

PRESENTATION

SUBMISSION TO THE PARLIAMENTARY COMMITTEE ON AGRICULTURE, LAND AND NATURAL RESOURCES.

TOPIC: BUDGET ANALYSIS OF HEAD 89: MINISTRY OF AGRICULTURE; HEAD 86: MINISTRY OF FISHERIES AND LIVESTOCK; HEAD 53: MINISTRY OF GREEN ECONOMY AND ENVIRONMENT; AND HEAD 85: MINISTRY OF LANDS AND NATURAL RESOURCES

OCTOBER 2023

INTRODUCTION

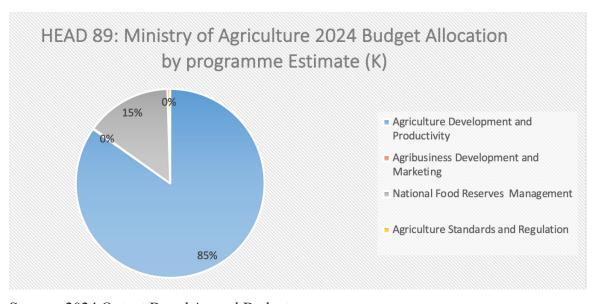
PMRC was requested by the Committee to submit a written memorandum of comment on the 2024 estimates of revenue and expenditure of Head 89: Ministry of Agriculture; Head 86: Ministry of Fisheries and Livestock; Head 53: Ministry of Green Economy and Environment and Head 85: Ministry of Lands and Natural Resources

HEAD 89: MINISTRY OF AGRICULTURE

Facilitate the development of a sustainable and diversified agricultural sector for food and nutrition security and income generation. This is in accordance with the Government Gazette Notice No. 1123 of 2021.

Budget Allocation by Programme

Code	PROGRAMME	2022 BUDGET	2023 BUDGET	20224 BUDGET
		Approved (K)	Approved (K)	Estimate (K)
2141	Agriculture Development and Productivity	5,751,798,285	10,067,769,062	10,222,074,515
2142	Agribusiness Development and Mar- keting	67,661,779	12,079,112	14,823,734
2143	National Food Reserves Management	1,046,200,000	686,200,000	1,766,200,000
2144	Agriculture Standards and Regulation	17,790,529	28,566,001	57,114,004
2199	Management and Support Services	452,878,310	530,495,479	691,897,559
H e a d Total		7,336,328,903	11,325,109,654	12,752,109,812



- The 2024 budget proposed an allocation of K13, 826, 019,474 (7.8%) towards agriculture, livestock and fisheries interventions. This represents an increase in funding of approximately K11, 209, 692, 002 (6.7%) when compared to the 2023 budget allocation.
- The 2024 has seen a reduction in the Farmers Input Support Programme (FISP) from K9, 119, 154,149 in 2023 to K8, 561, 421, 253 in the 2024 national budget. A reduction of 6.1%
- In addition, the budget allocation for farm block, extension, and irrigation support has been cut from K1, 216,140,030 in the 2023 budget to K598, 376,550 in the 2024 budget.
- There has been an increase in budget allocation towards animal disease control from K274, 397, 888 in 2023 to 498,822,748 in 2024.
- The 2024 budget has further allocated a K1,680,000,000 to Strategic Food Reserves. This increase in budgetary allocation will help Food Reserve Agency (FRA) to enter the marketing season early and secure the various strategic crops as enshrined under the FRA Act critical to food commodity price stabilization.
- This measure has capacity to curtail the cost of staple food such mealie meal on the market.
- In the 2022 Budget, Government announced a new comprehensive support program for the Agriculture sector which was to commence in the 2022 2023 farming season.
- The Comprehensive Agriculture Transformation Programme (CATSP) is designed to translate into action the will and commitment of the Government of the Republic of Zambia (GRZ) to implement an agriculture transformation policy.
- The Comprehensive Agriculture Support Programme aims at not only providing farmers with inputs as was the case with the Farmers Input Support Programme, but will also enhance extension services, improve market access and financing to farmers, and develop irrigation systems.
- The implementation of the CATSP, originally scheduled to commence during the 2022-2023 farming season, has experienced a delay. However, it has been officially confirmed that the plan would be launched prior to the end of the year 2023.
- The CATSP will promote the participation of the private sector thereby creating synergies for increasing productivity within the whole agricultural value chain.
- Government in 2024 budget has announced its intension of constructing 300 kilometres of roads in Nansanga, Luena and Shikabeta farm blocks.
- In the same vein, Government will also embark on the construction of 10 bridges to enhance connectivity in the farm blocks.
- Transport and logistics such roads and bridges are critical infrastructure for the operationalization the farm blocks
- In order to facilitate instalment of power to farms within the farm blocks, 200 kilometres of powerlines will be constructed in Luena, Luswishi and Shikabeta farm blocks. Lastly, to mitigate reliance on rainfed agriculture and facilitate year-round crop cultivation, there will be increased investments directed towards enhancing irrigation infrastructure.
- Government will use smart farming technologies with support from Cooperating Partners in the 2024 budget. These will include conservation agriculture, water harvesting, adaptive research, on-farm research programmes, agricultural insurance, as well as early warning systems.

