





BIO-DIVERSITY EXPENDITURE REVIEW REPORT ZANZIBAR, TANZANIA JULY 2022



















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Acronyms and Abbreviation

BAK	Biodiversity awareness and knowledge
BDP	Biodiversity and Development Planning
BER	Biodiversity Expenditure Review
BIOFIN	Biodiversity Finance Initiative
CBD	Convention on Biological Diversity
CoFMAs	Community Management Areas
CSR	Corporate social responsibility
DAM	Development of Aquaculture and Mariculture
DEV	Development Expenditure
DoA	Department of Agriculture
DoE	Department of Environment
Dol	Department of Irrigation
ECC	Coordinating Environment and Climate Change
EIA	Environmental Impact Assessment
ES	Environment supervision
FDCR	Fisheries Development and Conservation of Ocean Resources
FOR	Forestry
FVPO	First Vice-President's Office
GDP	Gross Domestic Product
GE	Green Economy
GMOs	Genetically Modified Organisms
HoR	House of Representatives
LP	Livestock Production
LR	Livestock Research
MAINRL	Ministry of Agriculture, Irrigation, Natural Resources and Livestock
MCAs	Marine Conservation Areas
MDAs	Ministries, Departments and Agencies
MLH	Management of Land and Housing
MoFP	Ministry of Finance and Planning
NBSAP	National Biodiversity Strategy and Action Plan
NRR	Non-Renewable Resources
PAOCM	Protected Areas and other Conservation Measures
PIR	Policy and Institution Review
PM	Pollution Management
REC	Recurrent Expenditure
RGoZ	Revolutionary Government of Zanzibar
SWES	Supervision of Water and Energy Services
UNDP	United Nations Development Program
ZAFIRI	Zanzibar Fisheries Research Institute
ZALIRI	Zanzibar Livestock Research Institute
ZARI	Zanzibar Agriculture Research Institute
ZATI	Zanzibar Association of Tourism Investors
ZEMA	Zanzibar Environmental Management Authority
ZPRA	Zanzibar Petroleum Regulatory Authority

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I.

Acknowledgements

The Biodiversity Expenditure Review (BER) for the Revolutionary Government of Zanzibar (RGoZ) is the second report prepared in line with the Biodiversity Finance Initiative (BIOFIN) project which is implemented by the RGoZ with support from United Nations Development Program (UNDP).

The production of this report was made possible by excellent coordination and valuable contributions from individuals and organisations involved in biodiversity protection in Zanzibar. The BER process was guided by the BIOFIN technical support team from UNDP, and it was led by a team of national experts (Mr. Lazaro Mangewa, Mr. Stephen Mariki, and Dr. Eric Mkwizu).

Analysis of biodiversity related expenditure in Zanzibar required inputs from public and private organisations. The required budget and nonbudget information was collected through faceto-face meetings and technical workshops. The organization of these face-to-face meetings and workshops was facilitated by the technical team from the Ministry of Finance and Planning, Department of Environment at the First Vice President's Office, and the project team from the UNDP Country Office.

Collection of relevant data was made possible by participation of technical experts from the Ministries, Departments and Agencies (MDAs) involved in biodiversity in Zanzibar. Additionally, organizations from the private sector participated in the workshops and provided valuable inputs into the biodiversity expenditure review process. Further, invaluable technical support was received from BIOFIN headquarters.

The findings from this report are expected to enable the RGoZ to understand the historic trends in biodiversity expenditures, the composition of these expenditures and how biodiversity-related spending is anticipated to change in the future. These results will support the RGoZ in developing a financial needs assessment to understand the cost implications of achieving the biodiversity targets for Zanzibar.

EXECUTIVE SUMMARY

BACKGROUND

Conservation and management of Zanzibar biodiversity require human and financial resources as well as physical facilities. The Revolutionary Government of Zanzibar (RGoZ) plans and budgets for the required financial resources and physical facilities. The RGoZ also collaborates with development partners in implementing projects related to biodiversity conservation and management. Additionally, non-government entities, mainly Non-Governmental Organizations (NGOs), Community Based Organizations (CBOs), and private companies are actively involved in biodiversity conservation and management. It is widely known that despite the efforts by the government and the private sector to allocate resources for biodiversity conservation, there is still a financing gap between what is allocated and what is needed to achieve national biodiversity conservation targets. Analysis of the current status of biodiversity finance is crucial in determining the resources allocated for biodiversity and the type of activities financed by the allocated resources. In addressing the financing needs for biodiversity conservation, Zanzibar joined the Biodiversity Finance Initiative process in 2018 (commonly known as BIOFIN) - a global programme initiated by the international community in response to biodiversity financing needs. BIOFIN aims at unlocking much-needed finance toward national biodiversity goals as highlighted during the 2010 Biodiversity Convention of the Parties (COP 10) in Nagoya, Japan.

Biodiversity Expenditure Review (BER) is a second report in a series of four country reports prepared by BIOFIN countries. BER analyses the status of biodiversity financing from the government and the private sector. It outlines biodiversity-relevant activities from budgets of Ministries, Departments and Agencies (MDAs) as well as budgets of nongovernment entities.

The main aim of this biodiversity expenditure review is to inform and promote improved biodiversity policies, financing, and outcomes by using detailed data from public and private sector budgets, allocations, and expenditures. Specifically, this report aims to:

- 1. Estimate past and future biodiversity expenditures across the public, private, and civil society sectors,
- 2. Identify what activities these biodiversity expenditures are targeting and map them according to biodiversity categories, and

3. Determine policy alignment and spending efficiencies for the main biodiversity actors.

MAIN FINDINGS

BER for public sector entities

biodiversity relevant expenditure The for government entities for the years 2018/19 to 2021/22 was analysed. The proportion of biodiversity-relevant expenditure was compared with departments' budgets as well as respective ministries' budgets. Analysis indicates that biodiversity expenditure for the past two years is the highest in fisheries where it accounts for 12%-14% of the Ministry of Blue economy budget. The department of environment follows where biodiversity relevant expenditure is about 9%-10% of the budget for the Office of the First Vice President. The proportion of biodiversity-relevant expenditure for the department of agriculture is 3%-4%, forestry 1%-2%, and livestock 0.3% of the budget for the Ministry of Agriculture, Irrigation, Natural Resources and Livestock.

The total biodiversity-relevant expenditure for MDAs from 2018/19 to 2021/22 is TZS 18.341 billion equivalent to USD 7,958,174. This expenditure implies that on average MDAs spend TZS 4.585 billion or USD 1.98 million a year on biodiversity-related expenditure. The proportion of biodiversity expenditure to the government budget is extremely low, about 0.21% to 0.25% of the total government budget. This situation may be a result of the following:

- Competing priorities in the public sector. In most cases, public expenditure is directed to areas that are deemed more important to the livelihoods of citizens. Sectors such as health, education, and infrastructure development are favoured over other sectors.
- Low understanding of the importance of biodiversity and its contribution to economic growth. Zanzibar's economy is driven by tourism and marine resources. These sectors depend so much on the continued existence of marine and terrestrial biodiversity.
- Zanzibar Vision 2050 pillar IV has a component that addresses the environment and climate change. It outlines five key performance indicators climate change mitigation, marine, and terrestrial protection as well as afforestation. However, these indicators are not linked to the sectors

whose activities are relevant to biodiversity nor do they link conservation outcomes with financial resources.

Further, the following issues were observed during the biodiversity expenditure review for government entities.

- There is a wide variation in budget performance. In some cases, the disbursed funds are much less compared to budgeted amounts, while in some other instances, disbursed funds far exceed the budgeted amounts. In such a situation, it is difficult to forecast budget trends.
- Budget support from development partners plays an essential role in reducing the public finance gap. However, in some cases, development partners either delay the release of funds or don't release all the funds as promised during budgeting. This situation leads to low budget performance.
- Funds are mostly allocated to recurrent expenditure. Development expenditure requires a lot more funds but produces a long-term impact than recurrent expenditure.

BER for non-government entities

Biodiversity expenditure from non-government entities for 2018/19 to 2020/21 is approximately USD 1,000,000. It is not possible to accurately estimate biodiversity expenditure from nongovernment entities for the entire country due to insufficient data. Therefore, this expenditure is at best a rough estimate of what is spent on biodiversity conservation and management.

Data from private sector and NGOs was scanty. There are several NGOs and private organisations which are actively involved in biodiversity conservation, but their financial information could not be obtained. This observation implies that the biodiversity expenditure from the private organisation may be understated.

The review noted that there was no tracking of biodiversity conservation financing from private sector and NGOs, and therefore it would be difficult to coordinate efforts and leverage resources. Some areas of biodiversity conservation may be neglected since players in the private sector space operate in isolation without defined coordination.

Lack of central coordination for private sector financing of biodiversity conservation makes it difficult to monitor results at a national level. The individual organisations have monitoring and evaluation frameworks for their biodiversity conservation activities. However, these results do not feed into the national level framework, and hence they are not accounted for when reporting progress on national biodiversity conservation targets. It is expected that the envisaged NBSAP will provide a clear analysis of the private sector stakeholders and establish a mechanism on how they will be coordinated and results feeding into a national framework.

A big chunk of funding for biodiversity conservation for private companies and NGOs come from two major sources. These are:

- donations, gifts, and grants from private individuals and funding organisations around the world; and
- income obtained from tourism activities.

These sources are highly susceptible to economic slowdowns and tourism sector disruptions like the recent COVID-19 pandemic. Conservation efforts were highly affected during the peak of the COVID-19 pandemic.

Biodiversity financing from development partners

MDAs receive Official Development Assistance (ODA) from several international organizations that are financing projects either through grants or soft loans. These organizations are: The World Bank, Japan International Cooperation Agency (JICA), International Monetary Fund (IMF), UNDP, African Development Bank (AfDB), GEF, Adaptation Fund, United Nations Environment Program (UNEP), Food and Agriculture Organization (FAO), and Exim- Bank of Korea. Most of the ODA is included in MDAs budgets, except for a few cases whereby there is off-budget financing for projects. The biodiversity relevant financing from MDAs was compared with the biodiversity relevant financing for MDAs. The purpose of this comparison was to determine the proportion of biodiversity relevant financing coming from ODA.

If the proportion of funds received from ODA is compared with the biodiversity-relevant expenditure from MDAs, it is seen that ODA contribution to biodiversity financing is extremely high (80% to 90%). Over-reliance on ODA for biodiversity conservation financing poses a challenge because such financing is projectspecific, and time-bound. Once the projects close, it becomes difficult for the government to sustain activities previously funded by the projects, leading to serious impediments in achieving national biodiversity conservation targets.

Projections of biodiversity expenditure for 2021/22 to 2027/28

The five years projection of biodiversity spending under the most likely budget scenario is presented in the table below. Taking the year 2022/23 as the base year. The projections are based on constant

2022 prices. The real growth rate is 7% but the projections have used a conservative growth rate of 4% for the expenditure from the government and 3% for non-government entities. The analysis shows that on average expenditure directed to

biodiversity conservation and management is USD 4,655,659 per year equivalent to TZS 10.754 billion.

Table 3: Biodiversity expenditure projections for 2022/23 to 2027/28

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Department of Environment (USD)	302,020	315,912	330,444	345,645	361,544	378,176
Department of Agriculture and Irrigation (USD)	653,806	683,881	715,340	748,245	782,665	818,667
Department of Forestry (USD)	810,403	855,607	894,965	936,133	979,196	1,024,239
Department of Livestock (USD)	117,407	122,808	128,457	134,366	140,547	147,012
Department of Fisheries (USD)	748,861	653,915	683,995	715,459	748,370	782,795
Blue Economy development and Coordination (USD)	192,440	174,377	191,998	200,830	210,069	219,732
Ministry of Energy Water and	391,265	409,263	428,089	447,782	468,380	489,925
TOTAL GOVERNMENT ENTITIES	3,216,201	3,215,765	3,373,290	3,528,461	3,690,771	3,860,546
TOTAL GOVERNMENT ENTITIES Expenditure from the three NGOs case Studies (USD)	3,216,201 111,614	3,215,765 114,962	3,373,290 118,411	3,528,461 121,963	3,690,771 125,622	3,860,546 129,391
TOTAL GOVERNMENT ENTITIES Expenditure from the three NGOs case Studies (USD) Project Specific Expenditure (USD)	3,216,201 111,614 80,628	3,215,765 114,962 83,047	3,373,290 118,411 85,539	3,528,461 121,963 88,105	3,690,771 125,622 90,748	3,860,546 129,391 93,470
TOTAL GOVERNMENT ENTITIES Expenditure from the three NGOs case Studies (USD) Project Specific Expenditure (USD) General Projections for NGOs (USD)	3,216,201 111,614 80,628 73,482	3,215,765 114,962 83,047 75,687	3,373,290 118,411 85,539 77,957	3,528,461 121,963 88,105 80,296	3,690,771 125,622 90,748 82,705	3,860,546 129,391 93,470 85,186
TOTAL GOVERNMENT ENTITIES Expenditure from the three NGOs case Studies (USD) Project Specific Expenditure (USD) General Projections for NGOs (USD) Private MPA(USD)	3,216,201 111,614 80,628 73,482 445,578	3,215,765 114,962 83,047 75,687 458,945	3,373,290 118,411 85,539 77,957 472,714	3,528,461 121,963 88,105 80,296 486,895	3,690,771 125,622 90,748 82,705 501,502	3,860,546 129,391 93,470 85,186 516,547
TOTAL GOVERNMENT ENTITIES Expenditure from the three NGOs case Studies (USD) Project Specific Expenditure (USD) General Projections for NGOs (USD) Private MPA(USD) Public MPAs and PAs	3,216,201 111,614 80,628 73,482 445,578 347,218	3,215,765 114,962 83,047 75,687 458,945 357,634	3,373,290 118,411 85,539 77,957 472,714 368,363	3,528,461 121,963 88,105 80,296 486,895 379,414	3,690,771 125,622 90,748 82,705 501,502 390,796	3,860,546 129,391 93,470 85,186 516,547 402,520
TOTAL GOVERNMENT ENTITIES Expenditure from the three NGOs case Studies (USD) Project Specific Expenditure (USD) General Projections for NGOs (USD) Private MPA(USD) Public MPAs and PAs NON-GOVERNMENT ENTITIES	3,216,201 111,614 80,628 73,482 445,578 347,218 1,058,520	3,215,765 114,962 83,047 75,687 458,945 357,634 1,090,275	3,373,290 118,411 85,539 77,957 472,714 368,363 1,122,984	3,528,461 121,963 88,105 80,296 486,895 379,414 1,156,673	3,690,771 125,622 90,748 82,705 501,502 390,796 1,191,373	3,860,546 129,391 93,470 85,186 516,547 402,520 1,227,115

CONCLUSIONAND RECOMMENDATIONS

Conclusion

Overall budget allocation attributed to biodiversity expenditure was extremely low, less than half of a percent of the total government budget. Key issues noted in this biodiversity expenditure review for government entities include a) a wide variation in budget performance that makes it difficult to forecast budget trends; b) significant budget support from development partners that plays an essential role in reducing the public finance gap; c) skewed budget allocation mostly to recurrent expenditure.

Budget and disbursement: The trends for budget allocation and actual expenditure for most MDAs

indicate a declining allocation and more so for the development budget. The analysis shows that for the past four years, funds disbursed were far less compared to the budgeted amounts, especially for the development expenditure.

The forecasted biodiversity expenditure under the most likely scenario indicates that an average of USD 4,655,659 per year will be spent by both government and non-government entities in the next five years based on the financial data collected from different sources. The financial forecast models for biodiversity expenditure were built on a set of assumptions derived from organization-

level data sources as well as national-level data sources.

The budget allocation with respect to the BIOFIN categories was mostly on promoting sustainable use; Biodiversity development and planning; biodiversity awareness and knowledge, restoration of marine and forest areas; Green economy, and pollution management. This observation may be explained by the fact that many activities related to biodiversity at the ministry and department levels are on building institutions and building capacity of staff and the community. Moreover, donor projects also focus more on capacity building for institutions, as a result, biodiversity related finance is concentrated more on development and planning, as well as awareness creation.

NGOs: Although data from the private sector and **NGOs** was scanty, analysis indicated that there were several **NGOs** and private organizations that were actively involved in biodiversity conservation. The **NGOs** have played a significant role in facilitating biodiversity-related initiatives that include marine conservation, beach management; environmental education, co-management of Protected Areas; conservation of forestry and marine resources; promotion of alternative energy sources; and sustainable agriculture.

The **Private** sector plays a significant role in biodiversity-related initiatives that include recycling grey water, minimising the use of plastic materials, and use of renewable energy sources such as solar energy. The private sector also collaborates with communities on projects related to beach cleaning, restoration of coral reefs and mangroves, waste management, conservation of PAs, and promotion of income generation through eco-tourism and environmental education. The main challenge is the lack of central coordination for private sector financing on biodiversity conservation which makes it difficult to explicitly establish the levels of funding and monitor results at a national level.

The bulk of funding for biodiversity conservation for the private sector and NGOs come from two main sources namely donations, gifts, grants, and income from tourism activities. This narrow revenue base is highly susceptible to economic slowdowns and tourism sector disruptions like the recent COVID-19 pandemic that highly affected their projects during the peak of the COVID-19 pandemic.

This report is the first of its kind in the context of biodiversity conservation expenditure for Zanzibar. It is expected that this report will help the relevant departments to build a case for increasing financing for biodiversity conservation

3.2 Recommendations

Currently, biodiversity conservation issues are coordinated by the Department of Environment (DoE) in the First Vice President's Office. It is paramount that the DoE, together with the Ministry of Blue Economy, and the Department of Forestry devise strategies to lobby for more funds allocation from the government budget for conservation activities. The rationale is that biodiversity contributes a significant portion of the Zanzibar economy, and this will be possible through demonstration of the role of biodiversity in the overall economy.

Zanzibar does not have a National Biodiversity Strategy and Action Plan. This means that there is no systematic framework to plan, fundraise and track the performance of national biodiversity goals as well as financing biodiversity-related activities. It is important to develop this strategy to ensure biodiversity is prioritized in the respective sectors and in the government planning processes. The DoE can take a lead on the preparation of the NBSAP with technical support from development partners such as UNDP.

Based on the NBSAP, the sectors should also review their strategies and plans to ensure biodiversity is well mainstreamed including assessment of the sources of budget funds to ascertain the likelihood of secured funds for prioritized activities. The fundraising plan which is expected to be part of the NBSAP will provide a more accurate forecast of financing needs and sources and will reduce the low budget performance resulting from failure to secure funds for budgeted activities. Such assessment will also be useful in achieving a balance between budgeted recurrent and development expenditure.

More involvement of the private sector in biodiversity conservation planning and monitoring is important. Currently, there is neither a mechanism nor monitoring framework to track biodiversity financing by the private sector and other non-government entities. The existence of private sector umbrella associations such as those involved in tourism provide an entry point for this process.

Further, the BER is not a one-off exercise. It is expected that the BER will be reviewed periodically and to keep track of biodiversity expenditure from both the government, NGOs, and the private sector. For the BER exercise to be replicable and sustainable, the following points of action are recommended:

a. The DoE to take a lead role in coordinating the BER review exercise. Currently, the BIOFIN project offers technical support.

Also, the project is expected to have a coordinator stationed in Zanzibar to oversee the implementation of the project activities. This initiative can be used as a platform for capacity building for the staff of DoE, and to set a stage for mainstreaming biodiversity financing tracking in regular DoE plans to sustain the initiatives beyond the project phase.

- b. A thorough review of attribution of biodiversity expenditure to the budget items in the Zanzibar context is needed to maintain consistency and replicability of the BER exercise. This review can be done by the planning officers from the DoE, Ministry of Finance and Planning, Ministry of Blue Economy, Ministry of Agriculture, Livestock and Irrigation, and Ministry of Energy, Water and Mining. UNDP can provide technical input into this exercise.
- c. The DoE can initiate a biodiversity expenditure reporting framework, whereby MDAs, NGOs, and the private sector share data related to biodiversity expenditure. The data can be collected and analysed at the DoE. This exercise will be effective if the DoE establishes a biodiversity financing tracking focal person to coordinate the exercise.

It is important to have a reliable financing mechanism for biodiversity conservation to reduce reliance on unpredictable donor funding. The options could include:

- Ring-fencing a portion of funds collected from businesses benefitting from biodiversity resources (businesses in tourism and fisheries) to be used for conservation activities. It is currently done for fees collected from the forest and marine conserved areas. The practices can be extended to tourism and fisheries businesses. This could be one of the biodiversity finance solutions to be piloted.
- Increasing capacity for writing proposals and securing long-term financing for biodiversity conservation from both local and international sources.
- Establishing biodiversity financing mechanisms whereby the private sector and international organizations can pool resources to support biodiversity conservation. This will also ensure that the planned NBSAP has a secure funding strategy to finance planned targets and priorities.

