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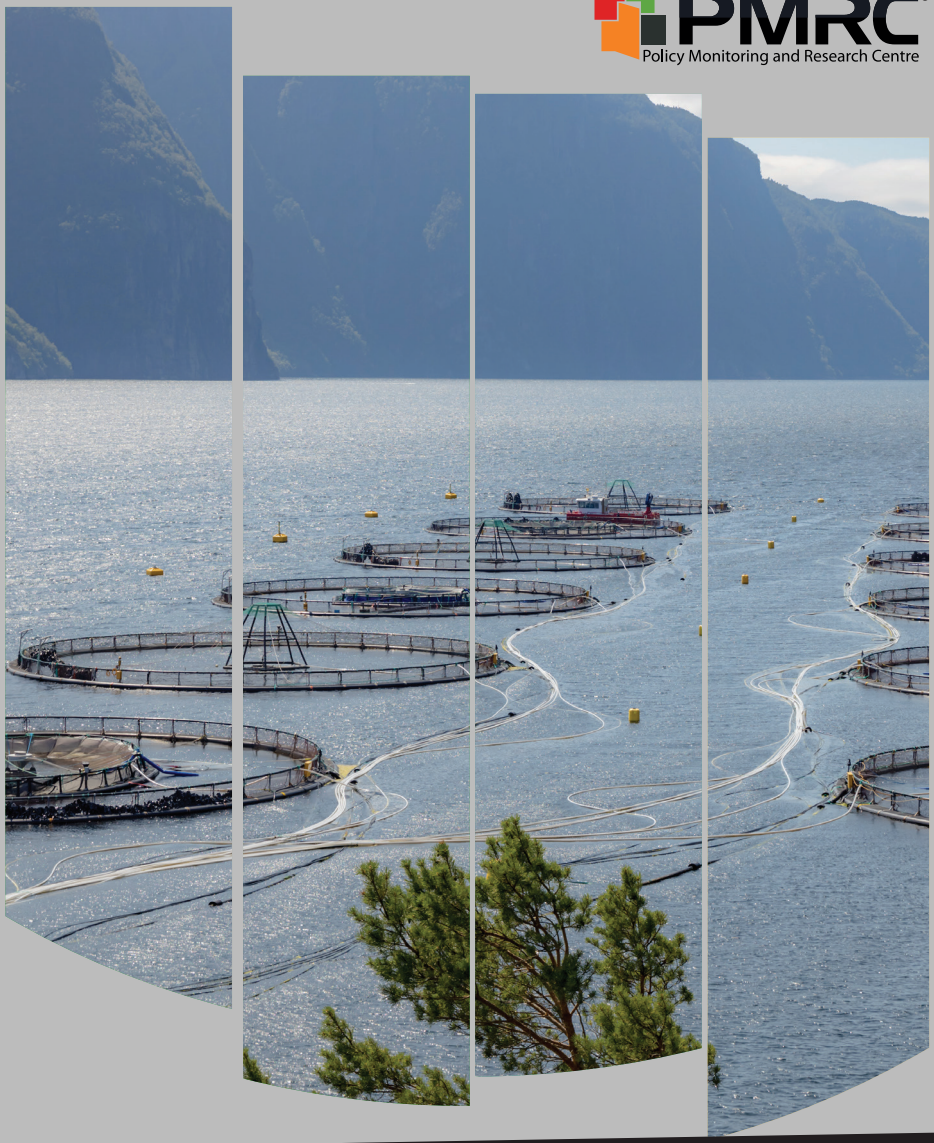

ANALYSIS OF THE NATIONAL FISHERIES AND AQUACULTURE POLICY

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ANALYSIS

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List of abbreviations

AAH	Aquatic Animal Health
CEEC	Citizens Economic Empowerment Commission
COVID-19	Coronavirus 2019
FTCs	Farmer Training Centres
FTIs	Fisheries Training Institutes
GDP	Gross Domestic Product
HIV/AIDS	Human Immunodeficiency Virus /Acquired Immunodeficiency Syndrome
ICT	Information and Communication Technology
IUU	Illegal, Unregulated and Unreported fishing
NFAP	National Fisheries and Aquaculture Policy
PMRC	Policy Monitoring and Research Centre
R&D	Research and Development
SDGs	Sustainable Development Goals
TB	Tuberculosis

Introduction

Zambia is endowed with an abundant array of water bodies that support a thriving fisheries and aquaculture sector. The fisheries sector in Zambia consists of two subsectors, namely, capture fisheries and aquaculture. Capture fisheries involves the harvesting of naturally occurring fish resources in the naturally occurring water bodies such as lakes, rivers, and any impoundments (Shula & Mofya-Mukuka, 2015). The Fisheries Act No. 22 of 2011 defines aquaculture as the "cultivation, propagation or farming of fish, aquatic vegetation, or other living aquatic resources whether from eggs, spawn, spat, or seed or by rearing fish lawfully taken from the wild or lawfully imported into the country, or by other similar process". The sector plays a significant role in the country's economy, food security and employment generation, thus making it an essential component of Zambia's national development agenda. It is estimated that fisheries and aquaculture contribute about 2% to Zambia's GDP and that fish represents about 30% of the national dietary animal protein (FAO, 2022).

