in charge of Water and Forest, Protected Areas and Wildlife</p>

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
	<p>environmental governance framework</p> <p>Low level of transboundary cooperation in environmental and biodiversity management.</p>	<p>existing and newly established protected areas</p> <p>Identification of wetlands and study of their ecological functions including for avian fauna</p> <p>Designation of wetlands of ecological, economic, cultural and scientific importance as Ramsar sites</p> <p>Domesticate and implement CITES Convention provisions at national level and MRU</p> <p>Encourage private stakeholders to join networks promoting</p>		<p>representatives of the States-parties is functional</p> <p>Regulating mining activities to preserve forest ecosystems of special interest</p>	

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
		sound natural resource management practices Establish an early warning system against the introduction and proliferation of invasive species			
<i>Degradation of mangroves and estuarine ecosystems</i>	Population growth Urbanization Political instability, civil wars, insecurity Deficiencies in the environmental governance framework Low level of transboundary cooperation in environmental and biodiversity management	Identification and designation as protected areas of ecosystems that support rich biodiversity or are part of the last refuges for rare or threatened species  Formulate and implement credible management plans for existing and newly established protected areas  Identification of wetlands and study of their ecological functions including for avian fauna	<b>LTEQO 13 Specific Objective 5 : Mangroves in estuarine ecosystems are restored and a system for their management is established.</b>	Develop the texts of the scheme for the designation of protected areas and , Ramsar sites  Develop and implement a management plan for each mangrove  Establish an operational unit composed of representatives of all riparian States  Regulate mining activities by preserving protected areas, primary forests and forest ecosystems of special interest  Listing as Ramsar sites wetlands that are or may be of international importance from an ecological, economic, cultural and scientific point of view	Mangrove management experts

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
		<p>Designation of wetlands of ecological, economic, cultural and scientific importance as Ramsar sites</p> <p>Domesticate and implement CITES Convention provisions at national level and MRU</p> <p>Encourage private stakeholders to join networks promoting good natural resource management practices</p> <p>Establish an early warning system against the introduction and proliferation of invasive species</p>			

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
<i>The degradation on national parks of Penselly-oya-Sabouya and Outamba</i>	<p>Population growth</p> <p>Urbanization</p> <p>Political instability, civil wars, insecurity.</p> <p>Deficiencies in the environmental governance framework</p> <p>Low level of transboundary cooperation in environmental and biodiversity management.</p>	<p>Identification and designation as protected areas of ecosystems that support rich biodiversity or are part of the last refuges for rare or threatened species</p> <p>Formulate and implement credible management plans for existing and newly established protected areas</p> <p>Identification of wetlands and study of their ecological functions including for avian fauna</p> <p>Designation of wetlands of ecological, economic, cultural and scientific importance as Ramsar sites</p>	<p><b>LTEQO 14 Objective Specific 4: The national parks of Penselly-oya-Sabouya and Outamba is restored and a management system put in place.</b></p>	<p>Develop the texts of the scheme for the designation of protected areas and the Ramsar sites</p> <p>Develop a management plan to be revised periodically by a joint inter-state team</p> <p>The planning and management team composed of representatives of the States-parties is functional</p> <p>Regulating mining activities to preserve forest ecosystems of special interest</p> <p>Declare wetlands of international ecological, economic, cultural and scientific importance as Ramsar sites</p>	<p>Government departments in charge of Water and Forest, Protected Areas and Wildlife</p>

TDA			SAP		Responsible institutions
Major Problem	Root causes	Solution Options	LTEQO	Strategic actions	
<i>The degradation of protected area complex of national forest parks of Wonegisi-Ziama</i>	<p>Population growth</p> <p>Urbanization</p> <p>Political instability, civil wars, insecurity.</p> <p>Deficiencies in the environmental governance framework</p> <p>Low level of transboundary cooperation in environmental and biodiversity management.</p>	<p>Identification and designation as protected areas of ecosystems that support rich biodiversity or are part of the last refuges for rare or threatened species</p> <p>Formulate and implement credible management plans for existing and newly established protected areas</p> <p>Identification of wetlands and study of their ecological functions including for avian fauna</p> <p>Designation of wetlands of ecological, economic, cultural and scientific importance as Ramsar sites</p>	<p><b>LTEQO 15 Objective Specific 7: The protected area complex of national forest parks of Wologisi-Wonegisi-Ziama is restored and a management system put in place.</b></p>	<p>Develop the texts of the scheme for the designation of protected areas and the Ramsar sites</p> <p>Develop a management plan to be revised periodically by a joint inter-state team</p> <p>The planning and management team composed of representatives of the States-parties is functional</p> <p>Regulating mining activities to preserve forest ecosystems of special interest</p> <p>Declare wetlands of international ecological, economic, cultural and scientific importance as Ramsar sites</p>	<p>Government departments in charge of Water and Forest, Protected Areas and Wildlife</p>

## **9. KEY STRATEGIES FOR INTEGRATING AND IMPLEMENTING THE SAP AND INVESTMENT PLAN**

The SAP and the Investment Plan should be integrated into existing national strategies and action plans, such as the Integrated Water Resources Management Plan, the Sustainable Forest Management Plan, the Nationally Determined Contribution, the National Strategy or Climate Change Adaptation Plan, the Forest Management Plan and the Agricultural Development Plan. This will encourage the respective institutions responsible for these initiatives to eventually integrate the SAP activities into their annual budgets, particularly with a view to mobilizing external funds.

### **9.1. Strategic partnerships with other regional initiatives**

In order to reduce duplication of efforts and increase synergies in the use of resources (financial, operational time and knowledge), the SAP and its Investment Plan consider approaches that can support full collaboration and integration with other strategic partnerships and national /regional initiatives. Examples could include engagement and collaboration with the ongoing USAID-funded program, “West Africa Biodiversity and Low Emission Development (WABILED) covering the four forest blocks and protected areas shared by the four MRU countries.

### **9.2. Subregional and bilateral agreements**

Countries are encouraged to enter into subregional and bilateral agreements to address issues related to the implementation of the SAP. The Memorandum of Understanding to be signed by MRU and all SAP participating countries can provide the framework within which these subregional and bilateral agreements can be negotiated and implemented.

### **9.3. Regional coordination or river basin organization**

The planned regional organization to coordinate the management of all rivers shared by MRU countries should be strengthened as part of the SAP implementation process so that it can have the responsibility to promote and coordinate the implementation of the priority actions, particularly with regard to IWRM, identified by the participating countries in the SAP.

### **9.4. Coordination of SAP operational actions**

It is important that MRU countries increase the sharing of data and information and the coordination of operational actions that have cross-border aspects. Joint actions are needed to improve data collection, management, analysis and reporting, including the dissemination of information on shared forests, protected areas and MRU river basins. Countries and organizations are encouraged to work together to develop and protect forest landscapes and water resources. Concerted action at the basin level is needed to consolidate and upgrade monitoring and information systems to a level that corresponds to the requirements of SAP implementation. The consolidation and upgrading of the basin's monitoring and information systems should be undertaken in collaboration among MRU countries. Regional and basin platforms already exist that need to be strengthened through capacity building actions for the joint basin expert groups of the four countries to lead and oversee the implementation of the SAP. The joint basin expert group will build on and strengthen ongoing activities and arrangements for data collection and information management and information sharing among basin countries.

## 9.5. Mechanisms for improving governance

It is essential to recognize that there is an explicit link between the health of ecosystem services and human well-being. The SAP and investment plans are opportunities to improve policy, planning, and management by:

- Integration of decision-making across, ministries, departments and sectors, as well as international institutions, to ensure that policies focus on protecting ecosystems and protecting human health while development actions on agriculture, forestry, mining and water resources management are carried out to improve livelihoods and human well-being.
- It is important to include the sustainable management of ecosystem services in all national and regional planning decisions and poverty reduction strategies implemented by MRU countries.
- The implementation of the SAP is also an important opportunity to empower marginalized groups to contribute to decisions affecting ecosystem services and to recognize in law local communities' ownership of natural resources, including community forests and individual ownership of trees planted by farmers to promote agroforestry.
- MRU countries could also establish additional protected areas, particularly in forest areas and coastal systems, and provide greater financial and management support to existing ones,

At the local level, it is useful to provide incentives that encourage local authorities and local community groups to develop, adopt and enforce local regulations (bylaws) to translate into action and implement national laws that promote improved livelihoods and the protection of ecosystem and human health. In this regard, local authorities and community groups could put in place local arrangements to promote best practices in the conservation and sustainable use of natural resources.

## 9.6. Local management of forests and water resources.

Mano River Union States could take innovative actions to encourage the emergence of "Intercommunity Charters and Local Conventions" to better manage the sources of income and livelihoods produced by the forests and waters of the target river basins. Inter-community charters and local resource management agreements can be made between communities in the same country, sharing the same resources, or between communities in two different countries, sharing the same transboundary resources. Incentives include training to strengthen a common understanding of challenges and possible solutions.

The training of local actors should lead to the development and adoption of carefully crafted regulatory measures, enshrined in Local Resource Management Conventions, to clarify all relevant arrangements and elements, including general provisions, definition of violations of established bylaws and corresponding sanctions, organization of local monitoring system, as well as monitoring basis and indicators. Local agreements should also clarify incentives measures, including the distribution of management revenues as well as the clarification of the roles and responsibilities of the various bodies set up to implement Local Conventions. However, it must be recognized that the application of all regulatory measures is not always easy and some limits will appear. There is therefore a need to continue efforts in the medium and long term to improve the application of all regulatory and incentive measures.

## **10. INSTITUTIONAL FRAMEWORK FOR SAP IMPLEMENTATION**

### **10.1. Role of the Institutional Framework and the Stakeholder Coordination Mechanism**

For the implementation of the SAP and its Investment Plan, the institutional framework and the national coordination mechanism, as well as the modalities of intervention at the level of the forest blocks and each target basin should be organized so as to:

- Maintain sufficient flexibility to respond to changing circumstances.
- Facilitate the consultation and the participation of beneficiaries and groups of people affected by environmental degradation and health risks, as appropriate.
- Be consistent with national and regional priorities and initiatives.
- Encourage and strengthen partnerships to solve transboundary problems at the regional level (at the basin level and at the MRU level).
- Facilitate national efforts to achieve global environmental benefits such as climate change mitigation by contributing to the implementation of the Nationally Determined Contribution (NDC).
- Serve as an enabling framework to support capacity building, human resource development and the skills needed to achieve the Vision and the LTEQOs.
- Serve as a framework to support public participation and consultation with major groups, involving these groups and strengthening their role at appropriate stages of project implementation.
- Ensure continued and growing political support for the SAP and Investment Plan process: involvement of relevant ministries and relevant components of Parliament.
- Establish an effective communication approach that ensures well-functioning working relationships between sectoral bodies responsible for water, agriculture, livestock development, fisheries, mining, health and the environment.
- Establishing and strengthening an effective partnership between national institutions and local organizations to promote common goals through collective action: this would be facilitated by national coordinators.
- Strengthen partnership with international actors, in particular with GEF implementing and executing agencies and other technical and financial partners involved or planning to assist MRU and its Member States (IUCN, World Bank, UNDP, European Union, African Development Bank, USAID, etc.)
- Make the most of relevant scientific information, tools and techniques offered by the international community (cooperation with organizations responsible for the management of other river basins, in particular those supported by GEF).
- Involve ministries responsible for the implementation of relevant international conventions, including: Ramsar Convention on Wetlands, Chemicals Conventions, in particular the Stockholm Conventions on Persistent Organic Pollutants and the Minamata Convention on Mercury, Convention on Biological Diversity (CBD), United Nations Framework Convention on Climate Change, CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), Convention on Desertification, Abidjan Convention.
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## 10.2. Key actors involved in building partnerships and strengthening their commitment

### 10.2.1. At local/provincial/decentralized level

- Local/traditional authorities
- Local administrative authorities, including municipalities
- Resource user groups: farmers, fishermen
- Local NGO.
- The local private sector, such as mining companies, logging companies and tourism operators;

At the local level, special attention is paid to affected interests, particularly those of local populations who depend on the resources of each basin for their livelihoods and who may be affected by loss of natural resources, natural disasters, and health risks.

### 10.2.2. At national level

Work at national level will be coordinated and facilitated by the national coordination units, including:

- The National Executing Agency, in collaboration with the MRU Secretariat.
- The National Coordinator: appointed by the National Executing Agency.
- The Intersectoral Committee in each country for strategic planning and validation of SAP and investment plan documents.

Ideally, this intersectoral committee of each country would include representatives of national ministries, departments, agencies, and other entities in charge of development actions, including those working on:

- Water resources, including IWRM.
- Coastal Zones
- Environment
- Agriculture
- Forestry
- Protected Areas and Wildlife.
- Animal husbandry
- Fishing
- Public Health.
- Mining
- Land use planning.
- Research Centers and Universities.
- Tourism
- The Committee on Rural Development/Environment/Water in the Parliament
- Decentralization / Ministry of Local Government and Rural Development.
- The private sector, in particular mining companies and representatives of artisanal mining as well as loggers.
- National and international NGOs working on water and environmental issues in the basin.
- Technical and financial partners supporting the project.

### 10.2.3. At the level of the MRU Target Basins

This is the Consultation Platform and the Transboundary Resource Management Committee for each of the 4 target basins: Kolenté and Kaba, Cavally, Moa Makona and Mano.

#### 10.2.4. At MRU level

The structures responsible for the Coordination, Implementation and Monitoring/Evacuation of all SAP activities are supervised by the MRU Secretariat, in its capacity as the Regional Executing Agency of the SAP. In particular, it is a question of supervising the Coordination and Management structure of the SAP (Work Plan, Budget, Monitoring and Evaluation, Periodic Reports and Lessons Learned) and all the actions of the SAP.

The MRU works in collaboration with National Executing Agencies and SAP Technical and Financial Partners, in particular any implementing agency through which the financing of the SAP will proceed.

The MRU also ensures coherence between the SAP implementation strategies and the MRU Strategic Plan.

To supervise the SAP, the MRU relies on its working relations with the following bodies established within the framework of the partnership developed during the TDA/SAP process:

- Regional Steering Committee of the project.
- Regional Project Implementation Unit within MRU.
- National project implementing agencies.
- GEF National Focal Points.
- Multisectoral Technical Committee in each MRU country.
- Consultation platforms for users of water resources in basins.
- Transboundary Basin Water Resources Management Committee.
- Technical committees for monitoring and implementing framework agreements on the conservation of forest areas.

Such an organization is meant to effectively consider the concerns of the actors at the grassroots level, at the level of transboundary river basins or forest areas, and to work with the relevant national and local authorities as well as with the regional steering committee of the programme.

The MRU should also coordinate the finalization of the establishment of an organization responsible for the management of all MRU river basins and supervise this organization in order to put in place all the conditions for integrated and sustainable management of all relevant transboundary basins.

### **10.3 Possible institutional reforms at the level of all MRU countries to improve the management and sustainable use of river basin resources:**

#### 10.3.1. Establishment of an inter-ministerial body to combat pollution of water resources and ensure the protection of human health and the environment.

This body must involve at least the relevant departments of the pertinent Ministries. These Ministries share responsibilities for the application of laws and enforcement of bylaws applicable in the field of water, sanitation, and hygiene (WASH), particularly on water intended for human consumption, as well as on water pollution control, the disposal of excreta and domestic and industrial wastewater, the use and control of pesticides, solid waste, artisanal and industrial liquids, radioactive, toxic and nuclear substances.

The Ministries involved that must work together for the application of the applicable laws and regulations are:

- a. Ministry in charge of the Environment;
- b. Ministry in charge of Water Resources;
- c. Ministries, Agencies in charge of Forests
- d. Ministry in charge of Public Health;
- e. Ministry in charge of Mining;
- f. Ministry of Agriculture.
- g. Ministry in charge of Hydraulics and Sanitation

These Ministries could work together to constitute a partnership that can implement water policies and enforce Water legislation and regulations.

#### 10.3.2. Reactivation and revitalization of the functionality of the Multisectoral Technical Committee of the MRU” Ecosystem Conservation and International Water Resources Management Project”.

This Committee is an essential body to ensure the coordination of all SAP activities at the national level as well as the effective participation of all relevant structures.

#### 10.3.3. Revitalization of the Consultation Platform and the Transboundary Resource Management Committee of each target basin.

This platform and the Transboundary Committee are the relevant structures to coordinate the work at the basin level.

#### 10.3.4. Revitalization of women Associations, , youth Associations, and Village Saving and Loan Associations (VSLAs) to make them more functional.

Existing associations deserve to be identified by recognizing their strengths, weaknesses, and opportunities for capacity building, equipment and organization, in order to strengthen their capacities for action on the conservation and sustainable use of forests and water resources.

## 11. RELEVANT POLICIES, LEGISLATION AND PROGRAMMES

The SAP development process reviewed relevant key policies, strategies, laws, action plans, and programmes in each MRU country to identify areas for reform. The relevant policies/strategies, legislation/regulations, action plans, programmes and projects that can be entry points for reforms to support the development and future implementation of the SAP and Investment Plan are:

### 11.1. Liberia:

- Summary of the Environmental and Climate Change Policy (2014).
- National Wetlands Policy, developed and adopted in 2006
- Assessment of Environmental Threats and Opportunities in Liberia - 2008
- National Environmental Action Plan for the Republic of Liberia (2019-2023)

- Liberia Rising Vision 2030: Liberia's Vision 2030 is a comprehensive vision of the Government of Liberia to lead the country towards a developed society that includes a series of pillars, sector targets, strategic objectives and outcome indicators, which together support the development of adaptation and mitigation capacities in Liberia.
- Liberia's Revised Nationally Determined Contribution (NDC) -

## 11.2. Guinea:

- The "Vision 2040 for an emerging and prosperous Guinea".
- Revision of the Nationally Determined Contribution (NDC) of the Republic of Guinea
- National Sustainable Development Strategy -2019.
- National Environmental Policy -2012-2013.
- National Water Vision 2025;
- The water policy document adopted in April 2018,
- The new national forest policy; -
- National environmental policy;
- National agricultural development policy;
- The livestock development policy letter;
- The National Fisheries and Aquaculture Policy Letter
- Law L/2019/0034/AN of 4<sup>th</sup> July 2019 on the Environmental Protection and Development Code;
- Law No. L/95/51/CTRN of 29<sup>th</sup> August on the Pastoral Code;
- Law No. L2017/060/AN of 12<sup>th</sup> December 2017 adopting and promulgating the Forest Code Act.
- Law No L/2017/040/AN of February 24, 2017 on the revised code of local authorities in the Republic of Guinea;
- Law L/2011/006/CNT of 9<sup>th</sup> September 2011 on the Mining Code of the Republic of Guinea (as amended by Law No. L/2013/053/CNT of 8<sup>th</sup> April 2013);
- The Land Tenure Code promulgated by Ordinance No. O/92/019 of 30<sup>th</sup> March 1992, amended by Decree D/94/180 of 7<sup>th</sup> December 1994;
- The Wildlife Protection and Hunting Regulations, promulgated by Law No. 2018/0049/AN;
- The Inland Fisheries Code, adopted by Law L/96/007 of 22<sup>nd</sup> July 1996;
- Ordinance No. 045/PRG/87 of 28<sup>th</sup> May 1987 on the Environmental Protection and Development Code;
- The Water Code promulgated on 14<sup>th</sup> February 1994 and which requires revision.

Guinea has also adopted policies, plans and programmes on poverty reduction and economic development that are relevant for addressing the environmental problems identified in the Forests and River Basins. They are:

- The Poverty Reduction Strategy Programme.
- The National Programme for Sustainable Human Development.
- The Agricultural Development Policy Letter.
- The National Forest Action Plan.
- The National Environmental Action Plan.
- The Framework Programme on Gender and Development.
- The framework programme to support private sector development
- The Fisheries Development Policy Letter
- The institutional development policy letter,

- National policy for the traditional energy sector
- Decentralization policy
- the national Land use planning plan
- The National Plan to Combat Desertification

### 11.3. Côte d'Ivoire:

Côte d'Ivoire has adopted strategies, policies, laws, regulations for enforcing laws, and initiatives that are relevant to the implementation of strategies and objectives on forests, water resources, river basins, including the coastal area of Côte d'Ivoire. These include:

- Strategic Plan for zero-deforestation agricultural production in the Cavally region.
- National Strategy for the Promotion of Hygiene in Côte d'Ivoire;
- National Standards for Water, Hygiene and Sanitation in Health Care Facilities.
- National Strategy and Action Plan for the Management of the Coastal Environment;
- National Strategy to Combat Climate Change;
- Law No. 2014-390 of 20<sup>th</sup> June 2014 on Sustainable Development;
- Coastal Zone Adaptation Strategy;
- Forest Investment Plan, 9<sup>th</sup> May 2016;
- Law No. 2019-675 of 23<sup>rd</sup> July 2019 on the Forest Code.
- Law 2014-138 of 24<sup>th</sup> March 2014 on the Mining Code;
- Law No. 378 of 2<sup>nd</sup> June 2017 on the development, protection and integrated management of the Ivorian coastline;
- Law No. 2012-1128 of December 13, 2012 on the organization of local authorities;
- Law No. 2003-308 of July 7, 2003 on the transfer and distribution of powers from the State to local authorities;
- National policy for the preservation, rehabilitation and extension of forests.
- Nationally Determined Contribution;
- Commitment in June 2011 for the international REDD+ mechanism materialized by the adoption of Decree No. 20121049 of 24<sup>th</sup> October 2012 establishing the National REDD+ Commission.
- The cocoa and forest initiative which aims to eliminate deforestation in the cocoa production chain.
- Inter-ministerial Order No. 00578 MINEF/MATD/MINADER/MEF/MINEDD 03<sup>rd</sup> July 2020, creating an Inter-ministerial Advisory Commission for the management of forests in the private domain of the State.
- Nine (9) decrees adopted on 6<sup>th</sup> October 2021 that contribute to the implementation of the new National Forest Policy dedicated to the preservation and restoration of natural resources, including the decree setting the modalities of information, consultation and participation of riparian

populations in the management of forests in the private domain of the country and local authorities and the decree creating, organization and modalities of operation of the National Forest Fund.

#### **11.4. Sierra Leone:**

Sierra Leone has adopted relevant policies, strategies, laws and regulations, national plans and programmes that are relevant for the implementation of the SAP. These include:

- National Medium-Term Development Plan 2019 - 2023
- Nationally Determined Contribution (NDC) (2021)
- The National Plan for the Development of Sustainable Agriculture
- Initial National Adaptation Plan (iNAP) (2022)
- National Climate Change Strategy and Action Plan (2021-2025)
- National Water Resources Management Strategy (2019-2023)
- Integrated National Strategy - June 2022
- Sierra Leone Environmental Protection Act 2022
- Local Government Act 2004
- National Land Policy, Sierra Leone, 2015
- National Water Resources Management Agency Act, 2017
- Sierra Leone Meteorological Agency Act 2017
- National Protected Areas Authority and Conservation Trust Fund Act, 2017
- Fisheries Act
- EPA Regulations
- EPA Act 2022
- Mining and Minerals Act, 2009
- NPAA Act 2022
- Wildlife Act 1972/2022
- Forest Act 1988/2022
- National Integrated Pesticides Management Policy
- Dam Safety Regulations 2022
- Groundwater Enhancement and Protection Regulations, 2022
- Water Use and Watersheds Regulations 2022
- Pollution Control Regulations 2022

## **12. POSSIBLE AND DESIRABLE REFORMS ON POLICIES, LEGISLATION AND REGULATIONS**

### **12.1. Need to improve policies and laws through reforms**

Despite this compendium of legislative and regulatory provisions from all four MRU member states, it would be highly desirable for these countries to recognize the need to pursue reforms to update the various

sectoral codes, harmonize sectoral provisions to promote synergy of actions between sectors and widely disseminate laws and their implementing texts.

The above policies, laws and regulations are examples of public sector efforts to address natural resource challenges in MRU countries. It is useful to recognize that the objectives of existing policies, strategies and legislative framework have not been fully achieved over the years. As the Sierra Leone team pointed out in its National Action Plan, one of the main reasons for the failure to implement policies and legislation is that environmental issues, including forests, water, biodiversity and ecosystem services, have low priority over social and economic <sup>22</sup>concerns.

*There is a clear need to realize that natural resources are the fundamental sources of livelihoods. If the degradation of natural resources continues in the same patterns, the chances of poverty reduction and protection of human health will be even smaller and this could be a vicious circle that would increase poverty and risks to human health.*

The reality is that there has not been an equitable consideration of ecosystem conservation in relation to social and economic criteria in the policies, laws and regulations of MRU countries. Therefore, even though each country has policies and laws to manage its natural resources, trends in degradation of land, water resources, forests, and biodiversity continue to increase.

It is worth noting that, in many cases, many national policies and laws are well developed. However, the lack of effective and efficient regulations for policy implementation and enforcement is a key factor in the failure to reverse trends in land, water and biodiversity loss. Another factor hindering the implementation of existing policies and enforcement is the weak capacity of institutions that coordinate and enforce those policies and laws. Therefore, there is a clear need to adopt and prioritize policies and laws that empower the institutions responsible for those policies and laws. Strong political support is needed to strengthen the technical, financial and human resources of government institutions.