CHAPTER ONE

1. BACKGROUND

1.1 Biodiversity significance

Zanzibar is a semi-autonomous part of Tanzania in East Africa. It is composed of the Zanzibar Archipelago in the Indian Ocean, 25-50 km off the coast of the mainland. It consists of many small islands and two large ones: Unguja and Pemba. The capital is Zanzibar City, located on the island of Unguja. Its historic centre is Stone Town, which is a World Heritage Site. Pemba Island, known as "the Green Island," in Arabic, is an island lying within the Swahili Coast in the Indian Ocean, with an overall area of approximately 1,070 km2. Unguja is a hilly island with an overall area of about 1,583 km2. It is located 60 km south of Pemba. Both Unguja and Pemba are separated from mainland Tanzania by the Zanzibar Channel.

Zanzibar is endowed with high biodiversity in marine, coastal and terrestrial ecosystems including mangroves and agroforestry. According to the PIR report under this BIOFIN initiative, Zanzibar has significantly increased its protected areas (PAs) network and areas under protection including mangrove forests classified as forest reserves and the Marine Conservation Areas (MCAs) that run under Co-Management approaches. There are six (6) MCAs covering an area of about 2,100ha (Table 1).

Name of the MCA	Declaration date	Area covered in km²	Status	Management Plan
Menai Bay Conservation Area (MBCA)	1997	717.5	Public	GMP developed in 2010, reviewed in 2012 and due for update in 2018-2019
Mnemba – Chwaka Bay (MIMCA)	2002	337.3	Public	GMP established in 2005 and finalized in 2010
Pemba Channel Conservation Area (PECCA)	2005	825.8	Public	GMP developed in 2010 and was due for review in 2018-2019
Chumbe Island Coral Park Sanctuary (CHICOP)	1994	0.55	Private	Has a current Management Plan (2017-2027)
Tumbatu Marine Conservation Area (TUMCA)	2015	162.9	Public	The First Management Plan was due to be developed in 2018-2019
Changuu – Bakwe Island Marine Conservation Area (CHABAMCA)	2015	118.2	Public	its First Management Plan was due for development in 2018-2019
Total		Approx. 2100		

Table 1: Marine Protected Areas

Source: IUCN, 2020

The Protected Area (PA) system includes the Jozani-Chwaka Bay National Park (6,434 ha), One Forest Nature Reserve, Ngezi-Vumawimbi Nature Reserve (2,900 ha), eight (8) Forest Reserves (11,299 ha) and five (5) Forest Plantations (4969 ha). In addition, 16,489 ha of mangrove forests have been put under conservation management. Similarly, substantial areas with biodiversity are conserved in forests under the Community

Management Areas (CoFMAs), currently 64, with a total area of 75,000ha. As a result, the total terrestrial area under protection is 97,923 ha, including mangroves (Table 2). The observed protected areas network reveals Zanzibar's commitment to the UN Convention on Biological Diversity (CBD), demonstrated by mainstreaming Aichi targets into its biodiversity-related planning.

Table 2: Terrestrial Protected Areas

Name	Area	Location
National parks		
Jozani-Chwaka Bay National Park	6,434 ha	Unguja
Forest reserves		
Jambiani-Muyuni Forest Reserve	4,212 ha	Unguja
Kichwele Forest Reserve	637 ha	Unguja
Kiwengwa-Pongwe Forest Reserve	3,040 ha	Unguja
Malilini Forest Reserve	406 ha	Pemba
Masingini Forest Reserve	566 ha	Unguja
Msitu Mkuu Forest Reserve	180 ha	Pemba
Ngezi-Vumawimbi Nature Reserve	2,900 ha	Pemba
Ras Kiuyu Forest Reserve	270 ha	Pemba
Ufufuma – Pongwe Corridor Forest Reserve	1,988 ha	Unguja
Government forest plantations		
Chaani-Masingini Forest Plantation	420 ha	Unguja
Dunga-Jendele Forest Plantation	887 ha	Unguja
Kibele Forest Plantation	2,929 ha	Unguja
Maziwang'ombe Forest Plantation	100 ha	Pemba
Rubber Plantations	633 ha	Pemba
Mangroves		
Mangrove Forest Reserves	16,489 ha	Unguja/Pemba
Community managed areas		
Areas under CoFMAs	75,000 ha	Unguja/Pemba
Source: PC7 (2010)		

Source: RGZ (2019).

Despite efforts by the Revolutionary Government of Zanzibar (RGoZ) to allocate resources to biodiversity-related expenditure, there is still a significant financial gap in fulfilling the required finance resources to achieve the Zanzibar biodiversity-related targets. Its various efforts include provision of financial resources for biodiversity conservation activities using internal budgets and soliciting support from development partners to finance conservation programs. The financial gaps for biodiversity conservation calls for a clear understanding of different opportunities and challenges for mobilising financial resources for biodiversity conservation.

A thorough Biodiversity Expenditure Reviews (BER) was deemed necessary to precisely outline biodiversity finance needs and gaps based on National Biodiversity Strategy and Action Plan (2015- 2020), and to determine opportunities and related challenges on resource mobilization to implement the plan. Since Zanzibar does not have a standalone National Biodiversity Strategy and Action Plan (NBSAP), as it is part of the NBSAP for the United Republic of Tanzania, the relevant sectoral policies and plans were useful in the process to explore Biodiversity targets in Zanzibar.

1.2 Macroeconomic Profile

1.2.1 GDP growth and inflation

The Gross Domestic Product (GDP) is estimated by using either production or income or expenditure methods. The RGoZ produces its GDP estimates using the production method. For the year 2020, GDP at current prices stood at TZS 4,208.9 billion1, interpreting the per capita income of TZS 1,870,0002. At constant 2015 prices, the GDP increased to TZS 3,116.3 billion compared with TZS 3,077.5 billion observed in the previous year. This indicates that Zanzibar economy for the

¹ Equivalent to USD 1.814 billion

² Equivalent to USD 806

year 2020 grew by 1.3 percent. The slowdown in the GDP growth rate is attributed to the general slowdown in the services sector especially the tourism sector. The GDP growth trend is indicated in Figure 1.

Figure 1: Zanzibar GDP growth 2011-2020



Source: Zanzibar Statistical Abstracts 2020

The post COVID-19 recovery for Zanzibar is promising. The GDP growth rate for 2021 is reported to be 5.1%. There is a positive outlook for economy growth, whereby, the GDP is expected to reach the pre-COVID-19 rate of 7% in 2022.

The level of inflation for food and non- food items has been decreasing over time. By the end of 2020, inflation rate for food items was 5.8%, for

Table 3: TZS	Exchange	rate against	the USD in	recent vear

Table 3: TZS Exch	lange rate agains	t the USD in re	cent years			
Year	2016	2017	2018	2019	2020	2021
January	2163	2227	2240	2305	2303	2318
December	2173	2237	2308	2301	2318	2305
Average	2168	2232	2274	2303	2310.5	2311.5

Source: Bank of Tanzania

1.2.2 Sectoral contribution to GDP

The GDP contribution by sector is shown in Figure 3. The services sector contributes nearly half of Zanzibar annual GDP. The services sector contribution to GDP declined slightly in 2020 due to the slow down especially in tourism earnings. Agriculture, forest, and fishing contributes about a fifth of Zanzibar annual GDP.

Figure 3: Sectoral contribution to GDP



1.2.3 Government budget and GDP

The comparison between Zanzibar government budget and country's GDP is shown in Figure 4. The most recent data shows that the total government budget in 2019/20 was TZS 908.6 billion (USD 408 million) while the GDP was TZS 4208.6 billion (USD 1.806 billion). The government budget to GDP ratio is about 21.6%.

Figure 4: Government budget versus GDP



1.2.4 Poverty statistics

non-food items 1.7%, and for all items 3.4%. The inflation rate trends for 2011 to 2020 is indicated in Figure 2.

Figure 2: Inflation rate trends 2011-2020



Source: Zanzibar Statistical Abstracts 2020

The inflation rate for 2021 was brought down to 1.7% due to different control measures taken by the government. However, the increased fuel prices in the first quarter of 2022 increased the inflation rate to 2.8%.

The Tanzanian Shilling exchange rate against the US dollar has been stable in recent years. The exchange rate is shown in Table 3 below:

Poverty statistics (Table 4) show that poverty levels have decreased over time. The proportion of the population living below the poverty line decreased from 30.4% in 2014/15 to 25.7 % in 2019/20.

Table 4: Poverty statistics

		2014/15			2019/20	
	Rural	Urban	Total	Rural	Urban	Total
Percentage of population below the basic needs' poverty line	40.2	17.9	30.4	33.7	15.5	25.7
Percentage of population below the food poverty line	15.7	4.5	10.8	12.7	4.9	9.3
Gini Coefficient	0.27	0.31	0.3	0.29	0.31	0.31
Percentage Distribution of children (0-17) below basic needs Poverty line	44.8	19.9	34.7	38.7	17.3	30.1
Percentage Distribution of children (0-17) below food Poverty line	18.1	5.0	12.8	15.3	5.4	11.4

1.2.5 Breakdown of government budget and expenditure

The RGoZ budget is financed from various sources such as grants, loans, taxes, and non-tax revenues. The expenditure is categorised into recurrent and development expenditure. Table 5 show details of RGoZ revenues and expenditure for the past five years. The figures are in millions of TZS.

Description	2015/16	2016/17	2017/18	2018/19	2019/20
Total Resources	562,854.6	644,374.5	908,798.6	1,115,775.0	980,674.2
External Resources	134,343.4	122,490.9	220,144.9	365,944.9	193,511.3
Grants	47,494.0	52,523.3	43,850.2	43,447.0	44,134.5
Loans	86,847.4	69,967.6	176,294.7	322,497.9	149,376.8
Domestic Revenue	428,511.2	521,883.6	688,653.7	749,830.1	787,162.9
Tax Revenue	400,362.3	478,124.5	624,653.2	672,048.7	675,172.8
Non-Tax Revenue	28,148.9	43,759.1	64,000.5	77,781.3	111,990.0
Total Expenditure	520,287.2	590,113.7	899,605.5	1,130,818.5	1,024,598.0
Recurrent Expenditure	402,446.4	476,574.9	610,281.2	704,539.7	722,618.0
Development Expenditure	117,840.8	113,538.8	289,324.3	426,278.8	301,980.0
Local	37,823.0	51,281.1	107,086.7	102,362.8	139,149.0
Foreign	80,017.7	62,257.6	182,237.6	323,916.0	162,831.0
Deficit/Surplus	42,567.4	54,260.8	9,193.1	-15,043.5	-43,923.8

Table 5: RGoZ budget and expenditure 2015/16 to 2019/2020

1.3 Objective

The main aim of this biodiversity expenditure review is to inform and promote improved biodiversity policies, financing, and outcomes by using detailed data from public and private sector budgets, allocations, and expenditures. Specifically, this report aims to:

 Estimate past and future biodiversity expenditures across the public, private, and

civil

- society sectors,
- Identify what activities these biodiversity expenditures are targeting and map them
- according to biodiversity categories, and
- Determine policy alignment and spending efficiencies for the main biodiversity actors.

1.4 Organisation of the Report

This report is organised into four chapters. Chapter one gives a brief overview of the Zanzibar macro-economic performance. The review of macro-economic landscape for Zanzibar provides a context for biodiversity past expenditures and trends. Chapter two describes the methodology used for conducting the biodiversity expenditure review. Chapter three describes the estimation of biodiversity expenditure from the Ministries, Departments and Agencies (MDAs) of the RGoZ. The analysis of public expenditure includes all expenditure from domestic sources as well as future biodiversity expenditures which are estimated using forecasted budgets and linear trends. It also analyses biodiversity expenditure from private sector entities and NGOs. Thereafter, combined biodiversity relevant expenditure from the public and private sector entities is presented to provide a comprehensive assessment of the baseline bio-diversity expenditure in Zanzibar. Chapter four concludes the findings and provide key recommendations.

Е

CHAPTER TWO

Classification

Level 1 Access and

benefit

sharing

Biodiversity

awareness

and knowledge

2. METHODOLOGY

2.1 Defining the Parameters

Biodiversity expenditure covers a wide range of activities in different sectors. In this regard, it is important to clearly define the kind and type of expenditure from government budgets that are biodiversity related. Some expenditures can be directly attributed to biodiversity while others are not so direct. Expenditure for activities such as management of protected areas can directly be attributed to biodiversity while the attribution for expenditure for activities related to sustainable land management may not be so direct. In the have co-benefits that support the conservation and sustainable utilisation of biodiversity and ecosystem services. When the attribution is not so direct, analysis is made to determine what portion of the expenditure is attributed to biodiversity, thereby accounting for all direct and non-direct expenditure The categorisation of biodiversity expenditure

latter case, the expenditure is not primarily targeted to biodiversity, but such interventions

followed the guideline given in the BIOFN methodology workbook. The workbook explains nine categories of biodiversity expenditure as indicated in Table 6.

Table 6: Biodiversity expenditure categories

and

decisions

aimed at raising awareness about

biodiversity, its use and/or its value,

whether in informal or formal settings;

and any action aimed at generating

information required to make sound

scientific research and investigation

into key areas related to all aspects

of biodiversity, including ecological,

social. economic sciences.

regarding

providing the data and/or

biodiversity;

Definition **Classification Level 2** Access to genetic resources, with Contractual arrangement a focus on prior informed consent. Financial compensation and the distribution of the benefits of genetic diversity, with a focus on • Cost of notification to ABS clearing house equity and transparency (to those mechanism whose knowledge is used) and on • Bioprospecting, including establishing permitting mutually agreed terms. processes and enabling FPIC/PIC consultations Any campaign, action or initiative Data generation and spatial mapping

- Formal biodiversity education
- Non-formal biodiversity education, including technical training
- Biodiversity awareness (e.g., public awareness campaigns, park visitor education, events
- Biodiversity communication
- Biodiversity scientific research
- · Valuation of biodiversity and ecosystems
- Indigenous and local communities' knowledge

			8
Biosafety	Prevention, containment, and eradication of invasive alien species (IAS) as well as safe handling, transport, and use of living modified organisms (LMOs/GMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, also taking into account risks to human health.	•	Genetically modified organisms (GMOs), including living modified organisms (LMOs). Invasive Alien Species (IAS)
Green economy	Sustainable biodiversity benefits from private and public sector actions that aim to reduce negative impacts on nature through improved design, engineering, planning, investing, operations, policy,	•	Corporate social responsibility (CSR) Environmental Impact Assessment (EIA) GHG mitigation Green supply chain

Classification Level 1	Definition	Classification Level 2		
	and management. Certain initiatives	Sustainable extractive industries		
	to encompass the financing and	Sustainable consumption		
	management of nature through green	Sustainable energy		
	business, sustainability certification,	Sustainable investing		
	and greening supply chains. Climate	Sustainable tourism		
	biodiversity indirectly and is included	Sustainable transportation		
		Sustainable urban areas		
Biodiversity and	National, state, or local planning,	Biodiversity laws, policies, plans		
development planning	and enforcement actions that cover multiple biodiversity categories or general	 Biodiversity coordination and management including networks and partnerships between national and subnational governments 		
	issues such as biodiversity and	Biodiversity finance		
	development planning and policy.	 Strategic Environmental Assessment (SEA) frameworks 		
		Spatial planning		
		Multilateral Environment Agreement (MEA)		
Pollution E management a ii	Biodiversity benefits that derive from activities whose primary purpose is the prevention, reduction, and elimination of pollution. This category	 Protection and remediation of soil, groundwater, and surface water 		
		Protection of ambient air and climate		
	covers most of the activities in the	Other pollution reduction measures		
	used by the SEEA central framework	Waste management		
	excluding 6, Protection of biodiversity	Wastewater management		
	excluding 6, Protection of biodiversity and landscapes (and 8.6, Research on species, etc.). It overlaps with certain pollution control measures in the sustainable use category, such as promotion of sustainable agriculture. If the written objective is to reduce negative impacts, it should be included here, if it is to improve biodiversity in production systems it should be in "sustainable use	 Coastal and marine pollution debris management 		
Protected areas and	<i>In situ and ex situ measures</i> to protect and safeguard biodiversity	 Protected areas management, including Indigenous and communities conserved 		
other conservation	at genetic, species and ecosystem levels.	expansion of protected areas including		
measures		transboundary areas and biodiversity corridors		
		 Landscape/seascape conservation, including valuable 		
		ecosystem services		
		 Poaching, wildlife trade and CITES 		
		 Loss of valuable habitats, including targeted conservation of species outside PAs 		
		 Ecosystem connectivity 		

T

Classification Level 1	Definition	Classification Level 2
		 Ex situ conservation of species (botanical gardens and gene banks)
		 Other effective area-based conservation measures (OECMs), including buffer zones.
Restoration	The restoration or the rehabilitation of degraded ecosystems for biodiversity and ecosystem services objectives.	 Reintroduction of species - consider specific sectors under this (e.g., mined out areas, reforestation)
		 Site redevelopment and engineering
		Site management
		• Post-disaster relief
Sustainable use Sustainable use of renewable natural resource as defined by the CBD. This category is distinguished from the groop occoperty by its focus on	Sustainable use of renewable natural	Agrobiodiversity
	Sustainable agriculture	
	the green economy by its focus on ecosystem	Sustainable aquaculture
	services primarily production and the	Sustainable fisheries
	underlying support services. Activities	Sustainable forestry
	are targeted towards improving biodiversity outcomes in coordination	Sustainable land management
	with other co-benefits related to	Sustainable marine and coastal management
		Sustainable rangelands
		Sustainable wildlife

The first step in the BER process was to map expenditure items on ministries, departments, and agencies (MDAs) budgets to the BIOFIN expenditure categories described in Table 6 which was followed by their attribution. Expenditures that were directly related to biodiversity were considered to have 100% attribution. Expenditures which were not primarily targeted to biodiversity but had a contribution towards conservation and preservation of biodiversity were identified and the portion that could be attributed to biodiversity was determined.

The exercise of identifying relevant biodiversity expenditure from MDAs budgets was not straightforward because biodiversity conservation is not a primary objective of many of the institutions reviewed. Information collected from published budget data was complimented by a review of more detailed information from the MDAs Medium Term Expenditure Framework (MTEF)³. The MTEF and annual reports contain more information on the expenditure items than the published budget books.

Department budgets from the relevant ministries use a program approach. For each department, there are programs which are further divided into sub-programs. Then, each sub-program is divided into activities. In this approach, all programs and sub-programs were reviewed to determine activities which are relevant to biodiversity. Activities from sub-projects were identified as having no relevance, direct relevance, or indirect relevance to biodiversity conservation, based on the expected objectives. For each identified biodiversity relevant activity, an attribution coefficient was applied to the budget amounts assigned to each activity. The attribution coefficient was based on the assessment of the relevance of the activities to biodiversity conservation. The relevance of each activity on biodiversity conservation was informed by expert consultations with the sector experts and discussions amongst BIOFIN national team of experts. The methodology for assigning the attribution coefficients to budget items is explained in Table 7 below.

³ The MTEF is annual, rolling three year-expenditure planning. It sets out the medium-term expenditure priorities and hard budget constraints against which sector plans can be developed and refined. MTEF also contains outcome criteria for the purpose of performance monitoring

Biodiversity Relevance	Criteria	Attribution
Direct	Biodiversity conservation is the <i>primary</i> objective of the program or project	100%
Direct Low	Biodiversity conservation is a significant objective of the program or project	75%
Indirect High	Biodiversity is an important objective of the program or project	50%
Indirect Medium	Biodiversity is a secondary/tertiary objective of the program or project	25%
Indirect Low	Biodiversity is relevant to the overall objectives of the activity, not explicitly stated and contributes little to conservation	10%
Indirect Very Low	Biodiversity is relevant to the overall objectives of the activity, but not explicitly stated as an objective and contributes little to conservation	5%
None	Biodiversity is not relevant to the overall objectives of the program, project or activity or the amount of financing is negligible.	0%

Table 7: Methodology for Biodiversity Relevance and Attribution

The biodiversity relevance categories provided adequate assessment of the budget items from institutions that were assessed. A more detailed analysis would have been required to break down the relevancy into say 21% instead of 25%, but limitations of data availability and the level of effort that would have been required to perform such analysis justified the application of identified relevance categories. Additionally, the overall assessment of biodiversity relevant expenditure would not change much even if extra efforts were taken to do the assessment to a more accurate rate of 21% instead of 25%.

In the case of institutions that do not use the program approach in their budgets, analysis of activities in the budget was made. The relevance of the activities to biodiversity was determined by using the criteria provided in Table 7 and the appropriate attribution was given for the identified activities.

2.2 Methodology for RGoZ as Implementing Entity

The expenditure review for the RGoZ focused on the institutions that were identified to have activities that are either directly or indirectly related to biodiversity. A brief description of these institutions is given in section 2. The analysis captured and reflected biodiversity expenditure from implementing institutions rather that financing institutions. Government institutions receive funds as either subventions from the treasury or grants/loans from development partners. These funds are reflected in the activities that are done by the receiving/implementing institutions. The key source of information for the analysis of biodiversity expenditure is the budget books that are published by the Ministry of Finance every year.