Previously, the fisheries sector in Zambia did not have a standalone policy. Fisheries and aquaculture programs were incorporated into the National Agricultural Policy (2004-2015) and the Second National Agricultural Policy (2016-2020). However, these Policies fell short in adequately tackling the challenges surrounding coordination and regulation within the fisheries and aquaculture subsectors. This is because they cover a number of other sub-sectors including crop production and livestock which has tended to reduce the emphasis on fisheries. Additionally, the fisheries sector now confronts emerging concerns such as fish disease outbreaks, unsustainable fishing methods and the impacts of environmental degradation and climate change. Together, these challenges have necessitated the development of a standalone policy for the sector.

It is with this in mind that Zambia's National Fisheries and Aquaculture Policy (NFAP) was launched on the 7th of June 2023. The overall objective of the policy is to transform the fisheries and aquaculture sub-sector in order to enhance sustainable fisheries and aquaculture development. Such a policy is also a pre-requisite to effectively address concerns in the sector.

The purpose of this policy analysis is to provide an in-depth understanding of the National Fisheries and Aquaculture Policy. The Policy is discussed, as well as an analysis of its objectives and strategies for implementation. The analysis will further discuss what it will take to successfully implement the policy. Lastly, a consideration is made of the Policy's alignment with international best practice followed by PMRC's recommendations.

Vision

"An efficient, competitive, sustainable and export-led fisheries subsector".

Rationale

Fisheries and aquaculture programmes have previously been implemented within the framework of the National Agricultural Policy and the Second National Agricultural Policy. However, the two policies did not effectively address the issues related to the coordination and regulation of the fisheries and aquaculture subsectors. Furthermore, the subsector is faced with emerging issues such as fish disease outbreaks, unsustainable fishing practices, impacts of environment degradation and climate change. Together, these factors have necessitated the development of the National Fisheries and Aquaculture Policy.

Guiding principles

The National Fisheries and Aquaculture Policy will be guided by the following principles:

- **Equity and Equality:** to ensure that fisheries and aquaculture development programmes reach the poor and vulnerable households.

- **Inclusiveness**: to ensure that citizens participate in fisheries and aquaculture development programmes.

- **Indigenous resources:** to ensure the conservation and utilization of indigenous aquatic species.

- **Morality and Ethics:** to ensure the provision of fisheries and aquaculture development programmes are conducted transparently and objectively.

- **Multi-sectoral approach:** to ensure that all sectors of society participate in the implementation, review, monitoring and evaluation of the policy.

- **Sustainable development:** to ensure that fisheries and aquaculture development programmes are formulated and implemented without compromising the needs of future generations.

The guiding principles of equity and equality, inclusiveness, indigenous resources, morality and ethics, and sustainable development are of paramount importance for Zambia's National Fisheries and Aquaculture Policy. Equity and equality ensure fair and just distribution of resources, opportunities, and benefits, ensuring that all stakeholders, regardless of their social or economic status, have access to and can participate in the sector. Inclusiveness emphasizes the need to involve all relevant stakeholders, including small-scale fishers, local communities, and marginalized groups, in decision-making processes, fostering a sense of ownership and empowering them to contribute to policy development.

Recognizing and respecting indigenous resources acknowledges the traditional knowledge and practices of local communities, promoting their involvement in resource management and protecting their rights. Morality and ethics guide the sector's activities, promoting responsible and accountable practices that safeguard the environment, fish stocks and the welfare of communities dependent on fisheries and aquaculture. Finally, sustainable development is crucial, as it ensures the long-term viability of the sector by balancing economic growth, environmental conservation, and social well-being, thereby guaranteeing the benefits of fisheries and aquaculture for current and future generations in Zambia.

Situational Analysis

The situational analysis as found in the National Fisheries and Aquaculture Policy provides the impetus for why such a policy is of importance. It is stated that "the fisheries and aquaculture subsector contribute about 3.2% to agricultural GDP and is a mainstay to over one million people in Zambia"[1]. Several areas have been identified and their respective challenges listed.