- In enhancing farmers' access to finance, Government in collaboration with cooperating partners has allocated K186.0 million towards the establishment of a financing and credit window for small scale farmers, public service workers, and emergent farmers.
- This will support small scale farmers, emergent farmers, and public service workers with affordable financing to procure inputs, equipment and irrigation systems, among others.
- Inclusive financing in the agriculture sector is key in spurring growth and productivity of the sector that has seen a slump in GDP contribution for a number of years.

The budget allocation for the Ministry of Agriculture in 2024 reflects both positive developments and challenges that need to be carefully addressed to ensure the sustainable growth of the agricultural sector. Here are some key implications and recommendations:

Implications:

- Increased Funding: The proposed budget of K12,752,109,812 for 2024 represents a significant increase, with a 6.7% growth compared to the 2023 allocation. This suggests a strong commitment to the agricultural sector, which is crucial for food security and economic development.
- Reduction in FISP Funding: While overall funding has increased, there is a notable decrease of 6.1% in funding for the Farmer Input Support Programme (FISP) from K9,119,154,149 in 2023 to K8,561,421,253 in 2024. This reduction could impact small-scale farmers who rely on this program for essential inputs.
- Focus on Disease Control: The increased budget allocation for animal disease control is a positive step toward safeguarding livestock, a vital source of income and nutrition for many farmers.
- Strategic Food Reserves: The allocation of K1,680,000,000 to Strategic Food Reserves can help stabilize food commodity prices and enhance food security. However, effective management and procurement strategies are essential to ensure the intended impact.
- Comprehensive Agriculture Transformation Programme (CATSP): While CATSP holds promise for improving agriculture through enhanced extension services, market access, and financing, its delayed implementation needs attention to ensure timely benefits to farmers.
- Infrastructure Development: The plan to construct roads, bridges, and powerlines in farm blocks is commendable as it can improve access, connectivity, and enable year-round crop cultivation. However, proper planning and execution are crucial to avoid cost overruns and delays.
- Smart Farming Technologies: Embracing smart farming technologies is essential for increasing agricultural productivity and resilience. Ensuring effective implementation and training for farmers in utilizing these technologies is key.

Recommendations:

- FISP Funding: While reducing FISP funding, the government should consider carefully targeting the program to ensure that it reaches those most in need. Effective monitoring and evaluation mechanisms should be in place to prevent leakages and ensure inputs reach intended beneficiaries. Government should migrate farmers on Direct Input Support(DIS) to electronic voucher system to further reduce the cost on FISP.
- CATSP Implementation: Fast-tracking the implementation of CATSP should be a priority. The delay

