Strengthening policies for the wise use and management of wetlands in four ecoregions (West and Central Africa)

Contribution by Wetlands International – BBI Project

WETLANDS INTERNATIONAL

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Our kind thanks for their decisive contributions to all of the participants in the country negotiation workshops (Mauritania, The Gambia, Mali, Guinea Bissau and Senegal), to the participants in the Bamako Workshop (May 2007), to our headquarters in Holland (Jane Madgwick, Ward Hagemeijer, Chris Baker) as well as to our AW partners (Daan Bos, Eddy Wymenga) and to Veda Consultancy (Jan Veen).

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Introduction

This recommendation brochure is the culmination of a lengthy process of exchanges and discussions between wetlands and biodiversity specialists, representatives of government agencies and ministries, and representatives of non-governmental organisations and key environmental institutions from five countries (Mauritania, Senegal, The Gambia, Guinea Bissau and Mali). It also represents the product of several years of applied research in the four key wetland ecoregions of West and Central Africa, which are the “Sahelian floodplains”, the “West African mangrove and rice-growing area”, the “West African seaboard from Mauritania to Guinea” and the “Coastal wetlands of the Gulf of Guinea”.

It is intended as an essential handbook for all actors and institutions involved in decision-making on West African wetlands at local, national or regional levels, who may turn to it for answers regarding action to be undertaken to improve the use of the wetlands in the ecoregions identified. This brochure is of interest to policy-makers, as it points out certain consistencies in the ecoregions that transcend national governments, although the latter remain the prime level of decision-making. It is also useful for local-level technicians and stakeholders, due to its analytical nature and the fact that it takes account of priorities such as poverty reduction, preservation of biodiversity, and sustainable development in the countries.

The recommendations herein are not just another batch of recipes, for they take account of the existing subregional initiatives, including: the Niger Basin Authority, the Lake Chad Basin Commission, the Regional Coastal and Marine Conservation Programme for West Africa, the Organisation for the Development of the Senegal River Basin and of the Falémé River Basin, the Gambia River Basin Development Organization…, as well as the orientations shared by the States through international conventions (Convention on Biological Diversity, Ramsar Convention on Wetlands…) and integrate them into analyses and suggestions for action.

It is our hope that this recommendation brochure will make a decisive contribution to improving the management of our common spaces, thereby benefiting wetlands and wetland biodiversity for future generations through the concerted decisions and actions that it will help foster.

Bamako Declaration

We,

The Minister of the Environment of Mali,
The Minister of Agriculture and Rural Development of Guinea Bissau,
The Representatives of the Ministers of the Environment of Senegal and Mauritania, and of the Secretary of State for the Environment of The Gambia,
The experts, representatives of national governmental institutions and international conservation organisations,

Participating in the final workshop of the project on Integrating Research and Wise Use in Four Wetland Ecoregions in West and Central Africa, organised in Bamako (Republic of Mali) on 22-23 May 2007.

Aware of the importance of wetlands for the sustainable preservation of biodiversity and the survival of the populations depending on wetland resources

Aware that the different ecosystems are subjected to the impacts of domestic and industrial pollution and climate change as well as anthropic pressures

Recognising the relevance of the findings of the project on Integrating Research and Wise Use in Four Wetland Ecoregions in West and Central Africa

Having officially adopted the recommendations issued by the project on strengthening the management and wise use of wetlands in the four ecoregions

Recommend:

1. effective consideration of the problem of sustainable wetland management in our national and sectorial policies on water, the environment and sustainable development and poverty reduction, in keeping with the recommendations adopted by the workshop;
2. integration of the ecoregional approach into development strategies, taking account of wetland values;
3. continuation of the project on Integrating Research and Wise Use in Four Wetland Ecoregions in West and Central Africa, based on the priorities adopted by this workshop and with the support and involvement of all of the participants and other stakeholders;
4. support by the donor partners already committed for the implementation of the priorities adopted in Bamako;
5. efforts to seek additional support from other partners in development;
6. support from partner institutions and organisations in the implementation of the priorities adopted in Bamako.

Signed in Bamako on 23 May 2007

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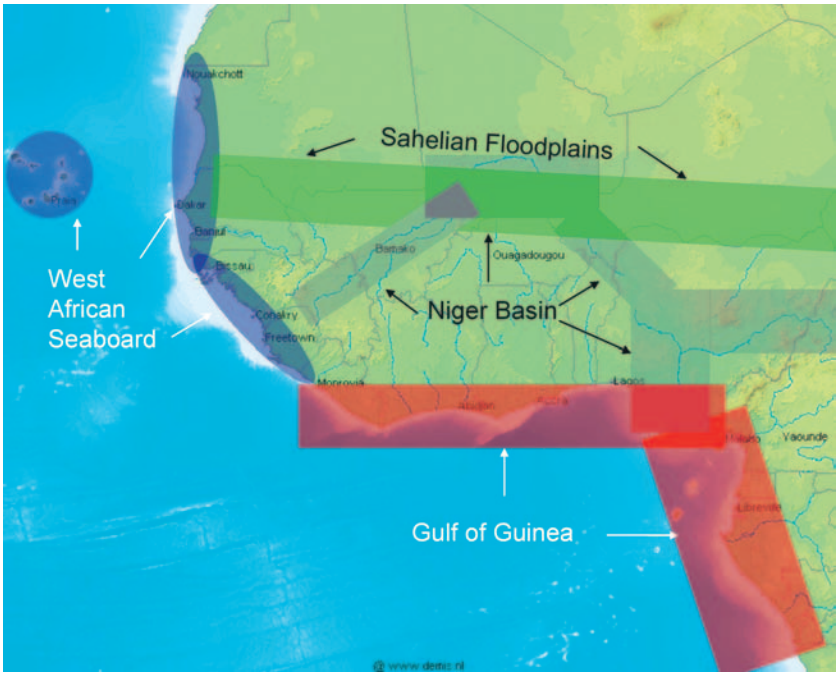
The Sahelian Floodplains: A Source of Life for People and Nature

1. Integrating ecosystem needs into water resource management

The Sahel ecoregion includes the vast floodplains of the Niger and Senegal Rivers and the Lake Chad Basin. Its principal floodplains also include the Senegal River Delta, the Hadejia-Nguru wetlands and the Chari-Logone floodplains. All of these ecosystems are exceptionally productive compared to the semi-arid and arid lands surrounding them.

With a maximum flood surface of nearly 300 km2, the Inner Niger Delta is by far the largest and the least hydrologically affected of the floodplains in the ecoregion. From time immemorial, local communities have exploited the natural resources of this area. These freshwater ecosystems provide daily sustenance to over a million people who attempt to make a living through fishing, agriculture and farming. Furthermore, floodplain ecosystem services depend on the restoration and preservation of adequate flooding regimes, which are the very foundations of food security and sustainable development in the ecoregion.



Recommendations

In light of the increasing demand for water from various users, and faced with the growing scarcity of the resource due to drastic climatic conditions, we urge the principal regional basin organisations: the Niger Basin Authority (NBA), the Organisation for the Development of the Senegal River Basin (OMVS), the Lake Chad Basin Commission (LCBC), etc., to:

a. adopt an Integrated Water Resource Management (IWRM) approach to all water management policies throughout the basins;
b. create a sustainable development framework, taking full account of the ecosystem services and environmental flows of Sahelian wetland floodplains.