In some MRU member states, the government has put in place new policies and laws, particularly for sustainable forest management. However, policies and laws remain weak for the effective implementation of Integrated Water Resources Management in Côte d'Ivoire, Guinea, Liberia and Sierra Leone. Thus some possible and desirable reforms would be useful for all countries, while other reforms would be only country-specific. There is also the need to put in place robust monitoring mechanisms to ensure the effective enforcement of laws and policies.

## **12.2. Possible reforms that could be common and shared by all MRU countries:**

### **12.2.1. Preparation and Adoption of a Water Charter**

This Water Charter for the basins shared by the MRU countries would be developed and negotiated between the MRU and all four countries. It would cover all shared basins by the four countries and would lay the foundations for the creation and operation of an organization responsible for the management of transboundary basins of the MRU. The purpose of the Regional Charter would be to contribute to the implementation of the Strategic Action Plan and the vision of the MRU basins and would be an appropriate legal and regulatory framework for the MRU and its member countries. This Charter would constitute a regional and even international reference to promote the sustainable development of participatory management planning of transboundary water resources. Its application will promote the implementation of Water Policies and the enforcement of Water Laws. It will allow an equitable use of water resources by

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<sup>22</sup> See Sierra Leone's National Action Plan as one of the Annexes to this report

different countries and users and a prevention of conflicts related to the use of shared waters as well as the protection of the health of watersheds and forest areas that support rivers and groundwater. The application of the Water Charter will have the major effect of protecting human health through better management of agricultural practices, forestry, and mining that are the root causes of the degradation of water quality in the MRU river basins. The process for the development, adoption and implementation of the Water Charter will take place according to the following seven stages: (i) conceptualization and comprehensive diagnostic study of the legislative and institutional framework; (ii) creation of a provisional Water Charter on transboundary waters by the MRU; (iii) validation, adoption, and popularization of the Water Charter at the regional level involving the MRU and all countries; (iv) ratification of the Charter by each MRU country so that it becomes an integral part of each country's legislative framework; (v) Dissemination at the national level of the ratified and translated Charter into national law. (vi) Elaboration, adoption and popularization of implementing texts of the Charter in each MRU country; (vii). Enforcement of regulations in each country and joint actions to better manage transboundary problems of water resource degradation in quantity and quality. This is a long-term initiative but it is recommended to start the process as early as the first year of the initial phase of the SAP.

#### 12.2.2. Review and update the National Biodiversity Strategies and Action Plans (NBSAPs) to adopt and domesticate the Kunming-Montreal Global Biodiversity Framework (GBF).

The United Nations Biodiversity Conference (COP15 adopted in Montreal, Canada, on 19<sup>th</sup> December 2022, a landmark agreement to guide global action on nature through to 2030. Although the GBF is not a legally binding agreement, the governments who have signed it commit to demonstrating progress towards meeting targets, and updating their National Biodiversity Strategy and Action Plans (NBSAPs) accordingly. All NBSAPs will be accompanied by a biodiversity financing plan that includes opportunities for private finance mobilization. This presents a clear call to action for policymakers and regulators to put in place measures at jurisdiction level to accelerate change.

The GBF aims to address biodiversity loss, restore ecosystems and protect indigenous rights. The plan includes concrete measures to halt and reverse nature loss, including putting 30 per cent of the planet and 30 per cent of degraded ecosystems under protection by 2030. It also contains proposals to increase finance to developing countries. Therefore, it is highly recommended that all MRU member states develop, adopt as a policy instrument, and implement an effective, participatory and updated national biodiversity strategy and action plan.

#### 12.2.3. Finalization of the creation and adoption of a sub-regional management structure for MRU transboundary water basins

It is useful to note that a feasibility study has been done to determine the nature, mission, and duties of a transboundary body for the management of all transboundary basins of the MRU. The structure that will be adopted will depend on how it is envisaged from the IWRM perspective. The management structure may be envisioned as an IWRM coordinating structure within the MRU or as a transboundary basin management and development structure with IWRM operational tasks, similar to existing transboundary River Basin in West Africa. In both cases, the mission of the structure will be to promote IWRM within the MRU. Both scenarios must be considered.

The creation of the Mano River Union transboundary River Basin Organization is a pressing necessity for ensuring the sustainability of abundant water resources available in Member States. To ensure the conservation and sustainable use of water in the MRU members States, it is critical to adopt an institutional reform that can improve the current situation. The creation of a transboundary River Basin Organization is

required to address transboundary problems and facilitate the implementation of Integrated Water Resources Management (IWRM). Currently, the institutional framework of the MRU does not include a specialized body that has the required technical and multidisciplinary expertise to fully implement the IWRM process.

Since the future River Basin Organization will have to coordinate the management of all transboundary rivers of the MRU, it is a complex process that can play an extremely important role in the implementation of international water law, as well as the implementation of the Sustainable Development Goals (SDGs). Therefore, the MRU' Secretariat and its Member States are expected to undertake an institutional reform to adopt a type of River Basin Organization that will be carefully integrated into the MRU institutional mechanism, with a variety of functions assigned to it, including, but not limited to:

- i. The implementation of the process of integrated water resources management in the respective MRU countries based on a Regional Water Charter and national water action plans;
- ii. The creation of a regional cooperative framework for integrated water resources management, the harmonization of water policies and legislation and exchange of experience;
- iii. The creation or revitalization of consultation frameworks bringing together riparian countries for the concerted management of shared resources (waters; forest ecosystems, wetlands)
- iv. The development of national and regional strategies for mobilizing the financial resources required for integrated water resources management;
- v. The need to mobilize funding from technical and financial partners to make the transition from current approaches to new forms of water management with a regional vision since the individual resources of the MRU member states are insufficient.
- vi. Pollution control to prevent and manage serious impacts of various sources of pollution to protect human and animal health through actions that ensure the survival and health of many ecosystems, including wetland and forests.

It is also important to note that the authors of this SAP document fully agree with the recommendations from the Feasibility study which are listed below:

- a. The MRU transboundary basin management structure shall be created under the auspices of the Secretariat General of the MRU as a subsidiary body with broad administrative and management autonomy. Its creation could thus benefit from the MRU institutional facilities (Union's Summit of Heads of State and Ministerial Council);
- b. The proposed structure will be an operational body for basins management and development, consistent with the objective of concerted management of resources and integration of Member States;

The appropriate naming would be "MRU Transboundary River Basins Management Office (TRBMO), which is neutral and allows for subsequent change in structure.

#### 12.2.4. Technological reform

It is important to note that the Internet is increasingly becoming an indispensable communication tool for all modern institutions, including regional organizations, such as the MRU. Currently, the MRU does not have a website that provides updated, reliable, and regular information to the stakeholders who are asking

for appropriate information on the SAP development process. For the mobilization of funding and the implementation of the SAP, it is critical to share regular and reliable information with central government institutions, local authorities, community groups, NGO, private sector, and technical/financial partners that are willing to support the work of the MRU.

The MRU needs to have a suitable and efficient online presence because having a strong online presence, particularly a website, can enhance the credibility of the organization. With a modern website, the MRU can better provide updated and useful information to its stakeholders.

During the process of this SAP development, it has not been possible to get important sets of information from a dedicated website for the MRU. It is therefore critical for the MRU to develop and disseminate online materials that are suitable for raising awareness, providing tools for capacity building, providing evidence of successful achievements, and enhancing the performance for better communication and advocacy. The development of a suitable website for the MRU has the potential to:

- be the first point of reference on the MRU’s priorities on the Internet.
- showcase the MRU strategic perspectives, targets, activities, and outcomes.
- make key documents and activity briefs, news, and updates accessible to the public.
- build a content management system to show case the SAP implementation process, the National action Plans, the activities, and the achievements of member States.
- create a content management system that allows the MRU team to update information easily.
- provide a platform for interaction and information sharing among all stakeholders from local, national, regional, and global levels.
- improve the visibility of the MRU.

For a better operation of the MRU website, the MRU Secretariat may wish to explore options, to the extent possible, to get a specific expertise so as to improve the work on Knowledge Management, which is defined by the World Agroforestry as “the process of capturing, developing, sharing and effectively using organizational knowledge”<sup>23</sup>. Therefore, it is highly desirable to get additional financial or human resources for the MRU Secretariat, either through regular budget or through supplementary voluntary funding from the MRU partners, so as to achieve an effective and efficient Knowledge Management process. This could lead to more systemic collection and analysis of materials and generate information to advise and adapt current and future evidence-based actions to help highlight the links between policy and practice. This would also generate trustworthy products that can be transferred to the MRU Member States. This option would also improve the maintenance of knowledge management products and would track the lists of information generated by the MRU Secretariat and independent Evaluation (lessons learned, best practices, issue briefs, policy briefs, and advocacy materials).

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<sup>23</sup> See publication from the World Agroforestry on Knowledge Management at <https://www.worldagroforestry.org/kmu>

## 12.3. Reforms on laws and regulations at the level of each MRU country

### 12.3.1. Reforms on laws and regulations on pesticides and herbicides

Laws exist in all MRU countries for the management of pesticides, herbicides and fungicides. For example, in Guinea, an analysis of the legal and institutional framework for pesticide management reveals that Guinea has a relatively significant legal framework, with 9 international conventions ratified by Guinea in this area. However, most of these texts are unknown to the main actors and suffer for the most part from insufficient enforcement. Guinea has banned the manufacture, trade, transport, and use of 60 products that are dangerous to human health. However, the problem of illegal trade in toxic, dangerous, and banned chemicals is enormous. Illegal trafficking affects all MRU countries, especially the world's most vulnerable people, including farmers and, ultimately, consumers. For illegal trafficking in pesticides, a holistic approach is the improvement of legislation, but above all the enforcement of the regulations and the strengthening of cooperation between all stakeholders are crucial. It is therefore urgent to involve all stakeholders (farmers, relevant ministries, law enforcement officials, and the private sector) if the trends of increased risk are to be reversed.

Sierra Leone has adopted a national integrated pesticide management policy that will serve as guidelines to support future legislative and regulatory frameworks on pesticides. These regulations cover production, packaging, labelling, import, storage, sale, distribution, transport, safe use, and disposal in Sierra Leone. It will also provide guidance to decision-makers by establishing a framework to ensure improvements to ensure that pesticides are used and disposed of throughout their life cycle in a manner that does not create adverse effects on human health and the environment. Sierra Leone's policy considers concerted efforts to strengthen the health sector to be essential to the achievement of the Prosperity Agenda. This policy recognizes that effective and efficient pesticide management is a concerted effort that requires interdepartmental coordination of a range of stakeholders as a team. Responsibility for implementing pesticide regulations will be shared among various ministries and agencies, with the Ministry of Agriculture, Forestry and Food Security and the Ministry of Health and Sanitation having legal responsibility for implementing the policy. To operationalize the partnership agreement, various departments and agencies involved will develop an interdepartmental memorandum of understanding to foster a strong working relationship between the parties, delineating respective responsibilities and identifying areas of mutual interest.<sup>24</sup>

The example from Sierra Leone shows the urgent need to adopt policy and laws/regulations to manage pesticides jointly and collectively among all relevant institutions. Further efforts are therefore needed through policy and legislative reforms/regulations and national programmes involving all relevant actors. It would be useful to monitor the implementation of this national integrated pesticide management policy to draw lessons that can be used within Sierra Leone, but also shared with the MRU and the other member states.

Despite these efforts, many existing laws are not up to date and the regulations for implementing these laws do not take into account the evolution of emerging risks in MRU countries. It turns out that the use of pesticides and herbicides comes mainly from an illegal market, which has been growing rapidly for several years. For many researchers and doctors, pollution from agriculture is a very worrying public health and environmental problem. These pesticides include substances banned in Europe for their toxicity but which

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<sup>24</sup> See Sierra Leone Integrated Pesticide Management Policy chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://moHS2017.files.wordpress.com/2017/06/national-integrated-pesticides-management-policy-2016.pdf

continue to be sold in Africa by European countries. The real public health problem is the long-term effects of chronic exposure, which has no direct and immediate effect.<sup>25</sup>

It is therefore urgent to take legislative and regulatory measures for better management of pesticides in order to prevent major risks to water resources and consequently to human health, especially to pregnant women, breastfeeding women, and children. These laws and regulations should be strict so as to prohibit all chemicals that are banned in Europe and other developed countries but continue to be manufactured for sale and use in Africa. Additional measures should be taken to better train control officers and better inform those involved in the chain of sale and use of these products. These measures deserve to be classified as being of very high importance to be adopted and implemented in the first five years of the SAP and the Investment Plan.

### 12.3.2.Reforms on mining laws and regulations

It is important to consider all harmful aspects of mining, whether industrial or artisanal. All forms of mining have their drawbacks and they are all very worrying. Updated legislative and regulatory measures would be ways to reduce risks to the environment and human health to better protect in particular pregnant women, breastfeeding women, and children who are most vulnerable to the effects of mercury and cyanide, used in gold mining, polluting water and fisheries resources. Legislative and regulatory measures must involve prevention but also remediation, which consists in removing and reversing the effects of contamination or pollution in the soil to make it usable again. For example, Côte d'Ivoire has established a special fund to cover the expenses necessary to reduce negative impacts during mining but also and above all to rehabilitate the site at the end of exploitation. Law No. 2014-138 of 24<sup>th</sup> March 2014 on the Mining Code sets the legislative framework applicable to all mining activities, including closure and rehabilitation. Article 144 stipulates that <sup>26</sup>an environmental rehabilitation account placed in a leading financial institution in Côte d'Ivoire shall be opened at the beginning of the operation. This account must cover the costs associated with environmental remediation at the end of the mine life. Payments to this account shall be made by an operating permit holder in accordance with the program established by the relevant authority. Article 145 stipulates that the applicant for an operating license must produce a plan for the closure and rehabilitation of the mine in addition to an Environmental and Social Impact Assessment (ESIA). The plan must be submitted to the relevant mining and environmental authorities for approval.

The closure plan must take into account the following aspects:

- cleaning up the mine site;
- dismantling and removal of mining facilities;
- rehabilitation of the site;
- monitoring of the phase after the rehabilitation of the site;
- a possible conversion of the site for other activities;

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<sup>25</sup> See " Pesticides in Africa: "a health disaster in slow motion" published on February 8, 2020 and updated on 24.12.2021 by Séraphine Charpentier.

<https://information.tv5monde.com/afrique/pesticides-en-afrique-une-catastrophe-sanitaire-au-ralenti-347399>

<sup>26</sup> See Law 2014-138 of 24 March 2014 on the Mining Code of Côte d'Ivoire  
<https://www.droit-afrique.com/uploads/RCI-Code-minier-2014.pdf>

- the handing over of the rehabilitated site to the relevant authorities.

In terms of reforms, it would be useful for all MRU countries to use all the lessons learned from the application of the Mining Code to adopt new implementing legislation or even a new law that will address improvements that would prove useful.

The example from Côte d'Ivoire is cited to show the importance of the Environmental and Social Impact Assessment before mining and its application throughout the exploitation as well as rehabilitation (remediation) after the closure of the site.

The example of Côte d'Ivoire could be the subject of exchanges of experience so that other countries also share their experiences in order to enrich each other and harmonize, as far as possible, national legislation so as to better contribute to the implementation of the SAP and the Investment Plan of the MRU.

## 13. INVESTMENT PLAN DEVELOPMENT PROCESS

### 13.1. Strategic Actions and Selected Activities

The SAP has identified four long-term environmental quality objectives, three cross-cutting objectives and five specific objectives to address major concerns in the river basins of the MRU area. Based on these objectives, ninety (90) strategic actions were defined. These were then broken down into two hundred and fifty-three (253) activities. The implementation of these actions and activities will continue throughout the four five-year periods, i.e., until 2044.

**Table 4: Distribution of actions and activities by SAP objectives**

SAP Objectives	Number of Strategic Actions	Number of Activities
LTEQO 1	9	33
LTEQO 2	8	22
LTEQO 3	6	19
LTEQO 4	7	19
LTEQO 5	11	41
LTEQO 6	3	9
LTEQO 7	7	15
LTEQO 8	5	9
Specific Objective 1	5	12
Specific Objective 2	5	14
Specific Objective 3	4	12
Specific Objective 4	5	12
Specific Objective 5	5	12

Specific Objective 6	5	12
Specific Objective 7	5	12
Total	<b>90</b>	<b>253</b>

**13.2 Purpose of the Investment Plan**

The purpose of the investment plan is to assist Côte d'Ivoire, Guinea, Liberia, and Sierra Leone in achieving the long-term vision and environmental quality objectives of the Mano River Union Strategic Action Programme (SAP) for River Basin Landscapes, including Forests, through the implementation of national action plans and the strengthening of regional coordination by the MRU Secretariat for implementation of the SAP.

The SAP and Investment Plan for the Mano River Union are expected to mobilize global, national, and community action and raise the level of achievement in integrated water resources management and forest landscape management to address environmental and socio-economic concerns and contribute to the achievement of the 2030 Agenda for Sustainable Development and associated SDGs.

**13.3. Consistency with the GEF Strategy**

The SAP and Investment Plan are consistent with the GEF-8 vision of achieving a healthy, productive and resilient environment that underpins the well-being of human societies. SAP and investment are also structured to support the link between nature, the environment and human health, because without a healthy environment, human health and well-being will inevitably be compromised. The long-term vision and objectives of the SAP Environmental Quality are consistent with the two most recent GEF investment cycles, 2022-2026 (GEF-8) and 2026-2030 (GEF-9).

The SAP is consistent with GEF strategies on international waters, biodiversity and land degradation, as it will contribute to the conservation of forest ecosystems in Upper Guinea through the sustainable management of transboundary river basins.

**13.4. Consistency with the GEF co-financing policy**

The SAP and the Investment Plan were developed on the understanding that co-financing is an integral part of GEF operations. The SAP and its Investment Plan support the creation of longer-term and larger-scale global environmental benefits, and strengthens partnerships with recipient governments, multilateral, bilateral and national financial institutions, the private sector and civil society.

**13.5. Need for a diversity of funding sources**

The financing of the SAP is envisaged through the mobilization of human and financial resources with the potential support of the GEF but also the governments of beneficiary countries, multilateral, bilateral, national financial institutions, the private sector, and the civil society.

With regard to the contribution of recipient country governments and other national and local entities, potential sources of co-financing were identified, including but not limited to the following initiatives:

### 13.5.1. Initiatives, programmes, projects under implementation or planned that can serve as sources of co-financing in Côte d'Ivoire.

The Investment Plan for the financing of the SAP is developed taking into account the existence of several initiatives, programmes, projects and trust funds set up by t Côte d'Ivoire. It is a question of establishing a partnership with these initiatives in order to avoid duplication or competition, but to promote synergy and create the conditions for solidarity and complementarity. The development of the Investment Plan is thus based on the strengths of the following initiatives:

a. The Abidjan Legacy Program, an ambitious \$1.5 billion program<sup>27</sup>

The objectives of this initiative are similar to the Vision and to the Long Term Environmental Quality Objectives of this SAP because this initiative aims at : (i) the fight against deforestation and promotion of forest restoration which aims to restore 20% of the Ivorian forest cover by the end of the decade, (ii) the improvement of agricultural productivity through mechanization and soil restoration, (iii) actions to make current value chains more sustainable with more meaningful local transformation, to generate more wealth and jobs, especially for youth and women and (iv) identification of value chains of the future, respectful of the soil and that will resist climate change. More than one billion US dollars were obtained on Monday, May 9, 2022 by Côte d'Ivoire for the financing of its initiative thanks to financial support from the African Development Bank (AfDB), "Team Europe" which brings together the European Union and the European Investment Bank, UNDP, the West African Development Bank (BOAD), and the Ban-Ki Moon Institute.

b. The Forest Investment Project (FIP).<sup>28</sup>

The Forest Investment Project (FIP) launched on 24<sup>th</sup> November 2018 will triple its forest cover by 2030. This project benefits from 143 million euros from the World Bank to fight deforestation. The FIP aims to reach a "forest cover of the country to 6.5 million hectares by 2030, or 20% of the national territory", according to the World Bank, which finances it to the tune of 143 million euros. The project's intervention area includes the Cavally region, including the Tai National Park. The project has the same objectives as this SAP in terms of conservation and sustainable use of forests. The FIP places particular emphasis on relationships with other ongoing projects and seeks synergy with relevant projects such as the MRU project on the Cavally Basin.

The overall vision of the Forest Investment Plan (FIP) is to: restore the productivity of forest resources and manage them sustainably; create incentives; securing land tenure and access rights to create an enabling environment for transformation; and implement zero-deforestation agriculture to reduce pressure on forests and improve livelihoods. This Vision is in line with the vision of this SAP. It is therefore important to create a strong partnership with the FIP. This vision is:

*“The Forest Investment Project (FIP) aims to conserve and increase the forest cover in Côte d'Ivoire. It will also contribute to improving the livelihoods of forest-dependent communities in target areas.”*

In Côte d'Ivoire, the Forest Investment Project Phase 2 (FIF2) received USD 148 million in financial support from the World Bank. The funds will support a range of initiatives to restore forest cover. It is good to note

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<sup>27</sup> Abidjan Legacy Program

<https://araa.org/fr/news/cop-15-l%E2%80%99initiative-d%E2%80%99abidjan-un-ambitieux-programme-de-15-milliard-de-dollars>

<sup>28</sup> Forest Investment Project (FIP) <https://faolex.fao.org/docs/pdf/IVC169692.pdf>

that the FIP 2 is the continuation of the FIP launched in 2018, at a cost of USD 18 million. Based on the results of the first phase, the project will be renewed for a period of seven years. It is aligned with the ten-year national forest rehabilitation plan, aiming to increase from 2.97 million hectares of forests to 6 million by 2030.

c. Establishment of the National Forest Fund<sup>29</sup>

Establishment, organization and modalities of operation of the National Forest Fund

In October 2021, the Council of Ministers adopted a decree on the establishment, organization and operation of the National Forest Fund. This decree is part of the implementation of the State's new forestry policy dedicated to the preservation and restoration of natural resources. Overall, it is intended to ensure the sustainable management of sensitive ecological areas and establish discipline within the forest administration. Also, it will be ensuring the sustainable financing of programs and projects for the sustainable development of forest resources, estimated at about 616 billion CFA francs. All this, with a view to guaranteeing Côte d'Ivoire to recover by 2030, about 20% of its forest cover and to preserve it.

d. Cocoa-Forests Initiative of Côte d'Ivoire<sup>30</sup>

Development of a financing framework for the Cocoa-Forest Initiative with strong involvement of the private sector (chocolate industry)

The various components of the national strategy for the preservation, rehabilitation and extension of forests have been translated into projects valued at more than 616 billion CFA Francs over 10 years (2020-2029). The chocolate industry and the coffee-cocoa sector have set up a fund for forest rehabilitation activities. This is an opportunity from the private sector that can be a source of co-financing.

e. Fund for access to water in Côte d'Ivoire<sup>31</sup>

In September 2017, the government of Côte d'Ivoire announced the establishment of a fund of 200 billion CFA francs to strengthen people's access to drinking water. The envelope will be used to build urban infrastructure but also in rural areas with the objective of a 95% rate of access to drinking water by 2020.

f. Climate Change: Carbon Pricing<sup>32</sup>

The proposed carbon pricing will be based on the application of the Polluter-Pays Principle on the basis of an acceptable psychological price per ton of carbon at 1000 CFA Francs and in an ambitious scenario at

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<sup>29</sup> Creation of the National Forest Fund

<http://quoideneuf.info/cote-divoire-creation-organisation-et-modalites-de-fonctionnement-du-fonds-forestier-national-gouvernement/>

<sup>30</sup>Cocoa-Forests Initiative of Côte d'Ivoire <https://initiativecacaoforets.ci/>

<sup>31</sup> Water Access Fund in Côte d'Ivoire <https://afrique.latribune.fr/economie/strategies/2017-09-18/cote-d-ivoire-un-fonds-de-200-milliards-fcfa-pour-l-acces-a-tous-a-l-eau-750580.html>

<sup>32</sup> climate Change: Carbon Pricing in

[https://www.thepmr.org/system/files/documents/Fiscalit%C3%A9\\_Carbone\\_C%C3%B4te%20d%27Ivoire\\_Rapport%20Final%20%281%29.pdf](https://www.thepmr.org/system/files/documents/Fiscalit%C3%A9_Carbone_C%C3%B4te%20d%27Ivoire_Rapport%20Final%20%281%29.pdf)

2500 CFA Francs per ton of CO<sub>2</sub>. The potential annual revenue projections for the carbon tax are CFAF 493.5 billion to CFAF 1,233.7 billion. This can reduce the use of wood as an energy source and promote forest restoration.