Area	Challenges
Fish production and productivity in capture fisheries and aquaculture 	■ Illegal, unregulated and unreported fishing. ■ Poor management of fish breeding areas. ■ Inadequate fisheries infrastructure and technology. ■ Weak co-management structures to support fisheries resources. ■ Limited access to quality and affordable inputs. ■ Limited access to high-cost financing. ■ Illegal introduction and translocation of fish species. ■ Slow establishment, low private sector participation and lack of awareness of and about aquaculture parks.
Fisheries and aquaculture extension delivery services 	■ High fisher/fish farmer extension officer ratio. ■ Weak extension-research linkages. ■ Low capacity of extension staff. ■ Absence of extension staff at camp level. ■ Inadequate infrastructure . ■ Poor utilization of digital platforms. ■ Low adoption of technologies. ■ Inadequate transport to reach fishers and fish farmers.

1. National Fisheries and Aquaculture Policy (2023

Fisheries and aquaculture research and development 	■ Weak institutional capacity to conduct research. ■ Poor funding for research and development. ■ Limited private sector participation. ■ Inadequate infrastructure. ■ Weak research-extension linkages.
Market access and linkages 	■ Major players dictate market prices. ■ Imported fish sold at lower unit prices creating unfair competition. ■ Poor transport networks. ■ Inadequate access to affordable credit. ■ Poorly development value chains. ■ Lack of bargaining power (due to lack of cooperatives and producer associations).
Biodiversity, environmental and ecological risk 	■ Poor land and water use planning. ■ Inadequate environmental impact assessment. ■ Inadequate enforcement. ■ Poor biosecurity adherence.
Aquatic animal diseases 	■ Lack of an established Aquatic Animal Health (AAH) function in the Ministry of Fisheries and livestock ■ Poor uptake of appropriate biosecurity measures among fishers and fish farmers. ■ Climate change. ■ Inadequate legal framework on issues pertaining to AAH.
Private sector participation 	■ Low participation in research. ■ Low participation in extension services. ■ Low participation in financing.

Climate change 	■ Adoption of climate smart initiatives are constrained by a lack of awareness, limited technologies and a lack of a legal framework.
Cross cutting issues 	■ Access to land is constrained by large areas required for aquaculture enterprises, protracted procedures for its acquisition, low aquaculture potential in some areas and low priority in allocation of land for aquaculture. ■ Gender mainstreaming in fisheries and aquaculture is constrained by limited land tenure for women, low awareness levels and cultural and traditional norms. ■ Fisheries training is constrained by inadequate infrastructure, training facilities and insufficient expertise. ■ Constraints in the prevention and control of human diseases (such as COVID-19, HIV/AIDS/ Malaria and Cholera) include low compliance to health regulations, poor sanitary condition in fishing camps, inadequate health facilities, poor attitudes and lack of awareness of emerging diseases such as COVID-19. ■ High malnutrition, stunting, wasting and underweight among under five children is a challenge in rural parts of the country.

Each of these challenges have been addressed through the various Policy objectives and measures to be outlined in the section to follow.

Policy Objectives and Measures

The main objective of the Policy is to transform the fisheries and aquaculture subsector in order to enhance sustainable fisheries and aquaculture development. The Policy has 7 specific objectives with outlined policy measures:

OBJECTIVE 1

To promote sustainable fish production and productivity

Policy measures:

i. Promote the use of improved fingerlings and quality fish feeds

ii. Facilitate provision of incentives in the production of quality inputs (mainly fingerlings, fish feed and water extraction equipment);

iii. Promote and facilitate access to fisheries and aquaculture financing;

iv. Promote establishment of aquaculture parks;

v. Strengthen cooperation on the management of trans boundary fisheries resources;

vi. Establish and strengthen management of fish protected areas/fisheries reserve;

vii. To deter and eliminate Illegal, Unregulated and Unreported (IUU) fishing;

viii. Facilitate the establishment of fisheries co-management structures;

ix. Promote investment in fisheries infrastructure and technologies,and

x. Establish an enforcement unit for fisheries and aquaculture.

The policy measures outlined above are meant to promote sustainable fish production and productivity in Zambia's national fisheries and aquaculture policy and are crucial for achieving food security, economic growth, and environmental sustainability. Success requires effective implementation, stakeholder engagement, equitable distribution of benefits, and ongoing evaluation to ensure the desired outcomes are realized.