The budget cycle for the RGoZ starts with the preparation and release of macroeconomic projections. This is done by the Ministry of Finance and Planning (MoFP). It is usually done in September/October. This step is followed by sector dialogue with development partners who are interested in supporting some programs or activities in the budget. Thereafter, budget guidelines are prepared by the MoFP and budget training to the MDAs is carried out. The budget guidelines are used by MDAs in their submissions towards the MTEF. Budgets that have been prepared by MDAs in accordance with the budget guidelines are submitted for deliberations by the sectoral committees of the House of Representatives (HoR) and for final approval by the HoR. Budgets come into effect after being approved by the HoR.

The budget for each MDA is broken down into programs, then sub-program, and then activities and sub activities. Activities represent expenditures which may either be recurrent or developmental. Recurrent expenditure represents the expenditures required to maintain day-to-day activities, while the development expenditure represents typically time-bound projects that are either funded through domestic resources, external resources (grants or loans), or both. Figure 5 below represents a schematic of the level of detailed budget allocations and expenditures by a government department.





In Figure 5 above, a program that is related to biodiversity conservation is identified. Such a program will have one or more sub programs. For each sub program, there are activities and sub activities. The cost elements are allocated at the sub activity level. The activities are divided into two groups: administrative activities, and nonadministrative activities. Administrative activities comprise of all the cost items incurred by either a department or an agency to enable it to carry out its daily activities. These cost items are such as salaries and benefits, transport cost for non-biodiversity activities, stationery, furniture, building maintenance, extra duty allowance, board meetings and other meetings related to the general administration. Non administrative activities comprise of all the cost items that have a direct link to biodiversity conservation. These are such as: (i) travel, DSA, fuel, meetings, food, and refreshments for activities that support biodiversity conservation; (ii) purchase of equipment that support biodiversity; (iii) awareness and campaigns for biodiversity; (iv) support supervision for entities tasked with biodiversity conservation; (v) construction of infrastructure that support biodiversity conservation; and (vi) support

to community groups and community activities related to biodiversity conservation.

The time for the review is from 2016/17 to 2020/21 fiscal year. This is a five years' time, which is enough to give a good indication of biodiversity related expenditure from the institutions that were identified. The baseline values for biodiversity related expenditures are calculated for each MDA by assessing the expenditure at the activities level. Activities are in the third level of the budgeting hierarchy. Budgeting at the activity level includes expenditure for salaries, administrative services and support as well as non-administrative expenditure, some of which related to biodiversity conservation and protection. For sub-programs that are relevant to biodiversity, the administrative and support activities contribute to biodiversity protection and conservation. Therefore, a portion of this budget must be allocated to biodiversity expenditure.

The determination for biodiversity relevance was done in two stages. The first stage was done at the sub-program level. The objectives of the subprogram were used to gauge its relevance to biodiversity. The second stage was at the activity level. For each sub-program there are activities that are more relevant to biodiversity than others. Activities are further broken down in sub activities. Funds are allocated at the sub-activity level. Therefore, the attribution was assigned to budget items at the sub-activity level where the actual budget implementation takes place. The attribution was based on the outcome/impact approach to biodiversity. For example, an activity may have two sub activities namely transport services and cleaning of buildings. Transport services relates to the cost incurred by the particular department to do field trips related to biodiversity conservation while the cleaning of buildings is essential for provision of a good working condition for the staff of the department. However, the field trips are expected to have a larger contribution to biodiversity outcomes than cleaning of buildings. In this case, a higher attribution rate was assigned to transport services.

Again, differences of the attribution rates for similar sub-activities were observed across departments. For example, transport services for the Department of Environment is assumed to have more impact to biodiversity conservation than transport services for the department of urban planning, and hence they were assigned different attribution rates.

The expenditure relevant to biodiversity was analysed by assigning attribution rate to the budget items as explained in Table 8. The attribution rates were applied to both administrative and nonadministrative expenditure. The apportioning of the administrative and support budget is explained in the table below

Table	8:	Estimation	of	biodiversity	budget	in
MDA k	วมด	lget				

Type of Data	Calculation
Total expenditure for the sub-program (administrative and non-administrative)	A
Biodiversity-related expenditure	В
Proportion of biodiversity-related expenditures	B/A

The budget data obtained from different MDAs contained projections up to year 2022/23. The base year for the analysis is 2020/21, and the biodiversity relevant expenditure is projected for a five-year period (2021/22 – 2025/26). The year-on-year biodiversity relevant expenditure for 2023/24 to 2025/26 was projected using a real growth rate of 4%. The conversion rate of TZS 2320 per USD was used for the projection. The same rate was used for all years 2023/24 to 2025/26, therefore, the biodiversity relevant expenditure for this year is projected at constant 2022 USD prices. The determination of real growth rate is indicated in Table 9.

Table 9: Real growth rate

DESCRIPTION	RATE
Post-COVID 19 projected rates	7%
Average inflation rate (2021-2022)	2.4 %
Real Growth rate	4.6%
Exchange rate (USD/TZS)	TZS 2320

2.3 Methodology for Non-Government Implementing Entities

Non-Government implementing entities comprised of organisations whose primary objective is biodiversity conservation and business entities that support biodiversity conservation through Corporate Social Responsibilities (CSR) or similar initiatives. Organisations which were wholly focused on biodiversity conservation were mainly Non-Government Organisations (NGOs). Their activities were project based, and they were receiving funds from local and international partners. NGOs were receiving funding directly from local and international partners; therefore, their funding is separate from the ODA funding received by MDAs. NGOs are registered and are required to report their activities to relevant authorities, however, tracking funds flow and expenditure for NGOs has proven to be a difficult task.

Tourism sector significantly contributes to the economy of Zanzibar. Business entities involved in tourism benefits directly from biodiversity resources. Zanzibar Association of Tourism Investors (ZATI) is a member organisation that represents business entities in tourism. Identified organisations were invited into a workshop and they were asked to provide information regarding biodiversity conservation activities they undertake. Information collected from the nongovernment implementing entities was included in this biodiversity expenditure review.

CHAPTER THREE

3. BIO-DIVERSITY SPENDING

3.1 Stakeholders in biodiversity financing

The PIR that preceded this biodiversity expenditure review (BER) identified and assessed the existing policies, practices and institutions in Zanzibar which have a mandate on biodiversity-related issues. The assessment included the legal and regulatory environment facilitating biodiversity conservation and the capacity and effectiveness of institutions carrying out biodiversity-related activities. The focus of this report is on those institutions that were identified in the PIR.

The PIR identified various government departments and agencies responsible for protecting and conserving biodiversity in Zanzibar. Due to the multifaceted nature of biodiversity, activities related to biodiversity protection and conservation are found in several departments and agencies. The RGoZ does not have a single agency responsible for biodiversity. However, the primary responsibility for biodiversity conservation lies with the Department of Environment (DoE) in the First Vice President's Office. Other departments and agencies address biodiversity in their sectors. Sectors that are associated with biodiversity were identified. These are agriculture, forestry, fisheries, tourism, and blue economy.

The biodiversity related budgets for the RGoZ are estimated from the programs, sub-programs, activities, and sub-activities as explained in the methodology section. The assessment considers the budgeted amount that is indicated in the MDAs budgets. Some programs that appear in MDAs budgets are financed from external sources, in this case, the external financing is captured in the overall budgets of the MDAs. There are cases where projects financed from external sources are not included in the budgets of MDAs. The expenditure for projects that are not included in the MDAs budget is accounted for when assessing expenditure from development partners.

3.2 First Vice Presidents Office-Department of Environment and Zanzibar Environment Management Agency

First Vice-President's Office (FVPO), Department of Environment oversee and coordinates all matters related to environmental management and climate change and incorporate biodiversity aspects and the planned Zanzibar Biodiversity Strategic and Action Plan (ZBSAP). The Department of Environment (DoE) under the First Vice President Office (FVPO) is tasked with

the responsibility of sustainable management of the environment and in the enforcement of laws and regulations aimed at protecting and conserving terrestrial, coastal zone, and marine resources. Department of Environment plays a pivotal role in achieving development goals related to environment management and climate change as they are outlined in national level planning frameworks. Following program-based budgeting undertaken by the RGoZ, the FVPO oversees five programs. Out of these five programs, one program is related to biodiversity conservation. This program is called "supervision of the environment and management of climate change" with two sub programs namely Environmental Supervision, and Coordinating environment and climate change issues.

Under the First VPO, another agency Zanzibar Environmental Management Authority (ZEMA), is responsible for regulating all environmental impact assessments and overseeing mitigation plans in associated investments.

Under the First Vice President Office (FVPO), each sub program has its budgetary allocation. Environment supervision (ES) sub-program is managed by the Zanzibar Environment ManagementAgency (ZEMA) and the coordinating environment and climate change (ECC) issues sub- program is managed by the Department of Environment (DoE).

Budget analysis for the department of environment revealed that it deals with three major areas related to biodiversity conservation. These areas are:

- Preparation of laws and regulations on management of the environment, climate change, and biodiversity conservation.
- Analysing and documenting destruction to terrestrial and marine ecosystems. The department is also responsible for instituting measures to slow down and halt destruction in the identified areas as well as restoration measures.
- Conducting awareness campaigns to the community, as well as engaging the community to participate in biodiversity conservation initiatives in collaboration with other public and private sector institutions.

Zanzibar Environmental Management Agency (ZEMA) is entrusted with the responsibility

of safeguarding the environment. It issues environmental certificates, permits and approvals, undertake environmental monitoring, promote environmental awareness, and enforce regulations and standards. Budget analysis for the sub-program managed by ZEMA revealed that it deals with three key issues related to biodiversity conservation. These are:

- Supervising Environmental Impact Assessments (EIA) and inspecting environmental management plans for different projects.
- Enforcement of environment laws and regulations
- Community awareness and engagement on biodiversity conservation.

Biodiversity expenditure review started by itemising the cost items for each of the two sub- programs that are relevant for biodiversity conservation. Each cost item was assigned biodiversity expenditure attribution coefficient depending on the assessment of the extent to which it is related to biodiversity conservation (Table 7). Since the two sub-programs have a high relevance to biodiversity, all expenses of a general nature were assigned a 25% attribution rate, while salaries and allowances were assigned an attribution of 50%. Additionally, activities related to preparation of environment laws and policies as well as environment surveillance were assigned an attribution rate of 75% or higher.

3.2.1 Budgetary allocation and disbursement for the DoE and ZEMA

The budget is allocated for recurrent expenditure (REC) and development expenditure (DEV). Recurrent expenditure covers salary and allowances, and other administrative expenditure while development expenditure is directed to infrastructure development and other expenditure which is non-repetitive. The actual expenditure for the environment supervision and the environment and climate change sub-programs is indicated in Figure 6. Trend analysis indicates that the actual budget expenditure for the environment supervision (ES) and the environment and climate change (EEC) sub programs has been decreasing for the past three years. The expenditure for ES has decreased from TZS 476,270,000 in 2018 to TZS 205,187,000 in 2021(a decrease of about 56%). The expenditure for EEC has decreased from TZS 358,458,000 in 2018 to TZS 322,295,000 in 2021(a decrease of 10%). The analysis shows that for the past three years ZEMA received budget allocation for recurrent expenditure only while DoE received budget allocation for both recurrent and development expenditure.



Figure 6: Actual Expenditure for ES and EEC for 2018/19-2020/21 in thousands of TZS

The budget allocation and disbursement for the DoE and ZEMA for the past three years is indicated in Table 10-1 to 10-3. The figures are in thousands of TZS.

		2018/19						
	1	Actual Expendi	ture	Budgeted Expenditure				
		TZS ('000')			TZS ('000')			
	Dev	Rec	Total	Dev	Rec	Total		
ES	0	476,270	476,270	0	509,361	509,361		
EEC	0	358,458	358,458	0	1,336,700	1,336,700		
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Table 10-1: Actual versus budgeted expenditure for DoE and ZEMA 2018/19

ES=Environment Supervision, ECC= Environment and Climate Change

Table 10-2: Actual versus budgeted expenditure the DoE and ZEMA 2019/20

	2019/20						
	Actual Expenditure			Budgeted Expenditure			
		TZS ('000')			TZS ('000')		
	Dev	Rec	Total	Dev	Rec	Total	
ES	0	436,146	436,146	0	518,768	518,768	
EEC	140,214	185,874	326,088	806,600	388,456	1,985,542	
				1 01			

ES=Environment Supervision, ECC= Environment and Climate Chan

Table 10-3: Actual versus budgeted expenditure for the DoE and ZEMA 2020/21

		2020/21						
		Actual Expenditure TZS ('000')			Budgeted Expenditure TZS ('000')			
	Dev	Rec	Total	Dev	Rec	Total		
ES	0	205,187	205,187	0	569,028	569,028		
EEC	152,444	169,851	322,295	1,265,712	425,116	1,690,828		
	maand Cumanisian	ECC- Environ	manut and Clim	ata Chanara				

ES=Environment Supervision, ECC= Environment and Climate Change

A further analysis on budget performance (Budgeted verses Actual disbursements) for the two subprograms is indicated in Table 11.

Table 11: Budget performance for DoE and ZEMA 2018/19-2020/21

Department of Environment and ZEMA- Budget Performance							
2018-19 2019-20 2020-21							
Program							
Environmental Supervision	93.50%	74.88%	56.64%				
Coordinating environment and climate change issues	26.82%	19.91%	21.15%				

The Environment supervision sub-program actual disbursements were 93%, 75% and 57% for the years 2018/19, 2019/20 and 2020/21 respectively. The actual disbursements for the Environment and climate change issues were much lower ranging between 21%-26% for the past three years. The low disbursements rates are observed because of low release of funds earmarked for development expenditure. The low release of development expenditure funds was observed for funds from RoGZ as well as funds from development partners. The low release of funds may be attributed to shortage of funds from both internal and external sources of funds.

3.2.2 Biodiversity relevant expenditure for DoE and ZEMA

Biodiversity relevant expenditure in nominal prices for the two sub-programs managed by the DoE and ZEMA is shown in Table 12 below. The analysis shows that for environment management sub-program the biodiversity relevant expenditure is about 50% of the total expenditure. Further, the biodiversity relevant expenditure for the coordinating the environment and climate change issues sub-program is about 55% of the total expenditure. These two sub-programs are highly related to biodiversity conservation and hence the high attribution rates observed.

	2018-19	2019-20	2020-21	2021-22		
Sub Program: Environmental Supervision						
Total Expenditure TZS ('000')	476,270	436,146	205,187	416,728		
Total Biodiversity Relevant Expenditure TZS ('000')	237,907	221,167	104,049	211,320		
Proportion of biodiversity related expenditure	0.50	0.51	0.51	0.51		
Sub Program: Coordinating environment and climate change issues						
Total Expenditure TZS ('000')	358,458	326,088	322,295	334,145		
Total Biodiversity Relevant Expenditure TZS ('000')	198,431	175,826	173,781	180,171		
Proportion of biodiversity related expenditure	0.55	0.54	0.54	0.54		
Total Biodiversity Related Expenditure TZS ('000')	436,338	396,992	277,829	391,490		
Exchange Rate USD/TZS	2.274	2.303	2.31	2.311		
Total Biodiversity Related Expenditure USD	191,881	172,380	120,272	169,40		

Table 12: Biodiversity relevant expenditure for the DoE and ZEMA 2018/19-2021/22

Biodiversity expenditure for the two sub-programs managed by the DoE and ZEMA was tagged by BIOFIN categories as indicated in Table 13 below. The figures are in thousands of TZS.

Table 13: Biodiversity relevant expenditure by BIOFIN categories

BIOFIN CATEGORIES	2018-19	2019-20	2020-21	2021-22
Biodiversity and development planning TZS ('000')	354,695	348,025	164,707	254,174
Biodiversity awareness and knowledge TZS ('000')	44,760	31,475	45,324	30,820
Green economy TZS ('000')	0	0	56,000	89,858
Pollution management TZS ('000')	14,220	11,358	6,976	9,855
Protected areas and other conservation measures TZS ('000')	21,464	6,135	4,823	6,784
Total TZS ('000')	435,139	396,993	277,830	391,490

Figure 7: biodiversity relevant expenditure for the DoE (2018/19-2021/22)



Cumulative biodiversity relevant expenditure for the years 2018-19 to 2021-22 is indicated in Figure 7. The analysis show that the largest share of biodiversity relevant expenditure was directed towards biodiversity development and planning (75%), followed by biodiversity awareness and knowledge (10%). Green Economy accounts for 10% of the biodiversity expenditure, while pollution management and protected areas and other conservation measures account for 3% and 2% of biodiversity relevant expenditure respectively. A further assessment of biodiversity expenditure for the DoE and ZEMA was made to determine the development and recurrent expenditure. The assessment is presented in Table 15. The analysis of development versus recurrent biodiversity expenditure shows that development expenditure is 0.44% in 2018/19 and 0.07% in 2019/20. Most of the biodiversity activities for DoE and ZEMA are on coordination and surveillance. There activities are predominantly recurrent. This may explain the very low proportion of development expenditure compared to recurrent expenditure.

Table 14. Biodiversity development and recurrent expenditure for DoE and ZEMA for 2018/19 and2019/20

	2018-19	2019-20
Sub Program: Environmental Supervision		
Total Biodiversity Relevant Expenditure TZS ('000')	237,907	221,167
Biodiversity Relevant Development Expenditure TZS ('000')	1,645	281.75
Biodiversity Relevant Recurrent Expenditure TZS ('000')	222,042	209,526.75
Sub Program: Coordinating environment and climate change issues		
Total Biodiversity Relevant Expenditure TZS ('000')	198,431	175,826
Biodiversity Relevant Development Expenditure TZS ('000')	200	0.00
Biodiversity Relevant Recurrent Expenditure TZS ('000')	198,231	175,826
Total Biodiversity Related Expenditure TZS ('000')	436,338.50	396,992.75
Total Biodiversity Relevant Development Expenditure (A)	1,845.25	281.75
Total Biodiversity Relevant Recurrent Expenditure (B)	420,273.25	385,353.00
Proportion of development versus recurrent expenditure (B/A)	0.44%	0.07%

3.3 Ministry of Agriculture, Irrigation, Natural Resources and Livestock

Ministry of Agriculture, Irrigation, Natural Resources and Livestock (MAINRL) has three departments and two agencies that have functions which are related to biodiversity. The **Department of Forestry and Non-Renewable** Natural Resources is responsible for sustainable forest management including the terrestrial forest reserves that harbor wildlife in core protected areas and Community Forest Management Areas (CoFMAs) as buffer /or corridor areas. The Department of Agriculture promotes sustainable agriculture practices, works to minimise encroachment in public lands, forests, woodlands, wetlands, and pastures; and maintenance of biological farmlands uses. Zanzibar Agriculture Research Institute (ZARI) undertakes research in the agriculture sector. The Department of Irrigation promotes sustainable use of water resources for agriculture production. Zanzibar Livestock Research Institute (ZALIRI) is responsible for

conducting research and knowledge creation in sustainable livestock management.

The Ministry of Agriculture, Irrigation, Natural Resources and Livestock (MAINRL) oversees four programs in the RoGZ budget. Out of these four programs, three programs have relevance to biodiversity conservation. These programs are:

- i. Agriculture development.
- ii. Forest resources development; and
- iii. Livestock development.

Each of these programs receive budget allocations which are managed by either departments or institutes under the ministry.

3.3.1 Department of Agriculture and Department of Irrigation and Zanzibar Agriculture Research Institute

The agriculture development program has three sub programs. These sub-programs are (i) irrigation (ii)

agriculture services and (iii) agriculture research and training. Two departments at the MAINRL, the department of agriculture and the department of irrigation oversees the agriculture services and the irrigation sub-programs respectively. Zanzibar Agriculture Research Institute (ZARI) oversees the agriculture research and training sub-program.

Budget analysis for the department of agriculture revealed four issues that are relevant to biodiversity. These are:

- Promotion of sustainable agricultural practices which put less strain on biodiversity ecosystems.
- Instituting measures for control of plant diseases and pests
- Management of pesticides and herbicides to limit harmful effects that may arise from their use.
- Development of laws, guidelines and regulations governing the agriculture sector including climate smart agriculture.

The department of irrigation is responsible for development and management of irrigation schemes. Analysis of its budgets revealed that it deals with the following issues that are related to biodiversity conservation.

- Management of water resources for agriculture
- Conservation of water sources for sustainable use

Zanzibar Agriculture Research Institute (ZARI) is responsible for conducting research in the agriculture sector. Budget analysis for ZARI revealed the following issues related to biodiversity conservation:

- Generating and dissemination knowledge on best agriculture practices
- Development of new seeds and conservation of indigenous species of plants
- Collection of sector data and statistics for evidence-based policy development.