- may have impacted farmers' access to necessary support. The government should provide a clear timeline for its launch and take steps to accelerate its rollout.
- Infrastructure Projects: Infrastructure projects should be executed efficiently, adhering to timelines and budgets. Regular monitoring and evaluation should ensure that these investments translate into improved agricultural outcomes.
- Conservation Smart Farming: To maximize the benefits of smart farming technologies, comprehensive-training programs for farmers should be implemented. Additionally, cooperation with technology providers and research institutions can facilitate the adoption of these innovations.
- Financial Support: The financing and credit window for small-scale farmers, public service workers, and emergent farmers is a positive initiative. Ensuring that these funds are accessible and affordable to the target groups should be a priority.
- Strategic Food Reserves: Transparent and efficient management of the Strategic Food Reserves is crucial. Robust procurement and storage systems should be in place to prevent food losses and ensure food security during times of need.
- Climate Resilience: Given the importance of agriculture in Zambia, climate change adaptation and mitigation strategies should be integrated into agricultural policies and programs.

Conclusion

In conclusion, the increased budget allocation for agriculture in 2024 signifies a commitment to the sector's growth. However, careful attention to the efficient utilization of funds and addressing challenges like reduced FISP funding and program delays is essential to achieve sustainable development and food security in Zambia.

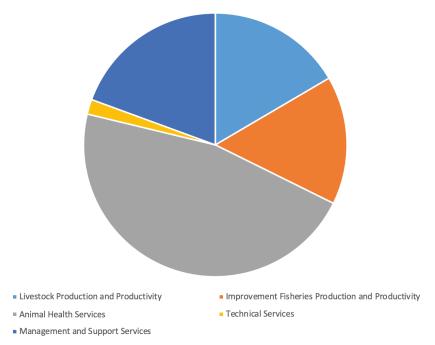
HEAD 86: FISHERIES AND LIVESTOCK

Mandate: Facilitate the development and management of a sustainable and viable fisheries and livestock sector to ensure national and household food security as outlined in the Government Gazette Notice No. 1123 of 2021.

Budget Allocation by Programme

Code	PROGRAMME	2022 BUDGET	2023 BUDGET	2024 BUDGET
		Approved (K)	Approved (K)	Estimate (K)
2130	Livestock Production and Productivity	303,411,144	239,421,865	177,821,979
2131	Improvement Fisheries Production and Productivity	139,605,511	194,198,407	169,165,664
2132	Animal Health Services	175,041,811	407,299,437	498,822,748
2136	Technical Services	3,776,387	12,489,086	19,599,259
2199	Management and Support Services	108,613,538	144,486,148	208,500,012
Head Total		730,448,391	997,894,943	1,073,909,662

Head 86: Ministry of Fisheries and Livestock 2024 budget Estimate (K)



Source: 2024 Output Based Annual Budget

Government has progressively increased budgetary allocation to all programmes except for Livestock Production and Productivity programme that has been reduced further from K239, 421,865 in 2023 to K177, 821,979 in 2024 budget. The cattle industry in Zambia has been consistently recognized as an underutilized asset due to the presence of ample marginal land that is unsuitable for crop cultivation, as well as the advantageous access to international markets enjoyed by bordering countries (Sinyangwe, & Clinch, 1991).

- Government in 2024 will improve animal health, animal identification and traceability as well as livestock breeding programmes.
- In order to achieve this, Government will endeavour to enhance disease surveillance and response system through the operationalisation of regional veterinary laboratories in Chipata, Choma, Isoka, Kasama, Mongu, Ndola and Solwezi.
- In addition, the Central Veterinary Research Institute will be rehabilitated in order to enhance Research and Development on prevention, control, diagnosis, and treatment of diseases as well as on the basic biology, welfare, and care of animals.
- Government will also enhance animal identification and traceability through the development of an online system which is being piloted in Central, Lusaka, Northwestern, Southern, and Western Provinces.
- The system will enable the public to register, search and identify animals and will be linked to a Short Messaging System for ease of access by animal owners.
- Enhancing animal identification and traceability will result in the prevention of theft as well as the ability to quickly respond to concerns related to animal health and food safety.
- Lastly, Government will strengthen legal reforms on animal identification and traceability, through the introduction to Parliament for debate, the Animal Identification and Traceability Bill.
- Government has recognised the importance of animal breeding in improving the genetics of animals, making them more resistant and more productive.
- It is for this reason that Government will in 2024 implement a community-based livestock breeding programme through a pass-on scheme to support livestock farmers.