The first measure recognizes the importance of promoting improved fingerlings and nutritious fish feeds to enhance fish health, growth, and overall production efficiency. Quality inputs are essential for achieving optimal fish growth and productivity. Directly related to this, incentives (as per the second measure) can encourage the adoption of better production practices. By providing support for quality inputs like fingerlings, fish feed, and water extraction equipment, this measure aims to make sustainable practices more accessible and attractive to producers.

The sixth measure emphasizes the need to manage these areas effectively to support fish populations and ecosystem health. Designating protected areas or reserves for fisheries can contribute to conservation and stock enhancement efforts. This measure together with the need to deter and IUU fishing are partly dependent on enforcement (measure 7).

Effective enforcement is crucial for ensuring compliance with regulations and sustainable practices. The tenth policy measure acknowledges the need for a dedicated enforcement unit to prevent illegal activities and promote responsible practices. However, while establishing an enforcement unit is valuable, its effectiveness depends on adequate resources, training, and commitment.

OBJECTIVE 2

To strengthen fisheries and aquaculture extension service delivery

Policy measures:

i. Improve capacity of Fisheries Training Institutes (FTIs) and Farmer Training Centres (FTCs);

ii. Strengthen the capacity of extension staff;and

iii. Promotion of ICT platforms.

The first policy measure acknowledges the importance of enhancing the knowledge and skills of those involved in fisheries and aquaculture, both at the production and training levels. By improving the capacity of FTIs and FTCs, the policy aims to ensure that relevant and up-to-date training is provided to individuals engaged in the sector. This could lead to better-equipped farmers, technicians, and extension workers, ultimately enhancing the quality of advice, information, and practices conveyed to those working in the field. Adequate funding, human resources and monitoring mechanisms are essential to ensure that FTIs, FTCs, and extension services are effectively improved and sustained over time.

Strengthening the skills and capacity of extension staff is crucial for effective dissemination of information, best practices and technological advancements to farmers and stakeholders. This policy measure recognizes that extension workers play a pivotal role in bridging the knowledge gap between research institutions and local practitioners. By enhancing their capacity, extension staff can provide more tailored and context-specific guidance to farmers, promoting sustainable practices, improved production and resource management. Special attention must be given to ensuring that training and extension services are accessible to all, including marginalized and remote communities. Inequitable access could perpetuate disparities in the sector.

ICT platforms can significantly contribute to the dissemination of information and extension services. By utilizing digital tools, such as mobile apps, websites, and messaging platforms, the policy aims to reach a wider audience and provide timely information to farmers and stakeholders. ICT platforms can facilitate the sharing of market information, weather forecasts, disease management techniques, and more. However, the effectiveness of this measure relies on factors such as access to technology, digital literacy, and reliable connectivity, which may vary across different regions of Zambia.

OBJECTIVE 3

To strengthen Research and Development (R&D) in capture fisheries and aquaculture

Policy measures:

i. Strengthen institutional capacity to undertake appropriate research;

ii. Enhance national, regional and international collaboration with training and research institutions;

iii. Strengthen capture fisheries and aquaculture research – extension linkages;

iv. Promote genetic resource improvement and conservation of indigenous fish;

v. Enhance private sector participation in capture fisheries and aquaculture research;and

vi. Strengthen fisheries monitoring.

The first policy measure, building institutional capacity, is crucial for effective research and development. By enhancing the capabilities of research institutions, the policy aims to facilitate the generation of relevant and reliable data and insights. This could lead to improved decision-making, policy formulation, and sustainable management of fisheries and aquaculture resources. Strengthening institutional capacity requires a sustained effort in training and professional development. Skilled researchers, technicians and extension personnel are necessary for meaningful R&D outcomes.

The third policy measure is concerned with linking research to extension services. It will ensure that the knowledge generated through research reaches the practitioners on the ground. Effective communication of research findings to farmers, fishermen and other stakeholders can lead to the adoption of improved practices, technologies and management approaches.

The fifth policy measure is also crucial. Involving the private sector in research can lead to innovation, technology transfer, and market-driven solutions. This measure recognizes the potential of collaboration between research institutions and industry players to address challenges related to production, processing, and market access.

More generally, adequate funding and resources are essential for successful implementation of R&D activities. Insufficient financial support could hinder the execution of research projects and limit the potential impact of these measures.

OBJECTIVE 4

To enhance market access linkages for fish and fish products

Policy measures:

i. Promote out grower schemes for aquaculture producers;
ii. Promote and facilitate establishment of aggregators and storage facilities
iii. Promote organized fish markets;
iv. Improve input and output market for capture fisheries and aquaculture;and
v. Promote the establishment of fish market linkages and distribution channels.