### 13.5.2. Ongoing or planned initiatives, programmes, projects that can serve as sources of co-financing in Guinea

The following table summarizes the sources of co-financing of short-term actions to be prospected at national level:

**Table 5 : Possible co-financing of SAP actions in the Republic of Guinea**

<b>CO-FINANCING OF SHORT-TERM ACTIONS TO BE PROSPECTED AT NATIONAL LEVEL</b>				
<b>TARGET BASINS</b>	<b>RELEVANT MINISTERIAL DEPARTMENTS (Co-financing of project sheets through the BND)</b>	<b>FUNDS/COMPANIES /AGENCIES IN SITU (Co-financing of Project Sheets through these Structures)</b>	<b>TOTAL AMOUNT REQUIRED GNF</b>	<b>TOTAL AMOUNT REQUIRED US\$</b>
<b>Kolenté/Kaba</b>	Ministries of: <ul style="list-style-type: none"> <li>• Environment, sustainable development</li> <li>• Energy, Hydraulics and Hydrocarbons</li> <li>• Agriculture and Livestock</li> <li>• Fisheries and Maritime Economy</li> <li>• Mining and Geology</li> <li>• Economy and Finance</li> <li>• Plan and International Cooperation</li> </ul>	<ul style="list-style-type: none"> <li>• Environment and Natural Capital Fund</li> <li>• Hydraulic Fund</li> <li>1. The Local Fund of the Communities</li> <li>• National Agency for the Financing local institutions</li> </ul>	<b>15,880,000,000</b>	<b>1,855,201</b>
<b>Moa/Makona et Mano</b>	<ul style="list-style-type: none"> <li>M. Environment, Sustainable Development</li> <li>M. Energy, Hydraulics and Hydrocarbons</li> </ul>	<ul style="list-style-type: none"> <li>• Environment and Natural Capital Fund</li> <li>• National Agency for Agricultural Promotion and Advisory)</li> </ul>		<b>1,491,871</b>

<b>CO-FINANCING OF SHORT-TERM ACTIONS TO BE PROSPECTED AT NATIONAL LEVEL</b>				
<b>TARGET BASINS</b>	<b>RELEVANT MINISTERIAL DEPARTMENTS (Co-financing of project sheets through the BND)</b>	<b>FUNDS/COMPANIES /AGENCIES IN SITU (Co-financing of Project Sheets through these Structures)</b>	<b>TOTAL AMOUNT REQUIRED GNF</b>	<b>TOTAL AMOUNT REQUIRED US\$</b>
	M. Agriculture and Livestock M. Fisheries and Maritime Economy M. Mining and Geology M. Economy and Finance M. Plan and International Cooperation	<ul style="list-style-type: none"> <li>• Société des Mines de Fer de Guinée</li> <li>• SAMA Resources Guinea</li> <li>• Zaly Mining (formerly West Arica)</li> <li>• Rio Tinto</li> </ul>	<b>12,770.000,000</b>	
<b>Cavally</b>	M. Environment, Sustainable Development M. Energy, Hydraulics and Hydrocarbons M. Agriculture and Livestock M. Fisheries and Maritime Economy M. Mining and Geology M. Economy and Finance M. Plan and International Cooperation	<ul style="list-style-type: none"> <li>• Environment and Natural Capital Fund</li> <li>• National Agency for Agricultural Promotion and Advisory</li> <li>• Société des Mines de Fer de Guinée</li> <li>• SAMA Resources Guinea</li> <li>• Zaly Mining</li> <li>• Rio Tinto</li> </ul>	<b>7,880,000,000</b>	<b>920,591</b>

<b>CO-FINANCING OF SHORT-TERM ACTIONS TO BE PROSPECTED AT NATIONAL LEVEL</b>				
<b>TARGET BASINS</b>	<b>RELEVANT MINISTERIAL DEPARTMENTS (Co-financing of project sheets through the BND)</b>	<b>FUNDS/COMPANIES /AGENCIES IN SITU (Co-financing of Project Sheets through these Structures)</b>	<b>TOTAL AMOUNT REQUIRED GNF</b>	<b>TOTAL AMOUNT REQUIRED US\$</b>
<b>Common Core</b>	M. Environment, Sustainable Development M. Promotion of Women, Children and Vulnerable Persons M. Foreign Affairs, African Integration and Guineans Abroad M. Economy and Finance M. Plan and International Cooperation M. Administration of Territory and Decentralization	<ul style="list-style-type: none"> <li>• Environment and Natural Capital Fund</li> <li>• Hydraulic Fund</li> <li>• The Local Fund of the Communities</li> <li>• National Agency for the Financing of Communities</li> </ul>	<b>15,490,000,000</b>	<b>1,809,639</b>
<b>TOTAL</b>			<b>52,020,000,000</b>	<b>6,077,302</b>

**NB:** Last update of the quotation on 16 /04/2023 at 00:23 on Google

**1 US \$=8,559.72 GNF**

### 13.5. 3. Potential sources of co-financing for SAP implementation in Sierra Leone

- a. Government of Sierra Leone initial National Adaptation Plan (iNAP)

The Government of Sierra Leone has invested in identifying and adopting key strategic and institutional frameworks and identifying priority actions to address climate change. Investment through human and financial resources is a potential source of co-financing as it lays the foundation for the implementation of transboundary basin management in Sierra Leone as an integral part of the “Mano River Union Ecosystem Conservation and International Water Resources Management” Project.

Indeed, Sierra Leone's iNAP provides guidance and information on actions to reduce vulnerability to climate change with respect to water resources, agriculture and food security, public health, coastal areas, and communities across the country. The range of adaptation options has been well defined through systemic and bottom-up consultative processes at the national level. In addition, the process itself has been an important achievement in advocacy, technical and institutional capacity-building and the integration of adaptation concerns into national development dialogues.

iNAP covers five priority sectors of agriculture and food security, water resources and energy, coastal zone management, environment and disaster management, as well as two cross-cutting priorities identified as gender equality and social inclusion. This plan can therefore be an opportunity to catalyze national and international financing for the implementation of climate change adaptation strategies and actions.

b. Sierra Leone's most recent Nationally Determined Contribution (NDC)

In its updated NDC, Sierra Leone has set out a progressive path to reduce greenhouse gas emissions from 2005 levels: 5 per cent by 2025, 10 per cent by 2030 and 25 per cent by 2050. Unlike the original NDC which only had conditional commitments, the updated NDC set unconditional mitigation contributions, also providing more detail on trends, strategies and targets for each sector, with quantifiable targets. Sierra Leone has also expanded its adaptation targets and worked to align with the Sustainable Development Goals. The NDC Adaptation and Resilience Areas address all target areas of the MRU project's strategic action plan, including: agriculture, water, energy, coastal zones, forestry, mining, infrastructure and disaster risk management. Actions to implement Sierra Leone's NDC set the overall framework for integrating forests and other nature-based solutions towards climate goals as well as for implementing the Strategic Action Programme 's Vision and Long-Term Environmental Quality Objectives (LTEQOs). Sierra Leone's NDC includes mitigation measures in forests and land use, providing the basis for the larger-scale action that is necessary for the success of the MRU project.

c. Climate finance for Sierra Leone

Sierra Leone recognizes the important challenges of combating climate change and the country is already allocating funds for mitigation and adaptation. This money is a crucial investment in the security and prosperity of human populations for the present and future generations. To address the challenge of climate finance, multilateral and bilateral partners such as UNDP and USAID are helping Sierra Leone, working with the government to better track existing climate-related spending – public and private – and to take it further. This funding is a potential source of co-financing with the MRU project. In addition, new sources of financing, from international funds to private investments, are potential opportunities to better integrate climate change and environmental and socio-economic concerns into the economic and financial policies that support the MRU project.

d. Gola Rainforest Conservation Project

The activities of this project focus on strengthening the conservation of the Gola Rainforest, which is an important area included in the MRU project. This project addresses the drivers of deforestation by working with local communities to encourage sustainable development and land-use planning. Like the Vision and

LTEQOs of the MRU project, the long-term plan of the Gola Forest project aims to enable stakeholders (government, communities, and national NGOs) to manage this entire landscape in a sustainable way, not only to directly benefit local communities, but also to protect the vital carbon stock and critically endangered wildlife contained in the forest. Funding for the Gola Forest project is therefore a potential source of co-financing for the MRU project.

e. Agricultural Value Chain and Development Program

This is an important project aimed at improving agricultural production and the value chain. It will improve livelihoods and address some of the problems identified by the MRU project in 16 districts, including areas in transboundary forests and target basins of the MRU project. The project contributes to the implementation of the long-term ecosystem quality vision and objectives of the MRU Strategic Action Programme. With funding of over \$100 million, this is a major potential co-financing project with the MRU project.

f. Project of the NGO Sierra Leone Conservation Society

This is a project implemented by Sierra Leone Conservation Society, an NGO that works on environmental issues and supporting local communities through forest restoration, protection and conservation, livelihoods and income generation. It contributes to the implementation of the vision and objectives of the SAP.

g. Relevant activities of the Ministry of Environment

The Ministry of Environment invests in forest management, particularly through its national tree planting (five million trees in 16 districts of Sierra Leone), forest landscape restoration, and cocoa plantation. The budget allocated to these activities is a potential source of co-financing.

h. Citizen-led climate-sensitive WASH management project

This project addresses environmental degradation and reducing risks to human health through tree planting, provision of WASH facilities, awareness-raising, improved livelihoods and support to the Village Savings and Loan Association (VSLA).

## **14. MODALITIES FOR THE IMPLEMENTATION OF THE SAP AND THE INVESTMENT PLAN**

### **14.1. SAP Implementation**

This Strategic Action Programme is designed to be implemented through a series of projects that correspond to the identification of strategic actions in response to the priority cross-border problems identified in the regional TDA. Particular attention will be given to integrated water resources management projects that address the enormous challenges of providing balanced and sustainable solutions to pressing water problems, through actions that address conflicts between populations and interest groups in the basins shared by the four MRU countries. Funding will be sought for each project, either independently or in combination with other SAP projects. Projects will be implemented through National Executing Agencies designated by MRU member countries, with the participation of multiple local, national, and regional stakeholders. The general regional aspects of the SAP will be coordinated and implemented by the MRU in its capacity as Regional Executing Agency.

The implementation of the SAP at the local and national levels relies on the implementation of the National Action Plans adopted in each of the four MRU countries to ensure that strategic actions are carried out in accordance with national priorities and are integrated into the overall national planning process. Progress in the implementation of the SAP will be monitored through a Monitoring and Evaluation (M&E) plan that is part of the SAP and includes objectives and indicators of success for each strategic action. Adaptive management will also allow the SAP implementation process to be reviewed and updated annually.

#### Correlation between SAP strategic actions

The SAP shall be structured in such a way as to facilitate the correlation between strategic actions and synergies between activities in order to facilitate the implementation of the SAP and to avoid duplication of activities and costs. Strategic actions in the same thematic area of implementation could be negotiated through protocols, regulations and regional activities among MRU participating countries. To facilitate the process, the strategic actions are divided into seven interrelated thematic areas of implementation, namely:

- Regional coordination and monitoring by the MRU Secretariat at the basin level.
- Planning, management and monitoring at local and national levels in close collaboration with the MRU.
- Regular exchange of information between the countries that share each transboundary basin.
- Capacity-building, knowledge, and awareness-raising actions to raise awareness of problems and possible solutions as well as the engagement of local and national stakeholders and facilitate joint actions between countries sharing the same basin.
- Administrative and financial management at national level by the national executing agencies and at regional level by the MRU Secretariat.
- Production and dissemination of periodic reports at the national level and the MRU Secretariat.
- Production and transmission of Reports from the MRU Secretariat to the GEF Implementing Agency and relevant technical and financial partners supporting the implementation of the SAP.
- Updating project websites in the 4 countries of relevant SAP information.

## 14.2. Implementation timetable

First, it is important to recognize that meeting the needs of current generation while safeguarding the interests of future generations requires a long-term perspective, whereas working on current priorities. It is for this reason that the Vision and the Long-Term Environmental Quality Objectives (LTEQOs) should be implemented over the next 20 years through short, medium, and long-term measures, taking into account the interests of all generations.

Thus, this SAP is a regional policy framework document enabling MRU Member States to work collectively to achieve the desired outcomes for the future environment that supports the socio-economic development of target populations. The long-term objectives should be achieved within twenty years and are designed within the responsibility of Member States, defined independently as components of their National Action Plans (NAPs), and collectively within the mandate of the MRU.

This SAP builds on and complements the NAPs. It includes clear interventions for priority investments in the first five years as the first phase of a twenty-year programme. The detailed investment plan, identifying priority activities to be undertaken in each country should have 4 five-year phases. The first 5-year phase is the one that must focus on the first priorities and should be more detailed than the other subsequent phases. The SAP is expected to be reviewed every 5 years as well as its Investment Plan in order to take into account the lessons learned from the phases that have been carried out to adjust and update priorities,

also taking into account emerging challenges. In summary, the SAP should extend over 20 years but it is the first 5 years that are the subject of detailed funding, search for sources of funding, and co-financing as well as monitoring and evaluation indicators.

### 14. 3. Timetable for interventions during the first phase of the SAP and Investment Plan

The implementation schedule is spread over twenty years including four phases of five years each. The first five-year plan (PQ1) being the priority plan. The actions to be taken are recorded in the following table 6:

**Table 6 : SAP chronological implementation plan for the four five-years (2024-2043)**

LTEQOs	Proposed Actions	Phase 1	Phase 2	Phase 3	Phase 4
<b>LTEQO n°1:</b> The forest ecosystems of the MRU basins are restored, protected and sustainably managed	1.1. Restore degraded forests, protect and manage degraded transboundary forest landscapes in MRU space	x	x	x	x
	1.2. Develop/strengthen, harmonize and implement domestic laws, policies and bye laws to reduce deforestation.		x	x	x
	1.3. Promote sustainable agricultural system	x	x	x	x
	1.4. Promote income generation and value chain activities and improve access to market for communities through forest landscapes restoration interventions.	x	x	x	x
	1.5. Prevent or fight against bush fires.	x	x	x	x
	1.6. Improve the management of protected areas (IP, Buffer & Transition zones)	x	x		
	1.7. Ensure the implementation of the laws on Timber & Non-Timber Forest Product for sustainable management	x	x	x	x
	1.8. Conduct a detailed Land Use and Land Cover (LULC) mapping & establish baseline	x			
	1.9. Create new community forest conservation areas		x	x	x
<b>LTEQO n°2:</b> A good quality water available to meet	2.1. Strengthen capacities of technical services of member states, in charge of water resources management.	x	x	x	

LTEQOs	Proposed Actions	Phase 1	Phase 2	Phase 3	Phase 4
essential needs of ecosystems and the people within the MRU basins in conformity with SDG indicator 6.3.2 target	2.2. Establish a network to measure, monitor and share the water quality and quantity data.	x	x		
	2.3. Promote environmental education on water resources.			x	x
	2.4. Protect the aquatics resources against heavy metal and other pollutants (physical, chemical and biological).	x	x	x	x
	2.5. Enhance and ensure the implementation of laws and regulations on water quality.			x	x
	2.6. Strengthen capacities of technical services of member states, in charge of water resources management.	x	x	x	
	2.7. Establish a network to measure, monitor and share the water quality and quantity data.	x	x		
	2.8. Establish water police	x			
LTEQO n°3: The ecological integrity is restored and conserved and sustainably manage the terrestrial & aquatic ecosystems of the MRU basins	3.1. Ensure a sustainable conservation of transboundary protected areas			x	
	3.2. Conduct an inventory of the fauna & flora species in the forest landscapes and wetlands of the basin		x		X
	3.3. Conduct the monitoring of endangered and endemic species.		x	x	x
	3.4. Restore or reintroduce endangered species			x	
	3.5. Popularize both national laws and international conventions on the biodiversity and wetlands (CBD and Ramsar Conventions).	x	x		

LTEQOs	Proposed Actions	Phase 1	Phase 2	Phase 3	Phase 4
	3.6. Encourage communities to value medicinal plants and socioeconomic species.			X	X
LTEQO n°4: The lands, riverbanks and the water source restored and protected	4.1. Develop and implement restoration plans and rehabilitate degraded riverbanks and water sources		X	X	X
	4.2. Popularize and implement national laws and regulations on environmental protection	X	X	X	X
	4.3. Promote smart mining and farming practices that incorporate land and restoration.		X	X	X
	4.4. Restore the vegetation cover of degraded areas in the watershed	X	X	X	X
	4.5. Monitor sediment load in the watercourses		X	X	X
	4.6. Promote ecohydrological approach to reduce soil loss and land degradation particularly in wetlands (Nature based solution).		X	X	X
	4.7. Develop sustainable lowland and floodplains farming				X
<b>LTEQO n°5: The capacity for climate change mitigation, adaptation and resilience of member States are strengthened at all levels</b>	5.1. Train the final users on available climate services and specific to sectoral activities			X	X
	5.2. Develop and implement resilience programs for communities vulnerable to climate change.				X
	5.3. Support collaboration among agricultural research Centers of member states and strengthen their technical capacities for the identification and production of seeds that are resilient to climate effects.				X

LTEQOs	Proposed Actions	Phase 1	Phase 2	Phase 3	Phase 4
	5.4. Strengthen the resilience of rural communities through dissemination of variety of seeds that are resistant to climate change effects				X
	5.5. Encourage best practices through SMART agriculture or sustainable farming.				X
	5.6. Develop and implement a regional climate change mitigation & adaptation programme based on the Nationally Determined Contributions (NDC) of member states				X
	5.7. Strengthen capacities of technical service providers in charge of climate risks and natural disaster management.		X	X	X
	5.8. Promote the reasonable use of water (use & reuse) in irrigation systems, mining & industrial processes			X	X
	5.9. Strengthen the capacities of national structures on the mobilization of Green Climate Funds (GEF, adaptation fund, carbon, etc.).		X	X	X
	5.10. Develop and implement programs that promote the use of new and renewable energy resources for climate change adaptation and mitigation				X
	5.11. Promote water improvement infrastructures and drinking water resilient to climate risks.				X
<b>LTEQO n°6: The vulnerable groups mainly, women, youth and children taken into</b>	6.1. Mainstream Gender issues in the implementation of the SAP to enhance social equity, economic empowerment and sustainable management of the natural resources		X	X	X

LTEQOs	Proposed Actions	Phase 1	Phase 2	Phase 3	Phase 4
<b>account in the implementation of the SAP</b>	6.2. Establish a framework for the participation of women, youth, children and other vulnerable groups in decision making on the management of basin resources.		x	x	x
	6.3. Promote income generation for the benefit of women, youth and other vulnerable groups			x	x
<b>LTEQO n°7: The transboundary cooperation among member states, communities and other actors is strengthened</b>	7.1. Harmonize laws and regulations for the management of natural resources within the MRU region	x			
	7.2. Finalize the process for the creation of the MRU Basin Authority	x			
	7.3. Develop and adopt a water charter for all the MRU river basins		x		
	7.4. Support the member states to ratify the international water conventions of 1992 & 1997		x		x
	7.5. Implement international conventions on the transportation of toxic and hazardous products (e.g., Bamako convention)	x	x	x	x
	7.6. Promote concerted management of protected areas among member states through bilateral/tripartite agreements			x	x
	7.7. Develop/Strengthen partnership among the public sector, the private sector, the NGOs and the local communities for the natural resource management.		x	x	x
	Develop regulatory texts on the production, import, marketing and use of non-biodegradable plastic	x			

LTEQOs	Proposed Actions	Phase 1	Phase 2	Phase 3	Phase 4
LTEQO n°8: The non-biodegradable plastic is no more utilized	Strengthen the technical capacities of the services responsible for the environment through the appropriation of regulatory texts		X		
	Provide environmental managers with control materials		X		
	Promote alternatives to non-biodegradable plastic	x			
	Set up collection, processing and recycling units for plastic	x	x	x	X
<b>Specific LTEQO n°1: Reduce invasive aquatic plants to level that does not negatively affect ecosystems and socio-economical activities in MRU basins</b>	8.1. Review the existing situation in terms of invasive aquatic plant species		x		
	8.2. Develop and implement a sub-regional research program on invasive aquatic plant species: species biology, hydro-chemical and biological conditions of their growth			x	x
	8.3. Develop and implement an integrated programme to fight and restore areas infested by invasive aquatic plant species			x	x
	8.4. Develop socio-economic value of invasive aquatic plant species	x	x	x	x
<b>Specific LTEQO n°2: The Mont Nimba forest ecosystem restored and it's for the management unit settled up</b>	9.1. Prepare a draft creating a protected area and to classify Ramsar sites within		x		x
	9.2. Develop and adopt a management and monitoring plan to be reviewed every five years		x	x	
	9.3. The management team is functional		x		
	9.4. Control mining activities to preserve special interest forest ecosystem			x	x

LTEQOs	Proposed Actions	Phase 1	Phase 2	Phase 3	Phase 4
	9.5. Include in the list of Ramsar sites, wetlands that are or may be of international ecological, economic, cultural and scientific importance				x
<b>Specific LTEQO n°3: The forest ecosystem of the Tai-Grabo-Krahn-Sapo complex restored and its management unit established</b>	10.1. Prepare a draft creating a protected area and to classify Ramsar sites within				
	10.2. Develop and adopt a management and monitoring plan to be reviewed every five years			x	x
	10.3 The management team is functional			x	
	10.4. Control mining activities to preserve special interest forest ecosystem			x	x
	10.5. Include in the list of Ramsar sites, wetlands that are or may be of international ecological, economic, cultural and scientific importance				x
<b>Specific LTEQO n°4: The Gola Forest ecosystem complex restored and a management unit set up</b>	11.1. Prepare a draft creating a protected area and to classify Ramsar sites within		x		
	11.2. The management team is functional			x	x
	11.3. Control mining activities to preserve special interest forest ecosystem			x	x
	11.4. Include in the list of Ramsar sites, wetlands that are or may be of international ecological, economic, cultural and scientific importance				x
<b>Specific LTEQO n°5: The mangrove ecosystem of the</b>	12.1. Prepare a draft creating a protected area and to classify Ramsar sites within			x	

LTEQOs	Proposed Actions	Phase 1	Phase 2	Phase 3	Phase 4
<b>estuarian ecosystem restored and its management unit settled up</b>	12.2. Develop and adopt a management and monitoring plan for the management of each mangrove to be reviewed every five years			x	x
	12.3. The management team is functional			x	
	12.4. Control mining activities to preserve special interest forest ecosystem				x
	12.5. Include in the list of Ramsar sites, wetlands that are or may be of international ecological, economic, cultural and scientific importance				x
LTEQO 14 Objective Specific 6: The protected area of national forest parks of Penselly-Soya-Sabouya and Outamba is restored and a management system put in place.	Develop the texts creating a protected area and Ramsar sites	X			
	Draft a development and management plan to be periodically reviewed by a joint inter-State team	X	x	X	
	The monitoring and management team made up of representatives of the States Parties is functional	X			
	Supervise mining activities to preserve forest ecosystems of special interest	X	x	x	
	Include in the list of Ramsar sites, wetlands that have or may have international importance from an ecological, economic, cultural and scientific point of view			x	x
LTEQO 15 Objective Specific 7: The protected area complex of national forest parks of Wonegisi-Ziama is restored	Develop the texts creating a protected area and Ramsar sites	X			
	Draft a development and management plan to be periodically reviewed by a joint inter-State team	X	x	x	

LTEQOs	Proposed Actions	Phase 1	Phase 2	Phase 3	Phase 4
and a management system put in place.	The monitoring and management team made up of representatives of the States Parties is functional	X			
	Supervise mining activities to preserve forest ecosystems of special interest	X	x	x	
	Include in the list of Ramsar sites, wetlands that have or may have international importance from an ecological, economic, cultural and scientific point of view			x	x

### 14.4. Annual planning of the implementation of the Investment Plan at Regional level

Priority actions will be undertaken during the first five-year plan which serves as a macro-level planning tool for the MRU’ Secretariat at the regional level.

It will be operationalized through rolling annual work plans, which show the continuation and continuity of activities especially activities that take place over several years. The five-year planning of the work will also help national implementing agencies integrate SAP activities into their work plans for better national implementation. The budget for rolling annual work plans may be revised annually or more frequently as required. The preparation of work plans will be guided by the schedule of activities and draft budgets in the Investment Plan. Each of these activities will be developed in more detail in tasks, required resources, links to other tasks, and then consolidated into a Work Plan with procurement plans, management responsibilities and corresponding investments, and budget flows. Each year, progress made in previous years and the continued availability of funds will be taken into account.

As shown in Annex 1 on the details of the Investment Plan, the financing of actions to meet the priority objectives, the actions of the cross-cutting and specific objectives in the first five-year plan amounts to \$US 51,568,300. The funding requirement for the first year is \$US 8,112,500 (15.7% of the first phase). The following graph shows that funding requirements for the first five-year programme reach their highest level in the second year (\$US 15,647,500 equal to 30.3% of the first Five-Year investment).