- Government will also promote the establishment of fish hatcheries. The 2024 budget highlights Government's intention to establish 3 hatcheries in 3 aquaculture parks in Kasempa, Mushindamo and Samfya districts which will increase fingerling production from the current 302.0 million to 433.4 million in 2024.
- A fish hatchery breeds and raises fish or other aquatic animals in a controlled and captive setting. Hatcheries can be a unique and powerful tool for wildlife conservation when they are used to recover wild populations and support sustainable recreational fisheries.

Implications and Recommendations

The budget allocations and government initiatives for the Ministry of Fisheries and Livestock in 2024 have several implications and offer opportunities for further improvements:

Implications:

- The 2024 budget allocation of K1,073,909,662 represents a significant investment in the fisheries and livestock sector. This financial commitment underscores the importance of this sector for both food security and economic development.
- The emphasis on enhancing disease surveillance and response systems, including the operationalization of regional veterinary laboratories, is critical. It can help mitigate disease outbreaks that can devastate livestock populations and disrupt food supply chains.
- The development of an online system for animal identification and traceability is a positive step toward ensuring the safety of animal products and preventing theft. This initiative can enhance consumer confidence and food safety standards.
- The rehabilitation of the Central Veterinary Research Institute can boost research and development efforts in disease prevention, animal welfare, and improved livestock genetics. It can lead to innovations that benefit both farmers and consumers.
- Recognizing the importance of animal breeding for productivity and resilience is crucial. The community-based livestock breeding program is an opportunity to improve the genetics of animals, making them more suitable for local conditions.
- The establishment of fish hatcheries is a positive move toward increasing fingerling production.
 This can support sustainable aquaculture and fisheries, promoting both food security and economic opportunities.

Recommendations:

- Ensure efficient and transparent utilization of the allocated budget to maximize the impact of government initiatives. Regular audits and monitoring can help prevent mismanagement of funds.
- Invest in training and capacity building for veterinary professionals and staff involved in disease surveillance, animal identification, and traceability. A well-trained workforce is essential for the success of these programs.
- Continue to strengthen the legal framework, particularly the Animal Identification and Traceability Bill, to ensure that regulations are comprehensive, clear, and enforceable. Engage stakeholders in the drafting and debate process.
- Actively involve local communities and livestock farmers in the implementation of livestock breeding programs. Encourage their participation and ownership of these initiatives.
- Conduct thorough environmental impact assessments before establishing fish hatcheries to ensure that

- ecological factors are considered and potential negative impacts are mitigated.
- Foster collaboration between research institutions, universities, and the government to leverage expertise and resources for research and development activities. This can lead to innovative solutions and practices.
- Implement robust monitoring and evaluation mechanisms to assess the effectiveness of programs and initiatives. Regularly collect data on disease outbreaks, animal health, and food safety to inform decision-making.
- While establishing fish hatcheries is essential, it's equally important to focus on sustainable fisheries management practices to prevent overfishing and protect aquatic ecosystems.

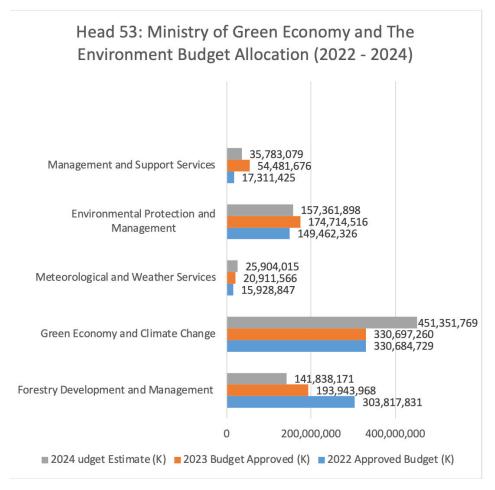
In conclusion, the government's commitment to enhancing fisheries and livestock sectors is commendable. However, successful implementation and effective utilization of funds, coupled with strong legal and regulatory frameworks, are essential to achieving long-term food security, economic growth, and sustainability in these sectors.