In order to ensure sustainable development and avoid further degradation of the environment and the increased poverty that may ensue, governments and water management authorities in Sahelian countries, and particularly Mali, Senegal, Mauritania, Niger, Nigeria, Cameroon and Chad, must take account of all water needs, and principally environmental flows, in water resource allocation programmes and Environmental Impact Assessments (EIAs).

In light of the increased responsibilities of local government in water management, it is important for them to take account of IWRM in existing or future Socio-Economic and Cultural Development Plans (SECDPs) for the basins and sub-basins.

Regional conservation organisations (especially IUCN, WWF and Wetlands International), should provide technical assistance to national and regional water management authorities in the development and implementation of national and regional IWRM plans, especially in the areas of capacity building, establishment of ecosystem information and monitoring systems, evaluation studies, etc.

2. Reducing the vulnerability of local communities to environmental change

Floodplain water resources vary widely from one year to another. Still suffering from the legacy of the severe droughts of the 1970s and 1980s and the increase in the local population, for years now the floodplains have been experiencing increasing pressures on their limited natural resources.

Hydraulic infrastructures upstream have great impact on the Sahelian floodplains and their natural resources, adding to the vulnerability of local populations and biodiversity. Flood control systems and various types of developments in the Sahelian river basins have caused major ecological and environmental changes in the floodplains.

These changes have had a domino effect on natural habitats, decreasing natural resources such as fish stocks, pasturelands and biodiversity.

Recommendations

To reduce the vulnerability of local communities to drought, initiatives should be undertaken to restore and protect fragile ecosystems affected by climate change, and they must be undertaken by all of the actors involved in the management of the floodplains.

These initiatives should be taken into account in national and regional policies on water resources, and should involve national and local institutions. Regional conservation organisations should endeavour to support the development and implementation of new policies and actions.

Civil society should undertake advocacy, information, education and communication (IEC) and empowerment activities for all actors with a view to the sustainable management of Sahelian floodplain ecosystems, with support from governments and technical and financial partners.

Based on the scientific findings of the BBI Project, the public needs to be sensitised to environmental change to achieve community awareness and behaviour changes that promote resource protection.

Furthermore, income-generating initiatives need to be developed to help people in heavily affected areas whose livelihood was linked to endangered resources.

3. Restoring and protecting the principal habitats of the Inner Niger Delta (IND)

The principal types of habitats in the Inner Niger Delta comprise gallery forests, rice fields, flooded vegetation (including bourgou pastures and permanent or temporary pools). In ordinary years, these habitats provide food for local populations, while remaining prime feeding, breeding, resting and safety areas for fish and large concentrations of resident and migratory waterbirds. The survival of these populations and the production of fish and waterbirds as well as cattle, depend on the preservation and multiplication of these habitats.

The degradation of the environment and natural resources of the Inner Niger Delta is a sad reality, especially with the loss of biodiversity and the significant drop in agro-sylvo-pastoral production. The process governing the use and management of natural resources and especially water has deteriorated over the years due to natural, socio-economic, governance and management constraints. The loss of natural functions due to drying or direct destruction of freshwater ecosystems of the Niger Delta is one of the chief factors that have contributed to the rapid decline of the "health" of the principal habitats.

Recommendations

Based on past achievements and those underway, the Government of Mali is restoring the degraded habitats of the Inner Niger Delta, including the Seri Plains area, the Sondou Pool near Mopti, and the priority supply canals with the full involvement of local populations, decentralised government branches and their principal partners in development in the Delta area. These measures are essential to improving socio-economic conditions and preserving biodiversity. They will contribute directly to the implementation of Mali's national environmental protection policy (PNPE), its natural resource management policy, Programme 2 of the national Wetlands Action Plan, and particularly "Supporting the implementation of development and management plans for the wetlands of Mali".

The integrated management of these principal habitats and their water resources will entail the development of management tools and their application by local management organisations.

Conservation and land development organisations should discuss these habitat restoration initiatives with national land planning and development organisations (i.e. the Niger Office in Mali) in order to identify their specific roles and coordinate their actions.

4. Restoring and protecting the principal habitats of the Lower Senegal River Delta

The authorities in charge of the Lower Senegal River Delta are aware of the current economic and ecological problems in the area. They have demonstrated a growing interest in alternative water management and land use scenarios. There is therefore an excellent opportunity to undertake new habitat restoration initiatives drawing inspiration from past successes in the Diawling national park in Mauritania, where the high resilience of the Sahelian floodplain ecosystems and the importance of protected areas have been clearly demonstrated.

The ecological potential of artificially created habitats and vestiges of natural habitats in these areas can be easily reinforced through appropriate habitat restoration and protection measures.

Ndiael, in particular, which is a Wetland of International Importance classified in the Montreux Record of Ramsar sites, is experiencing tremendous hydrological problems (water supply) and pollution (agricultural runoff). Very scattered initiatives have been developed by numerous actors to improve management. However, at this point, it must be recognised that most of those initiatives are ineffective and the problems remain.

Recommendations

The OMVS member states are urged to reinforce their actions aimed at restoring the natural ecosystems of the Senegal Delta, which have been subjected to the combined effects of drought and the extension of rice farming for over twenty years.

These initiatives should be undertaken in partnership with local communities and NGOs and include action for the development of a restoration management plan, in the framework of the Lower Senegal River Delta Biosphere Reserve. These actions will include important sites for flagship species (such as the manatee and the turtle), relict mangroves, the historic wetlands of Ndiael and Trois Marigots as well as vast abandoned rice fields.

Particular attention should be focused on the Ndiael Reserve, which is a Ramsar site experiencing serious pollution and environmental degradation. A concerted approach to initiatives and synergy of action should be initiated. Conservation organisations should support this approach for effective restoration of this Ramsar site.

Impact studies should be supported or conducted by international conservation organisations to assess the impact of each change in the environment on biodiversity (such as beach breaching at Langue de Barbarie, Saint Louis) to raise awareness and suggest emergency restoration and protection measures.

If they are undertaken in an ecoregional context, these studies may be extended to other Sahelian wetlands. Dialogue with the local populations is essential at every stage of the process and the status of existing natural habitats must always be secured.

5. Garnering international support for the restoration and protection of critical bird habitats

Waterbirds are one of the foremost biological resources of the West African floodplains and their population size depends largely on climatic and hydrological conditions in the Sahel.

For example, although purple herons breed in Europe, it has been proven that their numbers are closely linked to the level of flooding in the Inner Niger Delta, which determines the size of the bourgou pastures. These areas comprise the survival habitat of the species during its stay in West Africa, which demonstrates the international connectivity of sites, as well as the strong need for international partnerships to restore the floodplains.

Colonies of breeding herons and other large birds make a direct contribution to fish production and create added value in the environment, through their

consumption of crickets. The rehabilitation of their natural habitats, in response to international biodiversity preservation priorities, will generate greater opportunities for rational resource use by local populations. This has been demonstrated by the restoration of the floodplains at Diawling, Mauritania, and Waza-Logone, Cameroon, where restoration has been tested with local communities.

Thus, the restoration of floodplain habitats that are vital for local populations and biodiversity is essential for avoiding the migration of people and fauna out of these productive ecosystems. From an international perspective, the negative impact of unproductive Sahelian wetlands on migratory birds would require more intensive conservation efforts in Europe to preserve the economic and cultural benefits of the birds in both Europe and Africa.