3.3.3.1 Budgetary allocation and disbursement for the Department of Agriculture, Department of Irrigation and ZARI

Budget expenditure for the department of agriculture (DoA), department of irrigation (DoI) and ZARI is indicated in Figure 8. The budget expenditure has been steady over the past four years except for year 2019/20 and 2020/21. In these two years, there was a sharp increase in the development budget for the DoI.



Figure 8: Actual Budget for Dol, ZARI, and DoA for 2017/18-2020/21 in thousands of TZS

The budget allocation and disbursement for the DoI, DoA and ZARI for the past four years is indicated in Table 15-1 to Table 15-4 below. The figures are in thousands of TZS.

		2017/18						
	Ac	tual Expenditu	Ire	Budgeted Expenditure				
	TZS ('000')			TZS ('000')				
	Dev	Rec	Total	Dev	Rec	Total		
Dol	180,000	1,320,000	1,500,000	25,740,000	1,410,000	27,146,760		
ZARI	0	2,490,800	2,490,800	0	2,942,548	2,942,548		
DoA	0	4,350,000	4,350,000	0	5,304,666	5,304,666		

Table 15-1 Actual expenditure versus budgeted expenditure for Dol, DoA and ZARI 2017/18

Table 15-2 Actual expenditure versus budgeted expenditure for Dol, DoA and ZARI 2018/19

	2018/19						
	А	ctual Expenditur	re	Bud	Budgeted Expenditure		
	TZS ('000')			TZS ('000')			
	Dev	Rec	Total	Dev	Rec	Total	
Dol	659,732	946,870	1,606,602	9,000,000	7,510,000	16,510,000	
ZARI	0	3,053,454	3,053,454	0	3,161,707	3,161,707	
DoA	0	3,672,303	3,672,303	0	3,688,601	3,688,601	

Table 15-3 Actual expenditure versus budgeted expenditure for Dol, DoA and ZARI 2019/20

		2019/20					
	Ac	tual Expendit	ure	Budgeted Expenditure			
		TZS ('000')			TZS ('000')		
	Dev	Rec	Total	Dev	Rec	Total	
Dol	5,640,000	436,720	1,547,919	33,860,000	860,070	34,726,771	
ZARI	0	2,435,157	2,435,157	0	2,435,157	2,435,157	
DoA	0	3,964,824	3,964,824	0	4,288,529	4,288,529	

Table 15-4 Actual expenditure versus budgeted expenditure for Dol, DoA and ZARI 2020/21

	2020/21						
	Actual Expenditure			Budgeted Expenditure			
		TZS ('000')			TZS ('000')		
	Dev	Rec	Total	Dev	Rec	Total	
Dol	20,000,000	422,860	20,422,860	67,090,000	876,480	67,966,480	
ZARI	0	2,260,000	2,260,000	0	3,050,000	3,050,000	
DoA	262,110	2,093,000	2,355,110	1,150,000	4,690,000	5,840,000	

The trends for budget allocation versus actual expenditure for the Dol, ZARI and DoA are indicated in the Figure 9. The analysis disaggregated the budget into recurrent and development expenditure. It also analysed budgeted amounts versus actual amounts for both recurrent and development expenditure. Figure 6 shows budgeted recurrent expenditure (Bud-REC), actual recurrent expenditure (Actual-REC), budgeted development expenditure (Bud-DEV), and actual development expenditure (Actual-DEV). The analysis shows that for the past four years, there was budget allocation to development and recurrent expenditure. However, the funds disbursed were far less compared to the budgeted amounts especially for the development expenditure. For the year 2017/18 to 2019/20 ZARI and DoI did not receive budget for development expenditure. In the same period, the disbursement for recurrent expenditure was slightly less than the budgeted amounts.



Figure 9: Trends for budget allocation versus actual expenditure for the Dol, ZARI and DoA

In most cases the actual expenditure is less than the budgeted amount because the funds released to the sub-programs are less than the budgeted amounts. This can be attributed to budgetary constraints for internal sources as well as external sources of funds. The budget performance for the three sub-programs for the years analysed is shown in Table 16.

Table 16: Budget performance for Dol, ZARI and DoA

Dol, ZARI, DoA- Budget Performance								
	2017-18	2018-19	2019-20	2020-21				
Program								
Irrigation	5.53%	9.73%	4.46%	30.05%				
Agriculture Research and Training	84.65%	96.58%	100.00%	74.10%				
Agriculture Services	82.00%	99.56%	92.45%	40.33%				

3.3.3.2 Biodiversity relevant expenditure for Dol, ZARI and DoA

Biodiversity relevant expenditure in nominal prices for the three sub-programs managed by the DoI, ZARI and DoA is shown in Table 17. The analysis shows that for the irrigation sub-program the biodiversity relevant expenditure ranges from 5%-9% of the total expenditure. The analysis shows that there is a huge budget increase for the department of irrigation in 2020/21 and 2021/22. The increase is 13 times more than the budget for 2019/20. This increase comes from funds for the implementation of a project to construct dams for

irrigation and prevention of floods in floods plains. The biodiversity relevant expenditure for the department of irrigation is still at 4% to 6% despite this huge increase in budget because irrigation expenditure was assigned low coefficient of attribution. The biodiversity relevant expenditure for the agriculture research and training sub-program ranges from 8% to 10% while that of agriculture services sub-program range from 5% to 7% of the total expenditure.
Table 17: Biodiversity relevant expenditure for Dol, ZARI and DoA 2018-19 to 2021-22

	2018-19	2019-20	2020-21	2021-22
Sub Program: Irrigation				
Total Expenditure TZS ('000')	1,606,602	1,547,919	20,422,860	23,868,075
Total Biodiversity Relevant Expenditure TZS ('000')	136,804	82,069	1,225,372	991,039
Proportion of biodiversity related expenditure	0.09	0.05	0.06	0.04
Sub Program: Agriculture research and training				
Total Expenditure TZS ('000')	3,333,109	2,435,157	2,260,000	1,732,884
Total Biodiversity Relevant Expenditure TZS ('000')	333,236	243,516	226,000	237,765
Proportion of biodiversity related expenditure	0.10	0.10	0.10	0.14
Sub Program: Agriculture services				
Total Expenditure TZS ('000')	3,672,303	3,964,824	2,355,110	2,290,067
Total Biodiversity Relevant Expenditure TZS ('000')	198,944	204,242	117,756	137,404
Proportion of biodiversity related expenditure	0.05	0.05	0.05	0.06
Total Biodiversity Related Expenditure TZS ('000')	668,983	529,825	1,569,127	1,366,207
Exchange Rate USD/TZS	2.274	2.303	2.31	2.311
Total Biodiversity Related Expenditure USD	294,188	230,058	679,275	591,176

Biodiversity expenditure for the three subprograms managed by the Dol, DoA and ZARI was tagged by BIOFIN categories as indicated in Table 18. The biodiversity relevant expenditure for years 2018/19 to 2021/22 was directed to biodiversity development and planning, biodiversity awareness and knowledge and sustainable use.

Table 18: Expenditure by BIOFIN categories for Dol, DoA, and ZARI

Biodiversity development and planning TZS ('000')	0	0	169,466	148,917
Biodiversity awareness and knowledge TZS ('000')	339,268	247,207	112,667	191,558
Sustainable use TZS ('000')	329,716	282,619	1,286,684	1,024,656
Total	668,984	529,826	1,568,817	1,365,131

Analysis of cumulative biodiversity relevant expenditure for years 2018/19 to 2021/22 for Dol, DoA and ZARI is shown in Figure 11. Expenditure directed towards sustainable use account for about three quarters of the total expenditure for years 2018/19 to 2021/22.

Figure 10: Cumulative biodiversity expenditure for Dol, DoA and ZARI for 2018/19 to 2021/22



The biodiversity expenditure for Dol, DoA and ZARI was analysed to determine the proportion of development and recurrent expenditure. Table 19 presents the analysis of development and recurrent biodiversity expenditure for Dol, DoA and ZARI. The biodiversity expenditure on development activities for these three departments is 9.52%

in 2018/19 and 2.32% in 2019/20. The relatively high proportion of development expenditure for 2018/19 is contributed by a project to construct water storage dams for irrigation and canals to control floods in flood plans. This project is executed by the department of irrigation.

Table 19. Biodiversity development and recurrent expenditure for Dol, DoA and ZARI 2018/19 and 2019/20

	2018-19	2019-20
Sub Program: Irrigation		
Total Biodiversity Relevant Expenditure TZS ('000')	136,804	82,069
Biodiversity Relevant Development Expenditure TZS ('000')	48,746	11,148
Biodiversity Relevant Recurrent Expenditure TZS ('000')	88,057	70,920
Sub Program: Agriculture research and training		
Total Biodiversity Relevant Expenditure TZS ('000')	333,236	243,516
Biodiversity Relevant Development Expenditure TZS ('000')	8,314	0.00
Biodiversity Relevant Recurrent Expenditure TZS ('000')	324,922	243,516
Sub Program: Agriculture services		
Total Biodiversity Relevant Expenditure TZS ('000')	198,944	204,242
Biodiversity Relevant Development Expenditure TZS ('000')	1075	875
Biodiversity Relevant Recurrent Expenditure TZS ('000')	197,869	203,367
Total Biodiversity Related Expenditure TZS ('000')	668,983	529,825
Total Biodiversity Relevant Development Expenditure TZS ('000')	58,135	12,023
Total Biodiversity Relevant Recurrent Expenditure TZS ('000')	610,848	517,802
Proportion of development versus recurrent expenditure	9.52%	2.32%

3.3.2 Department of forestry and nonrenewable resources

The forest resources development program is implemented by the department of forestry and non-renewable resources. It has two subprograms, which are (i) development and conservation of forests, and (ii) supervision and conservation of non-renewable resources. These sub-programs are managed by the department of forestry. The department of forestry is tasked with the responsibility to manage forests and wildlife. It has the following biodiversity related functions:

- 1. Community engagement on forest and wildlife conservation
- 2. Supervising conservation of forests, wildlife, and their ecosystems
- 3. Supervising sustainable use of forest and non-renewable resources.
- 4. Restoration of areas used for mining of sand and aggregates for construction work.

5. Surveillance of protected areas.

The non-renewable resource in this case refers to the sand, stones, and aggregates used for construction. The sand, stones and aggregates quarries are supervised by the department of forestry and non-renewable resources. Mining of construction materials pose a threat to biodiversity in the two ways. First, in some cases, mangroves and other natural forests are cleared for mining purposes. This leads to land degradation and loss of biodiversity. Second, sand and stone mining along riverbanks increase soil erosion. Therefore, one of the functions for the department of forestry is to ensure that mining activities for sand, stones and aggregates are carried sustainably.

3.3.4.1 Budgetary allocation and disbursement for the department of forestry and non-renewable resources

Budget allocation for the department of forests and non-renewable resources is indicated in figure 11.





The department is responsible for (i) conservation of forests and (ii) management of non-renewable resources. The budget expenditure for the department of forestry and non-renewable resources is presented in two sub-categories-the forestry (FOR) and the non-renewable resources (NRR). The budget expenditure has been fluctuating over the years. Except for year 2016/17, the budget for conservation of forests has been much larger than the budget for management of non-renewable resources. The budget allocation and disbursement for the department of forestry and non-renewable resources is indicated in Table 20. The figures are in thousands of TZS.

Table 20-1: Actual expenditure versus budgeted	expenditure for NRR and FOR 2016/17
	0010/17

	2016/17					
	Actual Expenditure			Buo	nditure	
	TZS ('000')				TZS ('000')
Program	Dev	Rec	Total	Dev	Rec	Total
Development and conservation of forests	0	37,440	37,440	0	96,710	96,710
Supervision and conservation of non-renewable resources	0	1,340,000	1,340,000	0	1,570,000	1,570,000

Table 20-2: Actual expenditure versus budgeted expenditure for NRR and FOR 2017/18

	2017/18					
	A	ctual Expend	iture	Buc	dgeted Exper	nditure
	TZS ('000') TZS ('000'))		
Program	Dev	Rec	Total	Dev	Rec	Total
Development and conservation of forests	0	2,090,000	2,090,000	0	2,580,000	2,580,000
Supervision and conservation of non-renewable resources	0	155,350	155,350	0	191,660	191,660

	2010/19					
	Actual Expenditure			Bu	diture	
	TZS ('000')				TZS ('000')
Program	Dev	Rec	Total	Dev	Rec	Total
Development and conservation of forests	0	2,090,000	2,090,000	0	2,580,000	2,580,000
Supervision and conservation of non-renewable resources	0	155,350	155,350	0	191,660	191,660

2010/10

Table 20-3: Actual expenditure versus budgeted expenditure for NRR and FOR 2018/19

Table 20-4: Actual expenditure versus budgeted expenditure for NRR and FOR 2019/20

	2019/20						
	Actual Expenditure			Budgeted Expenditure			
	TZS ('000')				TZS ('000')		
Program	Dev	Rec	Total	Dev	Rec	Total	
Development and conservation of forests	72	111,320	111,392	228,200	114,600	342,800	
Supervision and conservation of non-renewable resources	72,000	1,756,436	1,828,436	228,200	1,951,595	2,179,795	

The analysis of budget performance (budgeted versus disbursed amounts) is indicated in Table 21. The two components of the sub-program have received actual allocation ranging from 32% to 85% of the budgeted amounts.

Table 21 Budget performance for FOR and NRR

Department of forestry and non-renewable resources- Budget Performance

	2016-17	2017-18	2018-19	2019-20
Program				
Conservation of forest resources	38.71%	81.01%	70.16%	32.49%
Supervision and conservation of non-renewable resources	85.35%	81.05%	98.16%	83.88%

3.3.4.2 Biodiversity relevant expenditure for the Department of Forestry and Non-renewable Resources

Biodiversity relevant expenditure in nominal prices for the two sub-programs is shown in Table 22. The analysis shows that for the conservation of forests resources sub-program, the biodiversity relevant expenditure range between 40%-45%, while that of supervision and conservation of non-renewable resources range between 4%- 5% of the total expenditure for the sub-program.

Table 22: Biodiversity relevant expenditure for FOR and NRR 2018/19-2021/22

	2018-19	2019-20	2020-21	2021-22
Sub Program: Conservation of forest resources				
Total Expenditure TZS ('000')	339,551	69,799	795,000	750,000
Total Biodiversity Relevant Expenditure TZS ('000')	150,939	41,240	397,500	375,000
Proportion of biodiversity related expenditure	0.44	0.59	0.50	0.50
Sub Program: Supervision and conservation of n	on-renewable	resources		
Total Expenditure TZS ('000')	2,031,055	1,894,927	795,000	750,000
Total Biodiversity Relevant Expenditure (B)	96,730	86,474	35,775	33,000

Proportion of biodiversity related expenditure	0.05	0.05	0.05	0.04
Total Biodiversity Related Expenditure TZS ('000')	247,669.05	127,713.00	433,275.00	408,000.00
Exchange Rate USD/TZS	2.274	2.303	2.31	2.311
Total Biodiversity Related Expenditure USD	108,913.39	55,455.06	187,564.94	176,546.95

Biodiversity expenditure for the two sub-programs managed by the department of forestry and non-renewable resources was tagged by BIOFIN categories as indicated in Table 23.

Table 23: Expenditure by BIOFIN categori	es for FOR and NRR for	r 2018/19 to 2021/22	in thousands
of TZS			

BIOFIN Categories	2018-19	2019-20	2020-21	2021-22
Biodiversity awareness and knowledge TZS ('000')	0	4,471	105,488	86,964
Protected areas and other conservation measures TZS ('000')	3,000	0	270,653	251,712
Restoration TZS ('000')	133,740	34,755	25,921	27,761
Sustainable use TZS ('000')	110,929	88,488	31,212	41,563
Total TZS ('000')	247,669	127,713	433,275	408,000

Cumulative biodiversity relevant expenditure for the years 2018-19 to 2021-22 is indicated in Figure 12.

Figure 12 Cumulative biodiversity relevant expenditure for the department of forestry and nonrenewable resources 2018/19 to 2021/22



The analysis show that the largest share of biodiversity relevant expenditure was directed towards protected areas and other conservation measures (43%). Expenditure directed towards restoration was 18%, while sustainable use ad biodiversity awareness and knowledge accounted for 23% and 16% of the biodiversity relevant expenditure respectively.

Biodiversity expenditure for the department of forestry and non-renewable resources was analysed to identify development and recurrent expenditure. This analysis is presented in Table 24. Development expenditure accounted for 1.02% of biodiversity expenditure for 2018/19 and 1.27% for 2019/20. The proportion of development expenditure is very low for the forestry department. Some biodiversity management activities for the department of forestry require purchase of equipment and construction of physical infrastructure. In this regard, the proportion of development expenditure was expected to be higher than it is currently. Budget constraints may have contributed to the low expenditure on development activities.

Table 24: Biodiversity development and recurrent expenditure for department of forestry and nonrenewable resources for 2018/19 and 2019/20

	2018-19	2019-20
Sub Program: Conservation of forest resources		
Total Biodiversity Relevant Expenditure TZS ('000')	150,939	41,240
Biodiversity Relevant Development Expenditure TZS ('000')	2,000	1,602
Biodiversity Relevant Recurrent Expenditure TZS ('000')	148,939	39,638
Sub Program: Supervision and conservation of non-renewable resources		
Total Biodiversity Relevant Expenditure TZS ('000')	97,228	86,474
Biodiversity Relevant Development Expenditure TZS ('000')	498	0
Biodiversity Relevant Recurrent Expenditure TZS ('000')	96,730	86,474
Total Biodiversity Related Expenditure TZS ('000')	248,167	127,713
Total Biodiversity Relevant Development Expenditure TZS ('000')	2,498	1,602
Total Biodiversity Relevant Recurrent Expenditure TZS ('000')	245,669	126,111
Proportion of development versus recurrent expenditure (B/A)	1.02%	1.27%
Troportion of development versus recurrent expenditure (D/A)	1.02 /0	1.21 /0

3.3.3 Department of Livestock

The livestock development program is implemented by the department of livestock and the Zanzibar Livestock Research Institute (ZALIRI). It has three sub-programs, which are (i) livestock production (ii) veterinary services and (iii) livestock research. The first two sub-programs are managed by the department of livestock while the third sub-program is managed by ZALIRI. The department of livestock is tasked with the responsibility to manage livestock development. It has the following biodiversity related functions:

- Animal disease control
- Promotion of biogas as an alternative source of energy

Promotion of sustainable livestock
 management practices

3.3.5.1 Budgetary allocation and disbursement for the department of livestock and ZALIRI

Budget allocation for the department of livestock together with budget allocation and disbursement for ZALIRI is indicated in figure 13. The department of livestock is responsible for (i) livestock production (LP) and (ii) veterinary services (VS) while ZALIRI is responsible for livestock research (LR).



Figure 13: Actual expenditure for the department of livestock and ZALIRI for 2016/17 to 2020/21 in thousands of TZS

The budget expenditure has been fluctuating over the years. In all the three sub-programs, funds disbursed for the past five years has been for recurrent expenditure only.

The budget allocation and disbursement for the livestock management program is indicated in Table 25 below. The figures are in thousands of TZS

Table 25-1: Actual expenditure versus budgeted expenditure for LP, VS, and LR for 2016/17

	2016/17						
	ŀ	Actual Expenditure			dgeted Expen	diture	
	TZS ('000')			TZS ('000')			
Program	Dev	Rec	Total	Dev	Rec	Total	
Livestock Production	0	1,050,000	1,050,000	186,750	1,450,000	1,636,750	
Veterinary services	0	56,420	56,420	186,750	127,220	313,970	
ZALIRI							

Table 25-2: Actual expenditure versus budgeted expenditure for LP, VS, and LR for 2017/18

2017/18							
	A	Actual Expenditure			Budgeted Expenditure		
	TZS ('000')				TZS ('000')		
Program	Dev	Rec	Total	Dev	Rec	Total	
Livestock Production	0	1,663,000	1,663,000	0	2,043,000	2,043,000	
Veterinary services	0	57,000	57,000	0	67,000	67,000	
ZALIRI	0	500	500	0	434	434	

Table 25-3: Actual expenditure versus budgeted expenditure for LP, VS, and LR for 2018/19

	2018/19						
	ŀ	Actual Expenditure			Budgeted Expenditure		
	TZS ('000')			TZS ('000')			
Program	Dev	Rec	Total	Dev	Rec	Total	
Livestock Production	0	778,200	778,200	0	1,050,000	1,050,000	
Veterinary services	0	1,681,448	1,681,448	0	1,782,248	1,782,248	
ZALIRI	0	820,119	820,119	0	830,700	830,700	

Table 25-4: Actual expenditure versus budgeted expenditure for LP, VS, and LR for 2019/20

2019/20							
	Actual Expenditure			Bu	dgeted Expen	diture	
	TZS ('000')			TZS ('000')			
Program	Dev	Rec	Total	Dev	Rec	Total	
Livestock Production	0	32,877	32,877	0	303,563	303,563	
Veterinary services	0	1,393,333	1,393,333	0	1,450,000	1,450,000	
ZALIRI	0	1,986,584	1,986,584	1,200,000	862,200	2,062,200	

Table 25-5: Actual expenditure versus budgeted expenditure for LP, VS, and LR for 2020/21

	Actual Expenditure TZS ('000')			Budgeted Expenditure TZS ('000')			
Program	Dev	Rec	Total	Dev	Rec	Total	
Livestock Production	0	1,140,000	1,140,000	0	1,540,000	1,540,000	
Veterinary services	0	0	0			0	
ZALIRI	0	783,650	783,650	1,000,000	2,140,000	3,140,000	

The analysis of budget performance (budgeted versus disbursed amounts) is indicated in Table 26. There is a wide variation in the funds received for each component compared to the budgeted amounts. In some same cases, funds disbursed were as low as 14% of the budged amount, while in other cases, the funds disbursed exceeded the budgeted amount.

