COASTAL AND MARINE ENVIRONMENTS IN AFRICA

A COOPERATIVE AUDIT BY THE AFRICAN ORGANISATION OF ENGLISH-SPEAKING SUPREME AUDIT INSTITUTIONS (AFROSAI-E)

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DEUTSCHE ZUSAMMENARBEIT

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AFROSAI-E

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In 2017, AFROSAI-E initiated a cooperative project to audit coastal and marine environments in Africa. Six Supreme Audit Institutions from the region participated. This publication expands on the process followed and the common findings among the participating countries.

Coastal and marine areas are of critical importance for life and the livelihood of countless citizens. Supreme Audit Institutions can play an important role to ensure that these vulnerable ecosystems are protected.

BACKGROUND TO THE COOPERATIVE AUDIT

Globally, our coastal and marine ecosystems are threatened by pollution, overfishing and the impact of climate change. The importance of coastal and marine ecosystems and the severity of the the threats they are facing, are reflected in the Sustainable Development Goals (SDGs) ascribed in the United Nations 2030 Agenda.

The coastline of the African continent stretches over more than 30,500 kilometres. Effective environmental management is critical to protect this vast expanse of coastline that includes exceptionally vulnerable ecosystems such as mangroves, lagoons and coral reefs.

Governments are responsible for developing and implementing the necessary policies and practices to ensure that coastal and marine areas are managed effectively and the SDGs are realised. Supreme Audit Institutions (SAIs) are uniquely positioned to perform audits to assess whether governments have done their duty to protect and manage these ecosystems and provide assurance to the public.

It is with this focus in mind that AFROSAI-E (African Organisation of English-Speaking Supreme Audit Institutions), with the support of the GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), initiated a project in 2017 to capacitate SAIs of countries with coastal areas, to conduct audits to:

- Assess the state of coastal ecosystems;
- Understand the significant issues and coastal zone management risks for coastal communities;
- Make recommendations for improvement.

This Cooperative Audit established that the Coastal and Marine areas are being neglected and ineffectively managed by their Governments.

Read on for the detailed

- Findings,
- Risks and;
- Recommendations.

PARTICIPATING SAIs

The AFROSAI-E region has 16 member countries that are coastal states, two of which are island states. Six SAIs agreed to participate in this cooperative audit using a mix of both performance and compliance audit principles and methodology.

The six SAIs are Liberia, Mauritius, Namibia, Seychelles, Sudan and Tanzania.

These countries have a combined coastline of 5,097 kilometres.

Member SAI	Coastline (km) [1]
Liberia	580
Namibia	1,572
Tanzania	1,424
Sudan	853
Seychelles	491
Mauritius	177

During an intensive research and evaluation process, four focus areas were identified as having the most critical environmental impact on the coastal areas. AFROSAI-E developed audit procedures based on these focus areas, to assist the auditors during their audit fieldwork. This enabled SAIs to assess and report on government's efforts to address these risks. The audit objectives were:

1. To present an overview of key environmental issues and risks pertaining to the coastal areas.
2. To assess whether environmental risks at these coastal areas are being managed effectively.
3. To recommend and provide solutions for improved management of coastlines within the context of good governance and sustainable development.

An eLearning training module was developed and is available to the remaining member SAIs should they want to conduct a similar coastal and marine environmental audit. The eLearning training module can be accessed on the AFROSAI-E website, eLearning portal.

IMPORTANCE OF COASTAL AND MARINE AREAS

Oceans and coastal areas are of critical importance to sustain life on earth. We are dependent on oceans for oxygen, food, medicines, jobs, recreation, tourism, access points for marine trade and transport, among others.

Coastal areas are also crucial for Africa's economic growth and revenue generation, which is essential for reducing poverty and creating employment. Healthy oceans and coastal areas are therefore not only essential for our basic survival, but also to provide a sustainable economic future for Africa.

However, continued thoughtless practices, pollution and degradation, over-fishing/harvesting, poor management and a general lack of regard for our oceans have resulted in a significant reduction of biodiversity and the risk of flooding and rising sea levels.

Governments need to take urgent action to gain a greater understanding of these risks and implement comprehensive mitigation and adaptation plans to address them.