HEAD 53: MINISTRY OF GREEN ECONOMY AND ENVIRONMENT

Mandate: Promote the effective and sustainable use of the environment by facilitating support for adaptation to, and mitigation of the effects of climate change as outlined in the Government Gazette Notice No. 1123 of 2021.

Budget Allocation by Programme

Code	PROGRAMME	2022 BUDGET	2023 BUDGET	2024 BUDGET
		Approved (K)	Approved (K)	Estimate (K)
2155	Forestry Development and Management	303,817,831	193,943,968	141,838,171
2156	Green Economy and Climate Change	330,684,729	330,697,260	451,351,769
2157	Meteorological and Weather Services	15,928,847	20,911,566	25,904,015
2158	Environmental Protection and Management	149,462,326	174,714,516	157,361,898
2199	Management and Support Services	17,311,425	54,481,676	35,783,079
Head T	Cotal	817,205,158	774,748,986	812,238,932



- The allocation for environmental sustainability in the 2024 budget stands at K1,450,767,798, constituting 0.8% of the National Budget.
- This marks a noteworthy increase of 36%, in comparison to the allocation in 2023 (K1,059,981,064).
- Government has further proposed an allocation of K1.5 billion towards environmental protection and climate change resilience initiatives, which is a positive step in addressing critical environmental challenges.
- Such funding can significantly contribute to the preservation of natural resources, reduction of pollution, and adaptation to climate change impacts.
- This upward trajectory in funding for environmental sustainability is commendable and demonstrates a growing commitment to safeguarding the environment.
- Nevertheless, it is of paramount importance that concurrent policy and legislative measures are promptly developed and implemented to ensure the effective utilisation of this budget allocation.
- The budget outlines the promotion of innovative financing mechanisms for climate change interventions, including Green Bonds, carbon trading, and the establishment of a National Climate Change Fund, which demonstrates a positive and forward-thinking commitment to addressing environmental challenges.
- Additionally, Government has committed to expanding early warning systems for adverse weather
 conditions. While this move is undoubtedly a step in the right direction, it's important to emphasise
 that the effectiveness of these systems hinges not only on the quantity but also the quality of weather
 stations, along with robust communication infrastructure and the capacity to disseminate timely
 warnings to vulnerable communities.

- Another noteworthy commitment is the recognition of climate-related financial risks and the intention to strengthen the legal and regulatory framework supporting green finance.
- Nevertheless, the budget lacks specificity regarding the exact nature of these regulatory enhancements. This omission raises questions about how "green finance" will be precisely defined and operationalised in practice.
- Additionally, it is crucial to emphasise the necessity for a comprehensive National Climate Change Policy to replace the old policy (2016 2021). Such a policy would provide a strategic framework for addressing climate change challenges and guiding the nation towards a more sustainable future.
- The budget also highlights the government's intention to review the Environmental impact Assessment (EIA) process to expedite investment by reducing processing time. While streamlining the EIA process is indeed a valuable endeavour to attract investment, the proposal to deem applications approved beyond specified timeframes raises valid concerns.
- This expedited approval approach could inadvertently compromise rigorous environmental and social assessments, potentially leading to unforeseen consequences.
- Striking a balance between efficient approvals and thorough evaluation of environmental and social impacts is crucial to ensuring sustainable development and responsible investment practices.
- Additionally, the Government has introduced measures to encourage the use of electric and hybrid vehicles, demonstrating a commitment to reducing carbon emissions and promoting sustainable transportation.
- Removing customs duties on electric vehicles and accessories, as well as reducing excise duty on
 hybrid vehicles designed for passenger transportation, is a positive move as these actions can lower
 financial barriers, incentivizing individuals and businesses to adopt eco-friendly modes of transport.
- Consequently, this can contribute to reduced greenhouse gas emissions and improved air quality, furthering environmental protection.
- However, as these measures are steps in the right direction, certain considerations must be taken into
 account. It's imperative to have a strategy for monitoring the environmental impact of these policies,
 encompassing not only the benefits of electric and hybrid vehicles but also the sustainability of
 electricity generation and battery disposal.
- Complementary policies, such as infrastructure development for electric vehicle charging stations and incentives for renewable energy sources, may be needed to maximise the benefits.
- Additionally, an assessment of the potential impact on government revenue and budget allocation for environmental protection initiatives is essential to ensure a balanced fiscal approach that doesn't compromise environmental goals.

