Stakeholders’ Consultation Workshop
On the National Fisheries and Aquaculture Policy (2024–2028)

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Key message

This report summarizes the processes of developing the national fisheries and aquaculture policy in Nigeria and the 2-day consultation workshop with more than 63 stakeholders from the Federal Ministry of Agriculture and Food Security, Ministry of Water Resources and Sanitation, Ministry of Health, Ministry of Budget and Economic Planning, other government agencies, private sector, industry and producer associations, nongovernmental and civil society organizations, research institutes, universities, and donors. The policy document draft was revised and submitted on December 19, 2023 to the Federal Department of Fisheries and Aquaculture (FDFA) and the relevant ministries for their review and inputs. The final policy document draft builds on past policy drafts; incorporates the inputs from the stakeholder consultation; and is revised based on numerous meetings and discussions among the national drafting team and advisory committee (International Food Policy Research Institute (IFPRI), WorldFish, and FDFA) for several months in 2023. This draft is a product of the joint thinking, hard work, and perseverance of the drafting team and the advisory committee.

This policy document is constrained by the dearth of data on fisheries and aquaculture in Nigeria. National production data used for this document come mainly from FAOSTAT, but other studies also show conflicting data. Data on stock and catch in both industrial marine and artisanal capture fisheries are particularly lacking. The policy drafting process made use of estimates based on available data, which are limited and lacking in many ways. Baseline data were mostly not available, forward-looking scenarios could not be built, and therefore projections and targets could not be constructed for most monitoring and evaluation indicators. It is plea of the drafting team and the advisory committee that policy makers and funders will invest in a data system to enable measurement and progress in the sector.
1. Problem Statement

In Nigeria, fisheries and aquaculture contribute immensely to nutrition, economic growth, livelihoods, and climate resilience. The sector, if developed, can help accelerate the country’s drive to achieve the targets of the United Nations Sustainable Development Goals (SDGs), especially SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 8 (Decent Work and Economic Growth), and SDG 14 (Life below Water). The World Economic Forum has observed that, unfortunately, around the world (including in Nigeria) “SDG 14 remains the least funded of all 17 global goals yet achieving it will have significant exponential benefits for people and the planet.” The urgency to deliver on SDG 14 is greater than ever, especially because it interlinks with progress on all the other SDGs. Despite this urgency, Nigeria does not yet have a functional fisheries and aquaculture policy that can guide decisions and efforts to optimize the opportunities in fisheries, aquaculture, and the blue economy. The existing fisheries acts, aquaculture strategies, and draft fisheries policy need to be updated and made relevant to current challenges and to national and regional policy frameworks for development.

Nigeria is the largest catfish producer in the world and the largest aquaculture producer in Sub-Saharan Africa, with vast natural resources, including a large coastline estimated at 853 km. The total surface area of water bodies in Nigeria, most of which is potentially suitable for aquaculture, is estimated to be about 14,991,900 ha or 149,919 km²—about 16 percent of Nigeria’s total area. These figures show tremendous resources and the potential for sustainable aquaculture expansion and improved fisheries production. Despite the vast resources available, Nigeria’s fish supply and demand gap has been widening, with fish imports increasing and accounting for 73 percent of national fish production in 2019-2021.

After 15 years of fast growth, the country’s catfish production plateaued in 2014 mainly due to increased feed prices caused by naira devaluation and high costs of imported feed ingredients. The bulk of domestic production comes from artisanal fisheries (99 percent of capture fisheries production; 70 percent of national production), but production has stagnated and aquatic resources are dwindling. With stagnating aquaculture production and continuously dwindling capture fisheries, stakeholders are asking the following questions: How can policies be reformed to promote investments and accelerate growth in a sustainable way? How can the sector contribute more to employment generation, poverty reduction, gender and social inclusion, diet diversity, and nutrition security in the country? These concerns indicate a strong need for a new national fisheries and aquaculture policy that spells out policy directions and guides decisions and investments for the sector.

Reducing, and possibly eliminating, the deficit in fish production requires a sound, sustainable, and broad-based fisheries and aquaculture policy with realizable objectives. The challenge of fisheries policy is to preserve fish stocks while maximizing economic benefit to the people involved in the industry, to the communities that depend on it, and to the nation. Nigerian aquaculture depends heavily on a single species, catfish; however, single-species aquaculture cannot supply enough fish to bridge the widening demand and supply gap. Developing a well-balanced multispecies aquaculture industry requires a sound policy.

Against this backdrop, the former Federal Ministry of Agriculture and Rural Development (FMARD)—now the Federal Ministry of Agriculture and Food Security (FMAFS)—and the Federal Ministry of Marine and Blue Economy (FMMBE) are reviewing the Fishery and Aquaculture Policy (2024-2028) with support from the International Food Policy Research Institute (IFPRI) and WorldFish to draft and update the Fisheries and Aquaculture Policy of Nigeria.

Upon receipt of a formal request from the Federal Department of Fisheries and Aquaculture (FDFA), IFPRI and WorldFish developed a partnership to support the drafting of a new national fisheries and aquaculture policy. With funding and technical support from IFPRI through the CGIAR Initiative on Aquatic Foods, the partnership has made the following progress:

- November 2022: FDFA, IFPRI, and WorldFish jointly selected a drafting team made up of participants with expertise in the sector and policy processes. FDFA, IFPRI, and WorldFish act as the advisory committee.
- January 2023 to July 2023: IFPRI conducted extensive literature review and secondary data analysis to inform the policy draft. The drafting team and the advisory committee met and discussed numerous times and produced several iterations of the policy document draft.

The team gratefully acknowledges the earlier efforts of writing teams in the early 2000s that drafted the National Fishery and Aquaculture Strategy, National Aquaculture Development Plan, and draft Fisheries and Aquaculture policy, which have not yet been adopted as a policy. The current policy draft builds on those existing documents.
2. Workshop Objective

The workshop aims to (i) share evidence, data, research findings, and experiences among participants; (ii) identify data gaps, (iii) inform policy directions for the aquaculture and fisheries sector; (iv) get a consensus on the major issues and debates on needed policy solutions and investments; (v) get a consensus on the vision, objectives, and policy elements of the policy document, (vi) get a consensus on the performance indicators, baseline data, and system for monitoring and evaluation (M&E) of the policy; and (vii) get input from experts and key stakeholders on the issues and situation of Nigeria’s aquaculture and fisheries. Insights are highly welcomed—especially in the areas of coastal fisheries, industrial fisheries, inland freshwater fisheries, and aquaculture development so that these subsectors can (i) contribute to national fish production, (ii) reduce the share of fish imports, (iii) increase jobs and incomes, (iv) increase Nigeria’s per capita fish consumption, and (v) improve co-management among stakeholders, reduce conflict, and increase climate resilience.
3. Presentations

3.1. Speeches

Dr. Catherine Ragasa, Project Leader, Senior Research Fellow, IFPRI

Dr. Ragasa presented an overview of the workshop’s purpose and objectives. She highlighted the need for the stakeholders’ workshop to review the fisheries and aquaculture policy for Nigeria. She encouraged participants to critically reflect on what has been done and accomplished in the sector, what strategies worked and did not work, and what policy actions can be built on and what to improve. She highlighted the need to share and discuss data, evidence, and baseline figures, and to be optimistic and realistic in the policy targets.

Dr. Kwaw Andam, Country Program Leader, IFPRI-Nigeria

Next came a goodwill message from Dr. Kwaw Andam, country program leader for IFPRI-Nigeria. He reemphasized the importance of the fast-moving aquaculture subsector, of the need for deliberate contribution to its development, and of the Fisheries and Aquaculture Policy as a major step in revamping the sector.

Mr. Omoragbon Wellington, Director, FDFA (representing the Permanent Secretary, FMAFS)

The goodwill message from the Hon. Minister of Agriculture and Food Security was delivered by Mr Omoragbon Wellington (Director, FDFA, representing the Permanent Secretary). After welcoming everyone, he noted the potential of the fisheries and aquaculture sector has the potential to boost socioeconomic development in Nigeria by combating poverty, ensuring national security, and promoting economic growth. Dr. Wellington said that this stakeholders’ consultation aims to achieve the business potential of the sector and added that aquatic foods can contribute to sustainable healthy diets and reduce the burden of malnutrition in Nigeria. This policy document serves as a roadmap to address the multifaceted challenges faced by the fisheries and aquaculture sector, with the overall goal of making fish and fish products available to all by providing an enabling environment for fisher folks. Achieving this goal requires collaborative efforts across local, national, and international levels, with participation from state and nonstate actors as well as valued development partners. He used the medium to express sincere gratitude to IFPRI, WorldFish, and the Agricultural Policy Research Network for their invaluable contributions in reviewing the existing policy document set to be implemented from 2024–2028. He thanked everyone and looked forward to productive discussions at the workshop.