The first policy measure is critical. Out grower schemes can facilitate access to markets by connecting small-scale aquaculture producers with larger buyers, processors, or exporters. This measure recognizes the need to empower small-scale producers by providing them with technical support, inputs, and market connections, which can result in increased production and income.

The fourth measure recognizes the interconnectedness of input and output markets. Improving access to quality inputs (such as feed and seed) for aquaculture and facilitating the flow of products from capture fisheries and aquaculture to consumers can enhance the overall value chain and competitiveness of the sector.

Developing linkages and distribution channels, as per measure five, can expand the reach of fish and fish products to various markets, including remote and urban areas. By facilitating efficient transportation and distribution, this measure can help address challenges related to product perishability and accessibility.

The general success of these measures hinges on the availability of adequate infrastructure, including roads, transportation, storage facilities and cold chain systems. Weak infrastructure can lead to spoilage, inefficiencies and increased costs.

OBJECTIVE 5

To improve and maintain aquatic animal health

Policy measures:

i. Enhance surveillance and early warning aquatic animal diseases;

ii. Improve the Aquatic Animal Health (AAH);and

iii. Promote appropriate biosecurity measures among fishers and fish farmers.

Surveillance and early warning systems are critical to preventing, detecting, and managing disease outbreaks in aquatic animals. This measure recognizes the importance of monitoring disease trends, identifying potential risks, and responding promptly to emerging health threats. Timely intervention can prevent the spread of diseases and mitigate their impact on aquatic animal populations.

Strengthening the infrastructure for aquatic animal health is essential for effective disease management. This includes establishing well-equipped laboratories, diagnostic facilities, and research centers dedicated to understanding and addressing aquatic diseases. By improving AAH infrastructure, the policy aims to enhance the capacity to diagnose, research, and control diseases.

Biosecurity measures are crucial for preventing the introduction and spread of diseases in aquatic systems. This policy measure emphasizes the importance of educating fishers and fish farmers about biosecurity practices, such as proper sanitation, quarantine procedures, and responsible stocking. Implementing biosecurity measures can reduce the risk of disease transmission and safeguard the health of aquatic animals.

While these policy measures have potential, there are two equally critical considerations to take into account. The first relates to capacity building. Effective disease management requires a skilled workforce capable of conducting surveillance, diagnosis, and response activities. Training and continuous professional development are essential components of enhancing aquatic animal health. The second is related to research. To address aquatic animal health challenges, research on disease pathogens, host-pathogen interactions, and disease prevention strategies must be conducted. This research informs evidence-based policies and practices. Therefore, this objective is directly related to the need to strengthen research and development in capture fisheries and aquaculture (objective 3).

OBJECTIVE 6

To prevent and mitigate environmental degradation

Policy measures:

i. Promote best management practices in aquaculture;

ii. Promote and strengthen capacity on land use and aquatic management practices;

iii. Promote awareness and sensitization programmes on economic values and importance of fresh water resources;and

iv. Promote integrated ecosystem management.

Aquaculture can have environmental impacts if not managed properly. The first policy measure recognizes the importance of promoting responsible practices such as proper waste management, efficient water use, and sustainable feed sourcing. By advocating for best management practices, the policy aims to reduce negative environmental effects associated with aquaculture operations.

Ecosystems are interconnected, and their health relies on a holistic approach to management. The fourth measure emphasizes the importance of considering the broader ecosystem when making decisions related to fisheries and aquaculture. Integrated management can help avoid unintended consequences and enhance overall ecosystem resilience.

There are two additional considerations to take into account. The first relates to enforcement and compliance. The success of promoting best practices and integrated management depends on effective enforcement of regulations. Weak enforcement can undermine the intended environmental benefits. The proposed establishment of the enforcement unit (under objective 1) therefore needs to be expedited. The second consideration relates to incentives. Providing incentives for adopting sustainable practices can encourage stakeholders to invest in environmentally friendly approaches.

OBJECTIVE 7

To mainstream crosscutting issue in fisheries and aquaculture

Policy measures:

i. Promote climate smart aquaculture and sustainable fisheries resources management;

ii. Advocate for improved land tenure for aquaculture production facilities;

iii. Enhance participation of vulnerable but viable groups (youth, women and persons with disabilities);

iv. Mainstream responses to COVID-19, HIV/AIDS, TB, Malaria and other emerging human diseases;and

v. Mainstream nutrition into fisheries and aquaculture .