Recommendations

In order to maintain favourable conservation status for migratory birds, especially in relation to the implementation of conventions, national governments and their partners should undertake action for the integrated restoration of wetlands and the implementation of rational resource use programmes, with strong involvement of the local populations living on the sites.

Because the management of African wetland habitats contributes directly to improving the status of numerous migratory birds in Europe, European governments are requested to support restoration and protection initiatives that contribute directly to sustainable management of the principal habitats. Such international support is desirable in the fields of integrated water resource management, habitat restoration and natural resource management in the Sahel.

International collaboration should ensure that all governments recognise their obligation to maintain a favourable conservation status for migratory birds, with a view to the effective implementation of the environmental conventions they have signed (CBD, Ramsar, CMS AEWA, and CITES). Furthermore, the secretariats of these conventions should support national institutions seeking funding for their programmes and help them marshal the necessary international expertise to conduct studies on critical sites. Ideally, they should also support integrated restoration of wetlands and programmes for rational use of wetland resources.

At the transborder level, regional institutions are urged to integrate monitoring of habitats and waterbirds into their existing or future basin-level environmental action plans and operational programmes.

Regional conservation organisations must help develop key indicators, study protocols, analytical procedures and publication systems, and provide capacity building for personnel in charge of monitoring, which are essential elements for future evaluations, including Environmental and Social Impact Assessments.

At the national level, governments are asked to promote the creation of tools to facilitate the implementation of the conventions and agreements they have signed. This could be supported through technical and scientific partnerships between national and international experts for relevant actions such as effective monitoring systems, establishment and implementation of specific action plans, and ecosystem assessments.

6. Restoring flooded forests and bourgou pastures

Sustainable use of natural resources such as flooded forests in Sahelian wetlands is essential if we hope to avoid their irreversible degradation. These forests comprise the principal Sahelian floodplain habitats and are of considerable importance for the populations and biodiversity. These impenetrable areas serve as refuges and gathering areas for large bird breeding colonies of herons, cormorants, ibis and sandpipers who take shelter there in order to reproduce. The droppings produced by the bird colonies fertilise the water during the flood period, rendering the environment favourable for breeding and optimum growth of various high market value fish species.

The local populations, recognise the usefulness of the forests, not only for their animal resources (large bird colonies) and for their role in piscicultural production in the area, but also as a source of firewood and fodder for small ruminants. Overall, there is a widely shared consensus on the economic and social value of the forests. Many, like the chairman of the fishermen's association

Unfortunately, the dependence of the local populations on the natural resources of the Sahelian wetlands leads to overexploitation, which is accentuated in years with less flooding. This overuse, which mostly affects fish stocks and pastures, places the population in a vicious circle, in which already limited natural resources decline further due to strong pressures. On the other hand, abuse during the severe droughts in the 1970s and 1980s has led to large-scale loss of flooded forests in the ecoregion.

Recent bourgou pasture rehabilitation initiatives have met with the full cooperation of the local populations and have had very promising results, the benefits of which are already being enjoyed by the populations. Indeed, the future of the vast bourgou pastures in the Inner Niger Delta depends on concerted management and the regeneration of those that are already degraded. These ongoing bourgou pasture rehabilitation and regeneration activities are essential for improving livelihoods in the delta, particularly through support for traditional herding systems.

Furthermore, as indicated by community-based projects in the Inner Niger Delta, flooded forests may be successfully restored, but this requires continuous attention, support/advice and increased protection. Indeed, these forests may only be saved through sufficient protective measures, which need to be set in place with the consensus of the local populations, and alternative resource generation strategies must be supported.

Recommendations

In the short term, urgent protective measures are needed for future rehabilitation and preservation of the reproductive values of flooded forests for the benefit of both the local populations and biodiversity.

Based on recent study findings, governments need to boost development and the implementation of strategic plans for the restoration of flooded forests validated by local communities and other stakeholders. Especially in Mali, efforts need to be made to mobilise funds and partners for the effective implementation of the local plans that have already been developed under the project.

Strategic plans for the restoration of flooded forests need to be developed for the Senegal Delta and other Sahelian floodplains.

Regarding the bourgou pasturelands of the Inner Niger Delta, the Government of Mali needs to back and provide more support to the initial efforts of Wetlands International and various other partners supporting local populations in the process of rehabilitating these essential habitats.

In terms of political orientations, at the local scale, the Government of Mali should promote the enhancement of large-scale bourgou pastureland restoration initiatives and the establishment of local management committees including all stakeholders.

Indeed, restoration initiatives should involve the local population at all levels of the process, of which one key step is the establishment of local management committees that include all stakeholders. This would enhance cohesiveness between villages and facilitate dialogue with municipal authorities.

Wetlands International, IUCN and the local authorities of the Inner Niger Delta encourage the continuation of recent forest restoration projects, backed and enhanced by the local populations through the creation of local conventions, and the use of the project areas as demonstration sites.

7. Supporting poverty reduction initiatives linked to wise use of wetlands as a basis for sustainable development

The populations living in the floodplains depend almost entirely on the resources provided by these ecosystems. Water, as the essential resource of the floodplains, affects all of the other resources, including the wide range of fish and waterbird species, as well as the flood pastures. Rice and other crops are also grown there and fishing is practiced intensively. The wild flora is used to satisfy the daily needs of people and domestic animals.

In the Inner Niger Delta, waterbirds are caught for local consumption and sale. Migratory species such as summer garganey and ruff are the most highly prized. Although the sale of waterbirds is still insignificant in the region, the introduction and development of ice production industries, which provided better preservation conditions, promotes larger catches and could strongly contribute to an increase in that activity. As a result, the inhabitants of the Delta would gradually lose a source of protein that would ordinarily have been available even when fish and other food sources were scarce.

Recommendations

West African governments need to focus more attention on the Sahelian floodplains in their Poverty Reduction Strategy Papers (PRSP) and ensure that they include measures and actions that help promote the preservation of these ecosystems by and for the local populations.

The major technical and financial partners in environmental conventions (Ramsar, AEWA, CBD) are urged to support and promote innovative financing mechanisms such as bio-rights (payment for environmental services) in the area.

In the Senegal Delta, strategies need to be found to ensure that the populations of leased out areas benefit from the economic spin-off of hunting activities. Thus, fair profit sharing should be envisaged between those who use the land and those who are dispossessed of part of their homeland.

Generally speaking, the Government of Senegal should support and reinforce the efforts already made to increase popular involvement in the management of protected areas.

Development and environmental organisations are also strongly urged to work in partnership (solving commercial, social and production issues) to ensure that the local development projects under local development plans move ahead to contribute to the improvement of the living conditions of the local populations and to reduce pressure on natural resources, especially waterbirds, which are currently subjected to unsustainable use.

There are many lessons to be learned from small-scale poverty-reduction initiatives in the Sahelian floodplains, particularly those piloted by Wetlands International. At this time, it is important to review all the lessons learned before planning new initiatives.

8. Promoting income-generating activities including ecotourism to improve the living conditions of the populations in the Sahelian floodplains

By its very nature, ecotourism should be beneficial to several sectors of the community and promote international recognition of the country. Aside from the Senegal Delta, where small-scale ecotourism is practiced with as yet limited involvement of the local populations, ecotourism is hardly developed in the floodplains of the Sahel. The very tenuous experiences in the Senegal Delta demonstrate that ecotourism does not yet make a significant contribution to the income of the local populations. However, there are strong opportunities to increase their income by enhancing local ecotourism based on the preservation of intact and functional Sahelian ecosystems.