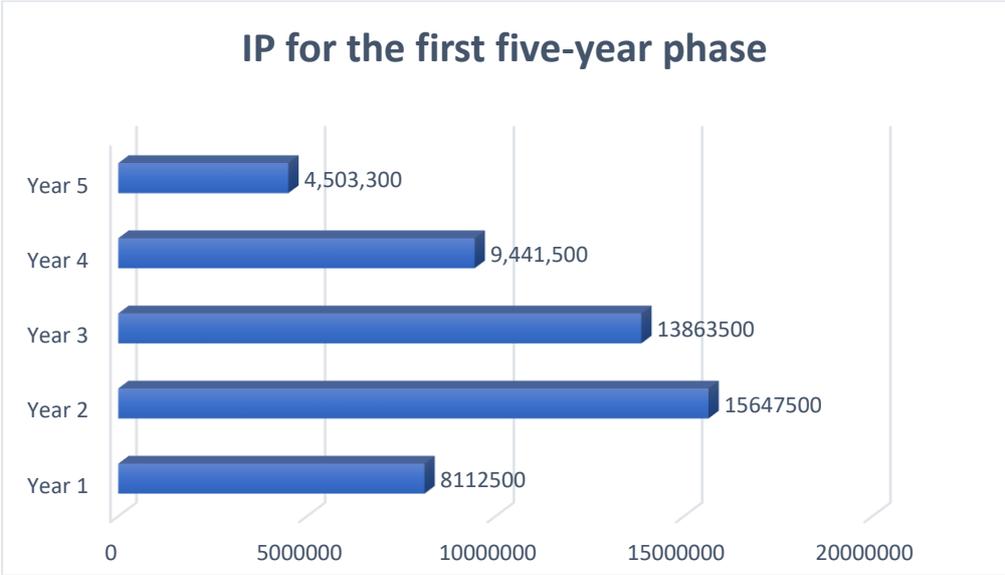


Figure 11 : Investment required for the first Five Years

Of this overall amount for the implementation of the first five-year plan, the eleven actions and forty-one activities of the objective for strengthening the adaptation, mitigation and resilience capacities of Member States to climate change at all levels requires the highest funding (USD 14,194,800).

On the other hand, it is the investments required to implement the twelve activities from the five actions of objective 8 "The non-biodegradable plastic is more utilized in MRU space" which are the lowest (US\$ 685,000). They are followed by the investments to carry out the nine activities of specific objective n°6: "vulnerable groups, in particular women, young people and children taken into account in the implementation of the SAP" for an amount of US\$ 803,000.

The investment needs for the achievement of the four priority objectives range between \$US 3,567,000 (LTEQO 3) and \$US 7,022,500 (LTEQO 2). The financing needs of specific objectives n°2 (\$US

2,550,000) and n°3 (\$US 2,590,000) then of n°4 (\$US 1,570,000) and n°5 (1,445,000) are relatively similar because they have the same activities.

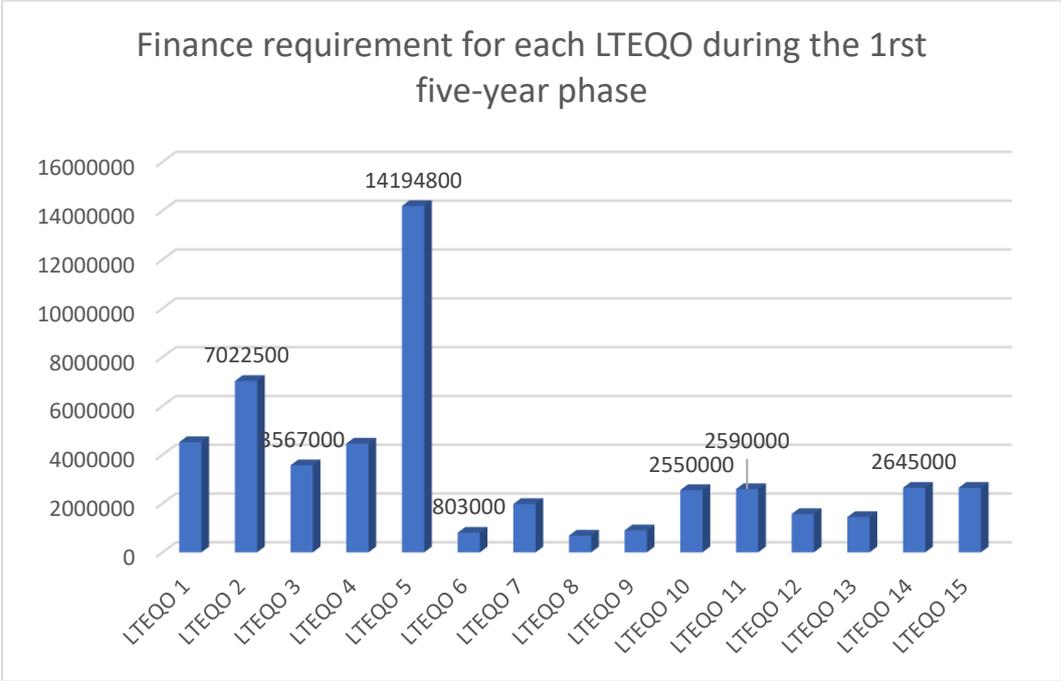


Figure 12: Investment Plan for each LTEQO during the 1rst Five-Year phase

The implementation of the first five-year period would amount to US\$ 51,568,300 or 35.3% of the investment plan for the four five-year periods, while the last five-year period or exit phase would only require funding of £US 22,074,300 or 15.1%. The investment needs of the second five-year and the third five-year plans are about \$US 37,138,300 (i.e., 25.4%) and \$US 35,270,300 (i.e., 24.1%).

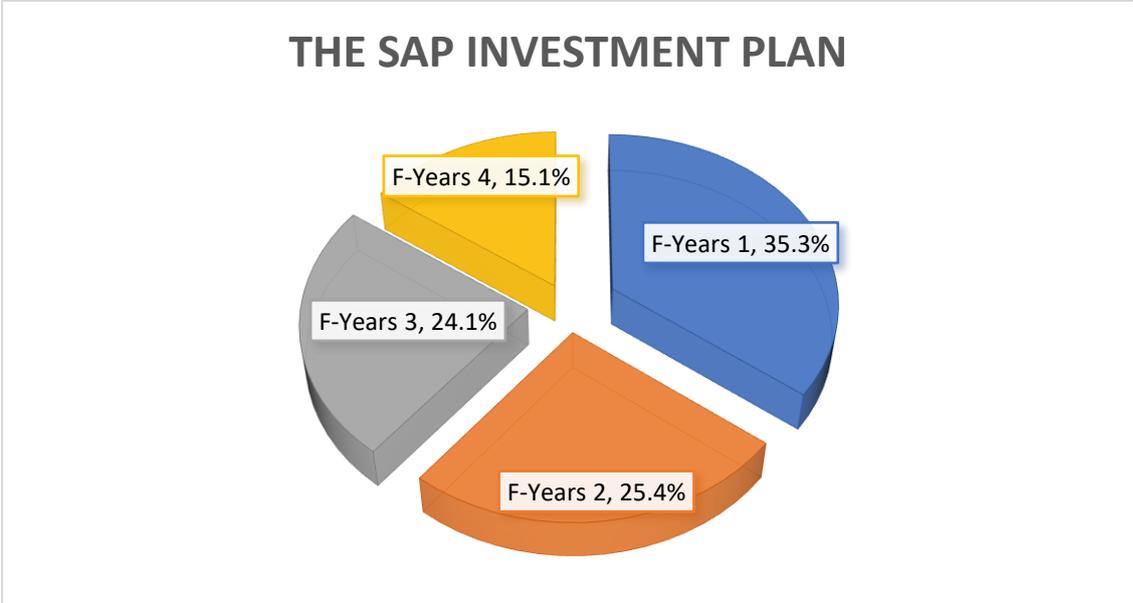


Figure 13 : Investment needs for the four five-year periods of the SAP (2024-2043)

## 14.5. National Action Plans and Country Planned Investments

### 14.5.1. National Action Plans (NAPs)

Côte d'Ivoire, Guinea, Liberia and Sierra Leone have developed their National Action Plans, taking into account national priorities and the most significant needs to achieve the Vision and Long-Term Environmental Quality Objectives in the four target basins and forest areas.

For the preparation of the NAPs, a national team was set up in each country and a suggested outline was provided by the international consultants to the national teams in order to harmonize and have a minimum of coherence between the NAPs, taking into account national particularities but also all the important aspects that must be considered in each country:

- a. Identify all relevant stakeholders and ensure that relevant key interest groups are involved and that women and men are equitably represented to the extent possible.
- b. Involve all relevant key sectors to ensure their interests are taken into account.
- c. Identify conflicts of interest and find negotiation mechanisms to respond appropriately.
- d. During national consultations, consider exploring a cross-sectoral response/approach and negotiate with all interest groups to reach consensus.
- e. Ensure a good understanding of gender roles when analyzing options and alternatives for better adherence.
- f. Select monitoring measures and indicators that support environmental quality that is safe for human health.
- g. Propose actions for the conservation of biological and landscape diversity.
- h. Propose a legal and institutional framework for the implementation of the NAP and the SAP.
- i. Describe methods to increase public participation.
- j. Ensure that the NAPs represent an awareness and commitment to better environmental management by Member States.
- k. Ensure that NAPs are also coherent and independent documents detailing national objectives, options and interventions to be achieved.
- l. Prepare the NAP according to common guidelines while taking into account the specificities of each Member State in terms of planning and implementation.

Important measures characterizing the NAP of each country

#### In Côte d'Ivoire

- i. Policy, legislative, regulatory and institutional reform

Côte d'Ivoire has taken important recent steps at the national level to reform policies, strategies, institutional framework, legislation, and regulations to better manage natural resources, especially on forest resources. These reforms also concern measures for mitigation and adaptation to climate change as well as gender issues. Thus, to better manage the forests, water resources and biodiversity of the Cavally basin shared by Côte d'Ivoire, Liberia and Guinea, the National Action Plan as an integral part of the Strategic Action Program of the MRU project does not need to seek to reinvent the wheel to propose new reforms. It is therefore for the Action Plan developed by Côte d'Ivoire to identify and apply methods and practices to implement new policies and institutional, legislative and regulatory measures

in order to achieve the Vision and the 7 Long-Term Environmental Quality Objectives defined in the Strategic Action Plan of the MRU.

It should be noted, however, that there is an urgent need to update legislation and regulations on water resources to address the lack of adoption of the revised Water Code and its subsequent texts. Without this update, there would be difficulties to improve the implementation of IWRM.

With regard to structures at the level of the Cavally Basin, possible institutional reforms could include:

- i. Establishment of a body of the Sassandra – Cavally Water Agency. This agency responsible for managing the water resources of the basin will carry out actions for the qualitative protection of these resources. It will take care of involving the competent structures for the safeguarding and rehabilitation of other natural resources. The Water Code under revision has included provisions for reforms of the institutional framework;
- ii. Revitalization of the Consultation Platform and the Transboundary Committee for the Management of Resources of the Cavally Basin; This framework already makes it possible to carry out actions through the existing Basin Committee and in liaison with the Transboundary Committee;
- iii. Revitalization of women's, youth and Village Saving and Loan Associations (VSLAs) to make them more functional: Existing associations deserve to be identified by recognizing their strengths, weaknesses and opportunities for capacity building, equipment and organization.

b. Mechanism for monitoring and evaluation system

Côte d'Ivoire plans to set up a steering unit to ensure that all actions are carried out. The unit's mission will therefore be to seek and mobilize funding, and to ensure the proper coordination of the various actions. The choice of the positioning of this steering unit belongs to the authorities of the Ministry in charge of water. Several options are possible. The positioning of the unit at a fairly high level (for example reporting directly to the Minister in charge of water) gives it a certain authority that can facilitate its coordination work with all the actors concerned; it also gives it good visibility in the institutional landscape and marks the importance that the political authorities attach to the management of the Cavally basin. A steering committee should be made accountable to periodically monitor progress in the implementation of the NAP.

### In Guinea

a. Possible Policy and Legislative/Regulatory Reforms

Guinea is considering reforms to ensure the implementation of the NAP, relying in particular on processes which are being implemented or planned by the Government. These include:

- i. Finalization, adoption, and application of a National Wetlands Policy.  
  
The aim is to finalize the process that began in 2021 with the preparation of an inventory and issues paper of Guinea's wetlands. The adoption and implementation of a National Wetlands Policy would support Guinea's Strategic Priorities for the Protection, Restoration and Conservation of Wetlands and contribute to the achievement of Guinea's NAP as well as the SAP's Vision and Long-Term Environmental Quality Objectives.
- ii. Finalization, adoption of a Coastal Code, currently being developed by the Directorate General of Marine and Coastal Environments and ensure its application.

This code should, among other contributions, address issues relating to the management of the catchment areas of the target rivers and their coastal zones. The Coastal Act would also better address the following issues:

- The restoration and protection of biological and ecological balances, the fight against coastal erosion and pollution, the preservation of sites, landscapes and heritage;
- The preservation and development of economic activities related to the proximity of water such as fishing, flood recession agriculture, vegetable crops, artisanal salt exploitation;
- The implementation of research actions and initiatives aimed at collecting or compiling data on the particularities and resources of the coastal zone;
- The protection of the coastline against uncontrolled urbanization causing loss of human lives, material property and ecological, socio-economic and cultural values of the coastal zone.
- The domestication of the principles and guidelines contained in the international conventions and agreements relating to the conservation of natural resources in the coastal zone that Guinea has ratified.

However, it will be necessary to:

- promote local and inter-municipal development, so as to provide lasting benefits to the relevant populations and improve their living conditions.
- clarify the powers and obligations of the authorities of decentralized territorial collectivities so that these authorities exercise, within the limits of their competence, a right to control the occupation of coastal lands and waters and the exploitation of natural resources to ensure their best use in collaboration with technical services working on the marine and coastal environment.
- promote better organization and development of agricultural activities in coastal areas, particularly in mangrove areas, transport, industry, trade, crafts and tourism operating in the coastal and marine zone.

- iii. Ratification of the four Additional Protocols to the Abidjan Convention that Guinea has already signed.

The process of drafting and adopting a Coastal Law could be carried out at the same time as the ratification of the four Additional Protocols to the Abidjan Convention that Guinea has already signed. Thus, it would be very appropriate to ratify the following four Protocols and transpose their principles into the Coastal Law: pollution from land and activities; environmental norms and standards for offshore oil and gas operations; integrated coastal zone management; sustainable mangrove management.

- iv. Translation into national laws and application at the national level of the new Global Biodiversity Framework, which concerns the period from 2020 to 2030, adopted by COP 15 in December 2022 in Montreal.

This new Global Biodiversity Framework was discussed for three years and was finally adopted. This is a very important political agreement, the biodiversity equivalent of the Paris Climate Agreement.

Delegates, including Guinea, at the 15th Conference of the Parties to the Convention on Biological Diversity (COP15) in Montreal adopted a radical and ambitious global

framework for biodiversity and for the first time committed to conserving or protecting at least 30% of the world's land and waters by 2030. The framework also calls for a substantial increase in resources from all sources dedicated to nature conservation.

b. Public Participation Strategies

Effective strategies for effective public participation include:

- information and communication;
- the establishment of a public consultation framework;
- the strengthening of the framework for consultation and synergy between the actors, through forums and other exchange meetings.

In Liberia

a. Possible political and legal reforms

Possible policy and legal reforms may include implementation mechanisms and the strengthening of sanctions regimes on compliance with environmental and social obligations. It is also prudent to reform policies that will enhance transparency and accountability and promote education and awareness among riparian communities and local jurisdictions responsible for law enforcement and facilitate investment and behavior change to achieve sustainable natural resource management outcomes in MRU basins.

b. Public participation strategies

Greater emphasis should be placed on investment, improved technologies and culturally appropriate messaging in the development of communication, education and outreach strategies for government officials, communities and the private sector to facilitate better management of water and other natural resources in the MRU basin.

c. Stakeholder involvement in the implementation and monitoring process

To ensure grassroots commitment and participation in the implementation of the National Action Plan and SAP, an intensive stakeholder identification and engagement process will be conducted to ensure that previously formed basin management committees will continue to be functional, operationalized and engaged. It is proposed that, twice a year, basin management committees meet to review and assess progress in implementing the NAP and SAP against the developed monitoring framework.

During these meetings, implementing partners will report against key performance indicators, identify successes and challenges, and document lessons learned. In the context of stakeholder engagement, the managing authority ensured full participation of stakeholders by gender.

In Sierra Leone

a. Principles adopted to address problems identified in the TDA

The institutional challenges discussed in the Sierra Leone report need to be addressed in order to ensure water security in transboundary river basins. One of the principles adopted to address these issues is the development of new policies and regulations. The new policies and regulations that have been developed are presented in Table 7 below.

**Table 7: Relevant Acts, Policies and Regulations.**

No	Regulations, Policies and Laws	Strategies and Plans
1	Dam safety regulations 2022	National Medium Term Development Plan 2019 - 2023
2	Groundwater development and protection regulation 2022	The Nationally determined Contribution (NDC) (2021)
3	Water use and catchment regulation 2022	The National Plan for the Development of Sustainable Agriculture
4	Pollution control regulation 2022	The Initial National Adaptation Plan (NAP) (2022)
5	Fisheries Act	The National Climate Change Strategy and Action Plans (2021-2025)
6	EPA Regulations	The National Water Resources Management Strategy (2019-2023)
7	EPA Act 2022	
	Mining Act	
	NPAA Act 2022	Ready for Presidential Assent
	Wildlife Act 1972/2022	
	Forestry Act 1988/2022	

Table 7 shows the recently enacted pollution control regulation which aims at combating pollution by establishing fines and penalties, effluent standards, and buffer zones to water bodies. The Groundwater Development and Protection Regulation of 2022 also seeks to ensure that groundwater is protected, its abstraction is regulated, and wells drilled are successful. Also, there are strategies and plans in the medium and long-term to address climate change, water resources issues, and deforestation.

Although the NWRMA is yet to establish the river basin boards, under the Conservation of ecosystems and management of international water resources of the Mano River Union project, Sierra Leone has established institutional framework for the protection and management of forest and water resources. The purpose of the institutional framework is to promote coordination and collaboration, and community ownership in addressing the problems in each basin. The established institutional framework is shown in Figure 17. Notwithstanding, this does not minimize the importance of policy frameworks that are specific to transboundary water resource management and can harmonize disparities in policies frameworks from riparian countries.

**b. The need for policy reform**

In order to take full advantage of the regulatory benefits of natural resource management, provisions must meet economic, ecological and equity criteria. Each of them has equal weighting to ensure sustainable management of natural resources. The economic criterion includes the funds, supplies and services required to ensure the smooth implementation of programs; the amount and types of human and institutional capacity needed to implement programmes/projects; and a significant contribution to local, national and regional economies. The ecological criterion provides adequate data to inform trends and trajectories, risk assessments, restoration needs, ecosystem conservation needs, and carbon sequestration. The equity test takes into account competing interests, alternative livelihoods and adequate education programmes to promote positive knowledge, attitudes and practices.

**14.5.2. Country-level Investment Plans**

Côte d'Ivoire, Guinea, Liberia and Sierra Leone have developed not only their National Action Plans (NAPs), but also an investment plan that accompanies each NAP.

The workshops in the basins helped to formulate long-term environmental quality objectives and identify strategic actions that could meet each objective, based on the problems identified in Transboundary Diagnostic Analysis (TDA). On the basis of these objectives and actions, each national team of consultants then had to identify the activities that could contribute to the achievement of each strategic action. Then the costs of carrying out activities were grouped by action and then by objective to constitute the investment plan of each NAP. The following tables and graphs summarize the key elements of these National Investment Plans.

It should be noted that, despite such arrangements, the activities selected by country are very divergent. Thus, for example, for the implementation of action relating to the development and implementation of a regional climate change mitigation and adaptation programme based on Member States' Nationally Determined Contributions (NDCs), countries undertake the following activities:

Proposals for investment plans of MRU countries in US\$

LTEQO	Côte d'Ivoire	Guinée	Liberia	Sierra Leone	Total
LTEQO 1	3,350,000	12,528,545	8,255,000	12,105,000	36,238,545
LTEQO 2	7,650,000	11,395,042	9,816,000	15,765,000	44,626,042
LTEQO 3	1,650,000	2,037,067	4,815,700	5,600,120	14,102,887
LTEQO 4	22,430,000	12,848,499	5,415,000	11,895,000	52,588,499
LTEQO 5	5,900,000	2,246,355	10,165,000	25,781,000	44,092,355
LTEQO 6	2,610,000	1,953,352	1,225,000	6,435,000	12,223,352
LTEQO 7	1,800,000	604,609	1,090,000	2,403,000	5,897,609
Total	45,390,000	4,3613,469	40,781,700	79,984,120	209,769,289

Table 8 : Investments requested by objectives and by country

It would be noted that Guinea's NAP takes into account four specific objectives in addition to the seven long-term environmental quality objectives, the basis of work for all countries. The four specific objectives are already described in the SAP. When we consider the budget proposals for the implementation of the actions of four specific objectives, they amount to US\$ 34,650,000 for the first five-year phase, to US\$ 23,100,000 for the second phase and to US\$ 19,250 000 for the year 11 to 20. This gives a total investment need in Guinea for the twenty years of US\$ 173,409,518. By way of comparison, only the seven objectives common to all the countries are considered here.1

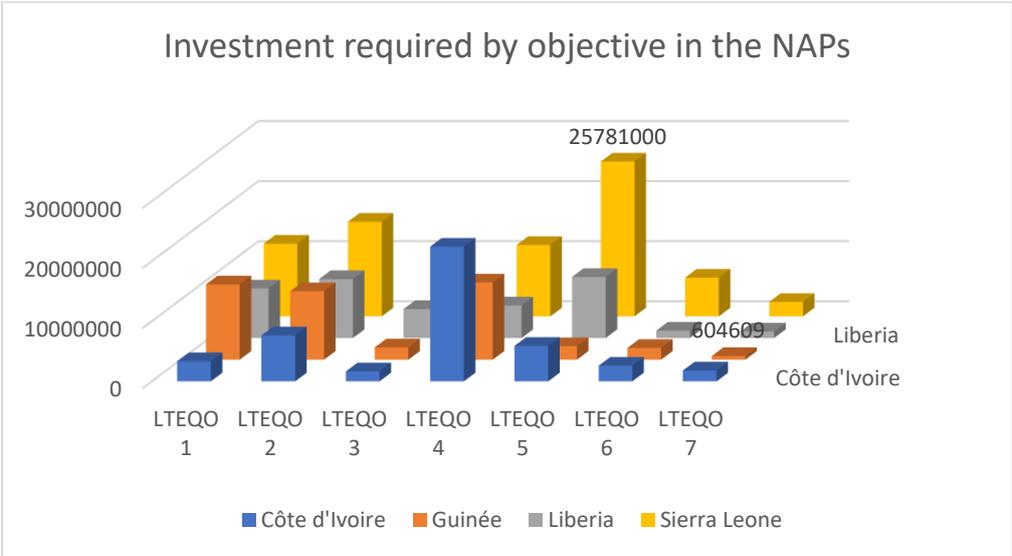


Figure 14 : Investment plan by objective in the member States

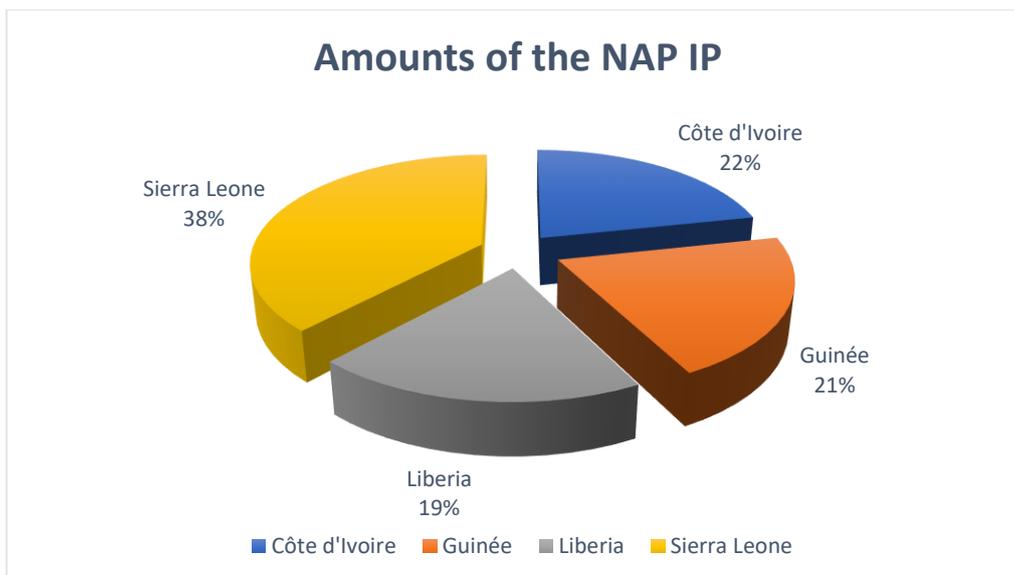


Figure 15 : Investment portions for the member States for the first Five-Years Phase regarding the seven LTEQOs

#### 14.6. Conducting Actions/Activities for the achievement of the SAP Priorities and the Investment Plan at regional level

The actions and activities proposed to implement the LTEQOs will be undertaken jointly by the relevant institutions and organizations in each MRU country in collaboration with the technical and financial partners supporting the SAP and its Investment Plan. Given its mandate, the MRU is responsible for the overall coordination of the implementation of the SAP and its Investment Plan, in close collaboration with all National Executing Agencies and with the support of technical and financial partners. This coordination process will require the strengthening of the relevant technical units of the MRU Secretariat, the supervision of a five-year business plan for the implementation of the first phase of the action plan and the investment plan, the coordination of the results chain with deliverables and timelines, the modalities of implementation, collaboration within Partnerships, management of budget lines, and division of responsibilities among governance units.