Director Omoragbon also presented the goodwill message from the Hon. Minister of Agriculture and Food Security on the vision and goals in the Nigerian Fisheries and Aquaculture Policy 2024–2028. He said that agriculture has been established as the most important sector in the Nigerian economy, with the fisheries and aquaculture sector one of the most important subsectors. Fish is an important source of protein and other essential nutrients required for the human diet. He noted the huge potential contribution of fish farming to the national economic development process and that there is no substitute for a viable fish farming industry. An increase in fish production will not only increase fish availability for the ever-increasing Nigerian population but also ensure that prices are within reach of an average Nigerian. According to the Minister, demand for fish is expected to grow in line with general population growth, increased incomes of Nigerian households, changes in population distribution across rural and urban, and society’s increased awareness of the role of adequate nutrition. The Minister added that increased production will ensure sufficient quantity and quality of fish products to meet the nutritional needs of the populace and enough for exports to earn foreign exchange. The FDFA serves to ensure the nation’s sustainable management of the fish population, contributing to economic stability as well as ensuring food security and ecosystem health. The Department also ensures that fishing activities comply with regulations, conserve biodiversity, inform scientific research, facilitate international collaboration, and aid long-term economic planning thereby contributing to socioeconomic and environmental welfare. The Minister said that the policy document heralds a transformative era, potent in the principle of sustainability, utility, and collaboration of Nigeria’s fisheries and aquaculture sector. The policy’s aspirations are firmly grounded in the desire to create a brighter future driven by a resilient and sustainable value chain—to expand trade and foster food security on the African continent, and to revolutionize the fisheries and aquaculture sector to unparalleled levels of production. These aspirations, he said, cannot be achieved without improved governance and application of cutting-edge technologies for sustainable development, economic diversification, and assurance of food security for all. He noted the overall goal of raising fisheries and aquaculture production to an annual volume of 2 million metric tons (MT) by 2024, thereby achieving food sufficiency and making the sector a source of livelihoods and an engine of economic growth. The Minister highlighted that inclusion, transparency, and accountability are central to the policy, to ensure all stakeholders—public and private, gender-focused groups, international donors, and especially women, youth, and vulnerable groups—work collaboratively. Other important issues raised by the Minister are the sustainable and responsible use of resources, human rights and equitable acquisition of resources, and private sector participation.

Mrs. Mercy Odu, Deputy Director, Department of Water Resources Planning and Technical Services within the Ministry of Water Resources and Sanitation (representing the Hon. Minister of Water Resources and Sanitation)

Mrs. Mercy Odu said that the ministries of water resources and agriculture have always worked together and in synergy, although sometimes with differences in activities. She said having different lines of operation has enabled the Ministry to expand its horizon and have more impact in the daily needs of the economy. She noted the importance of the meeting at this
time, especially with the state of emergency on food security in the nation, and the importance of fish as a healthy alternative to red meat. This policy will help Nigerians, not just in terms of having fish to eat but also in terms of bringing economic growth. She highlighted Songhai farming, an integrated, sustainable, and competitive farming model, that focuses on the use of locally available resources while respecting the environment. It consists of observing the mechanisms of nature to find innovation and technology foundations—that is, organic farming, which is needed to prevent excess fertilizer use. Songhai farming is well replicated in Nigeria (with 26 farms nationwide and about 11 under construction) through the river basins and contributed well to fish farming in Nigeria. She added that the ministry is working to ensure the availability of fish, especially the healthy ones. She also emphasized the need for proper water management to enable climate-smart agriculture and the need for improved synergy among relevant ministries.

Prof. Anthony O. Onoja, lead of the policy drafting team, President, Agricultural Policy Research Network

After the goodwill messages, Prof. Anthony O. Onoja introduced the session of presentations. He started off with his own presentation on the overview of the draft policy in terms of its structure, what is new, and what we still need to do. Prof Tony Onoja thanked the Ministers for Agriculture and Food Security, Marine and Blue Economy, Water Resources and Sanitation; the CGIAR/NPS/NAPA leader represented by IFPRI country lead, Dr. Kwaw Andam; and participating academics, trade unions, and other stakeholders. He said that the country can no longer stay with agriculture as a broad theme; the blue economy has emerged. He mentioned SDG 14, which talks of the blue economy, and SDG2 on hunger. Aquaculture must be brought into policy focus. He echoed Dr. Ragasa’s words that the review of the draft is important. He also reiterated that this is the first fisheries and aquaculture policy in Nigeria, and noted that policy coherence with other policies is one of the major thrusts of this policy. Presently, the old policy draft still has many gaps that need review: it lacks a theory of change; has no executive summary or citations/references; has outdated statistics; needs updates lists and roles of stakeholders; and includes insufficient attention to the SGDs and to cross-cutting issues of employment, worker benefits, climate change, access to finance, investment, and gender. He raised several other issues, for example, there are no discussions on legislative issues guiding the regulation and protection of sea fisheries, no act governing employment conditions, and no clear regulations for operations of aquaculture employers and employees. Each contribution should be evidence-based. How do we achieve targets? How do we tap into the circular economy? Which value chains are involved? How do we use ocean resources? What gaps are there in the policy draft? What are realistic projections? How do we measure the M&E of the policy implementation strategies? What opportunities do we have to make it efficient and profitable? What ways to achieve competitiveness and tap into the benefits of AUCFTA? Tap into the issues of financing? These questions and many more, he said, are the things he looked forward to discussing in this workshop.

3.2. Technical Presentations

Key elements of the policy document draft

- On behalf of Prof. Eyiwnumisi Falaye, Mr. Istifanus Pwaspo presented on policy coherence, gaps, and policy frameworks in the draft Fishery and Aquaculture Policy (2024–2028) for Nigeria. He emphasized the need to close the demand-supply gap, to increase budgetary allocation for fisheries in Nigeria, and for ministerial approval of the reviewed draft. He said that policy coherence is needed for sustainable development of fisheries and aquaculture in the country. In addition, he highlighted some of the fisheries and aquaculture sector challenges:
  - High cost of investments
  - Expensive fish fingerlings
  - Undeveloped potential of local raw materials for fish feed production
  - Poor access to finance and insurance
  - Shortage of technical workforce

- Dr. Ebinimi Ansa presented on the policy thematic areas, goals, and objectives of the National Fisheries and Aquaculture policy (2024–2028):
  - Aquaculture development
  - Artisanal fisheries (small-scale fisheries)
  - Fisheries resources, monitoring, control, surveillance, and conservation
  - Industrial fisheries development (high seas fisheries)
  - Fish trade
  - Quality control and assurance management
  - Fish preservation and product development
  - Fish disease control and management
  - Fisheries and aquaculture extension services
  - Fisheries technology
  - Training and workforce development
  - Fisheries research
  - Dams, lakes, reservoir, and lagoons fisheries development

Some stakeholders proposed collapsing some of the thematic areas that appear to be similar. Development of an elaborate M&E framework was also proposed.

- Mr. Pwaspo returned and made a presentation on the fisheries and aquaculture stakeholders. He noted the need for sensitization among stakeholders and for the cross-fertilization of ideas. He categorized stakeholders according to the following roles:
  - Regulators, to ensure that the sector is well regulated and comprises government and nongovernmental organizations
  - Producers, consisting of fish farmers and fishers, fish processors, marketers, breeders, traders, input producers, and suppliers, etc.
  - Research and development stakeholders with academic and research institutions as well as development partners
  - Consumers buying from the local and export markets, restaurants, hotels, etc.
He added that there is need for concerted efforts among stakeholders for synergy, promoting friendship and understanding of the work and protection of fisheries resources in a viable and sustainable manner.

He concluded that, in sustainably attaining the primary objectives of developing the fisheries and aquaculture policy for Nigeria, the importance of stakeholder engagement in its implementation cannot be overemphasized. The engagement of these stakeholders will generate constructive inputs to steer the fisheries policy implementation and management to realize the expected outcome. The government should have the political will to ensure that the policy is implemented with guidance from stakeholders.

- Mr. Abubakar Ibrahim followed and presented cross-cutting issues and M&E issues. He presented on types and benefits of an M&E framework, and the need for such a framework for the fisheries and aquaculture policy for Nigeria.

Sustainable growth for the Nigerian aquatic food system—sources, projections, scenarios

On behalf of Dr. Catherine Ragasa, project leader Mr. Olufemi Popoola presented on behalf of IFPRI on “Sustainable growth for the Nigerian aquatic food system—sources, projections, scenarios.” He presented on the possible sources of growth for Nigeria’s fisheries and aquaculture sector and on areas of data needs:

- Growth from the large untapped water resources, training, and promotion of good management practices. This is in a bid to encourage new farmers for increased productivity and multiplier effect along the value chain.
- Growth from other farmed species, such as by exploring opportunities to expand exports of crustaceans, shrimp, and other commercially viable fish species. This can be achieved by reapproval of Nigeria and its Aquaculture Residue Monitoring plan for crustacean, recertification of Nigeria for shrimp export, and compliance with the requirement of the US regulation on marine mammal protection.
- Growth from artisanal capture fisheries. There is little available information on species-level catch. Suboptimal artisanal fishery production does not contribute adequately to bridging the supply-demand gap. Can we substitute imported fish with improved capture fisheries? Which species?
- Reduction of fish loss and waste
- Risk and disease management
- Explicit attention to nutrition

The presentation suggested solutions, which include the following:

- Better co-management and co-planning with communities
- Better information/data on species catch and stock
- Fish stock enhancement
- Empowering artisanal fishing communities in identifying issues related to artisanal fisheries’ decision-making processes
- Establishing rural fisheries organizations/groups, fishers groups, and women’s groups for partnership development and management
- Developing an entrepreneurship plan for partnership management, including fishing plans

With regard to fish waste/loss management, a participant suggested introducing sustainable farming practices and proper waste management through improved technology adoption, such as the use of biodigester in attending to fish waste and micropower generation.