As a potential source of additional income, ecotourism may be of great interest to the populations living on and around the Sahelian floodplains, provided that they are closely involved in every step in the process from the necessary infrastructure investments to the identification and maintenance of key sites where the activity may be practiced.

Recommendations

West African governments, particularly those of Senegal, Mali and Mauritania, are encouraged to invest in the development of ecotourism potential in their principal floodplains according to internationally defined criteria.

Following on from government initiatives, international partners are also encouraged to support the development of ecotourism strategies to include the identification of key sites and options that could attract tourists.

The governments should also back ecotourism plans and create incentives for investments in suitable infrastructure such as hotels, information bureaus, etc.

Practicing sustainable tourism requires a long-term commitment, which should lead governments, corporations and donors to create and maintain a climate of mutual confidence with local populations. The latter should be supported, especially through technical, financial and organisational capacity building in the area of development and running of ecotourism industries.

Mechanisms for equitable sharing of ecotourism profits are essential and environmental impacts should be kept to a minimum and monitored.

The Mangrove and Rice Fields: A Vital Area for Coastal Communities

1. Minimizing the impact of climate change on mangrove ecosystems

Despite losses of mangrove forests on the global scale, certain of the areas along the West African seaboard have been preserved by and large. In The Gambia, at least since 1993, a relative stability can be observed in mangrove surface area and no major trends have been detected in Guinea Bissau. In Senegal, a loss of approximately 0.8% per annum has been recorded since 1985.

The severe droughts of the 1970s and 1980s have had a negative impact on the size of the mangrove forest, especially in the North of the ecoregion, where there is less rainfall. However, today, some regeneration of those forests can be seen due to more favourable rainfall conditions overall, although the Rhizophora species are widely replaced by Avicennia.

The region's mangroves offer the population numerous tangible benefits, including coastal protection. However, their position in the zone between freshwater and saltwater ecosystems leaves them vulnerable to the impact of climate change. Variations in rainfall and the higher level of the sea may push back the frontier between freshwater and saltwater and, with it, the mangrove development area.

If land and water management strategies are not adjusted to these new realities, the long-term existence of the mangroves will be threatened, which could mean the loss of an important element of coastal protection. This would lead to increased loss of lives and property due to storms, which may also become more violent in themselves, due to climate change.

Recommendations

The governments of this ecoregion must be sure to include wise use of mangrove forests in national and regional strategies to attenuate the impact of climate change.

These strategies must take account both of the role of mangrove forests in reducing the impact of changes in the sea level and the climate on the security of people and their livelihoods, and the need to develop adaptive water and land management strategies, with a view to preserving the mangrove forests under changing conditions.

The possibility of giving new impetus to rice research centres should be envisaged to identify varieties that can adapt to drought.

In light of the socio-economic importance of the rice-growing and mangrove zone for the populations, and its values in terms of nature, the governments of Senegal, The Gambia, Guinea Bissau, Guinea and Sierra Leone, which have demonstrated their commitment in the Abidjan Convention, are urged to:

- include wise use of mangrove forests in water management, coastal management, agricultural and biodiversity policies;
- ensure that environmental impact studies are conducted during project development, including studies on the installation of new anti-salt dams;
- set in place appropriate attenuation measures to promote the preservation of mangrove forests;

Given the socio-economic importance of dams in the rice fields and mangrove, environmental protection organisations (especially IUCN and Wetlands International, which participate in the mangrove initiative currently underway) must undertake to provide technical assistance to governments and local and regional partners, particularly in the following areas:

- assessment of negative impacts of construction of anti-salt dykes and road infrastructure on mangrove ecosystem functionality and services;
- increased knowledge of the economic advantages and environmental costs of anti-salt dams;
- impacts of climate changes on mangrove ecosystems and protection systems;
- mangrove restoration through reforestation (exchange visits on replanting techniques).

Governments should make efforts to effectively apply the attenuation measures proposed in the various environmental and social management plans.

Initiatives should be developed at the local level to promote new fish preservation and smoking techniques, which would avoid strong pressures on mangrove wood. In light of the extreme poverty of the populations living in these areas, technical coaching is needed to rationalise mangrove cutting for household use. To reduce the pressure, alternatives such as using other types of wood (such as eucalyptus, for instance) should be tried.

To preserve the ecosystems, a better analysis should be made of the advantages of using shallows as an alternative to mangrove forest rice growing.

In the framework of decentralisation, local communities should include land allocation by production and conservation area in the different land development plans to preserve vital biodiversity areas.

2. Minimizing the impact of dams on mangrove ecosystems

In many areas, the remaining mangrove forests are threatened by poorly planned construction of anti-salt dams on rivers and estuaries. The purpose of these constructions is to restore, maintain or improve agricultural productivity and they may have a very positive role in that sense. However, they may also have a certain number of harmful side effects:

- dams reduce the appropriate areas available for mangroves;
- upstream of dams, the water becomes fresh and, with the lack of tidal inflow, mangrove forests are lost;
- downstream, the water may become too salty for mangroves;
- there may be local problems with soil acidification, particularly when combined with inappropriate water management practices.

These impacts may deteriorate the values of the mangrove forests and have serious consequences for the livelihoods of the local populations. Although increasing numbers of people are aware of these problems, it is not really known to what extent the negative impacts of the dams are offset by their practical advantages. In this regard, the application of systematic approaches such as Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) would be extremely beneficial.

The countries have a will to preserve their mangrove ecosystems. However, governments are often faced with survival issues for the poor populations who depend on these environments.

The hydroelectric dam planned for the Gambia River at Sambangalou will have considerable impacts on the mangrove forest in the estuary. Accordingly, a thorough Environmental and Social Impact Assessment was conducted with a view

to understanding all of the impacts linked to the development. An Environmental and Social Management Plan (ESMP) was prepared with the participation of Wetlands International. However, a certain number of concerns remain unresolved regarding the impact of the dams on mangrove systems and other natural systems. The impacts of the dam should be monitored and the information should be made available for inclusion in the Environmental and Social Management Plan of the Gambia River Basin Development Organization (OMVG).

Recommendations

In relation to the dam at Sambangalou, the Gambia River Basin Development Organization (OMVG) should work closely with environmental protection organisations to:

a. order a baseline survey and an assessment of the status and values of mangrove forests, in economic and biodiversity terms, in keeping with the ESMP;

b. establish a monitoring system for mangrove forests and other natural resources likely to be directly affected by reduced flooding after the completion of the dam, adhering as closely as possible to the ESMP;

c. clearly identify and implement attenuation measures to preserve and, where applicable, restore mangrove forests and other natural habitats;

d. set up an environmental observatory in the Gambia River Basin and quantify the baseline values of the tidal zone of the river and its influence on marine systems, with support from regional environmental protection organisations, and especially PRCM partners;

e. ensure minimum flow to maintain the functionality of downstream ecosystems;

f. actively consult the country as a whole before undertaking any actions on the environment.

3. Using mangrove resources sustainably

The livelihoods of large numbers of people depend on mangrove forests and rice-growing areas. They are important for food security and controlling the spread of poverty.