Implications:

- Increased Environmental Funding: The significant increase in the budget allocation for environmental sustainability in 2024, including a 36% rise compared to 2023, is a positive development. It suggests a growing awareness of the importance of environmental protection and climate change resilience.
- Innovative Financing Mechanisms: The promotion of innovative financing mechanisms, such as Green Bonds and carbon trading, signals a proactive approach to addressing environmental challenges. However, their successful implementation will depend on robust regulatory frameworks and market development.
- Early Warning Systems: The commitment to expanding early warning systems for adverse weather

- conditions is crucial for disaster preparedness and risk reduction. It's essential to ensure that these systems are adequately equipped and reach vulnerable communities effectively.
- Climate-Related Financial Risks: Recognizing climate-related financial risks is a positive step, but the lack of specificity regarding regulatory enhancements raises questions about implementation. Clear guidelines and collaboration with financial institutions will be essential for effective risk management.
- National Climate Change Policy: The intention to develop a comprehensive National Climate Change Policy is essential for providing a strategic framework to address climate change challenges. It should prioritize adaptation and mitigation strategies.
- Expedited EIA Process: Streamlining the Environmental Impact Assessment (EIA) process can attract investment, but the proposal to deem applications approved beyond specified timeframes raises concerns. Balancing efficiency with thorough environmental assessments is critical to avoid unintended consequences.
- Promotion of Electric and Hybrid Vehicles: The promotion of electric and hybrid vehicles aligns with environmental goals. However, it's essential to monitor the environmental impact of these policies comprehensively, including factors like electricity generation and battery disposal.

Recommendations:

- Policy Development and Implementation: Develop and implement concurrent policy and legislative
 measures to ensure the effective utilization of increased environmental funding. These policies should
 cover areas like conservation, sustainable resource management, and climate resilience.
- Robust Regulatory Frameworks: Establish clear and robust regulatory frameworks for innovative financing mechanisms like Green Bonds and carbon trading. Collaborate with financial institutions and experts to create effective market mechanisms.
- Invest in Early Warning Systems: Invest in the quality and coverage of weather stations, communication infrastructure, and capacity to disseminate timely warnings. Ensure that vulnerable communities have access to these warnings.
- Detailed Climate Change Policy: Expedite the development and implementation of a comprehensive National Climate Change Policy to guide the nation in addressing climate change challenges strategically.
- Balanced EIA Process: While streamlining the EIA process is essential, strike a balance between efficiency and thorough environmental and social assessments. Ensure that expedited approvals do not compromise sustainability and responsible investment practices.
- Holistic Environmental Impact Assessment: Monitor the environmental impact of electric and hybrid vehicle policies comprehensively, considering factors beyond emissions, such as electricity generation and battery disposal.
- Infrastructure Development: Invest in infrastructure development for electric vehicle charging stations and incentivize renewable energy sources to maximize the benefits of eco-friendly transportation.
- Revenue and Budget Assessment: Conduct an assessment of the potential impact on government revenue and budget allocation for environmental protection initiatives. Ensure a balanced fiscal approach that aligns with environmental goals.

In conclusion, while the increased budget allocation and commitment to environmental sustainability are positive, effective implementation, clear regulations, and comprehensive policies are essential to realize the

desired outcomes and ensure a sustainable and green economy.

HEAD 85: MINISTRY OF LANDS AND NATURAL RESOURCES

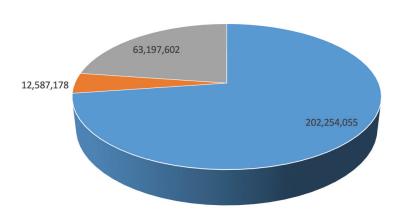
Mandate: Administer land and manage natural resources for sustainable land use as outlined in the Government Gazette Notice No. 1123 of 2021.