Aquaculture and small-scale fisheries policy issues on taxation, international trade standards, and national extension policy roles

Mrs. Mairo Mohammed gave a presentation on “Aquaculture and small-scale fisheries policy issues on taxation, international trade standards, and national extension policy roles.” She emphasized the need for deliberateness on tax incentives and rates, tax transparency and allocation of revenue to ploughback to small-scale fishers, technical inputs, and quality and safety standards. For example, she highlighted the need to reinvest taxes generated from the aquaculture and fisheries sector to aid long-term development and economic growth in the sector. Other proposed actions include the following:

- Facilitating tax compliance and harmonizing tax regimes to prevent multiple taxation of actors in the fisheries and aquaculture value chains
- Creating awareness among stakeholders on the risk of informal trade
- Investing in research and development for sustainable fish production techniques in line with strong extension policies to disseminate research findings
- Strengthening capacities of regulatory enforcement agencies
- Removing unnecessary trade barriers, facilitating market access, and developing cost-effective traceability management systems

Small-scale fishery industry in Nigeria: Production trends/landscape, opportunities, and policy issues

Dr. Hauwa Sadiq and Dr. Emmanuel Gana presented on “Small-scale fishery industry in Nigeria: Production trends/landscape, opportunities, and policy issues.” Highlights of the opportunities for small-scale fisheries include the following:

- Possibility of exporting fish products, creating jobs in fishing gear maintenance and fish processing in coastal communities and fishing ports
- Diversification of livelihoods such as involving fishers in aquaculture (e.g., cage aquaculture); empowering women in fish processing, packaging, and marketing

Challenges faced by actors in small-scale fisheries include the following:

- Problems associated with overfishing, leading to stock reduction
- Poor infrastructure (e.g., storage facilities, roads, and processing facilities), contributing to postharvest losses and reducing access to markets
- Access to finance
Recommendations:
- Proper co-management structure of fisheries resources
- Enforce regulations for sustainable fishing activities (e.g., fish size limits, observing closed seasons and areas, gear restrictions, etc.)

**FAO FISH4ACP Project for aquaculture, artisanal fishery, marine, and industrial fishery sector development in Nigeria**

Dr. Abubakar Usman presented on policy insights and implications from the FAO FISH4ACP Project for aquaculture, artisanal fishery, marine, and industrial fishery sector development in Nigeria. He highlighted several challenges with the existing policies: no specific policy or legislation on catfish farming, which accounts for over 90 percent of fish farming; little awareness of most stakeholders about many policies; low technical and funding capacity of existing laws, policies, and regulations for water management in Nigeria; poor and inadequate data management systems that lack key technical personnel; and lack of coordination among entities responsible for water management among federal, state, and local institutions. The presentation brought to the fore policy gaps in previous policy plans, arising from weak enforcement, low awareness, lack of clarity on how to manage water resources, fish farmers’ lack of understanding of the law, and low capacity to conduct environmental impact assessments. The strategy lacks an action plan as well as inadequate resources at both federal and state levels to operationalize the plan. The national fisheries stakeholder forum does not appear to have been put in place and has resulted in poor representation of stakeholders, including those from the catfish value chain. There is a wide gap between what is outlined in the policy and practice among value chain actors. The cost of compliance is quite high for small-scale fish farmers; value chain actors require technical and financial support to update their operations to fully comply with the policy.

The presenter offered the following recommendations:
- Proper governance of labor relations
- Adaptation by stakeholders to climate change
- Promotion of best management practices for fish breeding programs, aquaculture clusters, processing, marketing, etc.
- Creation of a deforestation-free value chain
- Good operating procedures, that is best management practices should be developed for the breeding program, fish farming/clusters, traditional processing, market, etc., across the value chain for standardized policy approaches and effective value chain functions.
- Compliance of actors with specific policies and laws in order to benefit from a supportive enabling environment

**Financing for smallholder aquaculture and artisanal fisher folks in Nigeria**

Mr. Michael Adeoye made a presentation on the opportunities to access financing for smallholder aquaculture and artisanal fisher folks in Nigeria. Nigeria Incentive-Based Risk Management System for Agricultural Lending (NIRSAL) acts as credit guarantor that varies with various actors in the value chain. NIRSAL supports all sizes of producers and emphasizes lending to all actors along the agricultural value chains. The agricultural value chain is divided into the following:
- Pre-nursery—inputs, research and innovation
- Upstream—primary production, production of fingerlings
- Midstream fish processing—issue of storage and preservation
- Downstream marketing—guarantee support with respect to exports

Mr. Adeoye proposed developing innovative insurance programs for fish farms/fish products, technical assistance along the value chain, and loans by NIRSAL microfinance. The innovative insurance package should be around yield, and he added that NIRSAL takes care of shortfalls in yield. However, NIRSAL does not influence interest rates but does provide interest drawbacks up to 40 percent of the amount invested. NIRSAL also offers technical assistance and capacity development along the value chain.

**Trade policy and quality/standards for Nigeria under AfCFTA**

Dr. Ken Ukaoha presented on trade policy and quality/standards for Nigeria under African Continental Free Trade Area (AfCFTA). The AfCFTA protocol links to quality issues: What is the quality of our fish? Of the fish we consume? Of the fish we market? Of the fish we intend to export? Quality management systems, food safety systems, and evaluation management systems are important because of consumption. Most exported fish in the country are not traceable, not certified, and expired—important issues for both imports and exports. Can Nigeria be a global player? More so, by harnessing the opportunities laid down by AfCFTA?

Dr. Ukaoha said that the country imports largely from the subregion of the Economic Community of West African States (ECOWAS), particularly Benin and Niger. Dr Ken offered several recommendations, among them the following:
- Increase domestic fish production as well as public funding and private sector investments in fish production.
- Strengthen capacities of fisheries institutions and stakeholders along the value chains.
- Exploit the potential of fish trade in the blue economy.
- Conduct a survey for the detailed mapping of stakeholders and their roles in the blue economy.
- Align Nigeria’s fish trade policy with ECOWAS and Comprehensive Africa Agriculture Development Programme policies by 2025 by decreasing barriers and cross-border fees along ECOWAS trade routes.
- Promote input subsidies to broaden fish production while reducing import tariffs on inputs to enable increased fish production.

**Issues of cooperatives, fishery and aquaculture clusters development for sustainable fish production**

Mrs. Abiodun Oritsejemine Cheke presented issues of cooperatives, and clusters development for sustainable fish production. The development of cooperatives, fishery and aquaculture clusters for sustainable fish production should involve a combination of the following:
• Rational and healthy interaction between the environments
• Water (good water quality management)
• Genetic history and diseases
• Feed (is it degradable and easily absorbed by the species being cultivated?)
• Production processes (are the technical, sanitary and phytosanitary standards (SPS), health requirement, hygiene practices, as well as correct usage of drugs, antibiotics, and chemicals, being adhered to?)
• Development of a manual on safe use of antibiotics, drugs, and chemicals during fish production
• Detailed residue monitoring plan
• Training of trainers and capacity building of regulators and stakeholders along the aquaculture value chains

She offered the following recommendations:
• The federal government must commission and approve a residue monitoring plan for the country.
• The government should enhance fish farm clusters to incorporate international standards and quality-based value-chain processes.
• Put in place regulation mandating that all aquaculture production processes have hazard analysis critical control point plans, SPS processes, and residue monitoring plans.
• Provide intensive capacity building/training for the various stakeholders (especially government regulatory officers who will continue the trainings) along aquaculture value chains.
• Make health, quality assurance, and standardization of products and processes, as well as issues involved in international fish trade, a compulsory and ongoing process.
• Initiate research and development programs aimed at solving the identified challenges along aquaculture value chain clusters and other fish farm productions.

National aquatic animal health strategy and implications for the Nigerian fishery and aquaculture policy, 2024 and beyond

Prof. Adeyemo presented on the “National aquatic animal health strategy and implications for the Nigerian fishery and aquaculture policy, 2024 and beyond.” The presenter highlighted some challenges encountered in aquatic animal health (AAH) management:
• Less than 20 percent of veterinarians have capacity to manage aquatic animal health.
• Institutions have overlapping roles.
• There is little or no synergy between departments in the FMAFS (e.g., FDFA and Nigerian Agricultural Quarantine Service)
• There is no comprehensive database of fish farmers for effective tracking and monitoring of fish diseases.

The presenter also stated that a properly managed aquatic animal health system will pave way for
• Improving fish productivity and enhanced livelihoods;
• Widening market access and increase export opportunities;
• Reducing the risks of disease outbreaks;
• Promoting global competitiveness of Nigerian fish products; and
• Promoting innovation and technology for disease control and fish vaccine development.

AAH policy development will also result in
• Regulatory enforcement and governance; and
• Capacity building of stakeholders in fish disease management and biosecurity.