1. *www.worldatlas.com*

AFROSAI-E is currently revising the Extractive Industries Audit Guideline to include the environmental and social impacts of extractive industries as well as links to Sustainable Development Goals (Agenda 2030) and the African Union Agenda 2063.

FACTORS CONTRIBUTING TO COASTAL AND MARINE DEGRADATION

Many factors cause marine and coastline degradation, but the key contributors are the rapid increase of human development activities which impact on coastal areas, pollution from various sectors, the impact of climate change and overfishing.

Pollution, Urban Development and Tourism Activities

Activities on coastal land that contribute to degradation include human settlements, farming, forestry, urban development and industry. These factors all contribute to coastal erosion, siltation and the dumping of plastic, industrial, sewage and radioactive waste into the ocean. Shipping and ocean-based industries such as extractive industries oil platforms, fishing fleets and ballast water also contribute to marine pollution.

Tourism is an important contributor to the local economies in coastal regions. However, tourist activities substantially impact these areas through the construction of infrastructure, for example clearing natural habitat for hotels and attractions. The resulting increase of tourists in these areas can also lead to the degradation of coral reefs by boat anchors, scuba diving / snorkelling activities, the extraction of living corals or the collection of sea shells.

The impact of Climate Change

The loss of prime coastal areas due to erosion and flooding from rising sea levels is becoming an increasing concern in many African countries. According to the International Panel on Climate Change (IPCC) Synthesis Report (2014), *"Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had a widespread impact on human and natural systems. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen."*

Coastal ecosystems are being severely affected by the impact of climate change at different rates, magnitudes and durations. As the atmosphere and oceans warm, the polar ice and glaciers melt, resulting in rising sea levels.

The changes in the physical, chemical and biological properties affect oceanic drivers like salinity, circulation, temperature, carbon dioxide (CO_2), oxygen (O_2), nutrients and light. The dangerous consequences of this include ocean acidification and coral bleaching.

Climate change is also predicted to bring about more extreme and unpredictable weather like storms, heavier rainfall and tidal waves, which could result in even more damage to marine ecosystems.

The threat of overfishing

It is estimated that globally 3 billion people depend on fish for sustenance and around 300 million people depend on marine fisheries for their livelihoods *(African Sustainable Development Report, 2017).*

Catching fish at a higher rate than they can reproduce (overfishing) over the last 50 years, as well as the use of unsustainable fishing practices, is pushing many fish stocks to the point of collapse. According to the World Wildlife Foundation (WWF), more than 30% of the world's fish population have been pushed beyond their biological limits and need strict management plans to restore them.

Illegal or "pirate" fishing is a multi-million-dollar criminal industry where politically and financially vulnerable communities are at the greatest risk.

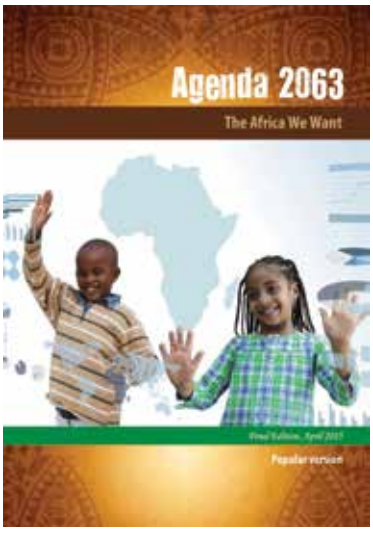
Overfishing, caused by a high demand by consumers and poor fisheries management which includes overexploitation of deep-water fish species and illegal, unregulated and unsustainable fishing methods, is one of the most critical threats to many marine ecosystems.

GLOBAL GOALS AND CONTINENTAL ASPIRATIONS

The United Nations Member States jointly committed to the Agenda 2030, most commonly known as the Sustainable Development Goals (SDGs), in September 2015. It provides an ambitious and long-term agenda on a broad range of vital issues. The SDGs, together with the African Union Agenda 2063 on the aspirations for a prosperous Africa, are instrumental in:

- Promoting the conservation and sustainable use of coastal and marine resources;
- Preventing pollution;
- Increasing the economic benefits from the sustainable use of marine resources to small-island developing states and the least developed countries.

While most of the 17 SDGs were in some way applicable to this cooperative coastal environmental audit, Goal 14: Life Below Water was the most relevant.