Budget Allocation by Programme

Code	PROGRAMME	2022 BUDGET	2023 BUDGET	2024 BUDGET
		Approved (K)	Approved (K)	Estimate (K)
2105	Land Administration and Regulation	100,386,882	138,083,171	202,254,055
2106	Natural Resources Management	4,574,178	4,094,178	12,587,178
2199	Management and Support Services	25,211,459	52,603,945	63,197,602
	Head Total	130,172,519	194,781,294	278,038,835

Source: 2024 Output Based Annual Budget

Head 85: Ministry of Lands and Natural Resources 2024 Budget Estimates



Land Administration and Regulation
 Natural Resources Management
 Management and Support Services

- The budget allocation by economic classification shows that K57.2 million (20.6 percent) has been allocated to Personal Emoluments, and K102.5 million (36.8 percent) the largest share of the budget, has been allocated for Use of Goods and Services, while K37.8 million (13.6 percent) has been provided for Transfers.
- Further, K80.6 million (29.0 percent) will go towards the acquisition of Assets. The increase in the allocation of Assets is mainly for the construction of Lands and Deeds registries.

Recommendations for the Ministry of Lands and Natural Resources:

- The Ministry should ensure efficient utilization of resources, particularly the significant allocation for the acquisition of assets, which includes the construction of Lands and Deeds registries. Proper planning, project management, and transparency in resource allocation are essential to maximize the benefits of these investments.
- Given the importance of land administration and regulation, the Ministry should prioritize this program to enhance land management and address issues related to land use, land rights, and land disputes. Streamlining land administration processes can contribute to sustainable land use.
- While the budget for natural resources management has increased, the Ministry should focus on targeted and effective initiatives for sustainable natural resource conservation and management. This includes activities related to forestry, wildlife, and ecosystem preservation.
- To improve the effectiveness of the Ministry's programs, investment in capacity building for staff, particularly in areas of land administration, natural resource management, and support services, should be considered. Skilled personnel are critical for sustainable land use and resource management.
- The Ministry should maintain transparency and accountability in financial management, especially for the Use of Goods and Services and Transfers categories. Robust financial oversight mechanisms can ensure that resources are allocated and spent efficiently and effectively.

Conclusion:

The Ministry of Lands and Natural Resources plays a crucial role in administering land and managing natural resources for sustainable land use. The budget allocation for 2024 reflects a significant focus on infrastructure development, particularly for Lands and Deeds registries.

To ensure the success of these initiatives, it is essential to efficiently utilize resources, prioritize land administration and regulation, and implement effective natural resources management strategies. Capacity building, transparency, and accountability are also key factors in achieving the Ministry's mandate effectively and contributing to sustainable land use and natural resource management in the country.

REFERENCES

European Livestock Voice . (2022, 11 08). Retrieved 09 30, 2023, from The Importance of Responsible Animal Breeding: https://meatthefacts.eu/home/activity/beyond-the-headlines/the-importance-of-a-responsible-animal-b

International Fund for Agriculture Development. (2023). Retrieved 09 30, 2023, from https://www.ifad.org/en/web/operations/w/country/zambia

Ministry of Finance and National Planning. (2023). 2024 Budget Address by Honourable Dr. Situmbeko Musokotwane Mp, Minister of Finance and National Planning Delivered to the National Assembly.

Sinyangwe, P, G. Clinch, N. J. (1991). Increasing the Efficiency of Livestock Service Delivery – the Experience of the Livestock Sector in Zambia, 1–11.

U.S. Fish & Wildlife Service. (n.d.). Retrieved 09 30, 2023, from The National Fish Hatchery System Supports Aquatic Conservation: https://www.fws.gov/story/national-fish-hatchery-system-supports-aquatic-conservation#:~:text=A%20fish%20hatchery%20breeds%20and,and%20support%20sustainable%20recreational-%20fisheries.

United Nations. (2023, 07 11). Retrieved 09 29, 2023, from https://www.un.org/en/un-chronicle/world-population-surpasses-8-billion-what-are-implications-planetary-health-and