### Current state of Nigerian aquaculture: Projections, challenges, and proposed solutions

Dr. Sunil Siriwardena presented on the “Current state of Nigerian aquaculture: Projections, challenges, and proposed solutions. He noted the major hindrances for growth:
• Poor supply of quality seed
• High cost of commercial feed
• Losses due to fish diseases
• Limited processing with low food safety
• Poor market structure and transportation
• Limited access to credit and high collaterals
• Policy gaps
• Poor information on fish and nutrition
• Poorly organized sector
• Suboptimal inland fisheries production
• Competing water demand

He also stated that growth in the sector could be enhanced through the following measures:
• Fish species diversification
• Private sector-led production
• Strengthening of aquaculture clusters and cooperatives
• Increased fish supply from inland freshwater
• Improved fish supply from culture-based fisheries, floodplain aquaculture, and habitat enhancement
• Use of water and energy saving technologies (e.g., promotion of cage aquaculture)

### M&E framework for the draft policy on fisheries and aquaculture in Nigeria

Dr. Abba Abdullah presented on “Monitoring and evaluation framework for the draft policy on fisheries and aquaculture in Nigeria.” He suggested some indicators that could be adapted for the outputs and outcomes of the new draft fisheries policy. In addition, he highlighted the benefits of monitoring:
• Identifies flaws in design and execution plan
• Establishes if project is proceeding according to plan
• Reviews project assumptions and assesses risks

He summarized the presentation by stating that M&E is a management guide used in achieving corporate objectives; it is a process of measuring compliance and a learning tool that would support the fisheries and aquaculture policy implementation in Nigeria.

### 3.3. Discussions and inputs into The Policy Document draft

Stakeholders contributed directly to the document and the changes are tracked. These comments and suggestions are summarized below.

#### Group 1

**Policy thematic area: Aquaculture development**

- Goal of the policy area was modified by stakeholders to read: “To provide an enabling environment for self-sufficiency in fish protein supply through aquaculture to our teeming population.”

- Some of the additions are new objectives:
  - Co-management through representatives of relevant stakeholders
  - Promotion of private sector led initiatives for aquaculture value chain development
  - Promotion of climate-smart fish culture technologies

- Under “Strategy”:
  - Strategy item iv was deleted.
  - Strategy vi was replaced with vi. Facilitate access to input supply including finances
    - viii. Promotion of water-based culture methods such as pen and cage culture, culture-based fisheries, floodplain aquaculture, and mariculture as strategies for commercial fish production.
    - ix. Private sector-led brood stock development through genetic improvement.

  - Strategies x and xi were modified to read:
    - x. Aquaculture value chain actors will be mobilized, assisted into cooperatives and clusters, and trained in various aspects of aquaculture using best management practices to produce healthy fish.
    - xi. Aquaculture value chain actors will also be assisted to insure and finance their fish farming ventures through the Nigerian Agricultural Insurance Corporation (NAIC), Bank of Agriculture (BOA), Bank of Industry (BOI), and Agricultural Development Bank.
- Under “M&E,” stakeholders modified strategy no. i to read “Aquaculture development prioritized in national development plan with an increase in domestic fish production of 20% by 2030.”

Policy thematic area: Artisanal fisheries (small-scale fisheries)

- Stakeholders modified the goal of this policy area to read: “Create sustainable fish supply for improved artisanal fisheries management in inland, brackish and coastal water resources of Nigeria.”
- Objectives i–iv and viii–x were modified to read as follows:
  - Reduction of postharvest losses of fish through processing, and value addition.
  - Optimized inland fish production through improved management based on yield predictions.
  - Development of clupeid/sardine fishery in reservoirs and lakes.
  - Adoption of FAO voluntary guidelines on small-scale fisheries including community-based management of fisheries resources.
- Objectives v–vii and x–xi were modified to read as follows:
  - To sensitize local investors on the opportunities and purpose of credit facility.
  - To promote export of marine fishery products and reducing the impact of illegal and unreported and unregulated (IUU) fishing.
  - To sensitize banks and other financial institutions to employing fisheries graduates and consider other collaterals (e.g., feasibility studies), with provision of affordable credits with low interest rates at single digit.
  - To ensure the application of best management practices in fish catch methodology (by-catch reduction device, turtle excluder device) in order to mitigate challenges of climate change, oil pollution, and other environmental hazards that could affect their main livelihoods.
  - Encouragement of better fishing practices in line with code of conduct for responsible fisheries and aquaculture.
  - Conduct stock assessment as required to review and revise fisheries management measures.

Policy thematic area: Fisheries resources, monitoring, control, surveillance, and conservation

- The goal was modified to read: “To develop an effective and functional monitoring, control, and surveillance for the proper management of the fisheries resources.”
- Stakeholders modified the strategy was done by stakeholders to read:
  - iv. Innovations for productive use of discarded catch [NEW ADDITION]
  - v. Implementing effective monitoring, control and surveillance (MCS) mechanisms to prevent illegal unreported and unregulated (IUU) fishing.
  - vi. Developing and promoting conflict resolution mechanisms and structures for sustainable management of fisheries resources.

Group 2

Policy thematic area: Industrial fisheries development (high seas fisheries)

- Stakeholders made the following edits to the objectives:
  - To increase fish production from both the marine territorial and Exclusive Economic Zone towards achieving fish production of about 2 million metric tons in 2024–2028 through increased fishing efforts and number of boats.
  - To ensure realistic research in collaboration of relevant agencies and the private sector, directed to determining fish availability, charting the sea, and locating fish routes and positions seasonally as guide to industrial fishing trawlers.
  - To invest in capacity building and development of professionalism of stakeholders in the industrial fishing sector.
  - To create employment opportunities in all the sectors of the industry across the value chain process.
  - To promote export of marine fishery products and services.
  - To promote and encourage private sector investment in marine fisheries research, development, and management.
  - To enhance provide evidence-based information through the collection, and collation of data in the industrial fishing operations.
  - To eliminate risks resulting from the activities of private jetties along the coast.
  - To ensure the application of best management practices in fish catch methodology (by-catch reduction device, turtle excluder device) in order to facilitate certification for export.

- Modifications to the strategy by stakeholders and some strategies (iii and iv) were deleted:
  - To facilitate prompt issuance of letters of assurance.
  - Sensitize local investors on the opportunities and resources available within the fisheries sector.
o Enforcement of safety measures at sea through monitoring control and surveillance
o Strengthening of institutions and mechanisms for protection and conservation of resources.

o Government will go into technical cooperation programmes with Multilateral and development Agencies.

o Promote high seas fisheries through the upgrade and species diversification, in the following:
  - Tuna fisheries value chain
  - Lantern fisheries value chain
  - Shrimp value chain
  - Tarpon atlanticus value chain

Policy thematic area: Fish trade

- Suggestions by stakeholders on the objectives in the “reduction in the number of specific objectives by clogging some together without necessarily removing their strength and meaning.”

- Two new objectives were added:
  o To increase efficiency in domestic marketing of fish and fishery products.
  o To promotion strategic partnership and strengthening of institutional collaboration and cooperation among states and ministries, departments, and agencies (MDAs) in the domestic fish and aquaculture trade sector.

- Under “Strategy,” stakeholders stated as follows:
  o “I am not sure this comment should be part of objective” in response to Strategy iv. Nigeria has existing network for information sharing among stakeholders e.g., AwfishNet and Farmers and Processors network. Nigeria is a member country of the AWFSHNET of the African Union. FDFA also has a desk office that relates with the stakeholders who is a desk officer of WTO. Collaboration with relevant agencies and Ministry of Trade and Investment for the trade of agricultural commodities including fish.

- The following strategies were modified by stakeholders:
  o Invest in the deployment of contemporary information and communication technology and other online marketing tools that promote e-commerce that would attract more youth participation in the fish and aquaculture sector.
  o Invest in modern improved transportation services (cold van) and technologies that facilitate well-functioning markets.
  o Facilitate the establishment and capacity strengthening of small-scale aquaculture and fish marketing cooperatives.
  o Increase public funding and private sector investments in the fisheries and aquaculture marketing sector.
  o Strictly enforce regulations related to fish trade in order to reduce high risks of vulnerability associated with the informal nature of trade in fish sector.

Policy thematic area: Quality control and assurance management

- Stakeholders made the following addition to the “Strategy”:
  o vii. Link up and collaborate with ECOWAS for establishment and implementation of Standards Harmonisation Model (ECOSHAM) for harmonized fish standards “ECOSTANDS,” to facilitate cross-border fish trade benefits especially under the ECOWAS Trade Liberalization Scheme (ETLS).

Group 3

Policy thematic area: Fish preservation and product development

- Stakeholders modified the goal to read: “To provide appropriate technologies and best practices for processing, preserving, packaging, and distributing fish and fisheries products to ensure reduction of post-harvest losses to the barest minimum.”

- Modifications to strategy by stakeholders were as follows:
  o Promotion of more fuel-efficient smoking kilns for use in rural communities and the introduction of more fuel-efficient cooking methods that may have environmental benefits.
  o Prohibition of obnoxious methods of fish harvesting, processing, preservation, and marketing.
  o Provision of technical assistance/ support services for all entrepreneurs/investors in particular, women, youth, and vulnerable populations interested in fish-handling development projects, especially for export.