At the national level, national implementing agencies will also have to manage the full implementation of the national action plan, including the results chain with deliverables and timelines, implementation modalities, collaborative partnerships, budget lines and the assignment of responsibilities to operational and governance units. National implementing agencies will also carry out integrated planning at the national level, monitoring and evaluation, and reporting framework to be produced and disseminated for the entire national action plan. The results of the M&E will be translated into policy briefs to be presented to decision-makers at national and regional levels. These guidance notes will serve as a basis for the revision of the SAP and the preparation of a subsequent phase that will consider longer-term actions to progressively implement the Vision and the LTEQOs.

#### 14.7. Practical Execution of the of the SAP Priorities and the Investment Plan

For the practical execution of the SAP and Investment Plan, further actions will be taken to prepare specific projects and seek funding that will be shared between MRU Secretariat and each MRU member state. All these projects will address the root causes of degradation, improve the livelihoods of people, protect human Health, include legislative and institutional reforms, and gender issues. All projects will be identified, developed, and implemented in close collaboration with multilateral and bilateral technical and financial partners supporting MRU and its Member States.

Each project will specify funding for each country so as to execute key interventions at each basin scale and for each MRU country. At least three categories of project will be identified, developed, and submitted for funding related to:

#### 14.7.1. A project on Integrated Water Resources Management – IWRM

This Project is of highest priority and it should be implemented during the first-Five Years Phase of the SAP and Investment Plan. It is intended to improve the capacity of the Ministry of Natural Resources and Environment in each MRU country and relevant agencies to manage trans-boundary water resources and climate risks through river basin approaches. It will improve water resources data collection, analysis, and exchange in order to contribute to the implementation of integrated water resources management in the MRU target River Basins.

#### 14.7.2. A project on Sustainable Forests Management (SFM) and Protected Areas for Terrestrial Biodiversity Conservation and Sustainable Use

This project is also very important and it should be implemented as soon as possible, at the latest starting during second phase of the SAP and Investment Plan. It is intended to address the root causes of forest degradation through multiple actions, to ensure that the MRU forests supply goods and services to meet both present-day and future needs and contribute to the sustainable development of communities. The project will maintain and enhance the economic, social and environmental values of all types of forests, including upland rainforest areas and mangroves for the benefit of present and future generations. This project will improve the following elements: (1) extent of forest resources; (2) forest biodiversity; (3) forest health and vitality; (4) productive functions of forest resources; (5) protective functions of forest resources; (6) socio-economic functions of forests; and (7) legal, policy and institutional framework.

#### 14.7.3. A Project on Climate Change Mitigation /Adaptation and increasing the Resilience of Vulnerable groups of people and natural ecosystems

This is another critical initiative that should enhance resilience and improve adaptive capacity of vulnerable communities and the ecosystems on which they depend. The activities of the project will find and apply practical approaches to enhance the capacities of government institutions and communities in the MRU countries to implement measures of adaptation to climate change, particularly to floods and droughts. It will be critical to strengthen policies, institutional frameworks, and government capacities, applying ecosystem-based adaptation strategies to improve livelihoods of farmers, fishermen, and pastoralists in close partnership with associated national institutions, community-based organizations and local authorities.

## 15. STRATEGIC RISKS AND CHALLENGES

The predominant risk that could weaken the effectiveness of the implementation of this SAP is related to collaboration between sectors at the national level, including joint activities to reduce the degradation of the health of forest landscapes and river basin ecosystems. This requires effective collaboration between sectors working on agriculture, forestry, wildlife, fisheries, water resources, public health, mining, economic development, and local authorities. The weakness of cooperation between the four MRU countries is also a challenge to address so as to reduce the risk of failure in the implementation of the SAP. To achieve a high level of practical cooperation at national and regional level, the SAP and the Investment Plan cover several phases, including short-term priorities, medium- and long-term actions. This explains why the overall achievement of the Vision and the LTEQOs can take 20 years, subdivided into a first five-year phase and subsequent phases that will be based on the results of the first five years of implementation.

## **16. COMMUNICATION STRATEGIES AND PUBLIC ENGAGEMENT**

### **16.1. Communication Strategy**

All key local, national, and international stakeholders will need to be informed about the activities implemented under the SAP, and progress in terms of achievements as well as lessons learned, including successes and failures. The MRU Secretariat has identified the various stakeholders (local authorities and community groups, government representatives, NGOs, private operators working in the target basins, GEF Implementing Agency, international technical and financial partners, etc.). When implementing the SAP, it is important to specify the type of information to be presented to each stakeholder group and the appropriate communication tools. In order to ensure wide dissemination of transparent processes and progress reports on the objectives of the SAP, communication activities were initiated during the preparation of the SAP. Communications activities will continue during the endorsement and implementation of the SAP.

The effectiveness of integrated water resources management (IWRM) in MRU basins depends on technical and institutional capacity building, but also on the participation of key stakeholders in the implementation of the Strategic Action Programme. In this context, the activity envisaged to ensure effective participation of relevant MRU stakeholders reflects specific interests of different user groups and gender issues, which require different approaches, so that IWRM is representative and recognized by all interest groups, relevant in the MRU target basins. In addition, the implementation of the SAP is envisaged through a decision-making process based on public engagement that requires taking into account the social and economic relations of the user community, their respective aspirations, and the quality of life of the population, including the improvement of livelihoods and the protection of human health.

### **16.2. Advocacy strategy**

To get a strong commitment of political leaders and other decision-makers, it is critical to develop and implement an Advocacy Strategy. In this regard, it is suggested to design and accomplish a combination of communication actions to gain political commitment, policy support, social acceptance and support from stakeholders for the implementation of the SAP. This requires the establishment of a strong Communication Team that can collect and structure information into a persuasive case. The Project Management Team will use this set of information to:

- Identify stakeholder groups and their values and interests.
- Identify potential allies and build alliances with them.
- Identify relevant policy and decision-making channels.
- Organize and hold meetings with stakeholder groups to create a common understanding among stakeholders concerning the objectives and expected outcomes of the SAP.
- Negotiate with stakeholders on the basis of common understanding of the importance of the SAP.

Under the supervision of the MRU Secretariat, the Project Implementation Team will have to continuously convey the importance of the SAP to decision-makers and other potential supporters, including the public, through various interpersonal and media channels. It is hoped that this approach will stimulate actions by policy-makers and stakeholders at national and local levels in support of the conservation and sustainable use of the natural resources of the target basins and forests.

It is critical to focus the Advocacy Strategy on the importance of the first phase of the SAP, considering the fact that decision-makers, especially political leaders want to understand the elements of the SAP that are supporting their interests. The Vision and Long-Term Environmental Quality Objectives of the SAP require long-term perspectives. Although the long-term perspective is important, it is important to

recognize that decision-makers are often exposed to political change and it is not easy to get their long-term commitment. Elected officials are more inclined to support activities that promote their political survival. Therefore, it is critical to highlight all expected results of the SAP that can be achieved as quickly as possible. Appropriate strategies that highlight the expected outcomes of the first phase of the SAP need to be developed to reach decision-makers, communicate with them and solicit their support. Actions with popular demand, such as the improvement of livelihoods, reducing disaster risks, and the protection of human health are socially and politically viable, financially feasible and sound in economic terms. These kinds of actions are capable of showing visible and rapid progress and they are more likely to be acceptable. This communication approach has to be continuously updated and operated with a strong emphasis on the results provided through the Monitoring and Evaluation process that demonstrate the achievements of the SAP.

In addition, to enhance the commitment of the MRU member States and partners, there is a need for the MRU Secretariat to accelerate its efforts towards more strategic planning of its work and activities in support of countries, its communication activities, and in its collaboration with relevant partners and stakeholders. Supplementary Strategic Planning is needed to look at all possible actions because there are always diverse options for bridging the gaps between the current situation and the desired objectives. Strategic Planning can also be used to draw distinctions between realities and objectives. This involves planning around actions, timescales, priorities, and indicators. Prioritization is critical because it is important that the actions selected by the Secretariat address not only the high-level initiatives and over-arching goals, such as the MRU Strategic Plan and this SAP, but also that they get articulated into short term actions that will be required to gradually achieve this SAP.

## **17. THE FUTURE OF THE STRATEGIC ACTION PROGRAMME**

### **17.1. Endorsement of the SAP document and promotion of its implementation**

The SAP will be officially launched with its adoption by the MRU Council of Ministers. The active promotion of the SAP by MRU Member States and the MRU Secretariat in national, regional and international is essential to gain the broad support it needs for successful implementation. Key stakeholders should be targeted through public meetings, media campaigns, briefings and consultations. Ultimately, the responsibility of MRU Member States is to create and maintain the momentum necessary for the implementation of the SAP.

MRU Member States, the MRU Secretariat, and international partners will maintain their close dialogue on how best to support the implementation of the SAP and persistent efforts will be made to attract new international donors to the MRU. The private sector will be approached with the aim of obtaining parallel funding but without hindrance to the principles on which the SAP strategies are based. The sustainability of SAP implementation depends on a number of factors, including the political will of MRU member States, the security situation throughout the region, adequate financial resources and strong partnership at the local, national and regional levels. Progress towards the implementation of the LTEQOs can be monitored using relevant GEF indicators.

### **17.2. Regular monitoring and periodic evaluation of the implementation**

While this should be an ongoing process, regular monitoring and periodic evaluations of SAP implementation are useful. In anticipation of a 5-year cycle for work plans, the SAP should be reviewed in Year 5. Procedures may vary, but this process should include an assessment of the LTEQOs indicators and updating the TDA. This information will determine whether the SAP itself needs to be revised and will facilitate the development of a subsequent investment plan for the next 5-year work plan.

### **17.3. Need for Consistency with the GEF-8 Strategic Positioning Framework, including post-COVID-19 recovery.**

The SAP will have a chance of success if it adheres to the approaches, principles and objectives of the GEF-8 Strategic Positioning Framework, including the post-COVID-19 recovery. The top priority of the SAP is to help restore a balance between natural and human systems for the health of the planet. This can be done through the adoption and application of nature-based solutions. Specifically, the SAP aims to address the underlying drivers of increasing degradation and destruction of river basins and forest landscapes, including water resources, wildlife, fisheries, agricultural land, coastal areas/mangroves, protected areas, and tourist attractions. This approach requires the adoption and implementation of institutional, legal, and regulatory measures that address the root causes of land and water degradation, primarily unsustainable agriculture and mining. This approach also requires a continued capacity building process to strengthen government national institutions as well as community groups, including, Village Saving and Loan Associations (VSLA), women and youth associations.

### **17.4. Access to some modern technologies**

The term ‘technology’ refers to the application of scientific knowledge for practical purposes and the machinery and devices developed as a result.<sup>33</sup> It is important to recognize that all countries, including the MRU member States are currently living in a period of rapid change, where technological developments are revolutionizing the way we live, at the same time as leading us further into the depths of catastrophe in the form of climate change and resource scarcity.

We all know today that many technologies have damaged our world in two main ways; pollution and the depletion of natural resources. Unfortunately, as demonstrated by the TDA, we recognize that Water pollution has contaminated the water bodies of the MRU countries, including rivers, watersheds, soils, coastal areas, and groundwater, mainly due to human activities.

However, it is also fortunate to recognize that some technologies have the potential to facilitate and support the countries in their efforts to assess the damage, understand where healthy ecosystems still remain, and take actions to reverse the trends of degradation through the use of “Green Technology” .

Environmental Technology is also known as ‘green’ or ‘clean’ technology and refers to the development of new technologies which aim to conserve, monitor or reduce the negative impact of technology on the environment and the consumption of resources. Despite the negative impact of technology on environment, a recent rise in global concern for climate change has led to the development of new environmental technology aiming to help solve some of the biggest environmental concerns that we face as a society through a shift towards a more sustainable, low-carbon economy.

Below are some examples of existing technologies that can be used to better implement the MRU Strategic Action Programme:

#### **17.4.1. Access to new technologies to monitor and manage Freshwater and preserve nature<sup>34</sup>**

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<sup>33</sup> <https://edinburghsensors.com/news-and-events/environmental-technology-the-impact-of-technology-on-the-environment-and-environmental-technology/>

<sup>34</sup> <https://www.unep.org/news-and-stories/story/how-digital-technology-and-innovation-can-help-protect-planet>

## Managing freshwater

The Freshwater Ecosystem Explorer, which provides a detailed look at the state of lakes and rivers in every country on Earth is a new tool available for use by MRU countries. It provides free and open data on permanent and seasonal surface waters, reservoirs, wetlands and mangroves. This tool was developed through a partnership between UNEP, the European Commission's Joint Research Centre and Google Earth Engine. This tool helps countries track their progress towards the achievement of Sustainable Development Goal Target 6.6.

Data can be visualized using geospatial maps with accompanying informational graphics and downloaded at national, sub-national and river basin scales. Data are updated annually and depict long-term trends as well as annual and monthly records on freshwater coverage.

## Preserving nature

UNEP is also backing the United Nations Biodiversity Lab 2.0, a free, open-source platform that features data and more than 400 maps highlighting the extent of nature, the effects of climate change, and the scale of human development. Such spatial data help decision-makers put nature at the heart of sustainable development by allowing them to visualize the natural systems that hold back natural disasters, store planet-warming gasses, like carbon dioxide, and provide food and water to billions.

More than 61 countries have accessed data on the UN Biodiversity Lab as part of their national reporting to the Convention on Biological Diversity. Version 2.0 of the lab was launched in October 2021 as a partnership between UNDP, UNEP's World Conservation Monitoring Centre, the Convention on Biodiversity Secretariat and Impact Observatory. However, it is not sure that Côte d'Ivoire, Guinea, Liberia, and Sierra Leone are part of the 61 countries that have access to this tool. In any case, it is important for the MRU to alert its member States about this opportunity and to work with UNEP to make sure that these countries are accessing this modern technology that is available. It is good to note that all of UNEP's digital platforms are being federated into UNEP's World Environment Situation Room, a digital ecosystem of data and analytics allowing users to monitor progress against key environmental Sustainable Development Goals and multi-lateral agreements at the global, regional and national levels.

### 17.4.2. Access to new technologies to monitor deforestation<sup>35</sup>

#### New Radar Alerts Monitor Forests through the Clouds

Rainforests, as the name suggests, are often rainy—which means they are also frequently cloudy. This has long presented an issue for forest monitoring, since traditional satellite technology is unable to “see” through obstructions like clouds, smoke and haze. However, the new Radar for Detecting Deforestation (RADD) alerts on Global Forest Watch, detect forest disturbances rain or shine using satellite-based radar data.

The RADD alerts are built from the world's first global, freely available radar data from the European Space Agency's Sentinel-1 satellites. These radar-based alerts will serve as another tool to quickly uncover recent deforestation and take action. Here are some key things to know about GFW's newest alert system:

- a. RADD alerts can detect changes faster than ever

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<sup>35</sup> <https://www.globalforestwatch.org/blog/data-and-research/radd-radar-alerts/>

The radio waves emitted by radar satellites are not hampered by cloud cover; their longer wavelengths allow them to penetrate through clouds to reach the ground. Thanks to Sentinel-1, the public now has access to free radar data that covers the tropics every 6 to 12 days. As a result, the RADD alerts based on this data can reliably detect deforestation and other forest disturbances with minimal delays. Using RADD alerts, forest monitors will be able to react to deforestation sooner than ever, which will give them an edge in preventing further loss.

b. RADD alerts capture forest change in high resolution

The RADD alerts make use of Sentinel-1's high level of spatial detail to detect changes within 10-meter pixels. This is nine times more detailed than current products based on Landsat data which measures change at 30-meter resolution. This means that even tiny changes on the scale of just a few trees are detectable with the RADD alerts.

c. RADD alerts cover 44 countries

The RADD alert system recently expanded to include the Amazon Basin. The coverage now covers humid forests in South America, insular Southeast Asia and Africa, including those in Indonesia, Malaysia, Democratic Republic of the Congo, Republic of the Congo, Cameroon, Madagascar, Brazil, Colombia, Peru, and others. The RADD system is detecting changes only within primary humid tropical forests at this time, though we hope it will improve detection on other forest types in the future.

The system is well suited to expand to the rest of the tropical region in the future as well. Sentinel-1 data is readily available for the entire globe, and the RADD alerts are operating within Google Earth Engine, with sufficient computing power to perform global analyses.

#### 17.4.3. Expanding the RADD radar alerts technology to West African rainforests of the Mano River Union.

It is unfortunate that currently RADD radar alerts cover only humid tropical forests in South America, Central Africa and Southeast Asia. It is therefore suggested that the MRU and ECOWAS join efforts to make a formal request to World Forests Watch so that this very useful technology can be available for West African countries and make. This technology should be it accessible by the MRU member States, which are making efforts to protect their forests and contribute to the SDG 15. This will facilitate actions to contribute to the achievement of Goal 15:” Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”.

The extension of RADD radar warning technology to the tropical rainforests of West Africa, particularly the forests of the Mano River Union, would be a recognition of the importance of these forests not only for MRU member countries but also for the entire planet.

### 17.5. Building Partnerships with relevant organizations to better implement the SAP

The TDA that supports the development of this Strategic Action Programme has demonstrated that the environmental and development problems of the MRU members States do not fit neatly within national borders and they do not even fit within discrete sectors. This means that many of the environmental problems that the MRU countries are facing are transboundary and they involve many sectors. This requires a commitment to reinforce partnership between the MRU countries and forge new partnerships with other institutions, governments and communities around West Africa.

This Strategic Action Programme will have better chance of success if it generates a set of projects that enhance partnerships at local, national, and regional levels. In this regard, it is suggested to develop and implement projects that support an increasing collaboration between the MRU and the Economic

Community of West African States (ECOWAS), as well as mutual support with the African Ministerial Conference on the Environment (AMCEN), and the African Ministers' Council on Water (AMCOW).

If the implementation of the SAP leads to more collaboration with ECOWAS, it will have a better chance of success. In this regard, the implementation of the SAP has to be done within the framework of the Convergence Plan for the Sustainable Management and Utilization of Forest Ecosystems in West Africa and the Sub Regional Action Programme for Combating Desertification in West Africa, adopted by the Ministers in-charge of forests and wildlife from member countries of ECOWAS.

The MRU could be better known and supported if it reinforces the links with AMCEN, which provides advocacy for environmental protection in Africa; ensure that basic human needs are met adequately and in a sustainable manner; ensure that social and economic development is realized at all levels; and ensure that agricultural activities and practices meet the food security needs of the region.

Likewise, the MRU needs to collaborate with AMCOW, which promotes cooperation, security, social, economic development and poverty eradication among member states through the effective management of the continent's water resources and provision of water supply services. It is good to note that the African Water Facility (AWF), is an initiative of AMCOW to mobilize resources to finance activities to facilitate investment and infrastructure development in Africa's water sector. The African Development Bank administers the Facility at the request of AMCOW. Effective partnership is needed for conserving the Landscapes that Supply Water to MRU member States. This involves government agencies, NGO, Private sector, communities, and international partners to collectively invest in upstream land management and water source protection through actions that maintain healthy source watersheds that are vital to the water security of the populations. These actions can be identified and implemented through on-the-ground projects to help communities adapt to and mitigate climate change.

It is also useful to increase partnerships with the Regional Offices of international organizations that work on environmental conservation and sustainable development such as IUCN, UNDP, FAO, the World Bank, and the African Development Bank. These organizations can contribute to the development and implementation of projects on Integrated Water Resources Management, Sustainable Forests Management, and Climate Change mitigation and Adaptation. In their capacity as Implementing Agencies for the GEF and Accredited Entities for the Green Climate Fund, they can help for the mobilization of financial resources to fund this SAP. These organizations work with the GEF and GCF as well as with other multilateral donors to finance projects and programmes, such as this SAP. To access funding, these institutions have already gone through a process designed to assess whether they are capable of strong financial management and of safeguarding funded projects and programmes. Therefore, they can assist in the preparation of clear, detailed and actionable projects or programmes on water resources, forests, and climate change to present to the GEF, the GCF or other multilateral funding mechanisms. These organizations also meet the GEF and GCF standards based on financial standards, environmental and social safeguards, and gender, which are required to mobilize the human and financial resources that are necessary to implement this SAP. A stronger partnership with at least one of these organizations, especially with the IUCN, is needed for the MRU to be able to prepare and present innovative projects and seek funding to implement this SAP. Since the present TDA/SAP process was undertaken with the support from IUCN in its capacity as a GEF implementing Agency, it would be useful to continue and strengthen this partnership to benefit from the IUCN's experience, knowledge of the context, as well as the special competence and interests on environmental conservation and sustainable development, that are highly relevant to the Vision and Long-Term Environmental Quality Objectives of this SAP. Strengthening partnership between the MRU and IUCN will have the potential to contribute to a significant set of the SDGs, including SDG2, SDG3, SDG5, SDG6, SDG13, SDG14, SDG15, and SDG 17.

## 18. MONITORING AND EVALUATION (M&E) MECHANISM OF THE SAP

### 18.1. General implementing provisions

The M&E system of the SAP will need to involve multiple levels of management and coordination. Because of this participatory nature of M&E, its tools and procedures will need to be approved and understood by stakeholders. The system will include the following interactions between different relevant structures:

- a. The Regional Steering Committee, whose duties will be extended to all actions to be implemented within the framework of the Strategic Action Programme, is the key technical structure. This Committee implements the decisions taken by the Council of Ministers, the body that guides and monitors the implementation of the SAP.
- b. The Secretariat of the MRU is the executing agency of the SAP. To this end, it relies on the coordination and implementation structure of the SAP. The MRU oversees the execution of the activities on behalf of the four Member States.
- c. The effective implementation of the SAP will be done through a project coordination department placed directly under the supervision of the Executive Secretariat of the MRU.
- d. The Secretary General signs memoranda of understanding with the national ministries responsible for the National Executing Agencies (NEAs) and recruits firms and consulting firms to contribute to the implementation of the SAP but also to conduct external evaluations (mid-term evaluation, final evaluations and annual monitoring and evaluation) of the SAP.

### 18.2. Data collection

The SAP monitoring and evaluation system will use data from several sources:

- a. **Data from the local community level:** The monitoring and evaluation of the SAP will mainly result from data collected from local populations and local government structures. Indeed, given the participatory nature of the SAP, the socio-economic and socio-political context in the sub-region, only participatory evaluation will lead to shared responsibilities between actors, including each of the groups of local users of land, forests, and water resources. The groups of actors are the structures taking actions for the implementation of the SAP: local communities, local authorities, local government structures and civil society organizations.
- b. **Data from Member State services:** The government structures involved in the operations of the SAP and the NAP in each country will have to collect data and information at national level to feed the database of the SAP Coordination Unit within the MRU Secretariat.
- c. **Data from the regional level of the MRU:** This level of monitoring is essential in view of the transboundary nature of the actions included in the SAP. The SAP database will be coordinated and connected to other existing databases in the sub-region (ECOWAS-CRECE, IREL, GEF etc.).
- d. **Data from Regional Bodies:** Regional bodies, such as AGRHYMET, ACMAD, OSS, IRD, ECOWAS have generally well-documented and well-managed databases. They can be called upon.
- e. **Data from global organizations:** Information produced by global organizations (GEF, NOAA, Spot, Planet, North Star, GHG Sat, Earth Data, Land Cover, etc.) generally allows for a review of national-level spatial integration units (ICUs). The operation of the websites of these organizations promotes the connection with specialized databases and thus brings added value in the monitoring of certain environmental indicators.

The main tools and sources of information (data) that are used by the SAP/ M&E system are:

- a. Dashboards / Tracking Sheets.
- b. Quarterly and Annual Activity Reports.
- c. Annual Work Programmes and Budget.
- d. Technical and financial tracking slips.
- e. Financial Monitoring Reports.
- f. Audit reports.
- g. Basic surveys / Specific surveys.
- h. Evaluation reports (mid-term and final).
- i. General and specific studies.
- j. Consultation reports.
- k. Mission reports / Minutes of field visits.
- l. Village development plans / Land management plans.
- m. Chemical/biological/hydrological analysis reports.
- n. Maps, aerial, and satellite photos.
- o. Legal / implementing text, decrees.
- p. Capacity building plan for actors.