Climate change can significantly impact aquatic ecosystems and the livelihoods of those dependent on them. The first measure acknowledges the need to promote practices that enhance the resilience of aquaculture and fisheries to climate variability. Sustainable resource management is crucial to prevent overexploitation and maintain ecosystem health, especially in the face of changing climatic conditions.

The third measure is critical because inclusivity is crucial for equitable development. The measure aims to empower traditionally marginalized groups, such as youth, women, and persons with disabilities, to actively participate in fisheries and aquaculture. By providing opportunities and support, these groups can contribute to sector growth and diversity.

Public health challenges can impact the fisheries and aquaculture sector. The fourth measure recognizes the need to integrate responses to diseases like COVID-19 and other health issues into sector planning. This integration ensures that health considerations are taken into account to maintain livelihoods and ensure food security.

What will it take to successfully implement the Policy?

1. **Stakeholder engagement and participation:** There will be need to foster active engagement and participation of stakeholders including fishers, fish farmers, processors, local communities, academia and civil society organizations. The National Fisheries and Aquaculture Policy (NFAP) notes that there are inadequate and weak co-management structures to support the management of fisheries resources in Zambia. The different stakeholders must be involved in decision-making processes and the implementation of Policy initiatives. Regular consultations, public hearings and information sharing mechanisms can enhance inclusivity and ownership of the Policy and better management of fisheries resources. The Policy, while mentioning a measure to strengthen cooperation on the management of fisheries resources is lacking in that it does not provide sufficient detail about how this cooperation will be enhanced.

2. **Monitoring, Evaluation, and Adaptive Management:** The implementation of the NFAP will require the establishment of a robust monitoring and evaluation framework to track progress, measure impact and identify areas for improvement. The NFAP includes a monitoring and evaluation framework with a provision for midterm and a final review of its implementation. Updates to the Policy based on lessons learned and changing circumstances will need to take place in light of the reviews. There will be need for policy targets to be well communicated to implementing agencies. Additionally, monitoring and evaluation should be strengthened to ensure the correct reporting of targets and alignment to the national development agenda as well as SDGs.

3. **Collaboration and Partnerships:** There will be need to foster collaboration and partnerships with regional and international organizations, development partners, and neighboring countries. Additionally, there will be need to engage in knowledge sharing, technical assistance and joint initiatives to benefit from shared experiences, lessons learned and best practices. Notably, the Ministry of Fisheries and Livestock will seek to strengthen its collaboration with local, regional and international training and research institutions as part of its implementation efforts. Collaborative efforts can address trans boundary issues, promote regional cooperation and enhance the overall effectiveness of the Policy's implementation.

4. **Enforcement:** Strengthening enforcement mechanisms and promoting compliance through monitoring, surveillance and penalties for non-compliance will be essential for effective implementation of the NFAP. This is especially critical when one considers the low compliance to fishing regulations combined with illegal, unregulated and unreported fishing. The establishment of an enforcement unit for fisheries and aquaculture is a key intervention that will strengthen enforcement and promote greater compliance.

5. **Awareness and Communication:** Effective communication strategies are essential to create awareness among stakeholders, the general public and policymakers about the importance of sustainable fisheries and aquaculture practices. Promoting public awareness campaigns, educational programs and information dissemination through various media channels can foster a culture of responsible fishing, conservation, and support for the various Policy objectives.

6. **Continued integration with National Development Plans:** Ensuring alignment and integration of the NFAP with broader national development plans, strategies and priorities is crucial. This will facilitate resource allocation, policy coherence and the mainstreaming of fisheries and aquaculture objectives into other sectors such as agriculture, trade and rural development. In the 8NDP, as part of its efforts to industrialise and diversify the economy, Government is seeking to increase agricultural production and productivity. Specific interventions in fisheries are targeted at promoting investments for increased fingerling production and establishing and operationalising fish breeding and freezing centres. The NFAP is aligned to these ambitions, with its objectives detailing measures to facilitate the provision of incentives for the production of quality inputs (such as fingerlings) and promoting and facilitating the establishment of storage facilities. These measures can contribute to the country's goal of meeting the fish deficit and become a foundation for expanding into the regional market.

Lessons from Best Practice

Egypt's aquaculture sub-sector currently ranks as the tenth largest in the world for fish production and holds the distinction of being the largest in Africa. This achievement can be attributed to a series of interventions implemented by the Egyptian Government over the past four decades which aimed to reduce fish imports while recognizing the economic opportunities presented by the aquaculture sub-sector. Egypt's success in aquaculture and fisheries development in Africa positions it as a valuable source of

lessons for Zambia. By studying Egypt's best practices, Zambia can enhance its own aquaculture and fisheries policy. Here are some key lessons to consider:

- **Investment in research and development:** Egypt has invested significantly in research and development to support its aquaculture and fisheries sector. Zambia can emulate this approach by prioritizing research initiatives, collaborating with universities and research institutions, and allocating adequate funding for scientific studies. Research plays a crucial role in understanding local fish species, improving production techniques, and addressing challenges specific to the Zambian context.