- Stakeholders modified “M&E” as follows:
  o Number of fish processing and packaging centres across all states in the country that are registered and operational.
  o Presently, the market has fresh, dried and frozen fish. With this policy, it is expected that new fish products should be introduced into the markets such as variants of canned fish, frozen fish fillets, fish fingers, fish cakes, dried fillets, fish sausages, fish balls, fish powder etc.in line with applicable standards.
  o Increase in the number of fish markets from the current 37 to at least 774.
  o Number of women, youth, and the vulnerable with skills in fish products development.

Policy thematic area: Fish disease control and management

- It appears that the stakeholders are proposing a change of policy area/title, to read: “Health, safety, and environment (HSE).” This will make the policy more inclusive in line with one health strategy for humans, fish, and other organisms in the environment.

- Similarly, they proposed changing the “Goal”: “To ensure health, safety and environment (HSE) and prevention of occupational hazard.”

- Some of the objectives were modified by the stakeholders.
• One objective was deleted, and one new objective was added:
  o To identify, report, and control fish diseases in the three major fisheries subsectors (artisanal, marine and aquaculture).
  o Identification and collation of fish diseases for the subsequent production of the annual national fish disease bulletin.
  o To organize trainings/workshops for fish farmers on fish disease prevention, management, and monitoring/control.
  o To carry out diagnosis of fish diseases on imported fish.
  o Create awareness on influence of management practices on health performance of fish stock.
  o Introduction of legislation relevant to fish health management.
  o To ensure continuous implementation of biosecurity measures, hazard analysis and critical control points (HACCPs).

• One addition and a few modifications to “M&E” were as follows:
  o i. Addition of at least 6 laboratories to the existing fish diagnostic laboratories in the veterinary teaching hospitals.
  o iv. Procedure for quarantine and certification of health status of live fish established, number of people trained, and number of extension agents promoting and fish farmers adopting good fish disease management practices.
  o Availability of simple water quality test kits available in each certified farm.

Policy thematic area: Fisheries and aquaculture extension services

• Minor spelling edits to the title of the policy area.
• One new objective was added as follows: “Creation of fisheries inspector officers’ cadre.”
• “M&E” has an addition: “Increase in the ratio of extension officers from the existing 1:800 to 1:100.”

Policy thematic area: Fisheries and aquaculture extension services

• The strategy was modified with four new additions:
  o Maintain four boatyards for mass production of fishing crafts and fiberglass tanks and other crafts and receptacles in Igbokoda, Ondo State and Lokoja, Kogi State, Borokiri, Rivers State and Baga, Borno State for artisanal fishermen and fish farmers.
  o Educational Outreach and Training: Develop comprehensive educational programs and workshops for aquaculture and fisheries stakeholders, including farmers, managers, and technicians. Highlight the benefits of biodigesters in waste management, such as reduced environmental impact, production of biogas for energy, and nutrient-rich effluent for fertilization. Providing hands-on training and technical support can help build confidence in adopting biodigester systems.
  o Financial Incentives and Subsidies: Establish financial incentives or subsidies to encourage the adoption of biodigesters. This could include grants, low-interest loans, or tax breaks for farmers and businesses that invest in biodigester technology. By reducing the initial financial burden, more aquaculture and fisheries operations may be willing to adopt biodigesters as a waste management solution.
  o Collaborative Research and Demonstration Farms: Collaborate with research institutions and establish demonstration farms that showcase the successful integration of biodigesters in aquaculture and fisheries operations. These farms can serve as living examples of the technology’s effectiveness, allowing potential adopters to witness the benefits firsthand. Sharing data, case studies, and success stories from these farms can build credibility and confidence in the technology.

• Stakeholders added four new items under “M&E”:
  o Number of patents by stakeholders in the sectors
  o Efficient utilization of waste generated from aquaculture and fisheries
    – Prevent accumulation of waste.
    – Reduce environmental pollution.
    – Maximize the use of waste as valuable resources.
  o Renewable Energy Generation: Captured methane is utilized for various energy needs, such as cooking, heating, or electricity generation to reduce greenhouse gas emissions and promote sustainable energy practices.
  o Environmental Sustainability: Maintain healthy aquatic ecosystems, reduce water pollution, minimize release of harmful chemicals and pathogens, and support the overall balance of the ecosystem.

• Stakeholders added two new objectives:
  o Promote intellectual property rights for new technologies.
  o Establish biodigesters as a mainstream waste management solution in aquaculture and fisheries, promoting sustainable practices that balance economic growth with environmental conservation.

Policy thematic area: Fisheries technology

• The policy area title was modified by stakeholders to “Aquaculture and Fisheries Production Technology.”

• Stakeholders added two new objectives:
  o Promote intellectual property rights for new technologies.
  o Establish biodigesters as a mainstream waste management solution in aquaculture and fisheries, promoting sustainable practices that balance economic growth with environmental conservation.

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  o Establish biodigesters as a mainstream waste management solution in aquaculture and fisheries, promoting sustainable practices that balance economic growth with environmental conservation.
Group 4

Policy thematic area: Training and manpower development

- Stakeholders suggested adding the following strategies:
  - On-farm training sessions should be intensified for updated knowledge in current tech production.
  - Impact evaluation should be conducted on each training.

- Stakeholders suggested adding under “M&E”:
  - All of the training should be in line with the National Occupational Standards (NOS) (levels 1 and 2).
  - Number of graduates who are NOS certified.

- Item v under “Strategy” column should be moved to “Fisheries research”:
  - Research should be promoted and funded with a focus on expanding and improving the knowledge base on the current status of fish consumption and at the species level, disaggregated by state, sex, women of reproductive age, pregnant and breastfeeding women, children, youth, men, and household income levels.
  - Conduct a nutrient analysis, in raw and processed forms, of freshwater pelagic small fish species.

- Stakeholders asked about the rationale for the number 8,000 in “Number of accredited or chartered fisheries and aquaculture professionals increased from 3,800 to 8,000 in five years.”
  - Response: Presently we have 3,800 registered members of Fisheries Society of Nigeria. Many are graduates practicing in the field. Annually we project 1,000 fisheries graduates across Nigeria from different higher institutions.

- Stakeholders asked the following questions: Where are the centers of excellence? What is their mandate? If they are doing well, this gives a justification for expansion. What is the justification for increasing them to six? And how realistic is this? “Number of centres of excellence in fisheries and aquaculture increased from two to six, with at least one centre in each geopolitical zone.”
  - Response: To enable access by the fish farmers and also create jobs for youth.

Policy thematic area: Fisheries research

Stakeholders made contributions as follows:

- They noted the high number of objectives (13) and stated that it should be reduced to focus on ecology, economics, technology, and social dimensions of the fisheries sector. Strategies and indicators should be built on this.
• Objective item iv “To supply information generated from fisheries research to the system (data bank) for planning and management.” should be moved to strategies.

• Stakeholders needed clarity about this objective: “To forestall the illegal importation of exotic live fish into the country.” They noted that it does not seem like a clear research objective.

• Research should be responsive to all thematic areas/value chains. It should include all areas of fisheries and aquaculture.

• There should be an established fisheries database, separate from FDFA, that should be updated periodically. There should also be a strategy to coordinate with the National Bureau of Statistics (NBS) for data collection. The data bank should be open source (i.e., available to everybody). If this doesn’t exist already, it should be proposed.

• Establish synergy with other private and public research institutions that work on fisheries and aquaculture.

• Develop financial mechanisms that will take care of research that responds to the needs of farmers.

Policy thematic area: Dams, lakes, reservoir and lagoons fisheries development

• Stakeholders stated that the curriculum for fisheries development in this subsector should be enterprise-based and reflect best practices.

3.4. General Discussions

Overall, discussions among participants involved general queries on the status of the sector or general questions or comments on broad strategies. Questions and answers point to the dearth of data, conflicting data, old data, and unreliable data. The discussion points to the urgent need to invest in data collection and data systems.

General questions on the status of the sector
• What is the status of fish feed production, marketing channels, and fish feed value chain in Nigeria?
• What is the status of the fisheries and aquaculture industry?
• What quantity of fish must an average Nigerian need to eat to be nutritious?
• Is there budgetary allocation for the sector?
• There is the need to include the various value chains. Who are the stakeholders of the fisheries and aquaculture value chain?

General questions or comments on broad strategies
• How do we deal with the supply-demand gap?
• What efforts are being made to address the issue of standards, especially with Nigerian exports? Is there any area of the policy that addressed this?
• How can we use our ocean resources?
• Even though the country has significant catfish production, we do not know much; and the catfish subsector still needs to be improved and well researched.

General areas to consider or highlight in the policy document
• Where do we situate the health of consumers?
• Where do we situate the issue of environmental impact assessments in the policy draft (because commercial fish farming has an impact on the environment)?
• Where does fish seed fall in terms of quality fish seed/fish supply? Do we have an agency that takes fish seed into consideration?
• Where is the support for the private sector, which constitutes main investors in developing brood stock in the country?