Department of Livestock- Budget Performance								
	2016-17	2017-18	2018-19	2019-20				
Program								
Livestock Production	64.15%	81.40%	74.11%	13.62%				
Veterinary services	17.97%	85.07%	79.21%	70.34%				
ZALIRI		115.21%	69.57%	33.42%				

Table 26: Budget performance for the department of livestock and ZALIRI

3.3.5.2 Biodiversity relevant expenditure for the department of livestock and ZALIRI

Biodiversity relevant expenditure in nominal prices for the two sub-programs is shown in Table 27. The analysis shows biodiversity relevant expenditure in veterinary services sub-component is 9% of the total expenditure, while that of livestock research and livestock production is 9% and 2% respectively.

Table 27: Biodiversity relevant expenditure for Department of Livestock and ZALIRI 2018/19-2021/22

	2018-19	2019-20	2020-21	2021-22
Sub Program: Livestock production				
Total Expenditure TZS ('000')	791,334	92,877	570,000	685,000
Total Biodiversity Relevant Expenditure TZS ('000')	32,969	2,125	11,400	13,700
Proportion of biodiversity related expenditure	0.04	0.02	0.02	0.02
Sub Program: Veterinary Services				
Total Expenditure TZS ('000')	1,681,448	1,393,333	570,000	685,000
Total Biodiversity Relevant Expenditure TZS ('000')	149,303	120,563	51,300	61,650
Proportion of biodiversity related expenditure	0.09	0.09	0.09	0.09
Sub Program: Livestock research				
Total Expenditure TZS ('000')	820,119	1,986,584	783,650	546,100
Total Biodiversity Relevant Expenditure TZS ('000')	67,256	117,717	47,019	32,766
Proportion of biodiversity related expenditure	0.08	0.06	0.06	0.06
Total Biodiversity Related Expenditure TZS ('000')	249,527	240,403	109,719	108,116
Exchange Rate USD/TZS	2.274	2.303	2.31	2.311
Total Biodiversity Related Expenditure USD	109,730	104,387	47,497	46,783

Biodiversity expenditure for the two sub-programs managed by the department of forestry and non-renewable resources was tagged by BIOFIN categories as indicated in Table 28.

Table 28: Expenditure by BIOFIN categories for department of livestock and ZALIRI 2018/19 to 2021/22

BIOFIN Categories	2018-19	2019-20	2020-21	2021-22
Biodiversity awareness and knowledge TZS ('000')	76,100	117,717	42,449	41,829
Sustainable use TZS ('000')	173,427	122,687	67,270	66,287
Total TZS ('000')	249,527	240,404	109,719	108,116

Cumulative biodiversity relevant expenditure for the years 2018-19 to 2021-22 is indicated in Figure 14. The analysis show that biodiversity relevant expenditure was directed towards sustainable use (61%) and biodiversity awareness and knowledge (39%).



Figure 14: Cumulative biodiversity expenditure for the department of livestock

Biodiversity expenditure for the department of livestock was analysed to identify development and recurrent expenditure. This analysis is presented in Table 29. Development expenditure accounted for 8.1% of biodiversity expenditure for 2018/19 and 34% for 2019/20. The proportion of development expenditure is very high especially for the 2019/20. The budget analysis indicates relatively small allocation for recurrent expenditure for the department of livestock production but a much higher development expenditure. This observation may be attributed to the construction work for animals check points. Although this activity has low biodiversity relevancy, the large amount of construction expenses has increased the proportion of development expenditure for the livestock production budget.

Table 29:	Biodiversity	development	and recurrent	expenditure for	or department	of livestock	for
2018/19 aı	nd 2019/20						

	2018-19	2019-20
Sub Program: Livestock production		
Total Biodiversity Relevant Expenditure TZS ('000')	32,969	2,125
Biodiversity Relevant Development Expenditure TZS ('000')	17,145.	1,901
Biodiversity Relevant Recurrent Expenditure TZS ('000')	15,823.	222
Sub Program: Veterinary Services		
Total Biodiversity Relevant Expenditure TZS ('000')	149,303	120,563
Biodiversity Relevant Development Expenditure TZS ('000')	1547	325.
Biodiversity Relevant Recurrent Expenditure TZS ('000')	147755	120236
Sub Program: Livestock research		
Total Biodiversity Relevant Expenditure TZS ('000')	67,256	117,717
Biodiversity Relevant Development Expenditure TZS ('000')	0	59,836
Biodiversity Relevant Recurrent Expenditure TZS ('000')	67,256	57,881
Total Biodiversity Related Expenditure TZS ('000')	249,527	240,403
Total Biodiversity Relevant Development Expenditure TZS ('000')	18,692	62,063
Total Biodiversity Relevant Recurrent Expenditure TZS ('000')	230,834	178,340
Proportion of development versus recurrent expenditure	8.10%	34.80%

3.4 Ministry of Blue Economy and Fisheries

Ministry of Blue Economy and Fisheries is a newly formed ministry. It has three departments and one agency whose functions are related to biodiversity. The Department of Fisheries and Mariculture facilitates sustainable fisheries in Zanzibar, including policy development, regulation and protection of marine ecosystems, marine protected areas (MPAs) and endangered species. The Department of Marine Conservation Areas facilitates sustainable regulation and protection ecosystems, marine protected of marine areas (MPAs) and endangered species. The Department of Blue Economy Development and Coordination (including Oil and Gas) coordinates the implementation of the Blue Economy policy and strategic framework across ocean economy-based sectors such as in fisheries, energy, oil and gas, maritime transport, sustainable tourism, and ocean research. There are two agencies under this ministry, whose activities are linked to biodiversity conservation. Zanzibar Fisheries These agencies are Research Institute (ZAFIRI) and Zanzibar Petroleum Regulatory Authority (ZPRA).

The Ministry of Blue Economy and Fisheries is responsible for managing three RGoZ budget programs. These programs are:

- i. Development of the blue economy
- ii. Development of fisheries sector
- iii. Administration and coordination of Ministry of Blue Economy and fisheries

3.4.1 Department of Fisheries Development

The fisheries development program is implemented by the department of fisheries. The department has been part of the Ministry of agriculture, natural resources, livestock, and fisheries before a recent restructuring. Currently the program has been shifted to the newly formed Ministry of the Blue Economy and fisheries. The new ministry of Blue Economy and fisheries was formed in 2021. The fisheries development program has two subprograms which are (i) fisheries development and conservation of ocean resources (FDCR) and (ii) development of aquaculture and mariculture (DAM). The department of fisheries deals with the following biodiversity related functions:

- Sustainable fishing practices
- Value addition to fisheries products
- Aquaculture and mariculture
- Conservation of marine resources

3.4.1.1 Budgetary allocation and disbursement for the Department of Fisheries

Budget disbursement for the department of fisheries is indicated in figure 15. The analysis shows that the funds disbursed to the department of fisheries has been decreasing over the past four years. However, unlike other departments whose budgets have been assessed in the preceding sections, funds for development expenditure far exceeds funds for recurrent expenditure for all the four years.

Figure 15: Actual expenditure for the department of fisheries 2016/17 to 2019/20 in thousands of TZS



The budget allocation and disbursement for the fisheries development program is indicated in Table 30-1 to 30-4. The figures are in thousands of TZS.

	2016/17						
	Actu	ial Expend	iture	Budge	diture		
	TZS ('000')			TZS ('000')			
Program	Dev	Rec	Total	Dev	Rec	Total	
Fisheries development and conservation of ocean resources	0	540,020	540,020	4,180,000	694.01	4,180,694	
Development of aquaculture and mariculture	1,361,800	44,970	1,406,770	14,970,000	187,400	15,157,400	

Table 30-1: Budget allocation versus disbursement for FDCR and DAM for 2016/17

Table 30-2: Budget allocation versus disbursement for FDCR and DAM for 2017/18

	2017/18							
	Actu	ial Expend	iture	Budg	jeted Expend	diture		
	TZS ('000')				TZS ('000')			
Program	Dev	Rec	Total	Dev	Rec	Total		
Fisheries development and conservation of ocean resources	2,500,000	109,420	2,609,420	2,700,000	157,190	2,857,190		
Development of aquaculture and mariculture	2,340,000	851,680	3,191,680	9,830,000	1,160,000	10,990,000		

Table 30-3: Budget allocation versus disbursement for FDCR and DAM for 2017/18

	2018/19							
	Actual Expenditure			Budgeted Expenditure				
	TZS ('000')			TZS ('000')				
Program	Dev	Rec	Total	Dev	Rec	Total		
Fisheries development and conservation of ocean resources	0	269,164	269,164	0	284,342	284,342		
Development of aquaculture and mariculture	1,440,000	956,354	2,396,354	12,605,104	956,390	13,561,494		

Table 30-4: Budget allocation versus disbursement for FDCR and DAM for 2017/18

	2019/20							
	Act	ual Expend	liture	Budgeted Expenditure				
	TZS ('000')			-	TZS ('000'])		
Program	Dev	Rec	Total	Dev	Rec	Total		
Fisheries development and conservation of ocean resources	0	146,589	146,589.00	0	178,208	178,208.00		
Development of aquaculture and mariculture	1,817,477	630,610	2,448,087	18,686,809	963,780	19,650,589		

The analysis of budget performance (budgeted versus disbursed amounts) is indicated in Table 32. There is a wide variation in the funds received for each component compared to the budgeted amounts. In some same cases, funds disbursed were as low as 13% of the budgeted amount, while in other cases, the funds disbursed were 95% of the budgeted amount.

Table 31: Budget performance for the department of fisheries

Department of Fisheries- Budget Performance							
	2016-17	2017-18	2018-19	2019-20			
Program							
Development fisheries and ocean products	12.92%	91.33%	94.66%	82.26%			
Conservation of marine resources	9.28%	29.04%	17.67%	12.46%			

3.4.1.2 Biodiversity relevant expenditure for the department of fisheries

Biodiversity relevant expenditure for the two sub-programs is shown in Table 32. The biodiversity relevant expenditure is the highest for conservation of marine resources sub-program (74% in 2020/21). The analysis shows that there is a huge increase in budget expenditure for both fisheries development and ocean resources, and conservation of marine resources sub-program. This increase is attributed to several initiatives that are executed by the department of fisheries from International Monetary Fund (IMF) COVID-19 relief funds. The analysis shows biodiversity relevant expenditure in veterinary services subcomponent is 9% of the total expenditure, while that of livestock research and livestock production is 9% and 2% respectively.

Table 32: Biodiversity relevant expenditure for department of fisheries and ZAFIRI 2018/19-2021/22

	2018-19	2019-20	2020-21	2021-22					
Sub Program: Fisheries development and oc	Sub Program: Fisheries development and ocean resources								
Total Expenditure TZS ('000')	269,164	146,589	6,900,000	35,642,300					
Total Biodiversity Relevant Expenditure TZS ('000')	35,798	22,591	1,104,000	4,989,922					
Proportion of biodiversity related expenditure	0.13	0.15	0.16	0.14					
Sub Program: Conservation of marine resources									
Total Expenditure TZS ('000')	956,354	2,448,087	25,580	805,000					
Total Biodiversity Relevant Expenditure TZS ('000')	329,880	368,149	18,929	595,700					
Proportion of biodiversity related expenditure	0.34	0.15	0.74	0.74					
Sub Program: ZAFIRI									
Total Expenditure TZS ('000')	820,119	1,986,584	272,000	299,100					
Total Biodiversity Relevant Expenditure TZS ('000')	205,030	496,646	68,000	74,775					
Proportion of biodiversity related expenditure	0.25	0.25	0.25	0.25					
Total Biodiversity Related Expenditure TZS ('000')	365,678.20	390,739.75	1,122,929.20	5,585,622.00					
Exchange Rate USD/TZS	2.274	2.303	2.31	2.311					
Total Biodiversity Related Expenditure USD	160,808.36	169,665.54	486,116.54	2,416,971.87					

The biodiversity relevant expenditure for the department of fisheries and ZALIRI was tagged by BIOFIN categories as indicated in Table 33.

BIOFIN Categories	2018-19	2019-20	2020-21	2021-22
Biodiversity awareness and knowledge TZS ('000')	6,100	98,189	67,376	868,153
Protected area and other conservation measures TZS ('000')	80,620	34,564	280,732	0
Restoration TZS ('000')	9,580	18,081	1,531	0
Sustainable use TZS ('000')	269,378	239,906	774,821	4,558,286
Biodiversity development and planning TZS ('000')	0	0		159,183
Total TZS ('000')	365,678	390,740	1,124,461	5,585,622

Table 33: Expenditure by BIOFIN categories for the department of fisheries and ZALIRI for 2018/19 to 2021/22

Figure 16: Cumulative biodiversity expenditure for fisheries and ZALIRI for 2018/19 to 2021/22



Cumulative biodiversity relevant expenditure for the department of fisheries for years 2018-19 to 2021-22 is indicated in Figure 16. The analysis show that the biggest portion of biodiversity relevant expenditure was directed towards sustainable use (78%). Biodiversity awareness and knowledge accounts for 14% of the biodiversity relevant expenditure while biodiversity development and planning and protective areas and other conservation measures account for 2% and 5% of the biodiversity expenditure respectively.

Biodiversity expenditure for the department of

fisheries was analysed to identify development and recurrent expenditure. This analysis is presented in Table 34. Development expenditure accounted for 0.14 % of biodiversity expenditure for 2018/19 and 40% for 2019/20. The proportion of development expenditure is very high especially for the 2019/20. The budget analysis indicates a huge amount of development expenditure for the conservation of marine resources sub program. This increase of development expenditure for biodiversity activities may be attributed to projects carried out by the department of fisheries from World Bank COVID-19 relief funds.

Table 34: Biodiversity development and recurrent expenditure for department of fisheriesfor2018/19 and 2019/20

	2018-19	2019-20
Sub Program: Fisheries development and ocean resources		
Total Biodiversity Relevant Expenditure TZS ('000')	35,798	22,591
Biodiversity Relevant Development Expenditure TZS ('000')	500	600
Biodiversity Relevant Recurrent Expenditure TZS ('000')	35,298	21,991
Sub Program: Conservation of marine resources		
Total Biodiversity Relevant Expenditure TZS ('000')	329,880	368,149

Biodiversity Relevant Development Expenditure TZS ('000')	-	110,800
Biodiversity Relevant Recurrent Expenditure TZS ('000')	329,880	257,349
Total Biodiversity Related Expenditure TZS ('000')	365,678.20	390,739.75
Total Biodiversity Relevant Development Expenditure	500	111,400
Total Biodiversity Relevant Recurrent Expenditure	365,178.20	279,339.75
Proportion of development versus recurrent expenditure	0.14%	40%

3.4.2 Development, coordination, and administration of blue economy

Development of blue economy program deals with (i) coordination of blue economy activities at the Ministry of blue economy and (ii) regulation of oil and natural gas development in Zanzibar. The first component of this program is more relevant to biodiversity conservation while the second component focuses more on exploitation of oil and natural gas resources. Coordination and administration of blue economy program focuses on (i) plans and supervision of blue economy activities, (ii) management and administration of the ministry, and (iii) management of Pemba office.

3.4.2.1 Budgetary allocation and disbursement for development, coordination, and of blue economy.

Budget allocation and disbursement for development, coordination and administration of the blue economy is shown in table 35-1 to 35-2. The figures are in thousands of TZS. Analysis of the expenditure for years 2020/21 and 2021/22 shows that all the three components under development of blue economy were allocated recurrent expenditure and none was allocated development expenditure.

Table 35-1: Budget allocation versus disbursement for development of blue economy 2020/21

	2020/21						
	Actual Expenditure			Bud	Budgeted Expenditure		
	TZS ('000')			TZS ('000')			
Program	Dev	Rec	Total	Dev	Rec	Total	
Development of blue economy			-			-	
Coordination and administration of the blue economy	0	158,006	158,006	0	1,410,000	1,410,000	

Table 35-2: Budget allocation versus disbursement for development of blue economy 2021/22

	2021/22						
	Actual Expenditure			Budgeted Expenditure			
	TZS ('000')			TZS ('000')			
Program	Dev	Rec	Total	Dev	Rec	Total	
Development of blue economy	0	233,774	233,774	0	799,800	799,800	
Coordination and administration of the blue economy	0	1,284,000	1,284,000	0	1,773,000	1,773,000	

Budget performance for the development of blue economy is shown in table 36. There is a wide variation in the budget performance for all the three components analysed. The actual disbursement ranged from 11.2% to 72.42% of the budgeted amounts.

Table 36: Budget performance for development of blue economy.

Development of Blue Economy- Budget Performance

	2020-21	2021-22
Program		
Development of blue economy		29.23%
Coordination and administration of the blue economy	11.21%	72.42%

3.4.2.2 Biodiversity relevant expenditure for development, coordination, and administration of Blue Economy

Biodiversity relevant expenditure for the two sub-programs is shown in Table 37. The analysis shows biodiversity relevant expenditure in veterinary services sub-component is 9% of the total expenditure, while that of livestock research and livestock production is 9% and 2% respectively.

Table 37: Biodiversity relevant expenditure for development, coordination, and administration of blue economy 2020/21 to 2022/23

	2020-21	2021-22	2022-23
Program: Development of blue economy			
Total Expenditure TZS ('000')	0	233,774	1,428,000
Total Biodiversity Relevant Expenditure TZS ('000')		14,026	81,396
Proportion of biodiversity related expenditure		0.06	0.057
Program: Coordination and administration of the blue	economy		
Total Expenditure TZS ('000')	158,006	1,284,000	2,296,000
Total Biodiversity Relevant Expenditure TZS ('000')	20,541	166,920	365,064
Proportion of biodiversity related expenditure	0.13	0.13	0.16
Total Biodiversity Related Expenditure TZS ('000')	20,540.78	180,946.44	446,460.00
Exchange Rate USD/TZS	2.31	2.311	2.32
Total Biodiversity Related Expenditure USD	8,892.11	78,297.90	192,439.66

Biodiversity relevant expenditure for development, coordination, and administration of the blue economy for years 2020/21 to 2021/22 was tagged by BIOFIN categories as indicated in Table 38.

Table 38: Biodiversity relevant expenditure for development, coordination, and administration of blue economy 2020/21 to 2021/22

Biodiversity categories	2020-21	2021-22
Biodiversity and development planning TZS ('000')	19,831	168,522
Biodiversity awareness and knowledge TZS ('000')	170	8,985
Sustainable use TZS ('000')	541	3,439
Total	20,541	180,946

Cumulative biodiversity relevant expenditure for the years 2020/21 to 2021/22 for development, coordination and administration of the blue economy is indicated in figure 17.

Figure 17: Cumulative biodiversity expenditure for development, coordination, and administration of the blue economy for 2020/21 to 2021/22

LEGEND
SU-Sustainable Use
BAK-Biodiversity awareness and knowledge
BDP-Biodiversity Development and Planning

The analysis show that the biggest portion of biodiversity relevant expenditure was directed towards biodiversity development and planning. It accounted for more than three quarters of the total biodiversity related expenditure for the development, coordination, and administration of the blue economy.

3.5 Ministry of Energy, Water and Mining

Ministry of Energy, Water and Mining oversees three programs under the program-based budget for the RGoZ. These programs are (i) management of land and housing (MLH) (ii) strengthening of settlements (SST), (iii) supervision of water and energy services (SWES), and (iv) supervision and coordination of the ministry. The first three programs have activities that are relevant for biodiversity conservation.

3.5.1 Budgetary allocation and disbursement for Ministry of Energy Water and Mining

The budget allocation and disbursement for the three programs relevant for biodiversity conservation at the Ministry of Energy, Water and Mining is shown in Table 39-1 to 39-2. The analysis shows the for the years 2018/19 and 2019/20 the sub programs received funds for recurrent expenditure only. Further analysis (Table 40) shows that there was very low budget performance for the supervision of water and energy services component whereby it received 7%-10% of the budgeted amount for the two years under review.