- **Capacity building and training programs:** Egypt has prioritized capacity building and training programs to enhance the skills and knowledge of farmers, fishers, and other stakeholders. Zambia should enhance learning at vocational training centres, provide technical assistance, and organize workshops to equip individuals with the necessary expertise in fish farming, fish handling, processing techniques, and marketing strategies. This will contribute to improved productivity, quality control, and value addition.

- **Public-private partnerships:** Egypt's aquaculture and fisheries sector has thrived due to strong public-private partnerships. Zambia can encourage collaboration between government agencies, private enterprises, and local communities to leverage expertise, investment, and market access. Public-private partnerships can lead to technology transfer, access to capital, and improved market linkages, benefiting small-scale farmers and fishers in particular.

- **Infrastructure development:** Egypt has invested in aquaculture infrastructure, including hatcheries, ponds, and processing facilities. Zambia can prioritize the development of infrastructure such as aquaculture farms, fish processing plants, cold storage facilities, and transportation networks. Adequate infrastructure supports efficient production, value addition, and market integration, boosting the competitiveness of Zambia's aquaculture and fisheries sector.

- **Market-oriented approach:** Egypt's success in aquaculture and fisheries is partly attributed to its market-oriented approach. Zambia should focus on understanding market demand, consumer preferences, and value chain dynamics. Developing market linkages, improving product quality and packaging, and promoting branding and marketing strategies will help Zambia's aquaculture and fisheries products gain a competitive edge in both domestic and international markets.

- **International cooperation and knowledge exchange:** Egypt has actively engaged in international cooperation and knowledge exchange in the

aquaculture and fisheries sector. Zambia can seek partnerships with Egypt and other countries, participate in regional forums, and leverage international support for technical assistance, capacity building, and market access. Collaboration with experienced nations can provide valuable insights, promote innovation, and facilitate the transfer of best practices to Zambia's aquaculture and fisheries sector (GOE, 2014).

Nigeria

Nigeria and Zambia are both countries in Africa with rapidly growing populations and a rising demand for fish. Nigeria has a more developed aquaculture sector than Zambia, and its aquaculture and fisheries policy can provide some lessons for Zambia as it seeks to further develop its own aquaculture sector. These include:

- The importance of having a clear and well-articulated aquaculture policy. Nigeria's aquaculture policy is clear about its goals, which include increasing domestic fish production, achieving self-sufficiency, and exporting fish.

- The need for strong Government support for aquaculture development. Nigeria's Government has provided strong support for aquaculture development, through initiatives such as the National Aquaculture Development Plan and the National Aquaculture Development Fund. The establishment of a standalone policy for aquaculture and fisheries is a demonstration of the Zambian Government's support for aquaculture development.

- The need to address challenges to aquaculture development. Nigeria has faced a number of challenges to aquaculture development, such as the lack of access to credit, the shortage of skilled labour, and the high cost of inputs. Zambia, having faced some of these challenges, has sought to address them through its NFAP

as well as initiatives such as the Aquaculture Seed Fund. Zambia will need to demonstrate adaptability by addressing any future challenges, as and when they arise.

- **Developing aquaculture value chains:** Nigeria has successfully established various aquaculture value chains, resulting in improved profitability and sustainability within the sector. Zambia can benefit from this by creating its own aquaculture value chains and collaborating with farmers, processors, and marketers to enhance the efficiency and profitability of fish production, processing, and marketing.

- **Promoting aquaculture for employment and income generation:** Nigeria has actively promoted aquaculture as a means of generating employment and income, particularly for women and youth. Zambia can also follow suit by emphasizing aquaculture as a viable avenue for job creation and income generation, particularly in rural areas (Simus et.,2022).

Zambia can gain valuable insights from Nigeria's aquaculture and fisheries policy, which can aid in the further development of its own aquaculture sector. By adopting these lessons, Zambia has the potential to increase its domestic fish production, attain self-sufficiency, and even expand its fish exports.

Did you know?
Under the Aquaculture Seed Fund, Citizens Economic Empowerment Commission (CEEC) provides business loans to targeted citizens and companies for the development of businesses along the Aquaculture Value Chain. CEEC has provided the business loans for investments along the fish value chain in at least 36 districts of Zambia.