• The role of cooperatives in the policy draft is important. Is government financing able to sustain this policy?
• Why the overconcentration on aquaculture?
• How do we reduce the fish import bill through this policy, and is that of interest to the government?
• What financial mechanisms and opportunities can fisher folks and aquaculture farmers leverage to improve their productivity?
• The need to capture irregular/unregulated fishing in the current policy document.
• The issue of consumer health should be captured in the policy and deal with the issue of enforcement.
• In the policy draft, categorization of sea fishing and inland fishing is missing. Which was given prominence? Artisanal fishing should be given prominence, and there should be an inclusion of artisanal fishers in the policy draft.
• The need to get the source of energy is important for blue economy. How do we support farmers with renewable energy?
• Policy should capture taxation up to the local government.
• There should be tax harmonization to make the environment business friendly.
• How do we factor in insurance to assist fish farmers for food security, especially with the issue of flooding?

Comments on institutional framework
• An institutional framework should be set up to enforce fisheries and aquaculture regulations.
• How much collaboration exists between the inland waterways regulator and FMAFS?
• Deemphasize the role of government only to regulation. Let the private sector drive the policy into realistic actionable goals.

Policy gaps
• Many stakeholders were involved in drafting the Fisheries Act of 2014. The act was ready for legislation; however, due to misconceptions of the content of the act, it was not given attention. Many even thought that the mention of establishing a fisheries commission meant that it was going to displace other agencies involved in fisheries and aquaculture in the country.
• There should be an act for the fisheries sector because it is not easily amended. This needs to be taken on board.
There should be a review of gaps in existing international instruments Nigeria has signed into (e.g., code of conduct for responsible fisheries); agreement was signed also on illegal fishing activities.

How do we align the policies with other policies to be able to achieve growth?

How do we align all the policies coming up in the country? Because there are several policies in the country, synergizing all to achieve economic growth and development is important. But how?

What are the gaps in the draft policy?

Any best measures to implement the policy and aquaculture policy?

Emphasis on data, M&E, projections

- What are the projections? Realistically, what is possible in the next 30 years?
- How do we get these targets? How do we measure the targets (M&E)?
- There is the need for recent data and futuristic positions in the policy documents. What are we doing?
- In Nigeria’s fisheries sector, much of the data are incorrect and need to be upgraded.
- How do we marry the presentation by Mrs. Mohammed and the Fisheries Society of Nigeria’s position on the lack of data? On one hand, export statistics of some fish species were presented; while on the other hand, we are saying there is dearth of data on fish. Are we saying that the available data are few and may not be reliable? Mr. Hassan Mundu: More data on the exported aquatic products presented is required.
- We have no data on fish demand for Nigeria, only data on supply. There is a need for data on demand.
- Data on Nigeria’s small-scale fisheries are very scanty because most of these fisheries’ production is not recorded. Many fishermen sell on the landing site. Thus, data collection on small-scale fisheries should be largely emphasized in the policy document.
- For which species can stock be enhanced, and what are the projections? Do we expect production to grow? By how much?

Other stakeholders to involve more in the policy development ad consultation processes

- Critically identify stakeholders; do a mapping of stakeholders to ensure inclusive participation.
- The private sector should be significantly involved in the fisheries and aquaculture sector. The policy should make provisions for private sector involvement.
- In terms of advocacy, what are businesses/private sector doing with respect to fisheries development? The private sector’s and nonstate actors’ involvement in the sector will give it a futuristic look.
- Include informal sector view.
- This policy review will not be complete without taking on board the views of Niger-Delta communities. This should not be an Abuja-based policy.

- Service providers, especially input suppliers and veterinary services, should be considered in the review of the draft policy.
- Representatives from the Federal Ministry of Justice and the legal department in the ministry of agriculture should have been present for the sake of legal frameworks.

Three additional points

- Apart from catfish and tilapia, which species can Nigeria focus on and recommend to the farmers?
  - Response:
    - Fin fish: red snapper, Obokun, Croaker,
    - Fresh water: tilapia, slap water, eja osan/apaa, African snake head
    - Species being developed but that need to be improved and put into practice: shellfish, periwinkle, marine shrimps, river prawns
    - Prof. Fregene mentioned a fish farmer cultivating up to 12 different ornamental fish species. The National Institute for Freshwater Fisheries Research and the Dept. of Fisheries and Aquaculture, University of Ibadan, have conducted many studies on culturable Nigerian fish species and water fisheries.

- What are we importing from Niger? What is the source of data? The question was directed to Dr Ken Ukaacha.
  - Response: The data quoted by FAO in some of the presentations are not the true picture of what is going on in Nigeria, rather, it is from the view of what the West perspective of what they want us to see. We are the ones on the field and on the ground, so we understand the reality. The fish that come in from Borno are from the border of Nigeria between Borno and neighboring countries. And these are being imported through informal settings. These are not captured by the data we are projecting. In the fisheries Department in In Kogi state, when I was the Director-General Public-Private-Partnership, I engaged some consultants on Inland Water Potentials. Findings revealed that in the area of fisheries, it is only the rural women in these areas that fish and shellfish (Nupe and Bachi Women), which obviously was not captured in these data we are parading. So, I suggest that the National Association of Fisheries and other agencies or stakeholders should take this on board/do a ground truthing on the state of fisheries in Nigeria while developing this noble policy.

- Cooperative management is something I say something about. I don’t know what obtains at the Federal level. But I must say that at the state level, the cooperative system is a completely chaotic system. What you have there cannot be relied upon. In 2017, I tried to bring the private sector into the cooperative management system in Kogi State, but there was much resistance. For the cooperative system to be effective for fisheries and aquaculture, there is the need to work on the cooperative information system to be able to address issues around investment, financing, market access.
• How do measure and evaluate the various policies and strategies?
  o Responses:
    – Prof. Fregene: “Before you must talk of monitoring and evaluation, implementation is the first important thing. We need money, not donor’s money, Federal Government of Nigeria money. After you have implemented, and you need enforcement. You cannot monitor what you have not enforced. You need money to enforce and implement. You must have clear indicators.”
    – FAO representative Dr. Abubakar Usman: “Government cannot do it alone. Each stakeholder must contribute to the development of the sector. In the issue of monitoring, there is need to state in the policy document that there should be meeting of stakeholders from time to time to discuss and review the challenges, achievements, and the way forward.”
    – Dr. Abba: “In every project, there is the need to institute a monitoring system. There are two ways- the logical framework where you specify the activities, outputs, and outcomes, and these will go into key performance indicators. For each of the activities, what are the result-based indicators? Break down the indicators. For all the activities, you break out all the outputs and outcomes (immediate, intermediate, and long term)”
    – Dr. Sunil: “For any good monitoring and evaluation system must be indicator-based and be incorporated reflections-stakeholders’ reflections, implementation of the policies, from time to time there should some reflections so that the policies are implementable. There should also be non-state actors involved in the learning process.”
4. Policy Document Revisions and Next Steps

On October 30–31, December 7–8, and December 15, 2023, the drafting team and advisory committee met to incorporate the inputs from the stakeholders and revise the policy document draft. The revised version of the policy document represents the joint thinking of the drafting team and advisory committee and the inputs from the stakeholders during the consultation workshop in August 23–23, 2023. It was submitted on December 19, 2023, to the FDFA, FMAFS, FMMBE, Ministries of Environment and Water Resources, Ministry of Budget and Economic Planning, and other relevant ministries for their review and inputs.

An interministerial working group was suggested to these ministries, which can meet regularly to discuss these policy directions. The following ministries are critical to the design and implementation of the policy instruments:

1. Ministry of Agriculture and Food Security, because of the centrality of food and nutrition security
2. Ministry of Marine and Blue Economy, because the proposed policy directions cover many areas of the marine and blue economy
3. Ministry of Budget and Economic Planning, because the funding and implementation of the proposed policy actions will depend on the funding coordinating role of this ministry
4. Ministries of Environment and Water Resources, because they regulate the use of natural resources and ensure environmental sustainability that are central to the proposed policy actions
5. Ministry of Humanitarian Response and Poverty Reduction, because of the proposed livelihood strategies, training, and capacity strengthening for rural producers, including in flood- and disaster-prone, fragile, and conflict areas
6. Ministry of Health, because of food safety implications of aquatic foods and their potential for nutrition
7. Ministry of Science, Innovation, and Technology, because of the emphasis on research, innovation, and technology development and centers of excellence in the proposed policy actions
8. Ministries of Women Affairs and Youth, because of the major role of women and youth in the sector, and the potential major impact of the proposed policy changes on them. The sector also has the great potential for improved livelihoods, employment, and empowerment of women and youth.
## Annex 1. Workshop Agenda