The most common forms of use in the ecoregion include rice growing, use of mangroves for firewood, salt extraction, harvesting of oysters and other shellfish, and fishing. These activities, along with human settlement, have been an integral part of the ecoregion for centuries. However, in recent years, population growth has been increasing and, as a result, the level of use has grown higher.

The principal threats to the system are poor water management, unsustainable oyster harvesting strategies and unlimited use of wood.

Unsustainable oyster harvesting refers to the still common practice of cutting mangrove roots to which oysters are attached. As for harvesting of mangrove wood, although it is no longer practiced in certain areas thanks to increased popular awareness of the consequences of using that method, it remains an obvious threat. Indeed, mangrove wood is often the most easily obtained source of energy for salt extraction, fish smoking and oyster processing.

Aquaculture and rice growing also represent a growing threat in the region. Mangrove forests are cleared and the land is converted into aquaculture pools and rice fields. This non-viable practice leads to mangrove loss.

Recommendations

Recognising mangrove ecosystems as precious assets, the Governments of Senegal, The Gambia, Guinea Bissau, Guinea and Sierra Leone are urged to preserve their mangrove resources and prevent overuse.

To achieve this, they must work together to establish a regional policy agreement on mangrove forests and a code of conduct for their use. The "Mangrove Initiative" project launched by Wetlands International and IUCN provides a major opportunity to promote this recommendation.

In keeping with their commitments under the Ramsar Convention, including wise use of wetlands, the governments of the ecoregion should promote sustainable management practices in mangrove areas. These should include, but not be limited to:

- increasing awareness of mangrove values and functions, the dangers of cutting mangroves and sustainable use of mangrove resources;
- local supplies of alternative sources of energy other than firewood;
- promotion of low fuel-consumption stoves in mangrove areas;
- sustainable aquaculture and rice growing approaches;
- development of long-term mangrove management plans, in consultation with local communities;
- promotion of oyster culture with sharing of experiences with the Saloum area;
- development of codes of conduct for use and other forms of commitments to be explored;
- development of national policies that take full account of the protection of the seaboard (such as the Seaboard Law in Mauritania);

IUCN and Wetlands International's Regional Mangrove Project provides a good starting point for dialogue between the States.

4. Restoring community rice fields to enhance food security

In recent times, considerable changes have occurred in the local economic structure of the region: cashew nuts have replaced rice as the most profitable crop. The decline in income from rice growing combined with the increase in areas used for cashew growing, particularly in Guinea Bissau, has made local communities increasingly dependent on that single crop. However, given the drop in the price on the international market, cashew farming does not resolve the social problems of rural communities.

In addition, imports of cheap rice have contributed to discouraging rice production in the region, creating a situation where the problem of national food security and dependence on rice imports is posed.

At the local level, communities need support to maintain, create or acquire productive land to enhance food security after years of decreasing rice production.

Recommendations

Governments and international economic partners of countries located in the rice fields and mangrove should work together to improve food security in the ecoregion using community-based approaches. They should promote national rice-marketing systems, increase the value of local crops (particularly other cereal crops) and endeavour to reduce rice imports. These initiatives should be implemented in the framework of the food security strategies and actions presented in national development plans (such as Poverty Reduction Strategy Papers-PRSP).

An important initial measure consists of organising regional dialogue including all stakeholders (community leaders, government representatives from agencies in charge of agriculture, water and the environment, international organisations such as FAO) in order to facilitate the process.

On the basis of this dialogue, national and international partners should facilitate, set priorities and create incentives for the restoration of abandoned rice fields, with the introduction of new and more modern techniques, with a particular view to adapting to the reduced availability of labour.

International partners should assist in the development of restoration and funding strategies with a view to implementing long-term programmes. The programmes will include the need to identify new strains of seeds that are better adapted to the current rainfalls.

Governments should facilitate local initiatives aimed at promoting other sustainable economic activities in the region, such as production projects in fields such as horticulture, fishing, herding and bee keeping which help reduce local dependency on commercial crops. Support for community-based project design and set-up will be sought from NGOs.

Water control techniques should be improved to preserve the functionality of the mangrove forests.

The strategies developed at the national level to achieve Millennium Development Goals (MDGs) and reduce poverty should also include the wetlands issue and particularly their restoration and protection.

5. Improving the knowledge base to facilitate planning for wise use

Scientific knowledge is essential for the orientation of government policy. Although studies have been conducted in the ecoregion in recent years, inspiration should be taken from them to answer more specific questions linked to management and policies, arising from this paper.

The research conducted in the ecoregion has helped us gain a better understanding of the scientific functioning of the agro-ecosystem, reflected by the quantification of the principal developments in the habitats. It has also made it possible to highlight the dynamics of biotic and abiotic factors in the area, which is of signal importance for the populations.

Similarly, the region is an important area for migratory and resident bird species. Ecoregion surveys have contributed to better knowledge of the system, and should be followed up with local studies on site to quantify changes at the local level. This initiative should make it possible to select relevant priority sites for more in-depth research with a view to developing more practical recommendations.

Recommendations

Recognising the need to further and improve knowledge in order to support planning for wise use of mangrove forests and rice field restoration and preservation, the governments and regional actors are urged to strengthen their support for partnerships between academic and scientific institutions and NGOs. Priorities include:

- financing, facilitation and approval of the procedures necessary to further develop the present programme;
- studying upstream and downstream impacts of anti-salt dams and downstream impacts of hydroelectric developments in terms of biodiversity and economic spin-off, as well as mangrove deforestation near major urban areas in terms of botanical coverage and composition;
- improving map precision by gathering more data for field follow-up;
- capacity building for national institutions in the fields of data gathering, data management and data networking to increase use and dissemination;
- promoting regional academic research on mangrove forests;
- distributing scientific data and information on the economic value of mangroves to decision-makers.

The West African seaboard: Monitoring and Conservation of Coastal Wetlands and Maritime Resources to Preserve Biodiversity and Livelihoods

1. West African Seaboard Monitoring and Conservation Plan

A highly productive area, the West African seaboard provides food, especially fish, as well as other resources for a large section of the population. It is also of great importance for biodiversity, industrial development and tourism.

In order to integrate the region's environmental and development needs, conservation organisations have joined forces with the governments of countries like Mauritania, Sierra Leone and Cape Verde, to form the PRCM – Regional Programme for the Conservation and Management of Coastal and Marine Resources in West Africa. This innovative network is a convenient platform for conservation and development action at the level of the ecoregion.

1a. Supporting the adoption and funding of a monitoring and conservation plan

Wetlands International, WWF and other partners in the PRCM area recently concluded a West African Seaboard Monitoring and Conservation Plan focussing on four conservation axes for priority areas along the seaboard.

Recommendations

PRCM partnership is needed to formally adopt the West African Seaboard Monitoring and Conservation Plan.

The Governments of Senegal, The Gambia, Guinea and Guinea Bissau are expected to facilitate its implementation.

PRCM's international and national partners should collaborate, in order to develop new initiatives to ensure the mobilisation of funds to enable the implementation of the regional and national plans.

1b. Preserving species and habitats through a network of national and transborder marine protected areas

The primary objective of the plan is to ensure the conservation of species, habitats and ecological processes, as well as human well-being by promoting sustainable mechanisms for the exploitation of resources and adequate implementation of the legal framework.

The main recommendation of this plan is to strengthen or put in place, for the benefit of the local communities, sustainable management systems for areas of a certain importance for the preservation of the major ecological processes, particularly in marine protected areas.