The African Union Agenda 2063, Aspiration #1: A prosperous Africa based on inclusive growth and sustainable development which includes Africa's blue/ocean economy for accelerated economic growth and sustainable climate resilient economies and communities was the most relevant in managing the coastal issues (Goals 4, 6 and 7).

ROLE OF SUPREME AUDIT INSTITUTIONS

Supreme Audit Institutions (SAIs) can, through their audits and consistent with their mandates and priorities, make valuable contributions to national efforts to track progress, monitor implementation and identify improvement opportunities across the full set of the SDGs and the Agenda 2063 aspirations.

The cooperative audit therefore included a strong focus on both the Agendas and specifically the goals that target the protection of marine and coastal environments and resources.

The INTOSAI Standards of Supreme Audit Institutions (ISSAIs) include ISSAI 12 on the Value and Benefits of SAIs. In terms of this standard, SAIs have a responsibility to make a difference in the lives of citizens by:

- Demonstrating ongoing relevance to citizens, Parliament and other stakeholders;
- Strengthening the accountability, transparency and integrity of government and public sector entities;
- Being a model organisation through leading by example.
- The cooperative audit was an excellent example of SAIs making a relevant and valuable contribution to their governments and citizens.

Figure 2: Supreme Audit Institutions making a difference to the lives of citizens (ISSAI 12)

COOPERATIVE AUDIT FINDINGS

The following issues are a summary of the common findings identified by the six participating SAIs. The associated environmental risks and recommendations are also emphasised.

Lack of public awareness of coastal environmental issues

Finding: Three of the participating SAIs found that there is limited general awareness and understanding by the public of the importance of the marine environment and related pollution and degradation issues.

Risk: The public is powerless or unable to voice its opinion or comment during public participation meetings; nor are they empowered to understand the impact of the degradation and pollution of coastal and marine environments on their lives and livelihoods. For example, while sand mining and removing mangroves may lead to short-term economic gains, citizens are not sufficiently aware of the long-term implications such as erosion, flooding and a loss of food supplies.

Recommendation: Responsible areas of government should urgently develop and implement coastal environmental education and awareness programmes for all affected residents and stakeholders. This is particularly important for coastal communities, fishing communities, harbour towns and tourism-dependent communities. There should be a particular focus on educating the youth by running environmental education/sensitisation programmes in schools and universities as part of the standard education curriculum. Effective community awareness programmes are critically important to empower citizens with knowledge of the impact that coastal degradation and the loss of marine resources will have on their lives. Greater awareness can also result in more citizens speaking out against offenders.

Outdated and insufficient legislation/ policies and poor alignment with international commitments

Finding: Almost all the participating SAIs found that legislation, policies and plans related to coastal management and protection are outdated and insufficient to address many of the current environmental risks. For example:

- Laws and regulations specific to managing the impact of climate change on the coastal environment are missing;
- A comprehensive institutional and legal framework for coastal governance is lacking and regulations on fisheries, offshore oil drilling and disaster management are inadequate;
- Legislation and policies are not aligned with international and regional instruments (agreements, protocols, treaties etc.) that countries have ratified to protect the natural environment.

Risk: Ineffective legislation or policies on managing coastal areas can result in countries not meeting internationally agreed commitments, e.g. the achievement of the SDGs, to the detriment of environmental efforts by other countries. It can also result in countries not meeting their own objectives towards conserving and protecting the coastal environment, resulting in subsequent degradation and unsustainable coastal resources.

Recommendation: Legislation should also be aligned with international and regional instruments/commitments that protect the natural environment. This creates a stronger commitment by countries to fulfil their international obligations. Successful implementation of the SDGs and Agenda 2063 requires an integrated approach among all government sectors, aligned with national development plans, as well as supportive and relevant legislation. It is important that legislation and associated policies/plans are reviewed regularly in line with economic, scientific, environmental, technological and social developments, objectives and resources.

Inadequate human and technical resources

Finding: Two SAIs found that there are inadequate human and technical resources (satellite surveillance systems, vessel monitoring systems, boats for inspections etc.) to manage and monitor coastlines and marine environments. Human resources also lack the necessary competencies and understanding of marine-related environmental risks and issues. Technical resources and infrastructure essential to the guarding of the coastal zones are scarcely available.