**Stakeholder Consultation on the National Fisheries and Aquaculture Policy (2024–2028) Workshop** held at Abuja.

**Date:** Tuesday, August 22, 2023, 9:00 a.m. to 4:10 p.m. and Wednesday, August 23, 2023, 9:00 a.m. to 3:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Day 1: August 22, 2023 Session and Description</th>
<th>Supporting Resources/Responsible Individual</th>
<th>Approximate Time Needed</th>
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<tbody>
<tr>
<td>9:00–9:30 a.m.</td>
<td>Arrival and registration of participants</td>
<td>Desk officers</td>
<td>30 min</td>
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<tr>
<td>9:30–9:35 a.m.</td>
<td>Overview of the purpose and objectives of the workshop</td>
<td>Presentation from Dr. Catherine Ragasa, IFPRI-Washington DC, Project Leader, Review of Fisheries and Aquaculture Policy for Nigeria</td>
<td>5 min</td>
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<tr>
<td>9:35–9:40 a.m.</td>
<td>Goodwill message from IFPRI</td>
<td>Dr. Kwaw Andam, Country Program Leader, IFPRI-Nigeria and Chief of Party, Nigeria Agriculture Policy Activity, NAFA (IFPRI)</td>
<td>5 min</td>
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<tr>
<td>9:55–10:00 a.m.</td>
<td>Goodwill message from the Hon. Minister of Water Resources and the Executive Secretary, Agricultural Research Council of Nigeria (ARCN)</td>
<td>Dame Didi Walson-Jack (OON), Permanent Secretary, Federal Ministry of Water Resources, (FMWR) Abuja, and Executive Secretary of the Agricultural Research Council of Nigeria (ARCN), Professor Garba Sharubutu</td>
<td>5 min</td>
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<tr>
<td>10:00–10:10 a.m.</td>
<td>Presentation of the Policy Draft: Overview of the Draft Policy: Structure, what is new and what we still need to do</td>
<td>Prof. Anthony O. Onoja-Team Lead, Policy Drafting Committee, President, Agricultural Policy Research Network (APRNet), Tenure Prof., University of Port Harcourt, and Professor Extraordinarius, University of South Africa (UNISA)</td>
<td>10 min</td>
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<tr>
<td>10:10–10:20 a.m.</td>
<td>Prof. E. Falaye: Policy coherence, gaps and policy frameworks in the draft fishery and aquaculture policy 2024–2028 for Nigeria (A presentation from the draft policy)</td>
<td>Professor Eyiwunmi Falaye, Full Professor of Fishery and Aquaculture, University of Ibadan</td>
<td>10 min</td>
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<tr>
<td>10:20–10:30 a.m.</td>
<td>Questions and comments on the presented drafts sessions</td>
<td>Anchor: Professor Anthony O. Onoja (Policy Drafting Team Lead)</td>
<td>10 min</td>
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<tr>
<td>10:30–10:50 a.m.</td>
<td>Photograph and networking session</td>
<td>All</td>
<td>20 min</td>
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<td>10:50–11:00 a.m.</td>
<td>Tea break</td>
<td>All</td>
<td>10 min</td>
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<tr>
<td>11:00–11:15 a.m.</td>
<td>Dr. Ebinimi Ansa: Policy Thematic Areas, Goals and Objectives of the National Fisheries and Aquaculture Policy, 2024–2028 (A presentation from the draft policy)</td>
<td>Dr Ebinimi Ansa, President, Fisheries Society of Nigeria (FISON), Director, African Regional Aquaculture Centre (ARAC), NIOMR, Port Harcourt</td>
<td>15 min</td>
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<tr>
<td>11:15–11:25 a.m.</td>
<td>Mr. Pwaspo: Fisheries and Aquaculture Stakeholders (A presentation from the draft policy)</td>
<td>Mr. Istifanus Pwaspo, Policy Drafting Team Member and Private Sector Fishery Expert, former staff FMARD, Abuja</td>
<td>10 min</td>
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<tr>
<td>11:25 a.m.–11:35 a.m.</td>
<td>Mr. Abubakar Ibrahim: Cross-Cutting Issues and Issues in Monitoring and Evaluation (A presentation from the draft policy)</td>
<td>Mr. Abubakar Ibrahim Director, Fisheries &amp; Aquaculture, Federal Ministry of Agriculture and Rural Development, FDF, FMARD</td>
<td>10 min</td>
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<tr>
<td>11:35 a.m.–11:45 a.m.</td>
<td>Questions and comments on the presented drafts sessions</td>
<td>Anchor: Professor Anthony O. Onoja (Policy Drafting Team Lead)</td>
<td>10 min</td>
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<tr>
<td>11:45–11:55 a.m.</td>
<td>Presentation from FMARD on Aquaculture and Fisheries Sector: Performance, Achievements, and Gap, by Dr Ime Umoh</td>
<td>Dr Ime Umoh, Director, Federal Department of Fisheries and Aquaculture (FMARD)</td>
<td>10 min</td>
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<tr>
<td>11:55 a.m. to 12:00 noon</td>
<td>Questions and answers</td>
<td>Prof. E. Falaye</td>
<td>5 min</td>
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<tr>
<td>12:00 noon to 12:10 p.m.</td>
<td>Sources of growth in fisheries and aquaculture: Synthesis from literature review and secondary data analysis</td>
<td>Olufemi Popoola, Research Analyst, IFPRI, Abuja</td>
<td>10 min</td>
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<tr>
<td>12:10–12:15 p.m.</td>
<td>Questions and comments</td>
<td>Prof. Tony Onoja</td>
<td>5 min</td>
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<td>Time</td>
<td>Session and Description</td>
<td>Supporting Resources/Responsible Individual</td>
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<tr>
<td>12:15–12:25 p.m.</td>
<td>Presentation from FMARD on Aquaculture and small-scale fisheries policy issues on taxation, international trade standards and national extension policy roles</td>
<td>Mrs. Mairo Mohammed, Head Aquatic Resources at the Nigerian Agricultural Quarantine Service (NAQS) agency of FMARD</td>
<td>10 min</td>
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<tr>
<td>12:25–12:35 p.m.</td>
<td>Comments and questions</td>
<td>Mr. Abubakar Ibrahim</td>
<td>10 min</td>
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<tr>
<td>12:35–12:50 p.m.</td>
<td>Presentation on Small-Scale Fishery Industry in Nigeria: Production Trends/Landscape, Opportunities, Challenges and Policy Issues</td>
<td>Dr. Hauwa Sadiq and Dr. Emmanuel Gana, Department of Fishery and Aquaculture, University of Abuja</td>
<td>10 min</td>
</tr>
<tr>
<td>12:50–1:00 p.m.</td>
<td>Comments and questions</td>
<td>Anchor: Dr. Ebi Ansa</td>
<td>10 min</td>
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<tr>
<td>1:00–1:10 p.m.</td>
<td>A presentation from an FAO expert on policy insights and implications from the FAO FISH4ACP Project for aquaculture, artisanal fishery, marine and industrial fishery sector development in Nigeria</td>
<td>Dr. Abubakar Usman, National Project Officer, FISH4ACP Project, FAO, Abuja</td>
<td>10 min</td>
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<tr>
<td>1:10–1:20 p.m.</td>
<td>Comments and questions</td>
<td>Prof. Anthony O. Onoja</td>
<td>10 min</td>
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<tr>
<td>1:20–1:30 p.m.</td>
<td>Presentation from the President, National Association of Nigerian Traders (NANTS), on Trade Policy and Quality/Standards for Nigeria under AICFTAR regime</td>
<td>Barrister (Dr.) Ken Ukaoha, President, National Association of Nigerian Traders (NANTS), Abuja</td>
<td>10 min</td>
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<tr>
<td>1:30–1:40 p.m.</td>
<td>Comments and questions</td>
<td>Prof. E. Falaye</td>
<td>10 min</td>
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<tr>
<td>1:40–1:50 p.m.</td>
<td>Presentation from the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL Plc.) on Opportunities to Access Financing for Smallholder Aquaculture and Artisanal Fisher folks in Nigeria</td>
<td>Mr. Michael Adeoye, Head, Agricultural Value Chain Finance and Investment Services, NIRSAL, Maitama District, Abuja</td>
<td>10 min</td>
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<tr>
<td>1:50–2:00 p.m.</td>
<td>Questions and answers</td>
<td>Dr. Ebinimi Ansa</td>
<td>10 min</td>
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<td>2:00–2:30 p.m.</td>
<td>Lunch break/networking</td>
<td>All</td>
<td>30 min</td>
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<tr>
<td>2:30–2:40 p.m.</td>
<td>Issues of Cooperatives, Fishery and Aquaculture Clusters Development for Sustainable Fish Production</td>
<td>Mrs. Abiodun Oritsejemine Cheke, International Consultant and Former Director, FDF, FMARD, Abuja</td>
<td>10 min</td>
</tr>
<tr>
<td>2:40–2:50 p.m.</td>
<td>Comments and questions</td>
<td>Prof. Anthony Onoja</td>
<td>10 min</td>
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<tr>
<td>2:50–3:20 p.m.</td>
<td>Contributions on appropriate Measurements and Evaluation (M&amp;E) and appropriate indicators of the policy strategies by the audience</td>
<td>Moderator: Dr. Juan Carlos Mr. Abubakar Ibrahim</td>
<td>30 min</td>
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<tr>
<td>3:20–3:40 p.m.</td>
<td>Wrap-up and takeaways</td>
<td>Prof. Anthony Onoja</td>
<td>10 min</td>
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<td>3:40–4:00 p.m.</td>
<td>Closure, networking, and departure</td>
<td>Prof. Anthony Onoja and All</td>
<td>10 min</td>
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<tr>
<td>Time</td>
<td>Day 2: August 23, 2023 Session and Description</td>
<td>Supporting Resources/Responsible Individual</td>
<td>Approximate Time Needed</td>
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<tr>
<td>9:00-9:30 a.m.</td>
<td>Arrival and registration of participants</td>
<td>Desk officers (2)</td>
<td>30 min</td>
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<tr>
<td>9:30-9:40 a.m.</td>
<td>Opening remarks</td>
<td>Prof. Anthony Onoja</td>
<td>5 min</td>
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<tr>
<td>9:40-9:50 a.m.</td>