This will include the conservation of the priority sites of the ecoregion, through support for the transborder and national biosphere reserves, followed by the design of participatory management plans for priority sites, in order to apply the precautionary principle.

Recommendations

The governments of Mauritania, Senegal, The Gambia, Guinea-Bissau, Guinea, Sierra Leone and Cape Verde are urged to develop management plans for wise use of Marine Protected Areas (MPAs) and the recognition of their role in preserving ecological processes and food security across the PRCM region.

The PRCM network should make specific recommendations for the strengthening and establishment of national and transborder biosphere reserves, based on accurate information with the contribution of the stakeholders.

International NGOs, in collaboration with PRCM's national partners, should provide technical assistance for better understanding, development and appropriate management of MPAs and other key/strategic sites in the West African Seaboard Ecoregion. This implies the development and/or seeking of funds for new initiatives at site level.

1c. Reducing pressure on threatened species (rays, sharks, sea turtles, manatees, etc.)

This recommendation includes the creation of a database on threatened species, as well as an inventory of accidental catches (turtles and sharks), determination of migration routes through satellite monitoring of turtles, identification and protection of nesting sites and establishment of a catch monitoring system.

The plan also advocates studies on the socioeconomic values of threatened species and training of local communities to enable them participate actively in species conservation and development initiatives, while considering traditional knowledge.

Recommendations

PRCM's international partners, in collaboration with national technical institutes, should work to determine the conservation status of threatened marine and coastal species, and develop specific conservation programmes based on the ecoregional plan.

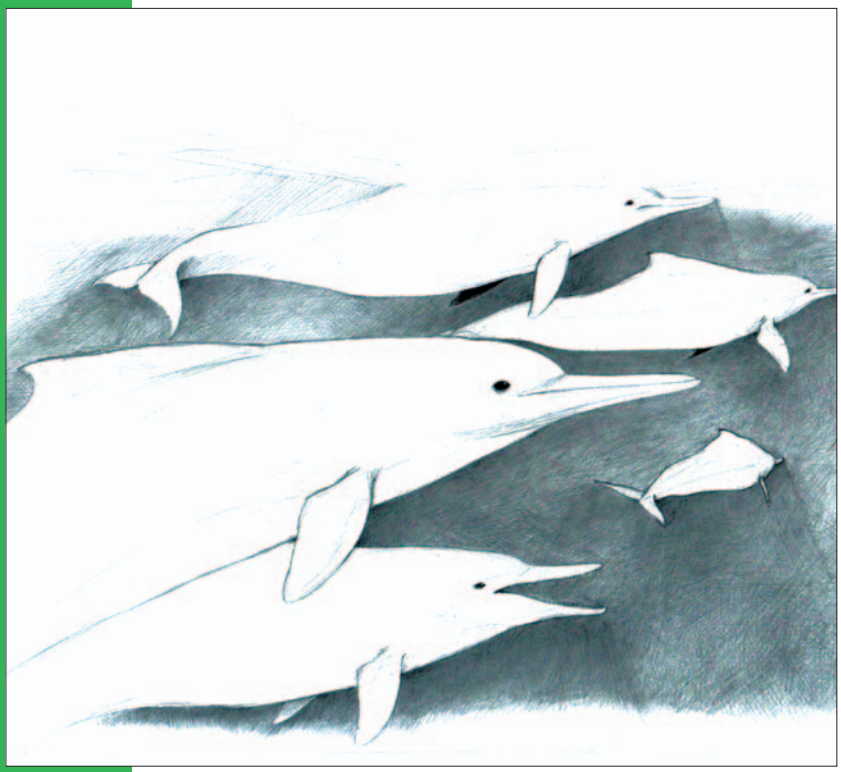
The governments of Mauritania, Senegal, The Gambia, Guinea-Bissau, Guinea Conakry, Sierra Leone and Cape Verde should take urgent biodiversity preservation measures, in particular the conservation of threatened species such as sharks, rays (sawfish), manatees and marine turtles.
PRCM should increase awareness of the fates of threatened species and advocate for their conservation, in particular with members of Parliament. This activity could take place within the framework of the upcoming BIOMAC Network, whose functions will also include harmonising species management plans.

PRCM partners should support governments in taking urgent measures for determining species status in the coastal and marine area.

1d. Harmonising and strengthening sectorial policies

This should be done at the national level, in terms of management of coastal and marine areas through policies on fishing, maritime transport, environment, tourism, agriculture, mining (mainly of oil) and urban management.
The recommendation includes actions aimed at:

- promoting communication among actors;
- conducting comparative studies of marine and coastal resource codes;
- promoting awareness of the values and benefits of natural marine resources and key/strategic coastal sites, as well as the need to manage them rationally;
- supporting the harmonisation process;
- advocating for the Integrated Coastal Zone Management (ICZM) approach and the development of participatory management plans;
- considering the possibility of using a compensation approach for services provided (bio-rights).



Recommendations

Recognising the socioeconomic and environmental benefits of natural resources, the governments of Mauritania, Senegal, The Gambia, Guinea-Bissau, Guinea Conakry, Sierra Leone and Cape Verde are urged to harmonise their national sectorial policies on coastal areas. In particular, the role of key/strategic coastal areas and PMAs in contributing to the reinforcement of food security and livelihoods should be specifically included in PRSP programmes at the national level, for the harmonious development of the resident populations.

PRCM's technical partners should actively promote Integrated Coastal Zone Management along the West African seaboard, through communication, advocacy and demonstrations. In general, terms, through the network, it should hold forums on the conservation of coastal and marine natural resources.

In collaboration with the national partners, Wetlands International and IUCN should develop new pilot projects designed around the implementation of participatory management plans in key/strategic coastal sites.

2. Developing an integrated bird colony monitoring programme as an early warning system for fish stocks

Wetlands International has established a monitoring programme in the West African seaboard ecoregion. The aim of this programme is to act as an early warning system on the reduction of fish stocks through regular monitoring of colonies of fish-eating birds. In particular, it intends to provide information that could be used by decision makers to the benefit of marine biodiversity values and the livelihoods of communities relying on small-scale fishing.

Bird colony monitoring plans, including practical guidelines for integrated research, have been developed for a number of key sites.

Under this programme, field and classroom training has been already initiated in Mauritania, Senegal, The Gambia and Guinea-Bissau.

Recommendations

Wetlands International should continue developing the colonial and coastal bird monitoring programme, to make it an early warning system that can be used and applied on a larger scale through the inclusion of other indicator species as well as wider and more regular coverage in strategic sites in Mauritania, Senegal, The Gambia, Guinea-Bissau, Guinea Conakry, Sierra Leone and Cape Verde. Targeted analyses are also necessary to provide reliable and relevant information, in order to influence and guide national and international fish resource management policy.

The PRCM network should endorse the colonial bird monitoring programme and recognise its potential to monitor the fish stocks of the Sahelian Upwelling Marine Ecosystem (SUME).

Wetlands International should develop a monitoring plan for key colonial bird sites, in particular at the Parc national du Banc d'Arguin, and promote regional coordination as part of the monitoring.

Wetlands International should also strengthen the capacities of stakeholders (managers, other services, national partner NGOs and civil society) and support efforts to seek sustainable funding to ensure the continuity of the project at country level. It should also facilitate information sharing and provision of information to decision makers.