Table 39-1 Actual Expenditure versus budgeted expenditure for MLH and SWES for 2018/19

	2018/19					
	Actual Expenditure			В	udgeted Expe	enditure
	TZS ('000')				TZS ('000)')
Program	Dev	Rec	Total	Dev	Rec	Total
Management of land and housing		3,049,602	3,049,602		3,459,511	3,459,511
Strengthening of settlements		1,310,520	1,310,520		1,442,400	1,442,400
Supervision of water and energy services		9,903,421	9,903,421		91,252,043	91,252,043

Table 39-2 Actual Expenditure versus budgeted expenditure for MLH and SWES for 2019/20

		2018/19				
		Actual Expenditure E			Budgeted Expe	nditure
	TZS ('000') TZS ('000')			TZS ('000')		
Program	Dev	Rec	Total	Dev	Rec	Total
Management of land and housing		3,783,054	3,783,054		5,079,973	5,079,973
Strengthening of settlements			-			-
Supervision of water and energy services		10,916,601	10,916,601		152,748,810	152,748,810

Table 40: Budget performance for MLH and SWES

Program	2018-19	2019-20
Management of land and housing TZS ('000')	88.15%	74.47%
Strengthening of settlements TZS ('000')	90.86%	
Supervision of water and energy services TZS ('000')	10.85%	7.15%

3.5.1.1 Biodiversity relevant expenditure for MLH and SWES

Biodiversity relevant expenditure for the two sub-programs is shown in Table 41. The analysis shows biodiversity relevant expenditure for management of land and housing sub-component is 2% to 6% while the biodiversity relevant expenditure for water and energy services ranges from 16% to 22% of the total budget allocated to the sub-component.

	2018-19	2019-20	2020-21	2021-22
Sub Program: Management of land and housing				
Total Expenditure TZS ('000')	3,049,602	3,783,054	4,410,574	3,732,289
Total Biodiversity Relevant Expenditure TZS ('000')	60,992	71,934	102,050	104,150
Proportion of biodiversity related expenditure TZS ('000')	0.02	0.02	0.02	0.03
Sub Program: Supervision of water and energy se	rvices			
Total Expenditure TZS ('000')	9,903,421	10,916,601	13,736,308	8,398,299
Total Biodiversity Relevant Expenditure TZS ('000')	396,137	683,940	987,531	706,480
Proportion of biodiversity related expenditure	0.04	0.06	0.07	0.08
Total Biodiversity Related Expenditure TZS ('000')	457,129	1,889,687	2,748,952	2,051,575
Exchange Rate USD/TZS	2.274	2.303	2.31	2.311
Total Biodiversity Related Expenditure USD	201,024	328,213	471,680	350,770

Table 41: Biodiversity relevant expenditure for MLH and SWES 2018/19-2021/22

Biodiversity relevant expenditure for the two sub-components in the Ministry of Energy, Water and Mining was grouped into BIOFIN categories as indicated in Table 42. The analysis indicates that the biodiversity relevant expenditure falls under biodiversity and development planning and sustainable use.

Table 42: Biodiversity relevant expenditure for MLH and SWES by BIOFIN categories for 2018/19 to 2021/22

	2018-19	2019-20	2020-21	2021-22
Biodiversity development and planning TZS ('000')	43,504	71,934	102,050	104,150
Sustainable use TZS ('000')	413,625	683,940	987,531	706,480

3.6 Overall assessment of biodiversity expenditure for government MDAs

3.6.1 Summary of Biodiversity Expenditure for Government MDAs

The biodiversity relevant expenditure for government entities for years 2018/19 to 2021/22 is summarised in the Tables 43-1 to 43-7. The proportion of biodiversity relevant expenditure is compared with departments budgets as well as respective ministries budgets. Analysis indicates that biodiversity expenditure for the past two years is the highest in fisheries where it accounts for 12%-14% of the Ministry of Blue economy budget.

The department of environment follows whereby biodiversity relevant expenditure is about 9%-10% of the budget for the Office of the First Vice President. The proportion of biodiversity relevant expenditure for the department of agriculture is 3%-4%, forestry 1%-2%, and livestock 0.3% of the budget for the Ministry of Agriculture, Irrigation, Natural Resources and Livestock.

Table 43-1: Summary of biodiversity expenditure for the DoE for 2018/19 to 2021/22

		2018/19	2019/20	2020/21	2021/22
	Total Biodiversity Related Expenditure in TZS (000)	436,338	396,992	277,829	391,490
Department of	Total Biodiversity Related Expenditure (USD)	191,881	172,381	120,273	169,403
Environment	Total Department Budget (USD)	367,075	330,974	228,347	324,913

Total Ministry Budget (USD)	14,176,619	1,123,841	1,876,571
Proportion of biodiversity expenditure in the department budget	52.08%	52.67%	52.14%
Proportion of biodiversity expenditure in the ministry budget	1.22%	10.70%	9.03%

Table 43-2: Summary of biodiversity expenditure for the DoA, DoI and ZARI for 2018/19 to 2021/22

		2018/19	2019/20	2020/21	2021/22
	Total Biodiversity Related Expenditure in TZS (000)	668,983	529,825	1,569,127	1,366,207
	Total Biodiversity Related Expenditure (USD)	294,188	230,059	679,276	591,176
Department	Total Department Budget (USD)	22,745,708	5,900,414	11,459,610	12,652,476
of	Total Ministry Budget (USD)	29,553,092	19,326,913	15,557,024	16,006,693
Agriculture and Irrigation	Proportion of biodiversity expenditure in the department budget	1.293%	3.899%	5.928%	4.672%
	Proportion of biodiversity expenditure in the ministry budget	0.995%	1.190%	4.366%	3.693%

Table 43-3: Summary of biodiversity expenditure for the department of forestry for 2018/19 to 2021/22

		2018/19	2019/20	2020/21	2021/22
	Total Biodiversity Related Expenditure in TZS (000)	248,167.05	127,713.00	433,275.00	408,000.00
	Total Biodiversity Related Expenditure (USD)	109,132	55,455	187,565	176,547
Department	Total Department Budget (USD)	1,689,118	842,305	688,312	647,539
	Total Ministry Budget (USD)	29,553,092	19,326,913	15,557,024	16,006,693
of Forestry	Proportion of biodiversity expenditure in the department budget	6.46%	6.58%	27.25%	27.26%
	Proportion of biodiversity expenditure in the ministry budget	0.37%	0.29%	1.21%	1.10%

Table 43-4: Summary of biodiversity expenditure for the department of livestock for 2018/19 to 2021/22

		2018/19	2019/20	2020/21	2021/22
	Total Biodiversity Related Expenditure in TZS (000)	249,527.10	240,403.80	109,719.00	108,116.00
	Total Biodiversity Related Expenditure (USD)	109,730	104,387	47,497	46,783
Department	Total Department Budget (USD)	1,442,290	1,481,891	832,749	829,122
	Total Ministry Budget (USD)	29,553,092	19,326,913	15,557,024	16,006,693
of Livestock	Proportion of biodiversity expenditure in the department budget	7.61%	7.04%	5.70%	5.64%
	Proportion of biodiversity expenditure in the ministry budget	0.37%	0.54%	0.31%	0.29%

		2018/19	2019/20	2020/21	2021/22
	Total Biodiversity Related Expenditure in TZS (000)	365,678.20	390,739.75	1,122,929.20	5,585,622.00
	Total Biodiversity Related Expenditure (USD)	160,808	169,666	486,117	2,416,972
Department of Fisheries	Total Department Budget (USD)	1,172,172	1,126,650	3,115,835	15,900,649
	Total Ministry Budget (USD)	29,553,092	19,326,913	4,032,703	16,736,104
	Proportion of biodiversity expenditure in the department budget	13.72%	15.06%	15.60%	15.20%
	Proportion of biodiversity expenditure in the ministry budget	0.54%	0.88%	12.05%	14.44%

Table 43-5: Summary of biodiversity expenditure for the department of fisheries for 2018/19 to 2021/22

Table 43-6: Summary of biodiversity expenditure for the blue economy development and coordination for 2018/19 to 2021/22

		2018/19	2019/20	2020/21	2021/22
	Total Biodiversity Related Expenditure in TZS (000)			20,540.78	180,946.44
	Total Biodiversity Related Expenditure (USD)			8,892	78,298
Blue	Total Department Budget (USD)			388,868	998,483
development	Total Ministry Budget (USD)			4,032,703	16,736,104
and Coordination	Proportion of biodiversity expenditure in the department budget			2.29%	7.84%
	Proportion of biodiversity expenditure in the ministry budget			0.22%	0.47%

Table 43-7 Summary of biodiversity expenditure for the Ministry of Energy Water and Mining for 2018/19 to 2021/22

		2018/19	2019/20	2020/21	2021/22
	Total Biodiversity Related Expenditure in TZS (000)	457128.88)	755874.6	1089580.8	810629.9
	Total Biodiversity Related Expenditure (USD)	201,024	328,213	471,680	350,770
Ministry of Energy	Total Department Budget (USD)	6,272,446	6,382,829	5,251,337	5,249,064
	Total Ministry Budget (USD)	38,680,217	40,491,850	49,943,124	142,471,278
Water and Mining	Proportion of biodiversity expenditure in the department budget	3.20%	5.14%	8.98%	6.68%
	Proportion of biodiversity expenditure in the ministry budget	0.52%	0.81%	0.94%	0.25%

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The overall biodiversity relevant expenditure for MDAs is presented in Table 44. The total biodiversity relevant expenditure for MDAs for 2018/19 to 2021/22 is TZS 18.341 billion equivalent to USD 7,958,174. This expenditure implies that on average MDAs spent TZS 4.585 billion or USD 1.98 million a year on biodiversity related expenditure. The proportion of biodiversity expenditure to the government budget at nominal prices is exceptionally low, about 0.21% to 0.25% of the total government budget. Analysis of the proportion of biodiversity expenditure to total government budget at constant prices show very slight changes whereby the proportion 0.24 %, implying that inflation has minimal effect on the amount of biodiversity expenditure for MDAs for the 2018/19 to 2021/22.

Table 44: Summary of biodiversity expenditure for MDAs for 2018/19 to 2021/22

	2018/19	2019/20	2020/21	2021/22
Total Biodiversity Related Expenditure in TZS (000)	2,425,823	2,441,549	4,623,001	8,851,012
Total Biodiversity Related Expenditure (USD)	1,066,765	1,060,161	2,001,299	3,829,949
Inflation	0.01	0.03	0.03	
Total Biodiversity Expenditure at constant prices (USD)	1,051,830.32	1,031,536.22	1,933,255.30	
Total Government Budget (USD)	497,281,662	444,897,091	792,164,502	
Proportion of biodiversity expenditure in the government budget (nominal prices)	0.215%	0.238%	0.253%	
Proportion of biodiversity expenditure in the government budget (constant prices)	0.21%	0.23%	0.24%	

3.6.2 Summary of biodiversity expenditure for government entities by BIOFIN categories.

The BIOFN methodology workbook has nine categories of biodiversity expenditure as

described under the methodology section. The biodiversity expenditure for Zanzibar based on BIOFIN categories pooled for the past four years is indicated in Figure 18.

Figure 18: Biodiversity expenditure by BIOFIN categories 2018/19 to 2021/22



Sustainable use accounts for almost three quarters of the biodiversity expenditure for the period under review. Biodiversity and development planning, and biodiversity awareness and knowledge categories, each account for about 10% of total biodiversity expenditure.

3.7 Biodiversity expenditure from official development assistance

The analysis of Official Development Assistance (ODA) financing biodiversity related activities for RGoZ was conducted by looking at the activities of the recipients of the ODA. In the case of Zanzibar, the activities funded by ODA are implemented by government departments and agencies and they are reported in the government budget. NGOs also have access to ODA, however, information of such financing is scanty, making it difficult to account for financing that goes straight to NGOs. The analysis of ODA revealed several international organisations that are financing projects either through grants or soft loans. These organisations are: The World Bank, Japan International Cooperation Agency (JICA), International Monetary Fund (IMF), UNDP, African Development Bank (AfDB), GEF, Adaptation Fund, United Nations Environment Program (UNEP), Food and Agriculture Organisation (FAO), and Exim- Bank of Korea. The ODA information is presented in Table 45

	FUNDER		The World Bank	Ś	t S	ц	Japan International Cooperation	Agency		International Monetary	Fund
	PROJECT	OBJECTIVES	(i)Review of fisheries law of 2010 and preparation of fisheric regulations.	(ii)Development of fisheries information system and preparation of fisherie census	(iii)Preparation of General Managemen Plans (GMP) for MPA	(iv) Building renovatic and equipment for ZAFIRI	(i) Construction of anchoring place for fishing boats	(ii)Construction of fish storage facilities	(iii)Construction of office buildings, parking, and wastewater system	(i) Construction of fishing boats	(ii) Construction of
	BIOFIN	CATEGORY	Biodiversity and development planning	Biodiversity awareness and knowledge	Protected areas and other conservation measures	Biodiversity and development planning	Sustainable use	Sustainable use		Sustainable use	Sustainable
	Biodiversity	relevance	Medium	Medium	Medium	Low	Low	Low	None	Low	low
	Attribution		0.40				0.05			0.05	0.05
TION	2021/22	(,000,) SZL	2,435,426			2,333,609			28,845,440	486,900	
GET ALLOCA	2020/21	(,000,) SZL	4,287,240				10,110,529				
BUD BUD	2019/20	(,000,) SZL	3,798,696								
	Dept		Department of Fisheries				Department of Fisheries			Blue Economy	development
	PROJECT TITLE		Southwest Indian Ocean Fisheries Governance and Shared Growth	(SWIOfish)			Construction of fish market at Malindi			COVID-19 Relief Financing Initiative	

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					Medium	Sustainable use	(iv)Building of cages for rearing crabs	
Enhancing National Capacity for Mainstreaming Climate Resilience	Department of Environment	 45,590	5,190	0.05	Low	Biodiversity awareness and knowledge	(i)Strengthening institutional capacity for climate change development	UNDP
in Zanzibar					Low	Biodiversity awareness and knowledge	(ii)Support generation of meteorological and spatial data for climate change compatible development	
					Low	Biodiversity and development planning	(iii)Support integration of climate change adaptation into planning and management	
					Low	Biodiversity and development planning	(iv)Strengthening capacity to mobilise funds	
Enhancing National Capacity for Mainstreaming Climate Resilience in Zanzibar	Department of Environment	6,854		0.05	Low	Biodiversity and development planning	Enhancing capacity of key institutions in mainstreaming climate resilience in planning and activities	AfDB
Ecosystem Based Adaptation for Rural Resilience' Tanzania	Department of Environment		176,187	0.05	Low	Biodiversity and development planning	improve stakeholders' capacity to adapt to climate change through Ecosystem- Based Adaptation (EbA) approaches and undertake resilience building responses	GEF
Enhancing Climate Change Resilience of Coastal Communities of Zanzibar	Department of Environment		281,040	0.05	Low	Sustainable use	(i)Construction of water harvesting infrastructure for supplying water in selected areas	Adaptation Fund

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			UNEP			FAO		
(ii)Promoting water and soil conservation techniques for improved water protection and crop productivity	(iii)Development of integrated climate resilient livelihood diversification systems in selected sites	(iv) Capacity building to institutions	(i)Provide additional drainage capacity for wastewater and stormwater in Chake Chake	(ii)Strengthening existing water treatment system	(iii)Enhance legislative framework for ecosystem services scheme	(i) Construction of a hatchery for sea cucumber, milk fish and mud crabs	(ii)Capacity building on aquaculture practices	(iii)Support development of commercially viable aquafarms in Unguja and Pemba
Sustainable use	Sustainable use	Sustainable use	Pollution Management	Pollution Management	Biodiversity and development planning	Protected areas and other conservation measures	Sustainable use	Sustainable use
Low	Low		Low	Low	Low	Medium	Medium	Medium
			0.05			0.3		
			94,000					
						2,607,077		
			Department of Environment			Department of Fisheries		
			Jpscaling C and Amplification o of the Msingini E Vastewater Treatment Facility"			Development of I Mariculture c		

			EXIM Bank- KOREA			International Atomic Energy Agency			
(i)Increase access to sustainable agriculture inputs	(ii) Enhance access to markets of agricultural products		(i)Construction of water storage dams for irrigation	(ii)Construction of infrastructure to control floods	(iii)Construction of irrigation canals				
Sustainable use	Sustainable use	Protected areas and other conservation measures	Sustainable use	Sustainable use	Sustainable use	Sustainable use			
Low	Low	Medium	Low	Low	Low	Low	0		
0.05		0.5	0.05			0.05			
			21,164,089			73,707	56,590,590	3,681,928	7%
						73,707	14,623,921	2,231,730	15%
275,272		72,000					6,753,045	1,569,242	23%
Department of Agriculture			Department of Irrigation			Department of Agriculture			
Market Infrastructure, Value Addition	and Rural Finance MIVARAF	Forest Development	Development of Irrigation infrastructure			Control of oriental fruit fliers	TOTAL (A)	TOTAL- BIODIVERSITY RELEVANT EXPENDITURE (B)	A/B

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The financing from ODA was assigned biodiversity coefficient of attribution to determine biodiversity relevant expenditure. The analysis shows that the proportion of biodiversity relevant expenditure from ODA funding range from 7% to 23%. A further analysis was done by comparing funding from

ODA with biodiversity expenditure from MDAs. The analysis (Table 46) shows that the proportion of ODA to biodiversity expenditure from MDAs is extremely high ranging from 80% to 90% for 2019/20 to 2021/22.

Table 46: Expenditure from ODA versus Expenditure from MDA

	2019/20	2020/21	2021/22
Biodiversity Relevant Expenditure from ODA	1,949,111	2,231,730	3,681,928
Biodiversity Relevant Expenditure from MDA	2,425,824	2,441,550	4,623,002
Proportion of ODA/BD expenditure for MDA	0.80	0.91	0.80

This observation implies that ODA funding is very important in supporting biodiversity activities in Zanzibar. However, over-dependency of ODA funding poses some risks. ODA fund activities on project basis. The projects have very specific objectives and time frame. Closure of projects affect the sustainability of biodiversity activities funded by the projects in case such activities cannot be taken up by internal sources of funding from the government as is the case on many occasions.

3.7 Private sector and Civil Society Organizations

Biodiversity conservation efforts in Zanzibar involve multiple stakeholders. The assessment carried out during the Policy and Institutional Review (PIR) revealed three categories of nongovernment stakeholders who are involved in biodiversity conservation. These are Nongovernment Organisations (NGOs), private businesses, and community conservation from benefit sharing agreements.

3.7.1 Non-Government Organisations

Non- Government Organisations (NGOs) are formed at either community level or national

level. They complement biodiversity conservation efforts done by government entities. They present an ideal channel for collaboration between the government and other players in the private sector and the international community. NGOs are involved in the following biodiversity related activities:

- Cleaning of beaches
- Restoration of degraded coral reefs
- Restoration of mangroves and other coastal habitats
- Control of beach erosion
- Sustainable farming
- Sustainable fisheries
- Co-management of protected areas
- Environment and conservation awareness and education
- Promotion of alternative use of energy sources for cooking and lighting.

A review of registered NGOs in Zanzibar identified about 20 NGOs whose activities are related to biodiversity conservation. A list of these NGOs is presented in Table 47.

Table 47: NGOs involved in biodiversity conservation

	ORGANISATION	AREA OF FOCUS
1	Mkokotoni Environmental Conservation Association (MECA)	Environment awareness and Education
2	Zanzibar Association for Cleaning Environment and Development of Youth (ZACEDY)	Cleaning of beaches, Environment education
3	Jozani Environmental Conservation Association (JECA)	Co-Management of Protected Areas (Jozani and Chwaka)
4	Fumba Peninsular Environmental Conservation Organization (FUPECO)	Conservation of forestry and marine resources
5	Jambiani Marine and Beach Conservation (JAMABECO)	Environment Conservation

	ORGANISATION	AREA OF FOCUS
6	Misali Island Conservation Association (MICA)	Environment Conservation
7	Zanzibar Climate Change Alliance (ZACCA)	Environment Conservation
8	Ngezi Natural Reserve Conservation (NGENARECO)	Environment Conservation
9	Jongowe Environment Management Association (JEMA)	Environment Conservation
10	Community Forest Conservation Association of Zanzibar (JUMIJAZA)	Forestry conservation
11	Zanzibar Beekeepers Association (ZABA)	Forestry conservation
12	Association for Environment and Conservation of Natural Forest (JUMAVUMA)	Forestry conservation
13	Renewable energy Zanzibar Association (REZA)	Promotion of use of alternative energy sources
14	Association for Modern Farming in Zanzibar (JUWAKIZA)	Sustainable Agriculture
15	Association of Horticulture Farmers (UWAMWIMA)	Sustainable Agriculture and Environmental Conservation
16	Safari Development Organization (SADEO)	Sustainable agriculture and fisheries
17	Zanzibar Farmers and Fishermen Development (ZAFFIDE)	Sustainable agriculture, Agriculture Policy Analysis
18	Uhai-Organic Farming Association	Sustainable agriculture, Environment Policy Analysis
19	Marine Cultures	Aquaculture and Marine Conservation
20	Mwambao Coastal Community Network	Community Based Marine Management

Source: Association of NGOs of Zanzibar (ANGOZA) an

Some of these NGOs are well organised, with reliable sources of financing from local and international donors while others don't have reliable sources of financing and rely on periodic donations and projects. The biodiversity expenditure for NGOs is organised into three categories (i) expenditure review for NGOs with reliable sources of financing (ii) project specific financing which is typically short term and time bound and (iii) general projections for common activities based on stakeholders' consultations and expert estimation.