Risk: Without adequate human and technical resources, there is a critically high risk that coastal resources cannot be effectively protected and managed.

Recommendation: Governments should take steps to assess resource needs. This will enable an accurate understanding of where technical resources are needed and what human resources should be developed. Building capacity in the field of integrated coastal management and sustainable development for all relevant responsible persons (scientists, practitioners, accountants, auditors, managers, inspectors, guards etc.) working within the coastal environment is essential for effective management.

Maritime security is critical in coastal areas and provision for adequate technical resources and infrastructure as well as human capacity is important for monitoring, to avoid coastal degradation and irreversible damage to marine environments and to deal with environmental threats when they occur.

Too many silos and too little coordination

Finding: Three of the six SAIs found that the relevant sector (coastal/marine environment) policies are fragmented. Limited or no cooperative arrangements and coordination exist among the various spheres of government and relevant stakeholders, to manage and protect coastal regions and related resources.

Risks: The risks stemming from this finding include poor planning to adequately control or regulate coastal activities and developments, which negatively impacts the coastal zones and the sustainability of marine resources.

Recommendation: Coastal nations need to do more to implement an integrated coastal management approach and break down the silos that are hampering the coordination of efforts. This entails identifying and consulting with relevant stakeholders including the business community, the academic sector, community groups and concerned citizens at local and national level. More must be done to provide for integrated policies and decision-making processes as well as the integration of sectoral (agriculture, tourism, fishing, industry, harbours, extractive industries etc.) programmes.

Inadequate data, statistics and information systems

Finding: Three of the participating SAIs found that national data, statistics and information systems that inform decisions and coastal programmes are inadequate or completely unavailable. For example, statistics on threatened marine species and fishing activities as well as data on the health status of marine environments and the levels of coastal degradation are not available.

Risk: Inadequate statistics, data and information systems can result in poor decision-making by those entrusted with protecting and managing coastal environments. The lack of accurate and updated information also directly relates to the other risks highlighted in this report, as such information is an essential component of assessing the current situation, setting goals, developing plans and monitoring progress effectively. On an Africa-wide level, according to the 2017 African Sustainable Development Report, "deficiencies in statistical information hamper Africa's development and transformation process".

Recommendation: Adequate data and effective information systems should be an investment priority for governments. Accurate data should be used to inform decisions about policies and programmes, enabling governments to act strategically in achieving the SDGs and Agenda 2063 aspirations. Investing in statistical systems will enhance evidence-based decision-making and is imperative for effectively managing the coastal environment.

Inadequate monitoring of coastal resources and poor enforcement of legislation

Findings: All six SAIs found that monitoring of coastal resources and enforcement of legislation are inadequate.

The audits found that there is inadequate or no monitoring of:

- Fishing activities and methods as well as licences and permits for fisheries e.g. lobster fisheries;
- Levels of pollution and degradation of coastal areas e.g. illegal beach sand mining as well as the dumping of sewage and waste into the ocean;
- Environmental impact assessments, authorisations and management plans for developments along coastlines.

There is a shortage of technically qualified environmental and marine inspectors and the lack of adequate enforcement of legislation means that:

- Patrol activities to prevent the abuse of coastal resources are mostly reactive and are reliant on tip-offs from local informers;
- Regulations for the protection of valuable mangroves are not enforced;
- Vessels and ships moving along the coastlines and at the ports are not inspected and monitored to ensure that they are not polluting or impacting negatively on the marine environment;
- Inspections at offshore petroleum exploration operations are not carried out to ensure compliance with licences and protection of the marine environment.

International environmental treaties, agreements, conventions and other international instruments are primarily aimed at managing and preventing harm to natural resources jointly with other countries. Many countries are signatories to the numerous international treaties. However, the auditors found that these international commitments are poorly monitored and enforced.

Risk: Inadequate monitoring of coastal resources and poor enforcement of legislation can result in illegal or improper activities and developments on coastlines not being detected and addressed timeously. This could result in significant economic losses due to unsustainable fishing industries, the reduction of tourism due to pollution and degradation of coastlines and corals and a dangerous increase in the poaching of marine species and illegal mining of resources. In addition, the lack of enforcement to protect natural mangroves and prevent sand mining could lead to much greater danger to communities and infrastructure due to flooding.