### **18.3. Planning and reporting**

The planning and reporting of the execution of the SAP and the Funding Program is done on a bottom-up basis, according to the following main steps:

- a. M&E Focal Points and M&E agents of structures (administrative, projects/programmes) collect the initial information and send it to the National Executing Agencies of the SAP and the NAP;
- b. The set of information and data collected is stored at the level of NEAs which compile, process, analyze, and transform them periodically as necessary into planning and monitoring documents, work programmes, dashboards, quarterly and annual reports;
- c. A copy of this data and information set compiled and analyzed within the NEAs is transmitted to the SAP Coordination Unit within the Secretariat of the MRU. This copy shall be accompanied by the resulting documents that are produced;
- d. the SAP Coordination Unit processes and stores national information and data, supplements any documents with secondary information and validates them or make them validated by the Secretariat and then by the Regional Steering Committee;
- e. After validation, the documents (Quarterly and Annual Activity Report, Annual Work Plan and Budgets, and M&E Report) are kept within the MRU Secretariat and copies are sent to the Ministry in charge of the MRU and to the NEAs. A Summary of the Periodic Results of Semi-Annual and Annual Monitoring and Evaluation) must be produced and transmitted to the GEF Implementing Agency responsible for this project.

A Results Framework should be developed for tracking the Progress in the achievements of the environmental indicators (selected from GEF or from the Development Assistance Committee (DAC) of OECD that will be put in place before the implementation of the activities. This tool will be used at regional level to determine the achievements of the selected indicators of the SAP. It will bring out the success rate at field level of the selected indicators.

### **18.4. Monitoring and Evaluation Indicators**

Monitoring and evaluation are conducted under the supervision of the Secretariat of the Mano River Union, which coordinates the collection of data and information and manages the database. It will

produce periodic reports on the state of the environment and the socio-economic progress of rural communities.

To this end, indicators are tools for evaluating and verifying the progress made towards achieving the SAP vision. The GEF has developed three types of indicators for assessing progress towards the Long-Term Environmental Quality Objectives (LTEQOs). These are **the indicators of process, stress reduction, and environmental and socioeconomic status.**

**Process indicators** focus on the process or products that lead to the desired results. They describe the policy, legislative and regulatory arrangements in place to address transboundary issues in the basin. They should be used to identify the necessary institutional, policy, and technical reforms that induce changes in ecosystems.

Process indicators establish frameworks to improve the quality of the environment or the quantity of resources to improve the situation of an observed process.

**Stress reduction indicators or** pressure indicators are related to objectives or causes. In particular, they focus on concrete actions that reduce environmental stress. They indicate the success rate of field activities implemented by MRU Member States. Pressure indicators measure reductions in specific stressors.

**Environmental and socio-economic indicators index the purpose of** the SAP to improve the quality of ecosystems or socio-economic conditions. They are used to measure the progress made in protection on a specific ecosystem factor.

To ensure success in the collection of data and information as well as their management, it is necessary that before the effective implementation of the SAP, the different actors who will be involved in the M&E can have several working sessions in order to harmonize their understanding on the indicators but also on the whole M&E process. The process and indicators, once well understood and accepted by stakeholders, will also be used for the M&E of National Action Plans (NAPs).

## 18.5. Draft List of Monitoring Indicators for Legal and Institutional Reforms and Stakeholder Capacity Building Measures

Table 9 : Monitoring and Evaluation Indicators of Legal and Institutional Reforms

Type of Reforms	Indicators
<b>Reforms of the Legal and Institutional Framework</b>	The Water Charter is disseminated
	Laws and regulations on the use of chemicals in mining operations are harmonized and/or updated.
	Laws and regulations on soil protection against degradation are harmonized and/or updated.
	The legal and institutional framework for water pollution management and health protection is harmonized and/or updated
	Pollution management and health protection laws and regulations are assessed and harmonized and/or updated.
	Laws and regulations on the conservation of biodiversity of aquatic ecosystems are harmonized and/or updated.
	Number of regulations and legislation on the protection of aquatic ecosystems developed and/or updated.
	Number of laws and regulations on the protection of national genetic resources (fauna and flora) developed. and/or updated.
	Legal and institutional framework for the harmonious exploitation and management of forestry, wildlife and fisheries resources is defined.
	Number of regional water quality standards and measures to implement a regional water quality control and monitoring program developed.
	Number of implementing texts of international conventions and treaties for the conservation, protection and sustainable improvement of natural resources
	Study on the coherence of IWRM at national and regional level finalized and validated
Implementing texts of the Water Charter developed and implemented.	

**Capacity-building**

Number of members of national M&E data collection and management structures who have received specific training	Number of members of national M&E data collection and management structures who have received specific training.
Capacity building of the SAP Coordination Unit to ensure ecological monitoring and monitoring of ecosystem biodiversity.	
Number of training/information programmes on environmental issues for elected officials, administrative and customary authorities, grassroots community organizations, NGOs developed and implemented.	
A public participation strategy developed, disseminated and implemented.	
Network of communicators set up in the States with the support of the MRU Secretariat in its operation.	
Number of media training sessions to strengthen environmental journalism and improve media coverage of environmental topics.	
Number of journalists trained to strengthen environmental journalism and improve media coverage of environmental issues	
<b>Strengthening the framework for civil society participation</b>	
Number of information workshops organized for administrative authorities, customary authorities, local elected officials, community-based organizations, NGOs and the general public.	
Number of people informed about the state of the environment and the risks associated with it.	
<b>Diversification of sources of income for the poorest populations</b>	
Number of community projects developed and implemented.	
Number of people involved in community development projects and Income Generation Activities.	
Amounts of funding mobilized for micro-grants and Income Generation Activities	

## 18.6. Draft List of indicators for monitoring LTEQOs and Strategic Actions

Table 10 : List of indicators for monitoring LTEQOs and Strategic Actions

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
<p>LTEQO 1</p> <p>The forest ecosystems of the MRU basins are restored, protected and sustainably managed.</p>	<p>Restore, protect and manage degraded forest landscapes</p>	<p>100,000 seedlings planted per year and per country</p>	<p>15.1.1 Forest area as a proportion of total land area</p>
	<p>Develop/strengthen, harmonize and implement domestic laws, policies and bye laws to reduce deforestation</p>	<p>Four strengthened policies, laws and legislation against deforestation Establish</p>	<p>15.6.1 Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits</p>
	<p>Promote sustainable agricultural system</p>	<p>Establish one field school per country for food crops, cash crops and arboriculture</p>	<p>2.4.1 Proportion of agricultural area under productive and sustainable agriculture</p>
	<p>Promote income generation and value chain activities and improve access to market for communities through forest landscapes restoration interventions</p>	<p>Organize five production chains in five sectors: forest nurseries, fish drying and conservation, hunting tourism, agroforestry, industrial plantations</p>	<p>2.3.2 Average income of small-scale food producers, by sex and indigenous status</p>
	<p>Prevent or fight against bush fires</p>	<p>Create a monitoring committee in each village</p>	<p>2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)</p>

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
	Improve the management of protected areas (IP, Buffer & Transition zones)	Provide all protected areas with statutes and management plans	15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
	Ensure the implementation of the laws on Timber & Non-Timber Forest Product for sustainable management	Create a checkpoint at the exits of each protected forest	15.2.1 Progress towards sustainable forest management
	Conduct a detailed LULC mapping & establish baseline	A land cover map is drawn up	15.3.1 Proportion of land that is degraded over total land area
LTEQO 2:  A good quality water available to meet essential needs of ecosystems and the people within the MRU basins in conformity with SDG indicator 6.3.2 target	Strengthen capacities of technical services of member states, in charge of water resources management	Riparian technical services to the target river basins are ensuring the management of water resources	6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management
	Establish a network to measure, monitor and share the water quality and quantity data	Hydrographic survey teams are networked to share information	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	Promote environmental education on water resources	An information and awareness session is organized annually in primary and secondary schools in villages bordering the target basins	13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
			warning into primary, secondary and tertiary curricula
	Protect the aquatics resources against heavy metal and other pollutants	No dead aquatic resources due to contamination in river waters	14.3.1 Average marine acidity (pH) measured at agreed suite of representative sampling stations
	Enhance and ensure the implementation of laws and regulations on water quality	Water quality meets the standards of indicator SDG 6.3.2	6.3.2 Proportion of bodies of water with good ambient water quality
	Promote and encourage best practices of human activities (farming, breeding, fishing, mining, etc.)	Organize a thematic competition each year on good practices in agriculture, livestock, fisheries, mining	13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions
	Promote wastewater treatment (agriculture, domestic, mining & industrial) before release	A wastewater treatment plant (agricultural, domestic, industrial and mining) is installed in the national portion of each basin	6.3.1 Proportion of wastewater safely treated
	Harmonize standards for release of wastewater in the MRU Basins	Wastewater discharge standards are governed by common regulations	6.b.1 Proportion of local administrative units with

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
			established and operational policies and procedures for participation of local communities in water and sanitation management
	Promote the use of improved sanitation facilities within communities	Improved latrines are built annually in each country by the communities	6.1.1 Proportion of population using safely managed drinking water services
	Ensure a sustainable conservation of protected areas	Degraded areas in protected areas decrease annually by 10%	15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
	Conduct an inventory of the fauna & flora species in the forest landscapes and wetlands of the basin	A database exists on the fauna and flora of forest landscapes and wetlands	15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
LTEQO 3 :  The ecological integrity is restored and conserved and sustainably manage the terrestrial &	Conduct the monitoring of endangered and endemic species	The number of individuals by endemic and endangered species is recorded periodically	15.5.1 Red List Index
	Restore or reintroduce endangered species	Number of individuals per species reintroduced ;  Annual population of each endangered endemic species increases	15.7.1 Proportion of traded wildlife that was poached or illicitly trafficked

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  REDUCTION	SDG indicators
aquatic ecosystems of the MRU basins			
	Popularize both national laws and international conventions on the biodiversity and wetlands (CBD)	Number of persons or services with national legal texts and international conventions on biodiversity.	15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020
	Strengthen capacities of national technical structures for the implementation of national laws and international conventions on biodiversity	Number of annual interventions by national technical services in the implementation of national legal texts and international conventions on biodiversity	15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020
	Encourage communities to value medicinal plants and socioeconomic species	An arboretum of medicinal plants and plants of socio-economic interest is created in each target basin	15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020
	Develop and implement restoration plans and rehabilitate degraded riverbanks and water sources	A restoration and rehabilitation plan is implemented	15.3.1 Proportion of land that is degraded over total land area
	Popularize and implement national laws and regulations on environmental protection	Number of annual interventions by national technical services in the implementation of environmental protection legislation	15.c.1 Proportion of traded wildlife that was poached or illicitly trafficked

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
LTEQO 4 :  The lands, riverbanks and the water source restored and protected	Promote smart mining and farming practices that incorporate land restoration	Organize an annual competition on good mining practices that restore land	15.3.1 Proportion of land that is degraded over total land area
	Restore the vegetation cover of degraded areas in the watershed	10 ha are planted annually in each country to restore the vegetation cover of watersheds	15.2.1 Progress towards sustainable forest management
	Monitor sediment load in the watercourses	The trajectory of each sediment/solid in the streams is known	6.1.1 Proportion of population using safely managed drinking water services
	Promote eco-hydrological approach to reduce soil loss and land degradation particularly in wetlands (Nature based solution)	Soil and land erosion and water turbidity are reduced by 5% per year.	9.4.1 CO2 emission per unit of value added
	Develop sustainable lowland and floodplains farming	A lowland or plain is laid out in each of the target basins	2.3.2 Average income of small-scale food producers, by sex and indigenous status
	Strengthen capacities of national technical structures in charge of hydro climatic forecasting	National technical structures periodically disseminate hydro-climatic forecasts	13.1.2 Number of deaths, missing persons and persons affected by disaster per 100,000 people
	Strengthen the hydro-meteorological network of the member states	All hydrometeorological survey stations operate on a network basis	13.1.2 Number of deaths, missing persons and persons affected by disaster per 100,000 people

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
	Produce and disseminate climate information to meet the needs of end users	Climate information is disseminated to end-users (radio, television, periodic bulletin)	13.1.3 Proportion of local administrations which have adopted and implemented local strategies to reduce disaster risks in regard of national strategies
LTEQO 5 :  The capacity for climate change mitigation, adaptation and resilience of member States strengthened at all levels	Encourage best practices through SMART agriculture or sustainable farming	Organize an annual competition of best agricultural practices using new technologies	13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
	Establish a data and information exchange platform at regional level	A region-wide data exchange platform available	13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
			adaptation, mitigation and technology transfer, and development actions
	Train the end users on the available climate services specific to each sector's activities	One session held on climate services for each sector of activity	13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula
	Develop and implement programs for vulnerable communities' resilience to climate change	A resilience programme for agriculture vs. market gardening and arboriculture is being implemented	13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
	Support collaboration among agricultural research Centers of member states and strengthen their technical capacities for the	A framework for researchers to work together on resilient seeds is in place.	17.6.1 Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  REDUCTION	SDG indicators
	identification and production of seeds that are resilient to climate effects		
	Develop and implement a regional climate change mitigation & adaptation program based on the Nationally Determined Contributions (NDC) of member states	Regional programme for adaptation and mitigation to climate change is implemented	13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
	Strengthen capacities of technical service providers in charge of climate risks and natural disaster management	Number of natural disasters and climate risks covered by technical services	13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  REDUCTION	SDG indicators
			that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
	Strengthen the resilience of rural communities through dissemination of variety of seeds that are resistant to climate change effects	Quantity of resilient seeds diffused annually	17.6.1 Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation
	Develop and implement a regional climate change mitigation & adaptation programme based on the Nationally Determined Contributions (NDC) of member states	A regional climate change adaptation and mitigation programme based on Member States' Nationally Determined Contributions is implemented	13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
	Promote the reasonable use of water (use & reuse) in irrigation systems, mining & industrial processes	Number of facilities using wastewater discharges in irrigation and industrial mining production	6.1.1 Proportion of population using safely managed drinking water services
	Strengthen the capacities of national structures on the mobilization of Green Climate Funds (GEF, adaptation fund, carbon, etc.)	Amount of funds mobilized from green funds (GEF, adaptation fund, carbon fund, etc.)	17.3.1 Foreign direct investments (FDI), official development assistance and South-South Cooperation as a proportion of total domestic budget
	Develop and implement programs that promote the use of new and renewable energy resources for climate change adaptation and mitigation	Number of stations/substations using new and renewable energy resources	7.2.1 Renewable energy share in the total final energy consumption
	Mainstream Gender issues in the implementation of the SAP to enhance social equity, economic empowerment and sustainable management of the natural resources	Number of women, youth, persons with disabilities taken into account in the formulation of the SAP until its implementation	5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
	Establish a framework for the participation of women, youth, children and other vulnerable groups in decision making on the management of basin resources	Number of women, youth, people with disabilities taken into account in decision-making on resource management in target basins	5.5.1 Proportion of seats held by women in national parliaments and local governments

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS REDUCTION	SDG indicators
	Promote income generation for the benefit of women, youth and other vulnerable groups	Four income-generating activities identified and implemented by women, youth, and other vulnerable groups	5.5.2 Proportion of women in managerial positions
LTEQO 6:  The vulnerable groups mainly, women, youth and children taken into account in the implementation of the SAP	Mainstream Gender issues in the implementation of the SAP to enhance social equity, economic empowerment and sustainable management of the natural resources	Number of women, youth and vulnerable persons considered from the development to implementation of the SAP	5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
	Establish a framework for the participation of women, youth, children and other vulnerable groups in decision making on the management of basin resources	Number of women, youth and vulnerable people considered in SAP decision-making	5.5.1 Proportion of seats held by women in national parliaments and local governments
	Promote income generation for the benefit of women, youth and other vulnerable groups	Three income-generating activities specifically dedicated to women, youth and other vulnerable groups	5.5.2 Proportion of women in managerial positions
LTEQO 7:  The transboundary cooperation among member states,	Harmonize laws and regulations for the management of natural resources within the MRU region	A common law and regulations are stable for the MRU	17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development
	Finalize the process for the creation of the MRU Basin Authority	The river Basin authority is functional within the MRU	17.16.1 Number of countries reporting progress in multi-stakeholder development effectiveness monitoring

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  REDUCTION	SDG indicators
communities and other actors strengthened			frameworks that support the achievement of the sustainable development goals
	Develop and adopt a water charter for all the MRU river basins	Number of countries that have ratified the Water Charter	17.16.1 Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals
	Support the member states to ratify the international water conventions of 1992 & 1997	Number of countries that have ratified the 1992 and 1997 Conventions	17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development
	Implement international conventions on the transportation of toxic and hazardous products (e.g. Bamako convention)	Number of interventions by technical services on the transport of toxic products	17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development
	Promote concerted management of protected areas among member states through bilateral/tripartite agreements	Government State services apply the provisions of Conventions and Treaties	17.16.1 Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals
	Develop/Strengthen partnership among the public sector, the private sector, that NGOs and the local	Number of countries that have ratified the 1992 and 1997 Conventions	17.15.1 Extent of use of country-owned results frameworks and planning tools by providers of development cooperation

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
	communities for the natural resource management		
	Develop and implement a sub-regional research program on invasive aquatic plant species: biology, hydro-chemical and biological conditions of their growth	Bilateral and tripartite agreements are approved by protected area management	15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species
	Develop and implement an integrated programme to fight and restore areas infested by invasive aquatic plant species	A partnership framework between private sectors, NGOs, local communities available for the management of natural resources	15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species
	Develop socio-economic value of invasive aquatic plant species	Outcomes of the inventory of available aquatic plant species	15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species
LTEQO n°8: The utilization of plastic is eradicated	Develop regulatory texts on the production, import, marketing and use of non-biodegradable plastic	Regulatory text on the production, import, marketing and use of non-biodegradable plastic exist	12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment
	Strengthen the technical capacities of the services responsible for the environment through the appropriation of regulatory texts	The staff of technical services have knowledge to implement the regulatory text	13.1.2 Number of deaths, missing persons and persons affected by disaster per 100,000 people

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  REDUCTION	SDG indicators
	Provide environmental managers with control materials	Number of control materials	12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment
	Promote alternatives to non-biodegradable plastic	Replacement of plastic in domestic uses	12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment
	Set up collection, processing and recycling units for plastic	Number of units functional	12.5.1 National recycling rate, tons of material recycled
Specific LTEQO 1:  Reduce infestation by invasive aquatic plants to level that not negatively affects aquatic ecosystems and socio-economic activities in MRU basins	Inventory invasive aquatic plants	Regulations on the transport of toxic products are available	15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species
	Elaborate the texts of the plan of erection in protected area and classification of Ramsar sites	A map of sites invaded by aquatic plant species and their proliferation circuits	17.13.1 Macroeconomic Dashboard
	Elaborate management and monitoring plan which would be reviewed periodically by an interdisciplinary interstate team	The results of the research program on the biology of aquatic invasive species, the hydro-chemical and biological conditions of their proliferation available and published.	15.2.1 Progress towards sustainable forest management

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
	Develop a management and monitoring plan to be reviewed periodically by a joint Inter-State team		
	The management and monitoring team made up of representatives of the States Parties is functional	Participation of local communities in the implementation of the integrated programme	15.2.1 Progress towards sustainable forest management
Specific LTEQO 2 :  The Mount Nimba forest ecosystem complex restored and a management team set up	Supervise mining activities to preserve forest ecosystems of special interest	Degradation of specific forest ecosystems	15.2.1 Progress towards sustainable forest management
	Include on the list of Ramsar sites, wetlands that have or may have international importance from an ecological, economic, cultural and scientific point of view	A development and management plan available	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	Draft a proposition to set up the forest ecosystem complex as a protected area and classify Ramsar sites	The planning and management team is operational	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
	Develop a management monitoring plan to be reviewed periodically by a joint Inter-State team	A common regulation of all States on mining is enforced	15.2.1 Progress towards sustainable forest management
	The management team which comprise representatives of the States Parties is functional	Number of sites inscribed on the Ramsar List	15.2.1 Progress towards sustainable forest management
Specific LTEQO 3  The Tai-Grabo-Krahn-Sapo forest ecosystem complex restored and a management team set up	Supervise mining activities to preserve forest ecosystems of special interest	A master plan for the designation of protected areas and Ramsar sites adopted	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	Include on the list of Ramsar sites, wetlands that have or may have international importance from an ecological, economic, cultural and scientific point of view	A management plan available	15.2.1 Progress towards sustainable forest management
	Draft a proposition to set up the forest ecosystem complex as a protected area and classify Ramsar sites	An approved agreement between States-Parties is available	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
	Develop a management monitoring plan to be reviewed periodically by a joint Inter-State team	A common regulation of all States on mining is enforced	15.2.1 Progress towards sustainable forest management
	The management team which comprise representatives of the States Parties is functional	Number of sites inscribed on the Ramsar List	15.2.1 Progress towards sustainable forest management
Specific LTEQO 4:  The Gola Forest ecosystem complex restored and a management team set up	Supervise mining activities to preserve forest ecosystems of special interest	A master plan for the designation of protected areas and Ramsar sites adopted	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	Include on the list of Ramsar sites, wetlands that have or may have international importance from an ecological, economic, cultural and scientific point of view	A management plan is available	15.2.1 Progress towards sustainable forest management
	Draft a proposition to set up the forest ecosystem complex as a protected area and classify Ramsar sites	The planning and management team is operational	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	Develop a management monitoring plan to be reviewed periodically by a joint Inter-State team	A common regulation of all States on mining is enforced	15.2.1 Progress towards sustainable forest management

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
	The management team which comprise representatives of the States Parties is functional	Number of sites inscribed on the Ramsar List	15.2.1 Progress towards sustainable forest management
Specific LTEQO 5 : Mangroves and their estuary ecosystems restored and a management team set up	Supervise mining activities to preserve forest ecosystems of special interest	A master plan for the erection of protected areas and Ramsar sites adopted	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	Include on the list of Ramsar sites, wetlands that have or may have international importance from an ecological, economic, cultural and scientific point of view	The development and management plan is available	15.2.1 Progress towards sustainable forest management
Specific LTEQO 14 6 : The protected area of national forest parks of Penselly-Soya-Sabouya and Outamba is restored and a management system put in place.	Develop the texts creating a protected areas and Ramsar sites	A master plan for the designation of protected areas and Ramsar sites adopted	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	Draft a development and management plan to be periodically reviewed by a joint inter-State team	A management plan available	15.2.1 Progress towards sustainable forest management
	The monitoring and management team made up of representatives of the States Parties is functional	An approved agreement between States-Parties is available	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  AND/OR REDUCTION	SDG indicators
	Supervise mining activities to preserve forest ecosystems of special interest	A common regulation of all States on mining is enforced	15.2.1 Progress towards sustainable forest management
	Include in the list of Ramsar sites, wetlands that have or may have international importance from an ecological, economic, cultural and scientific point of view	Number of sites inscribed on the Ramsar List	15.2.1 Progress towards sustainable forest management
Specific LTEQO 15.7 : The protected area complex of national forest parks of Wonegisi-Ziama is restored and a management system put in place.	Develop the texts creating a protected areas and Ramsar sites	A master plan for the designation of protected areas and Ramsar sites adopted	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	Draft a development and management plan to be periodically reviewed by a joint inter-State team	A management plan available	15.2.1 Progress towards sustainable forest management
	The monitoring and management team made up of representatives of the States Parties is functional	An approved agreement between States-Parties is available	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	Supervise mining activities to preserve forest ecosystems of special interest	A common regulation of all States on mining is enforced	15.2.1 Progress towards sustainable forest management
	Include in the list of Ramsar sites, wetlands that have or may have	Number of sites inscribed on the Ramsar List	15.2.1 Progress towards sustainable forest management

Table 2 : List of indicators for monitoring LTEQOs and Strategic Actions  LTEQOS	STRATEGIC ACTIONS	ENVIRONMENTAL AND/OR STRESS INDICATORS  REDUCTION	SDG indicators
	international importance from an ecological, economic, cultural and scientific point of view		

## CONCLUSIONS

The SAP has to address not only four priority problems but also three cross-cutting problems, as well as five specific issues related to particular ecosystems. The combined interactions between these issues may create a situation of overlapping disruptions. This means that there is a need to simultaneously address all identified problems, to the extent possible, so as to build resilience to the combined impacts of these problems, but it is useful to recognize that this is difficult, because of the convergence of identified problems that aggravate the overall impacts. For instance, climate change alone has the potential to exacerbate the impacts of land and forest degradation as well as the deficiency of water quantity and quality.

Although this SAP recognizes that forest and watershed degradation, river basin and water quality degradation, and climate change are part of a set of converging devastating and factual risks to the populations of the MRU countries, it should be noted that there is not enough human, technological, and financial capacity to simultaneously address all problems without any trade-off. Therefore, it is highly important to clearly define priorities and build the human and financial capacities of key government institutions so that they can address multiple risks and recognize how their work affects, and is affected by the interventions of other sectors. All government institutions, NGO, and private companies must also understand how their work impacts the communities most vulnerable to catastrophic risks.

This SAP also recognizes that currently there is a failure to update policies, adopt new legislation and regulations, and establish robust and efficient institutions that fully take into account all risks and socio-economic implications.