The NGOs identified in Table 40 are involved with biodiversity conservation and management at various capacities. Since their activities are primarily conservation, the coefficient of attribution for biodiversity relevant expenditure is assumed to be medium to high (ranging from 50%-75%) depending on the activities of the NGO. Since data on the activities of the NGOs is not sufficient to assess the biodiversity relevant expenditure at the activity level, the coefficient of attribution is applied at the annual expenditure net of administrative expenses.

3.7.1.1 Expenditure for NGOs with reliable sources of funding

Financial information of three NGOs under this category was obtained from public sources as well as face to face interviews with the officers of the NGOs. These NGOs are Marineculture, Zanzibar Climate Change Alliance and Mwambao Coastal Community Network.

Marineculture is international NGOs operating in Zanzibar. It focuses on promotion of sponge farming. This is a mariculture product that provides farmers with an alternative source of income. It is used in body care, cosmetics, and painting. Mariculture is also involved in coral reef restoration. It maintains a natural coral reef farm in Jambiani. It is also involved with preservation of fish stocks. This is done in collaboration with local fishermen committees. Mariculture is funded by donations from individuals and organisations. The expenditure for Marinecultures is presented in Table 48

	2018/19	2019/20	2020/21
Income (USD)	172,206	161,973	140,897
Projects	138,101	129,019	117,209
Administrative Expenditure	12,565	8,376	10,703
Total Expenditure (USD)	150,666	137,395	127,912
Surplus/Deficit	21,540	24,577	12,985
Percentage of Administrative Expenditure	8.34%	6.10%	8.37%
Biodiversity Relevant Expenditure (0.7)	96,670	90,313	82,046

Table 48: Expenditure for Marinecultures for 2018/19 to 2020/21

A further analysis of Marineculture activities in relation to BIOFIN categories revealed that its expenditure falls within restoration and sustainable use. Of the three main objectives for Marinecultures, two fall within sustainable use and one fall within restoration. Therefore, the expenditure in relation to BIOFIN categories was divided in the same proportion whereby one third was attributed to restoration and two thirds to sustainable use as indicated in table 49.

Table 49: Marineculture Expenditure by BIOFIN categories

	2018/19	2019/20	2020/21
Restoration (USD)	32,867	30,706	27,895
Sustainable Use (USD)	63,802	59,606	54,150

Mwambao Coastal Community Network (MCCN) helps communities in Tanzania's coastal areas develop strong and effective local resource management systems that support livelihoods and sustain marine ecosystems. It has three main objectives which are (i)strengthening local governance institutions, (ii) increasing benefits from sustainable use of marine resources and (iii) improving policy and legislation to support community management. MCCN activities are funded by donors (individuals and organisations). The biodiversity relevant expenditure for MCCN is presented in Table 50.

Table 50: Expenditure for MCCN for 2016/17 to 2019/20

	2016/17	2017/18	2018/19	2019/20
Income (USD)	159,000	284,000	290,000	300,000
Projects	135,150	241,400	246,500	255,000
Administrative Expenditure	23,850	42,600	43,500	45,000
Total Expenditure (USD)	159,000	284,000	290,000	300,000
Percentage of Administrative Expenditure	15.00%	15.00%	15.00%	15.00%
Biodiversity relevant expenditure (0.7) USD	94,605	168,980	172,550	178,500

A further analysis of MCCN activities in relation to BIOFIN categories revealed that its expenditure falls within biodiversity and development planning, sustainable use, and biodiversity awareness and knowledge. The distribution of the biodiversity relevant expenditure is indicated in Table 51.

Table 51: MCCN Expenditure by BIOFIN categories for 2016/17 to 2020/21

	2016/17	2017/18	2018/19	2020/21
Biodiversity and Development Planning (USD)	67,575	120,700	123,250	127,500
Sustainable Use (USD)	40,545	72,420	73,950	76,500
Biodiversity Awareness and Knowledge (USD)	27,030	48,280	49,300	51,000

Mariculture has three main objectives. Out of the three main objectives, two fall within sustainable use and one fall within restoration. Therefore, the expenditure in relation to BIOFIN categories was divided in the same proportion whereby one third was attributed to restoration and two thirds to sustainable use as indicated in Table 52. Zanzibar Climate Change Alliance (ZCCA) is involved with the several activities. These are:

- Advocacy on environmental conservation
- Education and training on environmental conservation and the effects of climate change on livelihoods.

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• Capacity building to farmers and fishermen.

ZCCA implements different projects which fall

under the areas described above. ZCAA reported the following financial information.

Table 52: ZCAA biodiversity expenditure for 2020/21

2020/21
21,400,000
32,100,000
53,500,000
107,000,000
46,320
23,160.17

A further analysis of ZCAA expenditure indicates that their activities address two BIOFIN categories as indicated in Table 53

Table 53: BIOFIN categories for ZCAA for 2020/21

	2020/21
Biodiversity Knowledge and Awareness (USD)	4,632
Sustainable Use (USD)	18,528

3.7.1.2 Financing for specific projects executed by NGOs

Most NGOs obtain time bound financing for specific projects from local or international partners. Information about project specific financing was obtained from five NGOs as presented in Table 55.

Table 54: Financing for specific projects executed by NGOs for 2017/18 to 2019/20

		BUDGET AM	OUNT IN USD
ORGANISATION	DESCRIPTION	2017/18	2019/20
Misali Island Conservation Association (MICA)	Community based mangrove conservation and sustainable livelihood project		26,000
Zanzibar Climate Change Alliance (ZACCA)	Capacity building in beekeeping and aquaculture	48,000	
Jozani Environment Conservation Association (JECA)	Enhancing forest conservation through agro-forestry practices and smart agriculture	45,000	
Association of Farmers at Jozani	Diversification of livelihoods through promotion of fish farming, organic farming, and greenhouse farming	43,000	
Marine and Coastal Community Conservation in Zanzibar (MCCC)	Improvement of marine bylaws enforcement through purchase of patrol vessels		50,000
TOTAL		136,000	76,000

The specific objectives of the projects described in Table 54 were used to categorise budgets from the projects into BIOFIN categories as indicated in Table 55.

Table 55: Expenditure by BIOFIN categories for project specific financing for 2017/18 to 2019/20

	2017/18	2019/20
Protected areas and other conservation measures (USD)	46,500	63,000
Biodiversity knowledge and awareness (USD)	21,500	
Sustainable use (USD)	68,000	13,000

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3.7.1.3 General projections for common activities done by NGOs

Interviews with members of NGOs revealed that they conduct routine activities related to biodiversity conservation. These activities are such as (i) cleaning of beaches, roads, and roadside canals (ii) collection and recycling of plastic bottles, and (iii) planting of trees and mangroves. These activities are carried out periodically. They are carried out by volunteers. Sponsors meet cost of buying cleaning equipment, personal protective sometimes equipment. and refreshments for participants. NGOs recruit sponsors and volunteers for these activities. Estimated cost for these activities is indicated in Table 56.

Table 56: General projections about NGOsactivities for 2020/21

Total USD	69,264.07
Total TZS	160,000,000
Participating NGOs	20
Expenses Yearly (TZS)	8,000,000
Expenses Quarterly (TZS)	2,000,000
	2020/21

These activities fall under pollution management BIOFIN category.

3.8 Private Businesses

Private businesses are involved in biodiversity conservation at various levels. Their biodiversity expenditure may be directed at their operations when they adopt environmentally friendly business practices. Also, they may collaborate with the community around them in conservation efforts. Analysis of biodiversity expenditure activities from private businesses in Zanzibar revealed two categories of businesses that are at the forefront of biodiversity conservation. These businesses are (i) hotels and other establishments for tourists and (ii) privately managed conservation areas.

3.8.2.1 Hotels and other tourist establishments

Hotels that have adopted sustainability principles invest in infrastructure and processes that put less pressure on the consumption of biodiversity resources as well as preventing biodiversity destruction resulting from unsustainable consumption. The following are examples of biodiversity friendly practices by hotels in Zanzibar:

- Minimising the use of plastics bottles in their hotel premises using reusable glass bottles.
- Recycling of grey water from showers to flush toilets and watering gardens.
- Use of renewable energy sources such as solar energy for water heating and lighting.

It is difficult to estimate the expenditure on the initiative described above due to non-availability of data from the hotels.

Hotels also collaborate with communities around them and other organisations in the following activities:

- Beach cleaning
- Restoration of coral reefs and mangroves
- Waste management

Expenditure for the activities described above is accounted for in section 3.8.1.3

3.8.2.2 Privately managed conservation areas

Chumbe island Marine Protected Area (MPA) is managed by Chumbe Island Coral Park (CHICOP) Ltd, a not-for-profit company set up for the sole purpose of establishing and sustainably managing the Chumbe Island MPA. Revenue generated from high-end ecotourism provides all the funding required for conservation management and environmental education initiatives. Chumbe island is operated along three pillars:

- Conservation
- Education
- Eco-tourism

Revenues obtained from eco-tourism activities is divided in the following ways: 60% of revenues from eco-tourism activities is used for eco-lodge expenses; 20% into Chumbe Environmental Education program; and 20% into Chumbe conservation program. The most recent published financial information from Chumbe island is from 2015/16 presented in Table 57. The revenues estimates are based on occupancy rates of 60%-65%.

Table 57: Revenues from Eco-tourism activities at Chumbe MPA for 2014/15 -2020/21

2015/16	2020/21
4,200,000	2,100,000
2,520,000	1,260,000
1,680,000	840,000
840,000	420,000
840,000	420,000
	2015/16 4,200,000 2,520,000 1,680,000 840,000 840,000

Chumbe Island MPA revenues were affected by the tourism industry slowdown as a result of COVID-19 pandemic. The tourism sector is gradually bouncing back in Zanzibar. It has therefore been assumed that Chumbe island lost about 50% of its revenues from the 2015/16 levels. Additionally, it is assumed that 50% of the amount allocated to environment education program and conservation program is relevant to biodiversity conservation, hence, the total biodiversity expenditure for 2020/21 is USD 420,000.

3.8.4 Retention of Fees and Community Conservation

The management of forest reserves and marine conservation areas is done under by specific units. These are:

- Ngezi Forest Reserve
- Mnemba-Chwaka Bay Conservation Area (MIMCA)
- Pemba Channel Conservation Area (PECCA)
- Menay Bay Conservation Ares (MBCA)

These units collect fees from visitors. The fees are divided between the government treasury, the units managing the conservation areas and the communities surrounding the conservation areas. The government takes 20% of the fees, the units managing the conservation areas retain 50% of the fees and the communities get 30%. The funds collected from visitors and allocation to conservation is indicated in Table 58.

Jozani National Park

Table 58: Visitors fees for Forest reserves and marine protected areas for 2020/21 to 2021/22

	2020/21	2021/22
Jozani (TZS)	4,361,500	8,908,500
Ngezi (TZS)	738,625,536	637,177,524
PECCA (TZS)	3,451,000	19,535,420
MBCA & MIMCA (TZS)	198,599,801	390,542,015
TOTAL TZS	945,037,837	1,056,163,459
TOTAL USD	409,107.29	457,213.62
Retained amount for conservation (USD)	204,553.64	228,606.81
Amount channeled to the communities (USD)	122,732.19	137,164.09
TOTAL FOR CONSERVATION (USD)	327,285.83	365,770.89

3.9 Overall assessment of biodiversity expenditure from Non-government Entities

3.9.1 Summary of Biodiversity Expenditure from Non-government Entities

Biodiversity expenditure from non-government entities for 2018/19 to 2020/21 is presented in

Table 59. The estimated expenditure for 2020/21 is approximately USD 1,000,000. It is not possible to accurately estimate biodiversity expenditure from non-government entities for the entire country due to insufficient data. Therefore, the expenditure presented here is at best a rough estimate of what is spent on biodiversity conservation and management.

Table 59: Summary of biodiversity expenditure for non-government entities 2018/19 to 2020/21

	2018/19	2019/20	2020/21
Expenditure from the three NGOs case Studies (USD)	269,220	268,813	105,207
Project Specific Expenditure (USD)	136,000		76,000
General Projections for NGOs (USD)			69,264
Private MPA (USD)			420,000
Public MPAs and forest reserves (USD)	250,000	300,000	327,286
TOTAL (USD)	655,220	568,813	997,756
TOTAL (TZS)	1,513,559	1,313,959	2,304,817

3.9.2 Summary of biodiversity expenditure for non-government entities by BIOFIN categories

Analysis of biodiversity expenditure for non-government entities based on BIOFIN categories is presented in Figure 25



Figure 19: Biodiversity Expenditure for non-government entities based on BIOFIN categories

The analysis shows that nearly half of the expenditure is attributed to protected areas and other conservation measures. Additionally, about a third of the expenditure is attributed to biodiversity awareness and knowledge.

3.10 Projections of biodiversity expenditure from the public and private sector

Projections of the biodiversity expenditure for MDAs was done to determine future biodiversity expenditure in the "business as usual" case using the most likely outcome scenario. The projections were done based on the following assumptions:

i. The base year is 2022/23. Projections have been done for five years to year 2027/28.

- ii. Budget forecasts for year 2022/23 and 2023/24 were taken from published budget data from the respective MDAs.
- iii. Projections from year 2025 and beyond have been done by assuming a yearly real growth rate of 4%. The forecasted real growth rate for Zanzibar for the next four/ five years is 7%, therefore, the growth rate used to forecast biodiversity expenditure for MDAs is a conservative growth estimate.
- iv. The biodiversity expenditure from the forecasted budgets was obtained by maintaining the same ratio as that of 2022/23.

Tables 60-1 to 60-7 show the forecasted biodiversity expenditure for government entities

Table 60-1: Biodiversity relevant expenditure for the DoE and ZEMA 2022/23-2027/28

	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28			
Sub Program: Environmental Supervision									
Total Expenditure TZS ('000')	716,941	749,920	784,417	820,500	858,243	897,722			
Total Biodiversity Relevant Expenditure TZS ('000')	352,572	368,790	385,754	403,499	422,060	441,475			
Proportion of biodiversity related expenditure TZS ('000')	0.49	0.49	0.49	0.49	0.49	0.49			
Sub Program: Coordinating environment and climate change issues									
Total Expenditure TZS ('000')	704,979	737,408	771,329	806,810	843,923	882,744			
Total Biodiversity Relevant Expenditure TZS ('000')	348,114	364,127	380,877	398,397	416,723	435,893			

Proportion of biodiversity related expenditure	0.49	0.49	0.49	0.49	0.56	0.56
Total Biodiversity Related Expenditure TZS ('000')	700,685	732,916	766,630	801,895.97	838,783	877,367
Exchange Rate USD/TZS	2.32	2.32	2.32	2.32	2.32	2.32
Total Biodiversity Related Expenditure USD	302,019	315,912	330,444	345,644	361,544	378,175

Table 60-2: Biodiversity relevant expenditure for Dol, ZARI and DoA 2022-23 to 2027/28

	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Sub Program: Irrigation						
Total Expenditure TZS ('000')	9,448,441	9,883,069	10,337,690	10,813,224	11,310,633	11,830,922
Total Biodiversity Relevant Expenditure TZS ('000')	516,942	540,722	565,595	591,612	618,826	647,292
Proportion of biodiversity related expenditure ('000')	0.05	0.05	0.05	0.05	0.05	0.05
Sub Program: Agricultur	e research ar	nd training				
Total Expenditure TZS ('000')	2,845,700	2,976,602	3,113,526	3,256,748	3,406,559	3,563,260
Total Biodiversity Relevant Expenditure TZS ('000')	240,430	251,490	263,058	275,159	287,816	301,056
Proportion of biodiversity related expenditure (B/A)	0.08	0.08	0.08	0.08	0.08	0.08
Sub Program: Agricultur	e services					
Total Expenditure TZS ('000')	10,858,540	11,358,033	11,880,502	12,427,005	12,998,648	13,596,586
Total Biodiversity Relevant Expenditure TZS ('000')	759,458	794,393	830,935	869,158	909,139	950,960
Proportion of biodiversity related expenditure	0.07	0.07	0.07	0.07	0.07	0.07
Total Biodiversity Related Expenditure TZS ('000')	1,516,830	1,586,604	1,659,588	1,735,929	1,815,782	1,899,308
Exchange Rate USD/ TZS	2.32	2.32	2.32	2.32	2.32	2.32
Total Biodiversity Related Expenditure USD	653,806	683,881	715,339	748,245	782,664.	818,667

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	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28		
Sub Program: Conservation of forest resources								
Total Expenditure TZS ('000')	4,378,044	4,579,434	4,790,088	5,010,432	5,240,912	5,481,994		
Total Biodiversity Relevant Expenditure TZS ('000')	1,751,218	1,831,774	1,916,035	2,004,173	2,096,365	2,192,798		
Proportion of biodiversity related expenditure TZS ('000')	0.40	0.40	0.40	0.40	0.40	0.40		
Sub Program: Sub Program: Su	pervision an	id conservat	ion of non-re	enewable re	sources			
Total Expenditure TZS ('000')	2,929,923	3,064,699	3,205,676	3,353,137	3,507,381	3,668,721		
Total Biodiversity Relevant Expenditure TZS ('000')	128,917	153,235	160,284	167,657	175,369	183,436		
Proportion of biodiversity related expenditure	0.04	0.05	0.05	0.05	0.05	0.05		
Total Biodiversity Related Expenditure TZS ('000')	1,880,134	1,985,008	2,076,318	2,171,829	2,271,733	2,376,233		
Exchange Rate USD/TZS	2.32	2.32	2.32	2.32	2.32	2.32		
Total Biodiversity Related Expenditure USD	810,402	855,607	894,965	936,133	979,195	1,024,238		

Table 60-3 Biodiversity relevant expenditure for FOR and NRR 2022/23-2027/28

Table 60-4: Biodiversity relevant expenditure for department of livestock and ZALIRI 2022/23-2027/28

	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28			
Sub Program: Livestock production									
Total Expenditure TZS ('000')	620,341	648,877	678,725	709,946	742,604	776,764			
Total Biodiversity Relevant Expenditure TZS ('000')	12,407	12,978	13,575	14,199	14,852	15,535			
Proportion of biodiversity related expenditure	0.02	0.02	0.02	0.02	0.02	0.02			
Sub Program: Veterinary Servi	ices								
Total Expenditure TZS ('000')	2,103,315	2,200,067	2,301,271	2,407,129	2,517,857	2,633,678			
Total Biodiversity Relevant Expenditure TZS ('000')	189,298	198,006	207,114	216,642	226,607	237,031			
Proportion of biodiversity related expenditure (B/A)	0.09	0.09	0.09	0.09	0.09	0.09			
Sub Program: Livestock resea	rch								
Total Expenditure TZS ('000')	1,178,000	1,232,188	1,288,869	1,348,157	1,410,172	1,475,040			
Total Biodiversity Relevant Expenditure TZS ('000')	70,680	73,931	77,332	80,889	84,610	88,502			
Proportion of biodiversity related expenditure	0.06	0.06	0.06	0.06	0.06	0.06			
Total Biodiversity Related Expenditure TZS ('000')	272,385	284,914	298,020	311,729	326,069	341,068			
Exchange Rate USD/TZS	2.32	2.32	2.32	2.32	2.32	2.32			
Total Biodiversity Related Expenditure USD	117,407	122,808	128,457	134,366	140,547	147,012			