Recommendation: It is imperative that appropriate coastal monitoring programmes are established. In addition, governments should apply risk-based, preventive, precautionary and anticipatory approaches rather than reactive measures to avoid degradation or irreversible damage to the coastal environment. Proper enforcement of legislation with severe fines for transgressors is critical to ensure that there is no tolerance for repeat offenders. Beyond sanctions, it is important to sensitise coastal populations on the impact their activities have on the environment and involve them in monitoring and reducing illegal activities.

It is also important that the necessary financial, human and technical resources be put in place for effective monitoring as well as enforcement of national legislation and international commitments to be able to manage the coastal areas more effectively.

***Liberia** – General Auditing Commission (GAC) photo: A partial view of culverts conveying sewage and other waste into the ocean in Sonniewein Community, Montserrado County*

Ineffective performance indicators to monitor progress

Finding: Two SAIs found that either no key performance indicators are being implemented to measure progress in achieving objectives on the management and condition of coastal and marine resources, or the indicators used are ineffective.

Risk: Without clear and quantifiable measures in place, governments and the enforcement entities will have little or no method of monitoring progress against environmental goals and objectives, including progress on the SDGs and Agenda 2063 aspirations. The condition of marine resources can also not be sufficiently or effectively inspected against measurable indicators.

Recommendation: Key performance indicators are quantifiable measures that should be used to determine how well goals and objectives are being met. It is imperative that the responsible spheres of government clearly understand what the goals and objectives are (at national and local level), establish baselines or starting values and develop key performance indicators to enable effective performance assessment of the state of the marine environment and resources.

Insufficient coastal response strategies specific to climate change risks

Finding: Almost all the participating SAIs found that climate change response strategies related to coastal environments are insufficient or non-existent.

Risk: Not having proper climate change response plans can result in countries being inadequately prepared to manage the impact of climate change. This can result in floods endangering coastal communities, loss of biodiversity and marine life, coral bleaching etc.

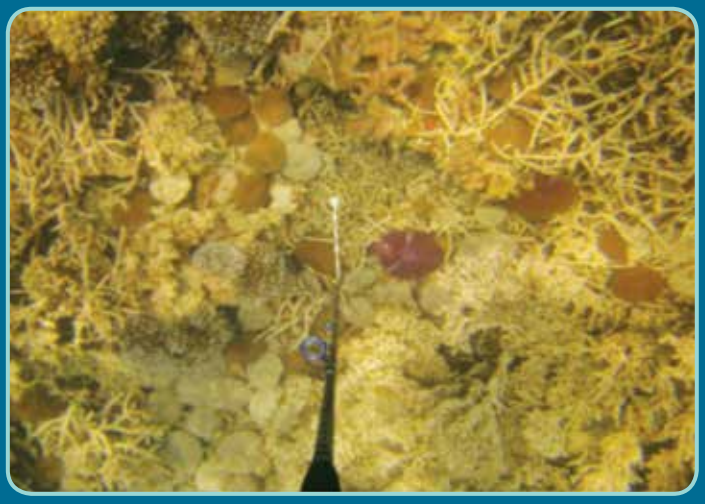
Recommendation: Risks and vulnerabilities resulting from climate change, such as rising sea levels and rising sea temperatures, must be identified and assessed so that effective plans (with key performance indicators) can be developed, implemented, monitored and managed.

***Seychelles** – Wastewater discharge along the coastline*

***Seychelles** – Increase in sea levels resulting in flooding*

Sudan *– Plastic bags trapped in coral reefs block light and oxygen from reaching the corals, causing them to be susceptible to diseases and to deteriorate*

Sudan *– Fishermen focus on certain fishing areas more than others, breaking the coral reefs in Sanganeb Reserve, which they also use as fish bait, by boat rope*



Mauritius *– Degradation of corals in lagoon (Source: Mauritius Carrying Capacity Assessment Report)*

Namibia *– Infrastructure built close to the sea in Swakopmund*

Sudan *- Pollution of solid waste due to tourism activities in the North and South Coast of Port Sudan.*

***Liberia** – GAC photos: Unregulated fishing in Robertsport, Grand Cape Mount County and in Buchanan, Grand Bassa County*