3. Conducting research on seasonal abundance of fish and the associated economic and ecological implications

In order to better understand the functioning of marine ecological networks, Wetlands International proposes to collect the available information on the seasonal abundance of selected fish species that constitute food sources for the populations and are also favourite prey of fish-eating seabirds. Information on the seasonal abundance of fish in their various life stages is needed to implement sustainable fishing practice.

Coastal wetlands and marine waters in West Africa are also of great international importance for migratory birds breeding in Europe and elsewhere. However, there is very little information on food preferences and availability for these migratory species during their stay in the West African waters.

Recommendations

Wetlands International should develop an integrated research programme on the ecological interactions relating to the seasonal abundance of fish and its implications for the sustainability of fishing, birds and fauna, respectively.

PRCM is asked to endorse this approach and to promote the appreciation and understanding of the programme of integrated research on fish resources and birds as a whole, through its communication and awareness raising channels.

4. Ensuring greater consideration of wetland values in country economic policies and national land use planning

Wetlands and their associated ecosystems provide important services to the communities living in them. Consequently, the fact that poverty is linked to the health of wetlands no longer needs to be demonstrated. There is no choice but to recognise that wetlands value and the services they provide are rarely recorded in national accounts. In turn, the conservation of these wetlands is given little consideration in national budgets, despite their significant contribution to the national economy.

Recommendations

The governments should be prompted to take account of the services offered by the ecosystems, especially when calculating the GDP, and to ensure substantial budget allocations for their preservation.

To that end, efforts are needed to provide decision makers with the information required on the economic value of wetlands, in order to facilitate their integration during the budget sessions.

There is a need to involve decentralised local government (town councils, rural communities, etc) to better understand the importance of wetlands, their economic values, and potential threats. They must be provided with the relevant decision support tools during wetland planning and development activities. Greater awareness will be achieved through information campaigns (public debates on specific themes such as pollution) and consultations with key actors.

5. Helping actors gain access to scientific information

Research findings are rarely made available to decision-makers and communities. In addition, their format is often inconsistent with real needs and information is not always timely in emergency situations (natural disasters).

On the other hand, there is disparate information on wetlands in administrations and conservation organisations.

Recommendations

Efforts are needed to make information available for efficient use in decision-making processes.

There should be synergies in data sharing (networking) and information processing. Greater involvement of academia is required to promote research and collaboration among universities in the region. Also, collaboration should be promoted among national institutions, through joint publications and integrated monitoring of habitats and species (e.g., bird and fishery monitoring activities).

Local communities should also have access to information to better understand the evolution, threats and values of wetlands. This could promote ownership of information and basic knowledge as well as wise use of wetlands (for example, demonstrate the importance of birds to prevent practices such as hunting and catching of ringed birds).

Finally, a broad environmental education programme could be conducted, using the data generated by the research as information.

Scientific findings should also be made easier to “digest” and use for actors, particularly decision-makers.

Coastal Wetlands of the Gulf of Guinea: Preliminary steps towards an ecoregional programme

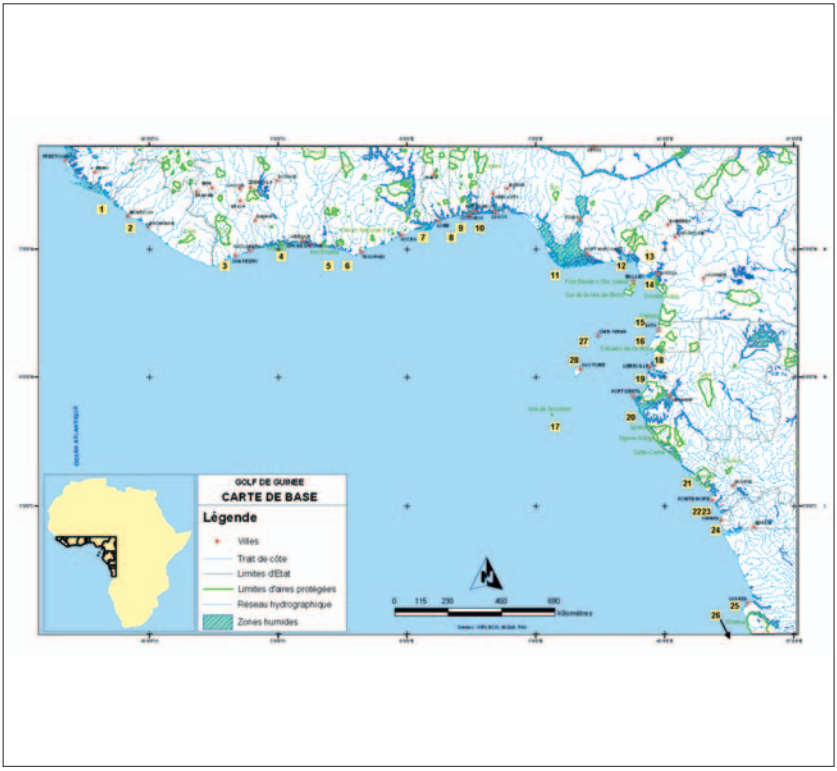
1. Maintain existing swamp forests and mangroves of the Gulf of Guinea

A fundamental threat to coastal wetlands of the Gulf of Guinea is the loss of swamp forests and mangroves. Swamp forests occur along the coastal zone between Liberia and northern Angola, often in association with coastal lagoons. In all countries where they occur, they have become severely depleted and continue to be destroyed. The forests are essentially tropical hardwood forests, which give way to Raphia and other plants at the water's edge. Given the relatively easy access of coastal forests and the high human pressure in the coastal zone, these tropical forests are widely destroyed, mainly for timber.

Canals cut to access timber trees further contribute to their degradation.
It is vital to maintain remaining forest patches, as they support the highest levels of biodiversity in West Africa and western Central Africa. Further, they contribute to maintaining coastal climatic conditions and to protecting the coastal zone from erosion. The forests also support valuable natural resources, such as wood, bushmeat, honey, fruits and medicine.

Mangroves form a more extensive coastal habitat in the Gulf of Guinea than swamp forests, but they too have declined significantly. Mangroves are widely cut for providing wood for construction purposes, firewood and for smoking fish. They may also be felled for aquaculture purposes, and in some areas for making way for canals and industrial developments. Yet mangroves form a vital coastal resource for the Gulf of Guinea. They play a significant role in protecting the coastal zone from erosion, storms and potential tsunamis, whilst they also provide valuable natural resources. They are of notable importance for provision of fish breeding habitats.

The economic and livelihood support values of swamp forests and mangroves cannot be underestimated, nor their vital role in protection of a fragile zone, which has one of the highest concentrations of people in Africa.



Recommendations

Goverments of the Gulf of Guinea are urged to take significant measures to ensure the maintenance of existing swamp forests and mangroves, in recognition of their immense economic, ecological and cultural values. Priority countries for swamp forests are Côte d'Ivoire, Nigeria, Cameroon and Gabon; specific policies are required to arrest the loss of remaining swamp forests in these countries, supported by targeted site-based initiatives

All countries of the region must strive to maintain their mangrove resources, which provide every country with significant economic and climatic benefits. Regional networks for mangrove conservation are required, to foster cooperation in minimising mangrove loss and to build awareness of the values of the mangrove belt.