2021/20									
	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28			
Sub Program: Fisheries develo	Sub Program: Fisheries development and ocean resources								
Total Expenditure TZS ('000')	10,521,368	8,290,273	8,671,626	9,070,520	9,487,764	9,924,201			
Total Biodiversity Relevant Expenditure TZS ('000')	1,472,992	1,160,638	1,214,028	1,269,873	1,328,287	1,389,388			
Proportion of biodiversity related expenditure	0.14	0.14	0.14	0.14	0.14	0.14			
Sub Program: Conservation of	marine reso	urces							
Total Expenditure TZS ('000')	357,250	481,683	503,840	527,017	551,260	576,618			
Total Biodiversity Relevant Expenditure TZS ('000')	264,365	356,445	372,842	389,993	407,932	426,697			
Proportion of biodiversity related expenditure (B/A)	0.74	0.74	0.74	0.74	0.74	0.74			
Sub Program: ZAFIRI									
Total Expenditure TZS ('000')	346,500	418,400	437,646	457,778	478,836	500,862			
Total Biodiversity Relevant Expenditure TZS ('000')	86,625	104,600	109,412	114,445	119,709	125,216			
Proportion of biodiversity related expenditure	0.25	0.25	0.25	0.25	0.25	0.25			
Total Biodiversity Related Expenditure TZS ('000')	1,737,356	1,517,083	1,586,869	1,659,865	1,736,219	1,816,085			
Exchange Rate USD/TZS	2.32	2.32	2.32	2.32	2.32	2.32			
Total Biodiversity Related Expenditure USD	748,860	653,915	683,995	715,459	748,370	782,795			
Table 60-6: Biodiversity relev of blue economy 2023/24 to 2	vant expendi 2027/28	ture for de	velopment,	coordinatio	on, and adr	ninistration			
	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28			
Sub Program: Development	of blue ecor	iomy							
Total Expenditure TZS ('000')	1,428,000	1,493,688	1,562,398	1,634,268	1,709,444	1,788,079			
Total Biodiversity Relevant Expenditure TZS ('000')	81,396	85,140	93,744	98,056	102,567	107,285			
Proportion of biodiversity related expenditure TZS ('000')	0.057	0.057	0.06	0.06	0.06	0.06			

Table 60-5: Biodiversity relevant expenditure for department of fisheries and ZAFIRI 2022/23-2027/28

Sub Program: Sub Program: Coordination and administration of the blue economy

Total Expenditure TZS ('000')	2,296,000	2,401,616	2,512,090	2,627,646	2,748,518	2,874,950
Total Biodiversity Relevant Expenditure TZS ('000')	365,064	319,415	351,693	367,871	384,793	402,493
Proportion of biodiversity related expenditure	0.16	0.13	0.14	0.14	0.14	0.14
Total Biodiversity Related Expenditure TZS ('000')	446,460	404,555	445,436	465,926	487,359	509,777
Exchange Rate USD/TZS	2.32	2.32	2.32	2.32	2.32	2.32
Total Biodiversity Related Expenditure USD	192,439	174,377	191,998	200,830	210,068	219,731

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Table 60-7: Biodiversit	v relevant ex	penditure fo	or MLH and	SWES	2022/23-2027/28
	,				

	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28			
Sub Program: Managemen	Sub Program: Management of land and housing								
Total Expenditure TZS ('000')	3,903,974	4,083,557	4,271,401	4,467,885	4,673,408	4,888,385			
Total Biodiversity Relevant Expenditure TZS ('000')	117,119	122,507	128,142	134,037	140,202	146,652			
Proportion of biodiversity related expenditure TZS ('000')	0.03	0.03	0.03	0.03	0.03	0.03			
Sub Program: Sub Program: Supervision of water and energy services									
Total Expenditure TZS ('000')	8,784,621	9,188,713	9,611,394	10,053,518	10,515,980	10,999,715			
Total Biodiversity Relevant Expenditure TZS ('000')	790,616	826,984	865,025	904,817	946,438	989,974			
Proportion of biodiversity related expenditure	0.09	0.09	0.09	0.09	0.09	0.09			
Total Biodiversity Related Expenditure TZS ('000')	907,735	949,491	993,167	1,038,853	1,086,640	1,136,626			
Exchange Rate USD/TZS	2.32	2.32	2.32	2.32	2.32	2.32			
Total Biodiversity Related Expenditure USD	391,265	409,263	428,089	447,781	468,379	489,924			

The forecasted biodiversity expenditure from the government entities highlights the expected biodiversity spending for the coming five years. The conservation of marine resources subprogram managed by the fisheries department has the highest proportion of biodiversity expenditure to total departmental budget (74%), while fisheries development sub-program has 14%. The highest forested expenditure for these two sub programs is TZS 1.826 billion. The high proportion of biodiversity expenditure is expected because the conservation activities for marine conservation areas fall under this department.

The Department of Environment has the second highest proportion of biodiversity expenditure to total budget (50%). The highest forecasted expenditure for the DoE and ZEMA is TZS 877.3 million. Biodiversity conservation and management coordination is the responsibility of the DoE. It is expected to coordinate conservation initiatives across sectors and to report progress on achievement of national biodiversity targets. With these responsibilities its budget is a bit low when compared with other departments.

The department of forestry and non-renewable resources has a substantial proportion of biodiversity expenditure to total departmental budget (40%). The highest forecasted expenditure for the department of forestry is TZS 2.37 billion. This amount is the highest biodiversity expenditure

forecast among the government entities. This is to be expected as the department of forest is responsible for management of terrestrial biodiversity including forests and wildlife.

The department of irrigation has a low proportion of biodiversity expenditure to total department budget (5%-8%). However, the highest forested biodiversity expenditure for this department is on the high side (TZS 1.89 billion). This may be explained by the high expenditure for management of irrigation infrastructure and control of floods in the flood plains. Another department with low proportion of biodiversity expenditure to total department budget is the department of livestock (2%-6%). This department has modest highest biodiversity forecasted expenditure (TZS 314 million).

The analysis for the development of blue economy sub-program was done separately from the sub-program managed by the fisheries department because of the high differences in biodiversity expenditure attribution to total departmental budget. This sub-program has (5%-16%) proportion of biodiversity expenditure to total departmental budget. The low proportion of biodiversity expenditure is explained by the activities financed from this sub-program. It is concerned with coordinating activities for the blue economy and regulation of oil and natural gas development in Zanzibar, activities which have
low biodiversity coefficient of attribution compared to the fisheries department in the same ministry.

The land and housing sub-program and the supervision of water and energy services from the ministry of land and housing has a low biodiversity expenditure proportion (3% to 9%). However, the highest forecasted biodiversity expenditure for is TZS 1.136 billion. This may be explained by the activities related to land use and marine spatial planning as well as activities related to conservation of water sources and wetlands.

Biodiversity expenditure was also forecasted for non-government entities. These are NGOs, CBOs, and private companies. The forecasted biodiversity expenditure was done based on the following assumptions:

i. The base year was 2022/23 and the forecast was for five years to 2027/28.

- ii. The projections were based on budget figures from organisations whose financial information was obtained during the BER exercise. Therefore, these projections are representative of the non-government entities biodiversity expenditure.
- iii. A real growth rate of 3% per year was used to forecast biodiversity expenditure for non-government entities. This rate is a bit lower compared to the rate applied to the biodiversity expenditure forecast for MDAs. This is because the financing for nongovernment entities is more susceptible to changes in the external environment, and as such, a more conservative growth rate is appropriate.

Table 61 present a summary of combined biodiversity expenditure for government and non-government entities.

Table 61: Summary of biodiversity expenditure for government and non-government entities

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Department of Environment (USD)	302,020	315,912	330,444	345,645	361,544	378,176
Department of Agriculture and Irrigation (USD)	653,806	683,881	715,340	748,245	782,665	818,667
Department of Forestry (USD)	810,403	855,607	894,965	936,133	979,196	1,024,239
Department of Livestock (USD)	117,407	122,808	128,457	134,366	140,547	147,012
Department of Fisheries (USD)	748,861	653,915	683,995	715,459	748,370	782,795
Blue Economy development and Coordination (USD)	192,440	174,377	191,998	200,830	210,069	219,732
Ministry of Energy Water and Mining (USD)	391,265	409,263	428,089	447,782	468,380	489,925
TOTAL GOVERNMENT ENTITIES	3,216,201	3,215,765	3,373,290	3,528,461	3,690,771	3,860,546
Expenditure from the three NGOs case Studies (USD)	111,614	114,962	118,411	121,963	125,622	129,391
Project Specific Expenditure (USD)	80,628	83,047	85,539	88,105	90,748	93,470
General Projections for NGOs (USD)	73,482	75,687	77,957	80,296	82,705	85,186
Private MPA(USD)	445,578	458,945	472,714	486,895	501,502	516,547
Public Conserved Areas (USD)	347,218	357,634	368,363	379,414	390,796	402,520
NON-GOVERNMENT						
ENTITIES	1,058,520	1,090,275	1,122,984	1,156,673	1,191,373	1,227,115
ESTIMATED BIODIVERSITY EXPENDITURE (USD)	4,274,721	4,306,040	4,496,274	4,685,134	4,882,144	5,087,660
ESTIMATED BIODIVERSITY EXPENDITURE TZS (000)	9,874,605	9,946,953	10,386,392	10,822,660	11,277,752	11,752,496

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The forecasted biodiversity expenditure for MDAs is three times that of non-government entities. This observation underlies the importance of funding from government budgets in supporting biodiversity conservation and management. Cumulatively, over the five years, the expected biodiversity spending from MDAs is TZS 48.244 billion (USD 20.855 million), while biodiversity spending for the private sector is TZS 15.816 billion (USD 6.846 million). On average, the total annual forecasted biodiversity expenditure is TZS 10.676 billion (USD 4.621 million).

3.11 Implications of the biodiversity expenditure review from government Entities

Analysis of the biodiversity expenditure for government entities was done, whereby the biodiversity relevant expenditure was compared with total government budget. Results show that biodiversity relevant expenditure at nominal prices accounts for only 0.21% to 0.25% of the total government budget, while the proportion change slightly to 0.24% when constant prices are considered.

Budget allocation attributed to biodiversity expenditure is very low, less than half of a percent of the total government budget. This situation may be a result of the following:

- Competing priorities in the public sector. In most cases, public expenditure is directed to areas that are deemed more important to the livelihoods of citizens. Sectors such as health, education, and infrastructure development are favoured over other sectors.
- Low understanding of the importance of biodiversity and its contribution to economic growth. Zanzibar economy is driven by tourism and marine resources. These sectors depend so much on the continued existence of marine and terrestrial biodiversity.
- Zanzibar Vision 2050 pillar IV has a component which addresses environment and climate change. It outlines five key performance indicators climate change mitigation, marine and terrestrial protection as well as afforestation. However, these indicators are not linked with the sectors whose activities are relevant to biodiversity neither do they link conservation outcomes with financial resources.

Further, the following issues were observed during biodiversity expenditure review for government entities.

- There is a wide variation in budget performance. In some cases, the disbursed funds are much less compared to budgeted amounts, while in some other instances, disbursed funds far exceed the budgeted amounts. In such a situation, it is difficult to forecast budget trends.
- Budget support from development partners plays an essential role in reducing the public finance gap. However, in some cases, development partners either delay release of funds or don't release all the funds as promised during budgeting. This situation leads to low budget performance.
- The proportion of biodiversity financing from ODA to biodiversity expenditure from MDAs is very high (80% to 90%). Such high proportion of ODA into biodiversity expenditure brings out questions on sustainability of activities funded from projects when such projects close.
- Funds are mostly allocated to recurrent expenditure. Development expenditure require a lot more funds but produce long term impact than recurrent expenditure.
- The DoE is a key player in the management and coordination of biodiversity conservation in Zanzibar. However, its biodiversity expenditure is slightly low compared to the biodiversity expenditure for other key departments in biodiversity conservation. The DoE needs more financial resources to oversee the management and coordination of biodiversity in Zanzibar. Biodiversity expenditure for other key departments in biodiversity conservation such as forestry and fisheries is slightly higher, however, their needs are much more compared to their budgets. This observation calls for more financial resources to be directed towards biodiversity conservation.

3.12 Implications of the biodiversity expenditure review from Nongovernment Entities

The assessment of the biodiversity expenditure from NGOs, and private companies revealed several issues that warrant attention.

First, data from private companies and NGOs is scanty. There are several NGOs and private organisations who are actively involved in biodiversity conservation, but their financial information could not be obtained. Some were reluctant to share financial information on the basis that they are private organisations, and they consider the privacy and data protection of their donors and benefactors. This observation implies

that the biodiversity expenditure from private organisation may be understated.

Second, since there is no tracking of biodiversity conservation financing from private companies and NGOs, it is difficult to coordinate efforts and leverage resources. Some areas of biodiversity conservation may be neglected since players in the private sector space operate in isolation without a defined coordination.

Third, lack of central coordination for private sector financing of biodiversity conservation makes it difficult to monitor results at a national level. Individual organisations have monitoring and evaluation framework for the conservation their biodiversity conservation activities. However, these results do not feed into national level framework, and hence they are not accounted when reporting progress on national biodiversity conservation targets.

Fourth, the bulky of funding for biodiversity conservation for private companies and NGOs come from two major sources. These are:

- donations, gifts, and grants from private individuals and funding organisations around the world; and
- income obtained from tourism activities.

These sources are highly susceptible to economic slowdowns and tourism sector disruptions like the recent COVID-19 pandemic. Conservation efforts were highly affected during the peak of COVID-19 pandemic.

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CHAPTER FOUR

4. Recommendations and Conclusion

4.1 Conclusion

BER report is the second in a series of four reports for BIOFIN. The preparation of this report followed a participatory process whereby experts from the public and private sectors were consulted. Information collected from key informants was crucial in evaluating and forecasting biodiversity relevant expenditure from government and nongovernment entities.

Overall budget allocation attributed to biodiversity expenditure was extremely low, less than half of a percent of the total government budget. Key issues noted in this biodiversity expenditure review for government entities include a) a wide variation in budget performance that makes it difficult to forecast budget trends; b) significant budget support from development partners that plays an essential role in reducing the public finance gap; c) skewed budget allocation mostly to recurrent expenditure.

Budget and disbursement: The trends for budget allocation and actual expenditure for most MDAs indicate a declining allocation and more so for the development budget. The analysis shows that for the past four years, funds disbursed were far less compared to the budgeted amounts, especially for the development expenditure.

The forested biodiversity expenditure under the most likely scenario indicates that an average of USD 4,655,659 per year will be spent by both government and non-government entities in the next five years based on the financial data collected from different sources. The financial forecast models for biodiversity expenditure were built on a set of assumptions derived from organization-level data sources as well as national-level data sources.

The budget allocation with respect to the BIOFIN categories was mostly on promoting sustainable use; Biodiversity development and planning; biodiversity awareness and knowledge, restoration of marine and forest areas; Green economy, and pollution management. This observation may be explained by the fact that many activities related to biodiversity at the ministry and department levels are on building institutions and building capacity of staff and the community. Moreover, donor projects also focus more on capacity building for institutions, as a result, biodiversity related finance is concentrated more on development and planning, as well as awareness creation.

NGOs: Although data from the private sector and **NGO**s was scanty, analysis indicated that there were several **NGO**s and private organizations that were actively involved in biodiversity conservation. The **NGO**s have played a significant role in facilitating biodiversity-related initiatives that include marine conservation, beach management; environmental education, co-management of Protected Areas; conservation of forestry and marine resources; promotion of alternative energy sources; and sustainable agriculture.

The **Private sector** plays a significant role in biodiversity-related initiatives that include recycling grey water, minimising the use of plastic materials, and use of renewable energy sources such as solar energy. The private sector also collaborates with communities on projects related to beach cleaning, restoration of coral reefs and mangroves, waste management, conservation of PAs, and promotion of income generation through eco-tourism and environmental education. The main challenge is the lack of central coordination for private sector financing on biodiversity conservation which makes it difficult to explicitly establish the levels of funding and monitor results at a national level.

The bulk of funding for biodiversity conservation for the private sector and NGOs come from two main sources namely donations, gifts, grants, and income from tourism activities. This narrow revenue base is highly susceptible to economic slowdowns and tourism sector disruptions like the recent COVID-19 pandemic that highly affected their projects during the peak of the COVID-19 pandemic.

This report is the first of its kind in the context of biodiversity conservation expenditure for Zanzibar. It is expected that this report will help the relevant departments to build a case for increasing financing for biodiversity conservation

4.2 Recommendations

Currently, biodiversity conservation issues are coordinated by the Department of Environment (DoE) in the First Vice President's Office. It is paramount that the DoE, together with the Ministry of Blue Economy, and the Department of Forestry devise strategies to lobby for more funds allocation from the government budget for conservation activities. The rationale is that biodiversity contributes a significant portion of the Zanzibar economy, and therefore, the role of biodiversity conservation in the sustainability of Zanzibar's economy needs to be well articulated.

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Zanzibar does not have a National Biodiversity Strategy and Action Plan. This means that there is no systematic framework to plan, fundraise and track the performance of national biodiversity goals as well as financing biodiversity-related activities. It is important to develop this strategy to ensure biodiversity is prioritized in the respective sectors and in the government planning processes. The DoE can take a lead on the preparation of the NBSAP with technical support from development partners such as UNDP.

Based on the NBSAP, the sectors should also review their strategies and plans to ensure biodiversity is well mainstreamed including assessment of the sources of budget funds to ascertain the likelihood of secured funds for prioritized activities. The fundraising plan which is expected to be part of the NBSAP will provide a more accurate forecast of financing needs and sources and will reduce the low budget performance resulting from failure to secure funds for budgeted activities. Such assessment will also be useful in achieving a balance between budgeted recurrent and development expenditure.

More involvement of the private sector in biodiversity conservation planning and monitoring is important. Currently, there is neither a mechanism nor monitoring framework to track biodiversity financing by the private sector and other non-government entities. The existence of private sector umbrella associations such as those involved in tourism provide an entry point for this process.

Further, the BER is not a one-off exercise. It is expected that the BER will be reviewed periodically and to keep track of biodiversity expenditure from both the government, NGOs, and the private sector. For the BER exercise to be replicable and sustainable, the following points of action are recommended:

a) the DoE to take a lead role in coordinating the BER review exercise. Currently, the BIOFIN project offers technical support. Also, the project is expected to have a coordinator stationed in Zanzibar to oversee the implementation of the project activities. This initiative can be used as a platform for capacity building for the staff of DoE, and to set a stage for mainstreaming biodiversity financing tracking in regular DoE plans to sustain the initiatives beyond the project phase.

b) A thorough review of attribution of biodiversity expenditure to the budget items in the Zanzibar context is needed to maintain consistency and replicability of the BER exercise. This review can be done by the planning officers from the DoE, Ministry of Finance and Planning, Ministry of Blue Economy, Ministry of Agriculture, Livestock and Irrigation, and Ministry of Energy, Water and Mining. UNDP can provide technical input into this exercise.

c) the DoE can initiate a biodiversity expenditure reporting framework, whereby MDAs, NGOs, and the private sector share data related to biodiversity expenditure. The data can be collected and analysed at the DoE. This exercise will be effective if the DoE establishes a biodiversity financing tracking focal person to coordinate the exercise.

It is important to have a reliable financing mechanism for biodiversity conservation to reduce reliance on unpredictable donor funding. The options could include:

- Ring-fencing a portion of funds collected from businesses benefitting from biodiversity resources (businesses in tourism and fisheries) to be used for conservation activities. It is currently done for fees collected from the forest and marine conserved areas. The practices can be extended to tourism and fisheries businesses. This could be one of the biodiversity finance solutions to be piloted.
- Increasing capacity for writing proposals and securing long-term financing for biodiversity conservation from both local and international sources.
- Establishing biodiversity financing mechanisms whereby the private sector and international organizations can pool resources to support biodiversity conservation. This will also ensure that the planned NBSAP has a secure funding strategy to finance planned targets and priorities.
- Increasing efficiency of the systems that are used for collection of entry fees into marine and forest protected areas. This can be done by introducing cashless payment systems at the tourists' entry points. Experience from the Tanzania mainland shows that introduction of cashless payment systems increased collection efficiency significantly. Once there are more funds collected from MCAs and Pas, more funds can be directed towards biodiversity conservation.
- Conduct willingness to pay studies for entry fees into MCAs and PAs. Currently, the entry fees for foreign visitors is USD 3- USD 5. This fee is much less compared to fees charged for entrance into the national parks

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in Tanzania mainland4. The willingness to pay study will inform decision makers if fees can be increased and how much can be expected from such an increase, and its impact on tourist experience as well as biodiversity conservation expenditure.

 The ministry of blue economy has initiatives to increase productivity in fisheries. Specifically, to build capacity of small-scale fishermen to engage in deep sea fishing, and to increase value of fisheries products. These are good initiatives. However, to counter the effects of unsustainable exploitation of marine biodiversity, the ministry may consider some fees for companies/fishermen who are expected to benefit from this initiative. The mechanism of collection and use of such fees can be discussed with fisheries stakeholders.

 Chumbe Marine Park is a good business case for Public Private Partnership (PPP) in marine conservation. Such an arrangement is a cost-effective option for the government, whereby, the management and operations of the MPA is done by a competent private sector entity which manages both the biodiversity assets and its conservation. The government can explore more PPPs of this nature as a way to efficiently manage biodiversity.

⁴ The 2021 entry fees for Serengeti National Park is USD 70 per adult and USD 23 per child, while the entry fees for other national Parks except Kilimanjaro National Park is USD 53 per adult and USD 17 per child.



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