***Liberia** – GAC photo: A partial view of structures constructed in mangrove swamp on Somalia Drive, Gardnersville, Montserrado County*

***Liberia** – GAC photo: A partial view of the encroaching sea on D-Twe community, Bushrod Island, Montserrado County*

***Liberia** – GAC photo: Sand drilling machines on the St. Paul River, Virginia, Montserrado County*

***Liberia** – GAC photo: Motor grader mining sand along the banks of the St. Paul River in Caldwell, Montserrado County*

IMPACT OF THIS COOPERATIVE AUDIT

This cooperative coastal and marine audit was the first of its kind in Africa.

Each SAI produced an individual audit report that outlines the country-specific findings, risks and recommendations. The individual country audit reports have generated awareness and knowledge within the participating SAIs as well as their governments of the environmental risks to which African coastal countries are exposed. In the case of SAI Liberia and SAI Seychelles, a documentary film on the audit was produced with the support of the GIZ, with the intention of creating more public awareness.

Through the audit, the SAIs were able to share experiences, learn from one another and gain confidence in conducting environmental audits. It has also been noted that recommendations and action plans to address the findings have in some cases already been implemented by the respective governments.

This cooperative audit methodology, with the focus on coastal and marine environments, will enable other SAIs with coastal regions to conduct similar audits in future. A strong and continued focus on environmental sustainability is needed to assess and address the damage already done to our vulnerable and sensitive marine ecosystems. Essential to this is the involvement and collaboration of all countries in Africa and beyond to develop, implement and monitor measures to ensure enough is done to protect them from future harm.

SAIs have a critically important role to play in this ongoing effort to identify the problems and propose measures to respond to the challenges. SAIs make a difference in the lives of citizens by ensuring the protection and sustainable utilisation of precious coastal and marine resources for a healthy planet and a prosperous Africa.

Individual SAI Coastal and Marine Environmental Audit Reports

The audit reports and awareness videos of SAI Liberia and SAI Seychelles can be accessed on the individual SAI websites:

Liberia General Auditing Commission Report and Video
https://www.gac.gov.lr/

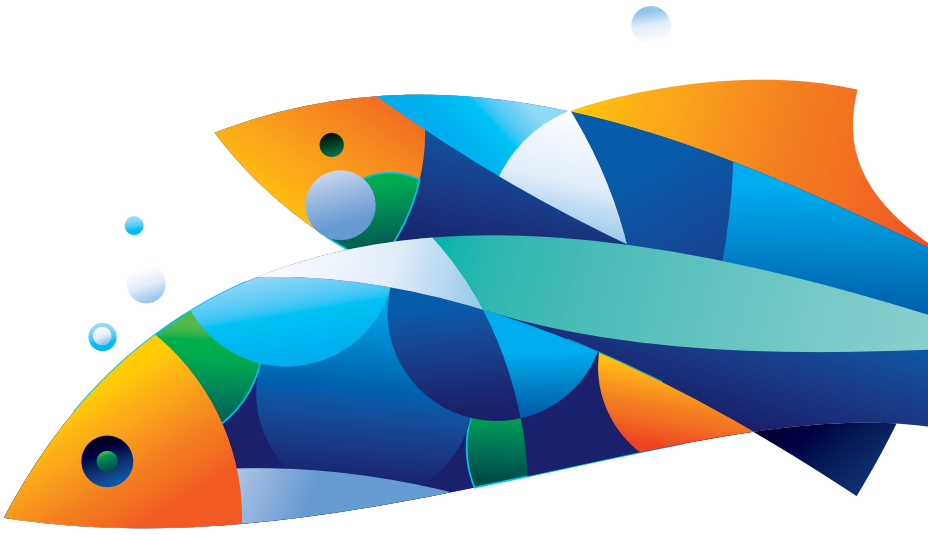
National Audit Office of Mauritius Report
http://nao.govmu.org/English/Pages/default.aspx

Namibia Office of the Auditor General Report
https://www.govpage.co.za/namibia-office-of-the-auditor-general.html

Office of the Auditor General of Seychelles Report and Video
https://oag.sc/

SAI Sudan Report
www.audit.gov.sd

National Audit Office of Tanzania Report
www.nao.go.tz



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