<td>Expert Presentation on National Aquatic Animal Health Strategy and implications for the Nigerian Fishery and Aquaculture Policy, 2024 and Beyond</td>
<td>Professor Olanike K. Adeyemo, Secretary to the Oyo State Government and Prof. of Aquatic and Wildlife Disease Epidemiology &amp; Toxicology; Pioneer Deputy Vice-Chancellor (Research, Innovation &amp; Strategic Partnerships, 2017-2021), University of Ibadan</td>
<td>10 min</td>
</tr>
<tr>
<td>9:50-10.00 a.m.</td>
<td>Presentation from World Fish on Current State of Nigerian Aquaculture: Projections, Challenges and Proposed Solutions</td>
<td>Dr. Sunil Siriwardena, Consultant, WorldFish; Bernadette Fregene, WorldFish</td>
<td>10 min</td>
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<tr>
<td>10:00-10:10 a.m.</td>
<td>Questions and answers</td>
<td>Dr. Ebi Ansa</td>
<td>10 min</td>
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<tr>
<td>10:10-10:20 a.m.</td>
<td>Presentation from the Environment for Development (EID) Resource and Environmental Policy Research Centre (REPRC), UNN on Opportunities, Threats and Recommendations to Building the Aquaculture and Fishery Sector Value Chain in Nigeria</td>
<td>Dr. Nnaemeka Chukwuone, Director, Resource and Environmental Policy Research Centre (EID Centre), REPRC, University of Nigeria, Nsukka (UNN); Dr. Ebele Amaechina Dept. of Agricultural Economics, UNN</td>
<td>10 min</td>
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<tr>
<td>10:20-10:25 a.m.</td>
<td>Questions and answers</td>
<td>Mr. Istifanus Pwaspo</td>
<td>5 min</td>
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<td>10:25-10:40 a.m.</td>
<td>Breakfast.Networking</td>
<td>All</td>
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<td>10:40-1:55 p.m.</td>
<td>Break-out session (for in-depth discussions and inputs on the policy topics)</td>
<td>Chair</td>
<td>1.55 hours</td>
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<td>Group 1</td>
<td>10:40 a.m. to 1:55 p.m.</td>
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<td></td>
<td>1. Aquaculture development (25 min)</td>
<td>Dr. Ebi Ansa; Mr. Abubakar Ibtahim</td>
<td>1 hr. 15 min: 25 min per topic</td>
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<td></td>
<td>2. Artisanal fisheries (small-scale fisheries) (25 min)</td>
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<td>3. Fisheries resources monitoring control, surveillance, and conservation (25 min)</td>
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<td>Group 2</td>
<td>10:40 a.m. to 1:55 p.m.</td>
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<td>4. Industrial fisheries development (high seas fisheries)</td>
<td>Dr. Ken Ukaoha; Mrs Mairo Mohammed</td>
<td>1 hr. 55 min: 25 mi per topic</td>
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<td>5. Fish trade</td>
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<td>6. Quality control and assurance management</td>
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<td>Group 3</td>
<td>10:40 a.m. to 1:55 p.m.</td>
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<td>7. Fish preservation and product development policy (20 min)</td>
<td>Prof Olanike Adeyomo; Dr. H. Sadiq</td>
<td>1 hr. 15 min</td>
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<td>8. Fish disease control and management (20 min)</td>
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<td>9. Fisheries and aquaculture extension services (20 min)</td>
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<td>10. Fisheries technology (15 min)</td>
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<td>Group 4</td>
<td>10:40 a.m. to 1:55 p.m.</td>
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<td>11. Training and manpower development (25 min)</td>
<td>Dame Didi Walson-Jack (OON); Dr. Ime Umoh</td>
<td>1 hr. 15 min</td>
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<td>12. Fisheries research (25 min)</td>
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<td>13. Dams, lakes, reservoirs, and lagoons, fisheries development (25 min)</td>
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<tr>
<td>1:50-2:05 p.m.</td>
<td>Panel session presentations on summary of findings</td>
<td>Chair</td>
<td>10 min</td>
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<tr>
<td>Panel 1</td>
<td>Group 1 members presentations on summary of findings</td>
<td>Dr Ebinimi Ansa</td>
<td>10 min</td>
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<td>Panel 2</td>
<td>Group 2 members presentations on summary of findings</td>
<td>Dr. Ken Ukaoha</td>
<td>10 min</td>
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<td>Panel 3</td>
<td>Group 3 members presentations on summary of findings</td>
<td>Prof. Olanike Adeyomo</td>
<td>10 min</td>
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<tr>
<td>Panel 4</td>
<td>Group 4 members presentations on summary of findings</td>
<td>Prof. E. Falaye</td>
<td>10 min</td>
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<td>2:05-2:30 p.m.</td>
<td>Lunch/Networking</td>
<td>All</td>
<td>25 min</td>
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<tr>
<td>2:30-2:45 p.m.</td>
<td>Wrap-up comments, questions, and answers</td>
<td>Prof. Anthony. O. Onoja</td>
<td>15 min</td>
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<tr>
<td>2:45-2:50 p.m.</td>
<td>Closing remarks</td>
<td>Prof. Anthony. O. Onoja</td>
<td>5 min</td>
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<tr>
<td>2:50-3:20 p.m.</td>
<td>Lunch, networking, and departure</td>
<td>All</td>
<td>30 min</td>
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## Annex 2. List of Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Organization Type</th>
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<tbody>
<tr>
<td>IDOREYIN P. OKONJI</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
<td>GOVERNMENT</td>
</tr>
<tr>
<td>ABAH PHILLIP</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
<td>GOVERNMENT</td>
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<tr>
<td>SOLOMON SANASI SHEDRACH</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>IBRAHIM ABUBAKAR</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>OMORAGBON WELLINGTON</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>BAKO IBRAHIM</td>
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<tr>
<td>EMMANUEL MARIAM OLUSI AKEMI</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>MODUPE F. OJAMIRED</td>
<td>FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>OYINPREYE BASSEY</td>
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<td>SALIU ABDULLAHI</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>OBUAMA PAUL</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>ISHAKU M.Y.</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>HASSAN M. SHETTIMA</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>FOLANI OLAYINKA</td>
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<td>ONAJI IDEON K.</td>
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<td>CAROLL A. IBE</td>
<td>FISHERIES DEPARTMENT, FEDERAL MINISTRY OF AGRICULTURE AND FOOD SECURITY (FMAFS)</td>
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<td>UMORU A. JAMES</td>
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<td>AYIPO ABUBAKAR</td>
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<td>ITODO J.E.</td>
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<td>AUDU FRIDAY</td>
<td>NATIONAL AGENCY FOR FOOD AND DRUG ADMINISTRATION AND CONTROL (NAFDAC)</td>
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<td>JAMES AGADA</td>
<td>NATIONAL AGENCY FOR FOOD AND DRUG ADMINISTRATION AND CONTROL (NAFDAC)</td>
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<td>MERCY ODU</td>
<td>FEDERAL MINISTRY OF WATER RESOURCES &amp; SANITATION (FMWRS)</td>
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<td>VICTORIA AKPATIM AGWE</td>
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<td>ADENIKE OBADARE</td>
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<td>EKAM ETHEL</td>
<td>FEDERAL MINISTRY OF HEALTH (FMHO)</td>
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<td>AMHE VICTOR</td>
<td>FEDERAL MINISTRY OF HEALTH (FMHO)</td>
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<td>MARIO MOHAMMED</td>
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<td>ADEOYE MICHEAL</td>
<td>NIGERIA INCENTIVE-BASED RISK SHARING SYSTEM FOR AGRICULTURAL LENDING (NIRSAL)</td>
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<td>DAMILOLA OLUISMA</td>
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<td>HENRIETTA SIMEON</td>
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<td>KEN UKAOHA</td>
<td>NATIONAL ASSOCIATION OF NIGERIAN TRADERS (NANTS)</td>
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<td>NORWEGIAN SEAFOOD COUNCIL</td>
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<td>PWSAPO ISTIFANUS</td>
<td>HINKAQUA &amp; AGRICULTURAL CONSULT GROUP</td>
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<td>EBINIM ISHA</td>
<td>FISHERIES SOCIETY OF NIGERIA (FISON)</td>
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<td>ROBERTS ACHANYA</td>
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<td>HASSAN MUNDU</td>
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<td>GLORIA UJOR</td>
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<td>CHIDIKE UKOH</td>
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<td>LUCY AKORGA</td>
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<td>REALWAN OKPANACHI</td>
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<td>EMMANUEL GANA</td>
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<td>AYENI OLADEHINDE</td>
<td>FOOD FARM NEWS</td>
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### Annex 3. List of Media Coverage

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Authors
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