Both the Ebola epidemics and the COVID-19 pandemic have demonstrated that the lack of preparedness to cope with problems that disrupt the environment can create critical risks for human health. Threats that are caused by environmental degradation and deterioration of the health of natural ecosystems can also jeopardize socioeconomic development processes. In this regard, the latent degradation of water quality is a critical challenge that requires immediate attention, as well as short, medium, and long-term actions, including policies, legislations, regulations, institutional reforms, and operational activities to be better prepared and prevent disasters. It is critical to improve the awareness about the root causes of identified problems as well as opportunities that can help governments to formulate long-term programmes, such as this Strategic Action Programme. It is also important to address each problem, without allowing a singular issue to consume disproportionate resources and undermine all other efforts.

Despite the complexity of this process, the present SAP is also a considerable opportunity to innovate policies that alleviate multiple issues at once. For instance, the positive effects of forest conservation extend to pandemic prevention, carbon sequestration, and biodiversity conservation. Likewise, a specific project on Integrated Water Resources Management has the potential to address simultaneously the threats to wetlands and water resources, enhance the values of wetlands for sustainable development, and promote wise use of water resources. The identification and implementation of actions on Integrated Water Resources Management can be successful in improving the water security, food security, energy security, and a better protection of human health, through many interventions, including, but not limited to:

- Infrastructures for Water supply;
- Improvement of interactions between Water resources and human Health;
- Managing interactions between water resources and Biodiversity;
- Managing Fisheries;

- Providing Water resources to Livestock;
- Improving relationships between Water resources and Agriculture /Food Security, through best practices on hydro-agricultural and income diversification schemes;
- Reduction of the adverse impacts of agriculture on Water resource.
- Best practices using water management for Protected Areas, including Wildlife;
- Water and wetland management to contribute to mitigation/adaptation to Climate Change;
- Water and wetland management to increase the resilience of people and ecosystems to climate change.
- Wetland management to contribute to sustainable urbanization.
- Reduction of the adverse impacts of industrial and artisanal mining on water resources (surface water and groundwater).
- Contribute to the management of wastes.
- Management of Water resources ecosystems for Tourism development.

It is highly recommended that this SAP leads to the development and implementation of three major cross-border projects to carry out the 74 strategic actions spread over 217 activities foreseen by the SAP. Ideally, it would be desirable to undertake these achievements simultaneously. However, the realities are such that it will be difficult to mobilize human resources with the necessary expertise and sufficient funds for all these ambitious forecasts. It will therefore be necessary to proceed in stages, focusing on strategic actions that will first lay the ground and create favorable conditions for the gradual expansion of achievements. It is for this reason that it is necessary to consider sliding projects including short-, medium-, and long-term options over a period of 20 years to achieve the Vision and the Long-Term Environmental Quality Objectives. Relevant Projects could include:

- a. A Project on Integrated Water Resources Management (IWRM).
- b. A Project on Sustainable Forest Management.
- c. A Project for Adapting to climate change and Increasing the Resilience of human populations and ecosystems.

The creation, establishment, and operationalization of a structure responsible for river basin management (a River Basin Office within the MRU) would be a major step to ensure the coordination and supervision of all collective interventions related to the implementation of IWRM process for the MRU member States. This new structure is expected to establish working relationships and information exchanges with river basin organizations that have greater experience and operate in West Africa such as the Niger Basin Authority (NBA) and the Organization for the Development of the Senegal River (OMVS), which already promote cooperation among member countries.

To be successful in the implementation of the SAP and Investment Plan, all MRU Member States will have to stand together for the mobilization of funding and agreement on shared responsibilities and benefits. This will make the MRU stronger and facilitate the allocation of human and financial resources that are required to fully implement this Strategic Action Program.

## **ANNEXES**

ANNEX 1: Detailed Investment Plan

ANNEX 2: Proposed Investment in NAPs

ANNEX 3: Regional TDA Document

ANNEX 4 : National action plans, including the financing plan of:

1. Cote d'Ivoire
2. Guinea
3. Liberia
4. Sierra Leone

ANNEX 5: Terms of reference of the mission

ANNEX 1: Detailed Investment Plan

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
<b>LTEQO n°1 : The forest ecosystems of the MRU basins are restored, protected, and managed</b>	<b>4 514 000</b>	<b>3 164 000</b>	<b>6 455 000</b>	<b>5 100 000</b>
1.1. Restore degraded forests, protect, and manage degraded transboundary forest landscapes in MRU areas	595 000	880 000	955 000	800 000
Procure high resolution images on MRU forest ecosystems and equipment for mapping and GIS studies.	155 000		155 000	
Mapping of degraded areas in transboundary forest ecosystem for their restoration	20 000	40 000		
Mapping non-degraded forest areas in transboundary forest ecosystem for their protection and sustainable use.	20 000	40 000		
Involve riparian communities in restoration of degraded transboundary forest ecosystem.	200 000	400 000	400 000	400 000
Involve riparian communities in protection of degraded transboundary forest ecosystem.	200 000	400 000	400 000	400 000
1.2. Develop/strengthen, harmonize and implement domestic laws, policies and bye laws to reduce deforestation.	500 000	250 000	100 000	0
Harmonize national policies and rules to alleviate deforestation and forest degradation	150 000	150 000		
Develop a common policy and rules for a transboundary forest charter that reduces deforestation and forest degradation while improving their restoration through forest sustainable use in the MRU member states	200 000			
Adapt a forest charter that reduces deforestation and forest degradation	50 000			
Inform national technical services on the common policy and rules reducing deforestation and forest degradation and improving reforestation.	100 000	100 000	100 000	
1.3. Promote sustainable agricultural system	400 000	250 000	700 000	0
Harmonize national legislation on importation, production, trading and use of pesticides, herbicides and fungicides used in agriculture.	150 000		200 000	
Develop land tenure law and policy common to MRU member states to ensure land ownership for community forest development and tree ownership in agroforestry	200 000	200 000	400 000	

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Adopt land tenure law and policy common to MRU member states	50 000	50 000	100 000	
1.4. Promote income generation and value chain activities and improve access to market for communities through forest landscapes restoration interventions.	180 000	400 000	2 400 000	2 400 000
Formulate training module on income and employment generation activities in the four basins	100 000		2 000 000	2 000 000
Organize two annual training sessions on employment and income generation in the four basins	80 000	400 000	400 000	400 000
1.5. Prevent or fight against bush fires	625 000	450 000	650 000	400 000
Strengthen cooperation and coordination between MRU member states	400 000	400 000	400 000	400 000
Set up a data base on bush fire occurrences	25 000	50 000	50 000	
Establish an early warning system on bush fire	200 000		200 000	
1.6. Improve the management of protected areas (IP, Buffer & Transition zones)	834 000	734 000	630 000	500 000
Establish inter-states management unit for transboundary protected areas	400 000	400 000	400 000	400 000
Provide transboundary protected area managers with existing laws and regulations that combat the illegal exploitation of natural resources.	4 000	4 000		
Equip managers with a communication and population information strategy	30 000	30 000	30 000	
Provide units with surveillance and crime control capabilities	400 000	300 000	200 000	100 000
1.7. Ensure the application of regulations on timber and non-timber forest products for sustainable management	600 000	200 000	400 000	400 000
Develop a common regulation for the exploitation of wood and non-wood forest products	200 000	200 000		
Set up joint teams to monitor and follow up on the exploitation of timber and non-timber forest products.	400 000		400 000	400 000
1.8. Conduct a detailed Land Use and Land Cover ( LULC) mapping & establish baseline information	20 000	-	20 000	-
Procure high resolution images on MRU forest ecosystems and equipment for mapping and GIS studies.	-	-		
Conduct a detailed LULC mapping & establish baseline	20 000		20 000	

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
1.9. Create new areas for forest conservation and community forests	380 000	-	300 000	300 000
Define one terrestrial ecosystem conservation area in each country to be managed by local communities	200 000		200 000	200 000
Develop terms of reference for the management of each conservation area	80 000			
Apply the provisions of the TOR' specifications	100 000		100 000	100 000
1.10. Create new spaces for the conservation of forest massifs and community forests	380 000	0	300 000	300 000
Delineate a terrestrial ecosystem conservation area per country and subject them to the management of local communities	200 000		200 000	200 000
Develop specifications for the management of each conservation area	80 000			
Apply the provisions of the specifications	100 000		100 000	100 000
<b>LTEQO n°2 : A good quality water is available to meet essential needs of ecosystems and the people within the MRU basins in conformity with SDG indicator 6.3.2 target</b>	<b>7 022 500</b>	<b>4 312 500</b>	<b>3 582 500</b>	<b>1 032 500</b>
2.1. Strengthen capacities of technical services of member states, in charge of water resources management	1 030 000	700 000	600 000	100 000
Establish framework for consultation and cooperation among MRU member states to set common target standards for transboundary waters.	10 000	100 000		100 000
Formulate water quality standards to meet ecosystem and population needs in MRU basins in accordance with indicator 6.3.2 of the SDGs.	200 000		200 000	
Develop a training module on water quality to meet the essential needs of ecosystems and populations in the MRU basins in accordance with indicators 6.3.2 of the Sustainable Development Goals.	20 000			
Provide the technical services of the Member States with technical means for measuring the flow rates and the quality of water resources.	800 000	600 000	400 000	
2.2. Establish a network to measure, monitor and share the water quality and quantity data.	150 000	150 000	100 000	100 000
Create an institution within the MRU with offices within each Member State responsible for measuring the flows and the quality of water in the basins of the MRU area: an observatory of the MRU basins.	100 000	100 000	100 000	100 000

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Set up a data base on water flow and quality in basins of MRU, supplied by national data	50 000	50 000		
2.3. Promote environmental education on water resources.	60 000	20 000	20 000	20 000
Develop environmental education booklets/leaflets for the benefit of primary school students	20 000			
Develop environmental education booklets/flyers for lower secondary students	20 000			
Organize an annual environmental information and education campaign at the primary and lower secondary levels in local communities	20 000	20 000	20 000	20 000
2.4. Protect the aquatic resources against heavy metal and other pollutants (physical, chemical and biological).	280 000	280 000	-	-
Identify sources of pollution of aquatic resources by heavy metals and other pollutants.	80 000	80 000		
Establish regulations on the pollution of water and aquatic resources.	200 000	200 000		
2.5. Enhance and ensure the implementation of laws and regulations on water quality.	1 000 000	0	200 000	800000
Develop a common regulation on water quality in the basins of the UFM area.	200 000		200 000	
Implement the provisions of the common regulations on water quality in the basins of the UFM area	800 000			800 000
2.6. Promote and encourage best practices of human activities (farming, breeding, fishing, mining, etc)	2 012 500	2 012 500	2 012 500	12 500
Support sound practices of human activities (agriculture, livestock, fishing, mining, etc.) with subsidies and infrastructure.	2 000 000	2 000 000	2 000 000	
Support and encourage the exchange of experiences between communities on the good practices they undertake	12 500	12 500	12 500	12 500
2.7. Promote wastewater treatment (agriculture, domestic, mining & industrial) before release.	1 000 000	150 000	650 000	0
Harmonize and enforce wastewater discharge standards in MRU ponds.	200 000		200 000	
Review and update wastewater discharge standards in MRU member countries.	150 000	150 000		
Produce and dispatch standards on wastewater release in the member states.	50 000		50 000	

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Develop programmes/projects for water resource integrated management	200 000			
Implement programmes/projects for water resource integrated management	400 000		400 000	
2.8. Establish water police	1 400 000	1 000 000		
Develop legal framework to create water police (status and organization)	400 000			
Provide materials and equipment to water police to make it operational	1 000 000	1 000 000		
2.9. Harmonize wastewater discharge standards in MRU basins	50 000			
2.10. Promote the use of improved latrines by communities	40 000	40 000	40 000	40 000
<b>LTEQO 3 : The ecological integrity and terrestrial and aquatic ecosystems in MRU basins are restored, conserved, and sustainably managed</b>	<b>3 567 000</b>	<b>3 350 000</b>	<b>3 317 000</b>	<b>3 106 000</b>
3.1. Ensure sustainable conservation of transboundary protected areas	2 250 000	2 250 000	2 250 000	2 250 000
Set up joint (inter-State) surveillance teams for transboundary protected areas	200 000	200 000	200 000	200 000
Develop and implement management plans for transboundary terrestrial and maritime protected areas	1 600 000	1 600 000	1 600 000	1 600 000
Restore/rehabilitate forest landscapes and wetlands in each target river basin	400 000	400 000	400 000	400 000
Establish a reference database for each of the inventories.	50 000	50 000	50 000	50 000
3.2. Conduct an inventory of fauna and flora species in forest landscapes and wetlands in the basins	482 000	482 000	482 000	482 000
Establish a joint team of wildlife inventory specialists	144 000	144 000	144 000	144 000
Carry out the inventory of wildlife species in forest landscapes and wetlands	72 000	72 000	72 000	72 000
Set up a team of experts in floristic inventories	144 000	144 000	144 000	144 000
Carry out an inventory of plant species in forest landscapes and wetlands	72 000	72 000	72 000	72 000
Establish a database of fauna and flora inventory	50 000	50 000	50 000	50 000
3.3. Conduct an inventory of the fauna & flora species in the forest landscapes and wetlands of the basin	250 000	250 000	250 000	250 000
Periodically count endemic and endangered species.	200 000	200 000	200 000	200 000
Prohibit the exploitation of endemic and endangered species.	50 000	50 000	50 000	50 000
3.4. Restore or reintroduce endangered species	141 000	24 000	41 000	124 000
Identify endangered endemic wildlife species based on the wildlife inventory	12 000	12 000	12 000	12 000
Identify endangered endemic flora species based on the floristic inventory	12 000	12 000	12 000	12 000

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Explore the possibilities of reintroducing endangered endemic species	17 000		17 000	
Reintroduction endangered endemic species	100 000			100 000
3.5. Popularize both national laws and international conventions on the biodiversity and wetlands (CBD and Ramsar Conventions).	150 000	50 000	-	-
Compile national legal texts and international conventions relating to biodiversity and wetlands.	100 000			
Disseminate national legal texts and international conventions relating to biodiversity and wetlands to national technical structures	50 000	50 000		
3.6. Encourage communities to value medicinal plants and socioeconomic species.	294 000	294 000	294 000	0
Set up a joint team of ethnobotanists and work on plants of special interest for community use	144 000	144 000	144 000	
Carry out detailed studies on medicinal plants and species of interest for large community groups in the basins of the MRU	150 000	150 000	150 000	
3.7. Strengthen the capacities of national technical structures for the application of national laws and international conventions on biodiversity				
<b>LTEQO 4: Land, stream banks, and headwaters are restored and protected</b>	<b>4 457 000</b>	<b>3 266 000</b>	<b>2 991 000</b>	<b>0</b>
4.1. Develop and implement restoration plans and rehabilitate degraded riverbanks and water sources	356 000	316 000	316 000	-
List and map watersheds containing degraded stream banks and spring heads.	20 000	20 000	20 000	
Set up a joint team of hydrologists and soil scientists.	96 000	96 000	96 000	
Undertake a preliminary study to know the hydro- morphological, ecological, sociologic and land context of the relevant section of watercourse in order to choose the restoration option.	200 000	200 000	200 000	
Develop a training module in Water and Soil Conservation (WSC) techniques and another in Soil Defense and Restoration (SDR) taking into account the geomorphological characteristics of each target river.	40 000			
4.2. Popularize and implement national laws and regulations on environmental protection	16 000	0	0	0
Make a compilation of laws and regulations related to the protection of the environment.	8 000			

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Disseminate legislative and regulatory texts relating to environmental protection to national technical structures	8 000			
4.3. Promote smart mining and farming practices that incorporate land and water restoration	1 040 000	0	1 000 000	-
Develop training modules on sound mining and farming practices taking in account land, soil and water restoration	40 000			
Support sound practices in anthropogenic activities (agriculture, livestock, fishing, mining, etc.) with grant and infrastructure.	1 000 000		1 000 000	
4.4. Restore the vegetation cover of degraded areas in the watershed	1 600 000	1 600 000	1 600 000	
Establish a map of LULC and the state of the gallery forests in the target basins of MRU .	-	-	-	-
Plant and protect trees on the watersheds	1 600 000	1 600 000	1 600 000	
4.5. Monitor sediment load in the watercourses	250 000	250 000		
Determine/identify sediments and their characteristics in rivers.	100 000	100 000		
Follow their trajectory in the waterways	150 000	150 000		
4.6. Promote Eco- hydrological approach to reduce soil loss and land degradation particularly in wetlands (Nature based solutions).	1 120 000	1 100 000	-	-
Identify the factors that lead to soil loss and land degradation in the catchments of the target rivers.	100 000	100 000		
Develop a training module on the hydro-ecological approach aimed at reducing soil loss and land degradation	20 000			
Improve soil fertility with organic manure	1 000 000	1 000 000		
4.7. Develop sustainable lowland and floodplains farming	75 000	0	75 000	
Delimit and parcel the lowlands to be developed	50 000		50 000	
Determine the crops to be produced by type of soil	10 000		10 000	
Assign the plots and monitor the production of each crop	15 000		15 000	
<b>LTEQO 5 Member States' capacities for adaptation, mitigation and resilience to climate change strengthened at all levels</b>	<b>14 194 800</b>	<b>7 600 800</b>	<b>11 066 800</b>	<b>6 275 800</b>
5.1. Train the communities on available climate services that are specific to activity sector	312 000	0	312 000	0

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Develop three training modules for end users on climate services available in connection with the sectors of activity	60 000		60 000	
Hold a training session by basin for farmers	84 000		84 000	
Hold a training session by basin for livestock breeders	84 000		84 000	
Hold a training session by basin for market gardeners	84 000		84 000	
5.2. Develop and implement resilience programs for vulnerable communities to climate change.	880 000	80 000	80 000	0
Develop a regional agricultural resilience program (cereal crops, cash crops and vegetable crops).	200 000			
Develop a regional livestock resilience program (sheep, cattle, and poultry).	200 000			
Develop a regional fishing resilience program (freshwater fishing, marine fishing, seafood collection).	200 000			
Develop a regional resilience program in horticulture (arboriculture and fruit cultivation)	200 000			
Form target groups according to each theme (agriculture, livestock, fishing and horticulture)	80 000	80 000	80 000	
5.3. Support collaboration among agricultural research Centers of member states and strengthen their technical capacities for the identification and production of seeds that are resilient to climate effects.	810 000	820 000	820 000	625 000
Create a partnership network within agronomic research centers	10 000	20 000	20 000	25 000
Develop technical sheets on the technological package of each variety of seeds resistant to climatic hazards.	200 000	200 000	200 000	
Carry out pre-basic and basic seed exchanges	200 000	200 000	200 000	200 000
Contribute to the financing of meetings between researchers on the same theme	400 000	400 000	400 000	400 000
5.4. Strengthen the resilience of rural communities through dissemination of variety of seeds that are resistant to climate change effects	1 250 000	250 000	250 000	1 250 000
Make available the seeds of varieties resistant to climatic hazards	250 000	250 000	250 000	250 000
Encourage farmers to produce seeds of varieties resistant to climatic hazards	1 000 000			1 000 000
5.5. Encourage best practices through SMART agriculture or sustainable farming.	740 000	480 000	680 000	480 000

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Encourage farmers, through their practices, to reduce greenhouse gas emissions	200 000		200 000	
Identify good agricultural practices applicable through smart agriculture and which are adapted to the conditions of each specific context.	80 000	80 000	80 000	80 000
Develop training modules on good agricultural practices through smart agriculture with the use of new technologies and/or sustainable agriculture	60 000			
Support good agricultural practices by setting up field schools	400 000	400 000	400 000	400 000
5.6. Develop and implement a regional climate change mitigation & adaptation programme based on the Nationally Determined Contributions (NDC) of member states.	808 000	600 000	600 000	600 000
Develop a summary document of the NDCs	8 000			
Produce, based on the synthesis, a regional climate change adaptation and mitigation program.	200 000			
Implement the regional climate change adaptation and mitigation program in the basins of the MRU area	600 000	600 000	600 000	600 000
5.7. Strengthen capacities of technical service in charge of climate risks and natural disaster management	1 100 000	700 000	750 000	350 000
Equip national structures in charge of climate risks management and natural disasters with equipment for early warning and management of victims of natural disasters	400 000		400 000	
Create early warning platforms on climate risk forecasts	50 000	50 000		
Establish a national and regional data and information exchange network	50 000	50 000	50 000	50 000
Set up a network for sharing information on natural disaster management processes (broadcasting, website, social networks, etc.)	50 000	50 000	50 000	50 000
Create new hydrometeorological recording stations in member states	300 000	300 000		
Produce and disseminate climate information to meet the needs of end- users	250 000	250 000	250 000	250 000
5.8. Promote the reasonable use of water (use & reuse) in irrigation systems, mining & industrial processes	5 420 000	2 500 000	5 400 000	2 500 000
Develop training modules on good irrigation practices in agricultural production	20 000			

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Conduct sensitization campaigns and training on good agricultural practices: Radio programs and interviews with target groups	400 000		400 000	
Support good practices in sustainable agriculture: irrigation and seeds of species (varieties) with low water consumption and rational management of pesticides	2 500 000		2 500 000	
Support good sustainable agriculture practices: irrigation and seeds of species (varieties) with low water consumption and rational management of pesticides, herbicides and fungicides	2 500 000	2 500 000	2 500 000	2 500 000
5.9. Strengthen the capacities of national structures on the mobilization of Green Climate Funds (GEF, adaptation fund, carbon, etc.).	224 800	20 800	124 800	20 800
Produce documentation relating to the process of accessing and mobilizing green funds (GEF, adaptation fund, carbon fund, etc.) as well as other mechanisms through bilateral and multilateral partners.	100 000			
Organize debates with technicians from national technical services on the process of accessing and mobilizing green funds (GEF, adaptation funds, carbon funds, etc.) as well as other mechanisms through bilateral and multilateral partners	20 800	20 800	20 800	20 800
Train the relevant technical services agents on the procedures, priorities and requirements of each type of fund, including funds from bilateral and multilateral partners	104 000		104 000	
5.10. Develop and implement programs that promote the use of new and renewable energy resources for climate change adaptation and mitigation	750 000	250 000	250 000	250 000
Develop, seek funding and implement a regional program for the production and use of biogas.	250 000	250 000		
Develop, seek funding and implement a regional program for the capture, storage and use of solar energy.	250 000		250 000	
Develop, seek funding and implement a regional program for the use of wind energy	250 000			250 000
5.11. Promote water improvement infrastructures and drinking water resilient to climate risks.	1 900 000	1 900 000	1 800 000	200 000
Establish waste water collection sites in industrial and mining production process	100 000	100 000		

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Build wastewater treatment infrastructure	1 000 000	1 000 000	1 000 000	
Treat wastewater and inject it into the process of industrial and mining production	600 000	600 000	600 000	
Carry out regular monitoring of the consumption water quality and/or intended for other domestic needs	200 000	200 000	200 000	200 000
<b>LTEQO 6: Vulnerable groups, in particular women, young people and children taken into account in the implementation of the SAP</b>	<b>803 000</b>	<b>695 000</b>	<b>783 000</b>	<b>55 000</b>
6.1. Mainstream Gender issues in the implementation of the SAP to enhance social equity, economic empowerment, and sustainable management of the natural resources.	510 000	510 000	510 000	10 000
Integrate gender throughout the SAP process, i.e. at each stage of the SAP, from contacts and preliminary studies to the evaluation of the SAP.	5 000	5 000	5 000	5 000
Include and address gender issues in SAP development thinking.	5 000	5 000	5 000	5 000
Financial, organizational and technical support for women's associations, Village Savings and Credit Associations (VSLA) and Youth Associations to improve their practices, diversify their sources of income and increase their resilience and their ability to reduce pressures negative on the environment	500 000	500 000	500 000	
6.2. Create a framework for the participation of women, young people, children and other vulnerable groups in decision-making on the management of the Basin's resources.	20 000	20 000	0	0
Create a consultation framework for users of each of the basins of the MRU space taking into account women, young people and other vulnerable groups.	20 000	20 000		
6.3. Promote income-generating activities for the benefit of women, young people and other vulnerable groups.	273 000	165 000	273 000	45 000
Acquire land and make it available to women's groups and associations, young people and other vulnerable groups.	8 000		8 000	
Develop market gardening, horticulture and the fishing sector for the benefit of women, young people and other vulnerable groups and strengthen their respective roles and the benefits they derive.	30 000	30 000	30 000	30 000
Involve women, young people and other vulnerable groups in the processing and trade of market gardening, horticultural and fishing products.	15 000	15 000	15 000	15 000