Recommendations

While the National Fisheries and Aquaculture Policy (NFAP) has made great strides in addressing the majority of the challenges faced in the fisheries and aquaculture sector, below are a number of further considerations:

i. There is need to strengthen aquaculture cooperatives in order to reduce the risk of offering credit. Small scale farmers could co-guarantee each other in case of default. Furthermore, these cooperatives could be linked to commercial off-takers or be galvanized into one marketing cooperative that would have its own distribution channels. These channels could then be supported to penetrate regional markets.

ii. To enhance the economic prospects of fish farmers and create valuable job opportunities, it is recommended to establish processing and export facilities within the fish farming sector. These facilities will add value to the produce, expand market reach, and contribute to the growth of the local economy.

iii. There is need to promote innovation and specific research into feed production. This would allow for sourcing of local materials to substitute expensive imported raw materials. This would consequently reduce the cost of production and make Zambia's fish more competitive in the region.

iv. There is need to hasten the establishment of the enforcement unit for fisheries and aquaculture. This unit has a key role to play in curbing or slowing down illegal, unregulated and unreported fisheries as well as contributing to higher compliance levels.

v. To address the challenges of overfishing and support the preservation of aquatic ecosystems, it is recommended to implement a comprehensive strategy that combines increased sensitisation on preservation with the introduction of alternative income generation opportunities for local fishermen. This strategy can involve the establishment of cage farming or fish ponds, which not only provide sustainable livelihood options but also contribute to reducing the pressure on wild fish populations during fishing bans.

vi. There is need to provide more resources to support the co-management structures. This will enable local communities to participate in the conservation of water bodies and biodiversity which can lead to more effective and sustainable conservation efforts.

vii. There is need to strengthen the monitoring and evaluation framework for the NFAP. This framework should encompass specific targets, assigned responsibilities and well-defined timelines. By implementing this approach, the Policy objectives can be tracked, assessed and adjusted with accuracy, ensuring tangible progress and accountability.

viii. To address the need for raising awareness about sustainable fisheries and aquaculture practices, it is recommended to establish a National Fisheries Day (similar to World Fisheries Day) dedicated to promoting responsible and sustainable fishing practices. This initiative will serve as a platform to educate the public, engage stakeholders, and emphasize the significance of preserving aquatic ecosystems for future generations.

ix. To ensure the success of participants receiving loans from the Citizens Economic Empowerment Commission (CEEC) for aquaculture ventures, it is crucial to focus on providing adequate training and support. This training should encompass not only the technical aspects of aquaculture but also financial literacy and business management skills. By empowering loan recipients with the necessary knowledge and skills, they can make informed decisions, maximize the value of the loans and effectively manage their aquaculture businesses.

Conclusion

Fisheries and aquaculture hold immense importance for Zambia. The Zambian Government, and the Ministry of Fisheries and Livestock in particular, should be commended for the development of the National Fisheries and Aquaculture Policy. It is a comprehensive Policy that is well designed to achieve its purpose of transforming the fisheries and aquaculture subsector. This policy will provide a framework for sustainable management, conservation, and utilization of aquatic resources, while promoting economic growth, food security and rural livelihoods. It will further ensure responsible fishing practices, support the development of infrastructure, facilitate research and development and promote capacity building within the sector. By embracing this Policy, Zambia can maximize the potential of its fisheries and aquaculture sectors, leading to a more prosperous and sustainable future for the nation.

References

FAO (Food and Agriculture Organization of the United Nations). (2023). Fishery and Aquaculture Country Profiles. Zambia, 2021. Country Profile Fact Sheets. Fisheries and Aquaculture Division. https://www.fao.org/fishery/en/facp/zmb?lang=en

Government of Egypt (GOE). 2014. Sustainable development strategy: Egypt's vision 2030 and medium term investment framework 2014/2015-2018/2019

Ministry of Agriculture. (2004). National Agricultural Policy (2004-2015)

Ministry of Agriculture. (2016). Second National Agricultural Policy (2016-2020)

Shula, A.K. and Mofya-Mukuka, R. (2015). The fisheries sector in Zambia: status, management, and challenges. Indaba Agricultural Policy Research Institute Technical Paper, (3).

Simus M, Subasinghe R, Siriwardena SN and Shelley CC. (2022). Nigerian aquaculture: An investment Framework for Improved Incomes, New Jobs, Enhanced Nutritional Outcomes and Positive Economic Returns. Penang, Malaysia: WorldFish. Program Report: 2022-10.

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