2. Implementing policies for minimising coastal zone pollution

Pollution in the coastal zone of the Gulf of Guinea is a significant problem. A major concern is pollution related to the oil industry through accidental and operational spills. These include damage to pipes and other infrastructures causing pollution in the coastal zone, offshore oil spills and gas flaring. The facilities to deal with potential major oil spills are also widely inadequate. Oil pollution can negatively affect fragile coastal ecosystems, (especially mangroves, estuaries and beaches), and can directly impact fish and fisheries, aquatic biodiversity and spawning grounds of fish and turtles. It can pose a significant direct hazard to coastal communities.

Most countries lack suitable maps of the coastal zone, which should indicate clearly the coastal areas most sensitive to the effects of oil pollution. Furthermore, international and national laws in relation to oil pollution are not widely respected.

There are also several major cities in the Gulf of Guinea, from which discharge is pumped directly into coastal wetlands and shallow marine waters. Dumping of rubbish is also widespread, with inadequate facilities for dealing with the refuse generated by rapidly growing urban centres.

Recommendations

Governments of countries of the Gulf of Guinea should adopt and implement obligations under the Abidjan Convention, a legal framework for national and sub-regional cooperation for the protection and development of marine and coastal environments of the West and Central African region. Contracting Parties are obliged to combat rapidly and effectively both major and minor instances of pollution and must work together to control oil pollution in the region.

Governments are further urged to implement the International Convention on Oil Pollution Preparedness, Response and Co-operation (IPRC), a legal international cooperation framework for preparation in combating oil pollution incidents. It aims to reduce the impacts of major oil spills, to encourage states to develop appropriate means to tackle such events, and to facilitate international cooperation and mutual assistance.

A key step required by all countries is the elaboration of national Emergency Response Plans, which should aim to encourage efficient planning in the case of an emergency, and provide a framework for cooperation between government and the petroleum industry.

International partners are called upon to devise and implement training in relation to environmental impacts and their assessments.

3. Sustainable fishing in coastal wetlands

The coastal wetlands of the Gulf of Guinea are widely used for fishing and many livelihoods depend on local fisheries to a high degree. The traditional fishing methods of the coastal lagoons of Benin (akadja) date back many years and are steeped in culture and history. Local communities living around lagoons, such as Conkouati in Congo, depend almost entirely on fishing, with no other regular source of income. However, across the region catches are decreasing whilst demand is increasing, to the extent that there is widespread unsustainable use or over-fishing. The degradation of wetlands, including mangrove loss and pollution, has contributed

significantly to the situation of many fisheries operating at sub-optimal levels, with low catches and reduced fish sizes. The taking of young and undersized fish is particularly detrimental to the future of lagoon fisheries. In addition, non-selective fishing methods, such as dynamiting and poisoning, contribute to the lack of sustainability.

Recommendations

Reversing the trend of over-fishing requires efforts at sub-regional, national and local levels. At the sub-regional level, international agreements need to be forged and/or strengthened, particularly to control fisheries in coastal waters. This requires the open cooperation of governments through their fisheries departments. At the national level, policies are required to prevent widespread over-fishing in coastal lagoons. Programmes must include research and awareness components.

At the local level, key sites should be targeted for community-based projects focused on implementing sustainable fishing. This requires specific projects to be endorsed by governments. At chosen sites, local government agencies and NGOs should work hand in hand with local fishing cooperatives / communities to identify the problems and implement solutions. Fitting these local projects into a regional approach as demonstration projects would help in a lessons learned process. Sites could include Mussulo Bay (Angola), Conkouati (Congo), Lac Nokoué (Benin), Keta Lagoon (Ghana) and Lake Piso (Liberia).

4. Arresting the loss and deterioration of coastal wetlands

There are diverse threats to the integrity of coastal wetlands, including impacts of industrialisation, canalisation for transport and dredging of rivers, deforestation, draining of swamps, loss of silt deposition caused by dams upriver (e.g. Kainji Dam on the Niger), and aquatic weeds, especially nypa palm and water hyacinth. In some areas wetlands are drained for urban growth and converted to agricultural areas.

Although these threats are reasonably well known, they are not well documented on an ecoregional scale, and hence the scale of wetland loss is not well appreciated. Many threats are not reducing, and continued negative impacts will lead to species loss, traditional community systems being eroded and coastal zone destruction.

Recommendations

A recent preliminary inventory of coastal wetlands of the Gulf of Guinea highlights the threats to wetlands in the region and the problems of wetland loss. All governments of the region, except Angola, have already ratified the Convention on Wetlands (or Ramsar Convention), which advocates, in particular, for the wise use of wetlands, without causing their destruction or deterioration. Wetlands are valuable, and should provide for future generations. All governments of the region should implement the wise use principle of the convention. This requires partnerships to be forged between governments, local and international NGOs and wetland stakeholders.

A further recommendation is for governments to take the example of Ghana and adopt a specific wetlands policy, which should set out the value of wetlands and ensure that they are properly taken into consideration in national policy decisions. One government that has expressed specific interest in developing a national wetlands policy is the Government of the Republic of Congo.

Following recent steps by Cameroon and São Tomé and Príncipe, Angola is urged to ratify the Convention on Wetlands and designate the whole of Mussulo Bay as its first Ramsar Site. This large coastal lagoon is of significant value for the economy, livelihoods, biodiversity, migratory waterbirds, recreation, and an excellent area to target for mangrove restoration.

5. Biodiversity conservation in the coastal zone of the Gulf of Guinea

The ecosystems of the coastal zone of the Gulf of Guinea support some of the highest levels of biodiversity in Africa. The natural mosaic of habitats comprising tropical coastal and swamp forests, lagoons, mangroves, coastal savannas, shallow marine waters, river deltas and estuaries, islands, corals and, in the south, semi-arid landscapes support an immense array of biodiversity. The wetlands of the Gulf of Guinea are important for unique endemic fish.

The main threat to biodiversity in the region is habitat destruction. Additional pressures of the bushmeat trade and a burgeoning coastal human population exacerbate the situation, whilst specific activities, such as collection of turtle eggs, have direct negative impacts. Habitat destruction has directly impacted on plants, whilst there have also been serious declines in many animal populations of the Gulf of Guinea, including endemic species such as pygmy hippo, Pennant's red colobus and forest ibises of São Tomé and Príncipe.

The five species of marine turtle that come to breed at the region's coastal beaches are all exploited, whilst, hunting, entanglement in fish nets, damming of rivers and wetland loss all contribute to the decline of the West African manatee, a flagship species of the coastal wetlands of the Gulf of Guinea.

Recommendations

Governments need to address biodiversity conservation more seriously through implementation of the Convention on Biological Diversity. Strong regional networks are required to support governments and to develop regional and site-based initiatives to conserve the region's biodiversity wealth and its associated values.

International NGOs need to work in partnership with national NGOs and governments to work towards an improved status of biodiversity in the region.

Capacity-building is required to ensure national capabilities in managing species and habitats.

As an urgent priority, regional assessments are needed to identify practical steps for biodiversity conservation, and the identification of key sites for threatened species. The values of biodiversity also need to be assessed and demonstrated through public awareness campaigns.

To these ends, governments are urged to endorse and support regional initiatives to assess the status of biodiversity in the coastal zone of the Gulf of Guinea, and resulting plans to improve the conservation status of target species.

Mission

To sustain and restore wetlands, their resources and biodiversity for future generations.

Strengthening policies for the wise use and management of wetlands in four ecoregions (West and Central Africa)

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agriculture, nature
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