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Install solar energy units for groundwater pumping and domestic use of the electricity produced.	100 000		100 000	
Set up biogas production and use units for households.	120 000	120 000	120 000	
<b>LTEQO n°7 : The transboundary cooperation among member states, communities and other actors is strengthened</b>	<b>1 980 000</b>	<b>790 000</b>	<b>80 000</b>	<b>40 000</b>
7.1. Harmonize laws and regulations for the management of natural resources within the MRU region	650 000	350 000	-	-
Review and update laws and regulations relating to the management of natural resources in MRU member countries.	150 000	150 000		
Establish common natural resource management regulations (agriculture, pastoralism, forestry, wildlife resources, water, minerals, fishing and solar energy) in the MRU member states.	200 000	200 000		
Organize sessions for water charter validation in each of the Member States.	200 000			
Organize a regional meeting to adopt the water charter.	100 000			
7.2. Finalize the process for the creation of the MRU River Basin Authority	50 000	-	-	-
Prepare the legal and institutional framework of the River Basin Authority within the MRU	50 000			
7.3. Develop and adopt a water charter for all the MRU river basins.	500 000	-	-	-
Prepare the water charter for all MRU basins	200 000			
Organize the water charter validation meetings in the countries	200 000			
Organize a regional meeting to adopt the water charter.	100 000			
7.4. Support the member states to ratify the international water conventions of 1992 & 1997	160 000	160 000	-	-
Advocate with the Executive and Legislative officials of MRU Member States to ratify the 1992 & 1997 international conventions on water	160 000	160 000		
7.5. Implement international conventions on the transportation of toxic and hazardous products (e.g. Bamako convention)	40 000	0	40 000	0
Effectively implement the provisions of international conventions on the transport of toxic products.	40 000		40 000	

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
7.6. Promote concerted management of protected areas among member states through bilateral/tripartite agreements.	340 000	40 000	40 000	40 000
Develop bilateral or multilateral agreements for the management of protected areas and transboundary key biodiversity zones (Mount Nimba, Tai-Sapo-Grabo-Krahn and Gola Forest complexes).	100 000			
Adopt bilateral or multilateral agreements for the management of protected areas and transboundary key biodiversity zones (Mount Nimba, Tai-Sapo-Grabo-Krahn and Gola forest complexes).	200 000			
Apply provisions of bilateral or multilateral agreements for the management of protected areas and transboundary key biodiversity zones (Mount Nimba, Tai-Sapo-Grabo-Krahn and Gola Forest complexes).	40 000	40 000	40 000	40 000
7.7. Develop/Strengthen partnership among the public sector, the private sector, the NGOs and the local communities for the natural resource.	240 000	240 000	-	-
Create and organize natural resource user structures for sustainable management at each river basin which take into account the public sector, the private sector, civil society and local communities.	80 000	80 000		
Develop and adopt a partnership agreement between the public sector, the private sector, civil society and local communities for decision-making and the implementation of activities for the sustainable management of natural resources	160 000	160 000		
<b>LTEQO n°8 :The utilization of plastic is eradicated</b>	<b>685 000</b>	<b>680 000</b>	<b>400 000</b>	<b>230 000</b>
8.1. Develop regulatory texts on the production, import, marketing and use of non-biodegradable plastic	170 000			
Draft a commun low on plastic production, import, trade and utilization in the MRU member countries	100 000			
Drafting the texts of application of the law	45 000			
Adopt the law and its implementing texts	25 000			
8.2. Strengthen the technical capacities of the services responsible for the environment through the appropriation of regulatory texts	130 000	130 000		130000
Make available to technical services a sufficient number of the law and its application texts	10 000	10 000	10000	10000

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Hold a training session by basin for technical services	120 000	120 000	120000	120000
8.3. Provide environmental managers with control materials	100 000	100 000	100000	100000
Acquire the necessary equipment for the control of plastics	80 000	80 000	80000	80000
Provide the technical services with a number a control kit	20 000	20 000	20000	20000
8.4. Promote alternatives to non-biodegradable plastic	125 000	150 000	300 000	0
Subsidize small and medium-sized enterprises for the production of biodegradable materials	50 000	50 000	100 000	
Support large-scale production	75 000	100 000	200 000	
8.5. Set up collection, processing and recycling units for plastic	160 000	300 000		
Acquire plastic collection equipment	100 000	200 000		
Establish processing units	40 000	80 000		
Establish plastic recycling units	20 000	20 000		
Specific LTEQO n°1 : : Reduce the level of infestation of aquatic invasive species to a level that does not adversely affect aquatic ecosystems and socio-economic activities in Union basins	900 000	1 125 000	650 000	50 000
9.1. Review the existing situation in terms of invasive aquatic plant species	50 000	50 000		
Inventory aquatic invasive species	50 000	50 000		
9.2. Develop and implement a sub-regional research program on invasive aquatic plant species: biology, hydro-chemical and biological conditions of their growth	375 000	375 000	250 000	50 000
Develop a research program on invasive aquatic plants	125 000	125 000		
Implement a research program on invasive aquatic plants	200 000	200 000	200 000	
Disseminate research results on invasive aquatic plants	50 000	50 000	50 000	50 000
9.3. Develop and implement an integrated programme to fight and restore areas infested by invasive aquatic plant species	275 000	500 000	250 000	-
Develop an integrated control and restoration program for infested sites	25 000	250 000		
Implement an integrated control and restoration program for infested sites by invasive aquatic plants	250 000	250 000	250 000	
9.4. Develop socio-economic value of invasive aquatic plant species	200 000	200 000	150 000	

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Investigate use possibilities and promotion of invasive aquatic plants (compost, biogas production, transformation into any product of socio-economic interest).	50 000	50 000	50 000	
Develop a strategy/project/program for gathering and increase the value of invasive aquatic plants	100 000	100 000	100 000	
Seek funds and implement the strategy/project/program with input from local communities and the private sector.	50 000	50 000		
<b>Specific LTEQO n°2 : The Mont Nimba forest ecosystem is restored and its management unit set up</b>	<b>2 550 000</b>	<b>2 405 000</b>	<b>2 180 000</b>	<b>2 130 000</b>
10.1. Prepare a draft creating a protected area and to classify Ramsar sites within	90 000	25 000	-	-
Develop a multilateral agreement for the management of the protected area and the Ramsar in Mont Nimba	25 000	25 000		
Develop scheme for Ramsar site designation	15 000			
Adopt a multilateral agreement management of the Mont Nimba ecosystem as well as its Ramsar sites	50 000			
10.2. Develop and adopt a management and monitoring plan to be reviewed every five years	1 500 000	1 500 000	1 500 000	1 500 000
Develop a management and monitoring plan for the Mont Nimba ecosystem	400 000	400 000	400 000	400 000
Adopt the management and monitoring plan	100 000	100 000	100 000	100 000
Implement the management and monitoring plan	1 000 000	1 000 000	1 000 000	1 000 000
10.3. The management and monitoring team is functional	630 000	630 000	630 000	630 000
Set up management and monitoring unit for the Mont Nimba Forest ecosystem	30 000	30 000	30 000	30 000
Provide the management and monitoring unit with adequate means (for survey, restoration, afforestation, etc)	600 000	600 000	600 000	600 000
10.4. Control mining activities to preserve special interest forest ecosystem	80 000			
Prepare TORs for the construction of an eco-lodge	5 000			
Ensure payments for the eco-lodge construction	75 000			
10.5. Include in the list of Ramsar sites, wetlands that are or may be of international ecological, economic, cultural and scientific importance	250 000	250 000	50 000	-

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Delimit and characterize potential wetlands for designation as Ramsar Sites	200 000	200 000		
Propose the sites selected with the agreement of the local communities for inclusion on the list of Ramsar sites	50 000	50 000	50 000	
<b>Specific LTEQO n°3 : The forest ecosystem of the Taï-Grabo-Krahn-Sapo complex restored and its management unit established</b>	<b>2 590 000</b>	<b>1 620 000</b>	<b>1 645 000</b>	<b>1 645 000</b>
11.1. Prepare a draft creating a protected area and to classify Ramsar sites within the Taï-Grabo-Krahn-Sapo forest	515 000	-	-	-
Delimit the Taï-Grabo-Krahn-Sapo forest complex and its buffer zone	450 000			
Prepare setting up to forest complex with multilateral interest	15 000			
Adopt creation acts for forest complex	50 000			
11.2. Develop and adopt a management and monitoring plan to be reviewed every five years	1 250 000	1 250 000	1 250 000	1 250 000
Develop a management and monitoring plan to be reviewed each five years with riparian community participation	400 000	400 000	400 000	400 000
Adopt each management and monitoring plan	100 000	100 000	100 000	100 000
Implement a management and monitoring plan	750 000	750 000	750 000	750 000
11.3. The management team is functional	495 000	120 000	395 000	395 000
Set up a multilateral joint unit	20 000	20 000	20 000	20 000
Provide the unit with adequate logistic, technical means and finances	375 000		375 000	375 000
Create a database related to the forest complex	40 000	40 000		
Build observation and survey miradors	60 000	60 000		
11.4. Control mining activities to preserve special interest forest ecosystem	80 000	-	-	-
Prepare TORs to build an eco-lodge	5 000			
Ensure payments for the eco-lodge construction	75 000			
11.5. Include in the list of Ramsar sites, wetlands that are or may be of international ecological, economic, cultural and scientific importance	250 000	250 000	-	-
Delimit and characterize potential wetland	200 000	200 000		
Propose the selected sites with the agreement of the local communities for inclusion in the list of Ramsar sites	50 000	50 000		

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
<b>Specific LTEQO n°4 : The Gola forest ecosystem complex is restored and a management unit set up</b>	<b>1 570 000</b>	<b>1 490 000</b>	<b>950 000</b>	<b>1 240 000</b>
12.1. Prepare the setting up of the Gola forest to forest complex with multilateral interest	850 000	850 000	850 000	850 000
Develop a management and monitoring plan to be reviewed each five years with riparian community participation	250 000	250 000	250 000	250 000
Adopt the management and monitoring plan to be reviewed each five years	100 000	100 000	100 000	100 000
Implement the management and monitoring plan	500 000	500 000	500 000	500 000
12.2. The management and monitoring team is functional	470 000	470 000	80 000	370 000
Set up management and monitoring unit for the Gola forest ecosystem complex	20 000	20 000	20 000	20 000
Provide the unit with adequate logistic, technical means and finances	350 000	350 000		350 000
Establish a camp for the unit in the Gola forest complex	40 000	40 000		
Build Watch Tower (miradors)	60 000	60 000	60 000	
12.3. Supervise mining activities to preserve forest ecosystems of special interest	80 000	-	-	-
Prepare TORs for the building of an eco-lodge	5 000			
Ensure payments for the construction of an eco-lodge	75 000			
12.4. Include on the list of Ramsar sites, wetlands that have or may have international importance from an ecological, economic, cultural and scientific concerns	170 000	170 000	20 000	20 000
Set up a coordination unit for the identification of wetlands that can be designed as Ramsar sites	20 000	20 000	20 000	20 000
Delimit and characterize wetland with potential interests	120 000	120 000		
Propose the selected sites with the agreement of the local communities for inclusion on the list of Ramsar sites	30 000	30 000		
<b>Specific LTEQO n°5: Mangroves in estuarine ecosystems are restored and a system for their management is put in place</b>	<b>1 445 000</b>	<b>1 350 000</b>	<b>1 170 000</b>	<b>1 170 000</b>
13.1. Prepare a draft creating a protected area and designate Ramsar sites within the mangroves	65 000	50 000	-	-

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Develop the acts for establishing the mangroves of estuarine ecosystems as protected area designation and as Ramsar sites	15 000			
Approve the text establishing the mangroves of estuarine ecosystems as protected areas and Ramsar sites	50 000	50 000		
13.2. Develop and adopt a management and monitoring plan for the management of each mangrove to be reviewed every five years	850 000	850 000	850 000	850 000
Develop a management and monitoring plan to be reviewed each five years with riparian community participation	250 000	250 000	250 000	250 000
Adopt the management and monitoring plan	100 000	100 000	100 000	100 000
Implement the management plan	500 000	500 000	500 000	500 000
13.3. The management team is functional	320 000	320 000	320 000	320 000
Set up a bilateral management unit	20 000	20 000	20 000	20 000
Provide the unit with adequate logistic, technical means and finances	300 000	300 000	300 000	300 000
13.4. Control mining activities to preserve special interest forest ecosystem	80 000			
Prepare TORs for the building of an eco-lodge	5 000			
Ensure payments for the eco-lodge construction	75 000			
13.5. Include in the list of Ramsar sites, wetlands that are or may be of international ecological, economic, cultural and scientific importance	130 000	130 000	-	-
Set up a coordination unit for the identification of wetlands that can be classified as Ramsar sites	30 000	30 000		
Delimit and characterize wetlands with potential interests	80 000	80 000		
Propose the sites selected with the agreement of the local communities for inclusion on the list of Ramsar sites	20 000	20 000		
<b>LTEQO 14 Objective Specific 6 : The protected area of national forest parks of Penselly-Soya-Sabouya and Outamba is restored and a management system put in place.</b>	<b>2 645 000</b>	<b>2645000</b>		
14.1. Prepare a draft creating a protected area and to classify Ramsar sites within the Tai-Grabo-Krahn-Sapo forest	515 000	515000		
Delimit the forest Penselly-Soya-Sabouya and Outamba complex and its buffer zone	450 000	450000		

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
Prepare setting up to forest complex with multilateral interest	15 000	15000		
Adopt creation acts for forest complex	50 000	50000		
14.2. Develop and adopt a management and monitoring plan to be reviewed every five years	1 250 000	1250000		
Develop a management and monitoring plan to be reviewed each five years with riparian community participation	400 000	400000		
Adopt each management and monitoring plan	100 000	100000		
Implement a management and monitoring plan	750 000	750000		
14.3. The management team is functional	495 000	495000		
Set up a multilateral joint unit	20 000	20000		
Provide the unit with adequate logistic, technical means and finances	375 000	375000		
Create a database related to the forest complex	40 000	40000		
Build observation and survey miradors	60 000	60000		
14.4. Control mining activities to preserve special interest forest ecosystem	135 000	135000		
Prepare TORs to build an eco-lodge	60 000	60000		
Ensure payments for the eco-lodge construction	75 000	75000		
14.5. Include in the list of Ramsar sites, wetlands that are or may be of international ecological, economic, cultural and scientific importance	250 000	250000		
Delimit and characterize potential wetland	200 000	200000		
Propose the selected sites with the agreement of the local communities for inclusion in the list of Ramsar sites	50 000	50000		
Specific LTEQO 7 : The protected area complex of national forest parks of Wonegisi-Ziama is restored and a management system put in place.	2 645 000	2645000		
15.1. Prepare a draft creating a protected area and to classify Ramsar sites within the Tai-Grabo-Krahn-Sapo forest	515 000	515000		
Delimit the forest and protected area complex of national forest parks of Wonegisi-Ziama and its buffer zone	450 000	450000		
Prepare setting up to forest complex with multilateral interest	15 000	15000		
Adopt creation acts for forest complex	50 000	50000		

Actions/ Activities/Objectives	F-Y 1	F-Y 2	F-Y 3	F-Y4
15.2. Develop and adopt a management and monitoring plan to be reviewed every five years	1 250 000	1250000		
Develop a management and monitoring plan to be reviewed each five years with riparian community participation	400 000	400000		
Adopt each management and monitoring plan	100 000	100000		
Implement a management and monitoring plan	750 000	750000		
15.3. The management team is functional	495 000	495000		
Set up a multilateral joint unit	20 000	20000		
Provide the unit with adequate logistic, technical means and finances	375 000	375000		
Create a database related to the forest complex	40 000	40000		
Build observation and survey miradors	60 000	60000		
15.4. Control mining activities to preserve special interest forest ecosystem	135 000	135000		
Prepare TORs to build an eco-lodge	60 000	60000		
Ensure payments for the eco-lodge construction	75 000	75000		
15.5. Include in the list of Ramsar sites, wetlands that are or may be of international ecological, economic, cultural and scientific importance	250 000	250000		
Delimit and characterize potential wetland	200 000	200000		
Propose the selected sites with the agreement of the local communities for inclusion in the list of Ramsar sites	50 000	50000		
<b>Totaux</b>	<b>51 538 300</b>	<b>37 151 633</b>	<b>35 326 967</b>	<b>22 087 633</b>
<b>Overall total</b>	<b>146 051 200</b>			

## REFERENCES

- ADT-CI, 2020. Analyse diagnostique transfrontalière des bassins versants du Cavally et du Nuon: Rapport National Côte d'Ivoire, 167 pages
- ADT-Régionale, 2020. Analyse diagnostique transfrontalière de bassins prioritaires les fleuves Kolente & Kaba (great and little scarcies), Moa-Makona et Cavally : synthese regionale, 190 pages.
- Agence Ivoirienne de Presse <https://www.aip.ci/cote-divoire-aip-le-gouvernement-adopte-un-projet-de-loi-portant-code-de-leau/>
- BE DIALI-INGENIEUR CONSEILS, 2023 : Plan d'Action Stratégique des Bassins prioritaires de l'Union du Fleuve Mano en Guinée ; Rapport final
- Besseau P., Graham S. et Christophersen T. (dir.), 2018, Restaurer les paysages forestiers : la clé d'un avenir durable, Partenariat mondial pour la restauration des paysages forestiers, Vienne, Autriche. <https://www.bonnchallenge.org/about-flr>
- Boesch, C. & Boesch, H., 1989. Hunting behavior of wild chimpanzees in the Tai National Park. *American Journal of Physical Anthropology* 78 : 547-73.
- Boesch, C. & Boesch-Achermann, H., 2000. The Chimpanzees of the Taï forest: Behavioural ecology and evolution. Oxford University Press.
- Boesch, C. & Tomasello, M., 1998. Chimpanzee and human cultures. *Current Anthropology* 39:591–614.
- Boesch, C., 1994a. Chimpanzees-Red Colobus: A Predator-Prey System. *Animal Behaviour* 47:1135-1148.
- Boesch, C., 1994b. Chimpanzees-Red Colobus: Cooperative Hunting in Wild Chimpanzees. *Animal Behaviour* 48:653–667.
- BRL Ingénierie est une filiale du Groupe BRL : [www.brl.fr](http://www.brl.fr). BRLi, SRTM/UEMOA 2011 and ProtectedPlanet.net
- Conteh, A.M.H., Moiwo, J.P. and Yan, X., 2016. Using a Logistic Regression Model to Analyze Alley Farming Adoption Factors in Sierra Leone. *Small-scale Forestry*, 15(1), pp.109–125.
- Convention sur la Diversité Biologique. Cadre Mondial pour la Biodiversité 2022 (CMB) <https://sdg.iisd.org/news/global-framework-sets-targets-for-2030-to-live-in-harmony-with-nature-by-2050/> <https://www.cbd.int/doc/c/8820/5e0f/1f1e05648a5275cf45b8b650/wg2020-04-l-02-annex-fr.pdf>
- Douglas G.M., KWONG J.C., 2010. Healthy trees make a healthy wood. *J Public Health*, 32(1), pp. 14-15. DYE C., 2008. Health and urban living. *Science*, 319, pp. 766-769.
- FAO, 2020. Global Forest Resources Assessment 2020. *Global Forest Resources Assessment 2020*.
- FAO, 2022. *Food Systems Profile - Sierra Leone. Food Systems Profile - Sierra Leone*.
- Funge-Smith, S. and Bennett, A., 2019. A fresh look at inland fisheries and their role in food security and livelihoods. *Fish and Fisheries*, 20(6), pp.1176–1195.

Gbamelé K. S., 2022. Evaluation de la pollution chimique dans l'environnement minier aurifère de la sous-préfecture de Zouan-Hounien (Côte d'Ivoire), Mémoire de thèse de Doctorat, Université Jean Lorougnon Guedé, 222p

GOULA Bi Tié Albert, IBO Guei Jonas, SORO Gnoneyougo Emile et YEO Wonnan Eugène, 2023 : Programme d'Action Stratégique- Côte d'Ivoire, Rapport pays

Goula B.T.A., Konan B., Brou Y.T., Savané I., Fadika V. et Srohourou B., 2007. Estimation des pluies exceptionnelles journalières en zone tropicale : cas de la Côte d'Ivoire par comparaison des lois lognormale et de Gumbel. *Journal des Sciences Hydrologiques*, vol. 52, n° 2, p. 49-67.

Government of Sierra Leone, 2021. Sierra Leone National Adaptation Plan. [online] pp.1–84. Available at: <[https://unfccc.int/sites/default/files/resource/SierraLeone\\_iNAP\\_Final.pdf](https://unfccc.int/sites/default/files/resource/SierraLeone_iNAP_Final.pdf)> <<https://www4.unfccc.int/sites/NAPC/Pages/national-adaptation-plans.aspx>>.

Guillaumet, J. L. & Adjanooun, E., 1971. La végétation de la Côte d'Ivoire. in Avenard J.M., Eldin E., Girard G., Sircoulon J., Touchebeuf P., Guillaumet J.L., Adjanooun E. et Perraud A. (eds.) - Le milieu naturel de la Côte d'Ivoire. ORSTOM Paris (France) n°50 : 157-263.

[Guillaumet](#), J. L. & [Boesch](#), C., 1984. Le parc national et la protection de la nature. Pp. 207-216 in Recherche et aménagement en milieu

Guillaumet, J. L., 1967. Recherche sur la végétation et la flore de la région du bas Cavally (Côte d'Ivoire). Mémoire ORSTOM, No 20. ORSTOM, Paris, France

Guillaumet, J.L., 1994. La flore In RIEZEBOS, E.P., VOOREN, A.P. et GUILLAUMET, J.L. (éds.). Le Parc national de Taï, Côte d'Ivoire. Fondation Tropenbos, Wageningen, Pays :68-73.

Houéhounha, D. & Lefebvre T., 2019. Réserve Naturelle Intégrale du Mont Nimba (Républiques de Guinée et de Côte d'Ivoire) - Rapport de mission conjointe de suivi réactif (9-20 janvier 2019). UNESCO – UICN. Janvier. Access : <https://whc.unesco.org/document/175057>

Kader, S. 2020. Côte d'Ivoire-Libéria. Le fleuve Nuon au cœur de discordes transfrontalières : Des paysans ivoiriens enlevés. Pressivoire, 22 Oct. Accédé à : <https://pressivoire.com/article/cte-divoire-libria-le-fleuve-nuon-au-cur-de-discordes-transfrontalieres-des-paysans-ivoiriens-enlevs>

Kamara, I., 2022. *Identifying Pressures on the Water Quality in the Rokel River Basin to Inform a River Basin Management Plan*.

Leone, S., 2022. of the first digital census in Sierra Leone 2021 Mid-Term Population and Housing Census September. (September).

Massaquoi, A.S., 2018. Drought Management Plan: A Contingency Plan for Sierra Leone. pp.1–53.

Mateo-Sagasta, J., Marjani, S., Turrall, H. and Burke, J., 2017. Water pollution from agriculture: a global review. *FAO y IWMI*, [online] p.35. Available at: <<http://www.fao.org/3/a-i7754e.pdf>>.

McSweeney, 2010. *UNDP Climate Change Country Profiles: Sierra Leone*. [online] Available at: <<https://digital.library.unt.edu/ark:/67531/metadc226564/>> [Accessed 20 Jun. 2022].

McSweeney, C., New, M. and Lizcano, G., 2010. *UNDP Climate Change Country Profiles: Sierra Leone*. pp.1–27.

MRU 2023; National Action Plan of the Mano, Moa/Makona & Cavalla Basins

MRU 2023; National Action Plan for the Management of Sierra Leone's Transboundary Basins

MRU, 2018. Transboundary River Basins Authority for the MRU Member States. (February).

MRU, 2022. Transboundary Diagnostic Analysis of Priority Basins Final report.

Olivia Sanchez-Badini – John L. Innes 2010. La forêt et les arbres : Une perspective de santé publique « Les forêts et les arbres pour la santé humaine : voies, impacts, défis et options d'intervention

Partenariat Mondial pour l'Eau (GWP), 2011. Global Water Partnership GWP Article créé le 22 mars 2011, dernière mise à jour 20 novembre 2012 Gestion Intégrée des Ressources en Eau (GIRE-) <https://ise.unige.ch/isdd/spip.php?article254>

SLNDC, 2021. Updated National Determined Contribution.

SMI. 2016. Etude d'impact environnemental et social – Projet de construction d'une usine de traitement de minerai de type CIL sur le permis d'exploitation PE 26 de la mine d'or d'Ity. Société des Mines d'Ity – 2D Consulting Afrique. Février. Abidjan, Côte d'Ivoire.

UICN- Le Congrès mondial de la nature, lors de sa session réunie à Hawai'i, États-Unis d'Amérique, du 1er au 10 septembre 2016 . <https://whc.unesco.org/fr/actualites/1563>

UNCCD, 2023. *Land Degradation Neutrality / UNCCD*. [online] Available at: <<https://www.unccd.int/land-and-life/land-degradation-neutrality/overview>> [Accessed 9 Jan. 2023].

United States Agency for International Development (USAID West Africa Biodiversity and Climate Change. WABULED <https://wabiled.exposure.co/>

World Bank, 2021. *Agriculture, forestry, and fishing, value added (% of GDP) - Sierra Leone | Data*. [online] Available at: <[http](http://data.worldbank.org)

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