FEDERAL MINISTRY OF MARINE AND BLUE ECONOMY

NIGERIAN EXPERIENCE IN AQUACULTURE

Infrastructure • Production • Value Addition • Processing • Marketing

Current Status, Challenges, Opportunities and Strategic Pathways for Sustainable Aquaculture Development in Nigeria

Presented by

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Nigeria

Evidence-led • Value-chain focused • Climate-resilient

Executive message: the next constraint is the value chain

316,455 MT
Reported aquaculture production, 2024

36.0%
South-South share of reported 2024 output

78–85%
Reported feed share of operating costs

+5% / −10%
Production / cost change in 5-cluster FISH4ACP intervention

What the evidence says

- Nigeria has a large aquaculture base, led commercially by catfish.
- 2024 state-reported data show 316,455 MT,
- Programme evidence shows efficiency gains can be achieved through better data and management.

What is holding the sector back

Feed and energy costs; inconsistent seed quality; weak biosecurity and diagnostics; limited cold chain and processing; finance constraints; fragmented market information; and incomplete production data.

Policy direction

Move from isolated farm support toward aquaculture clusters with shared services, certified inputs, fish-health systems, cold chain, value addition, market linkage and a national digital evidence base.

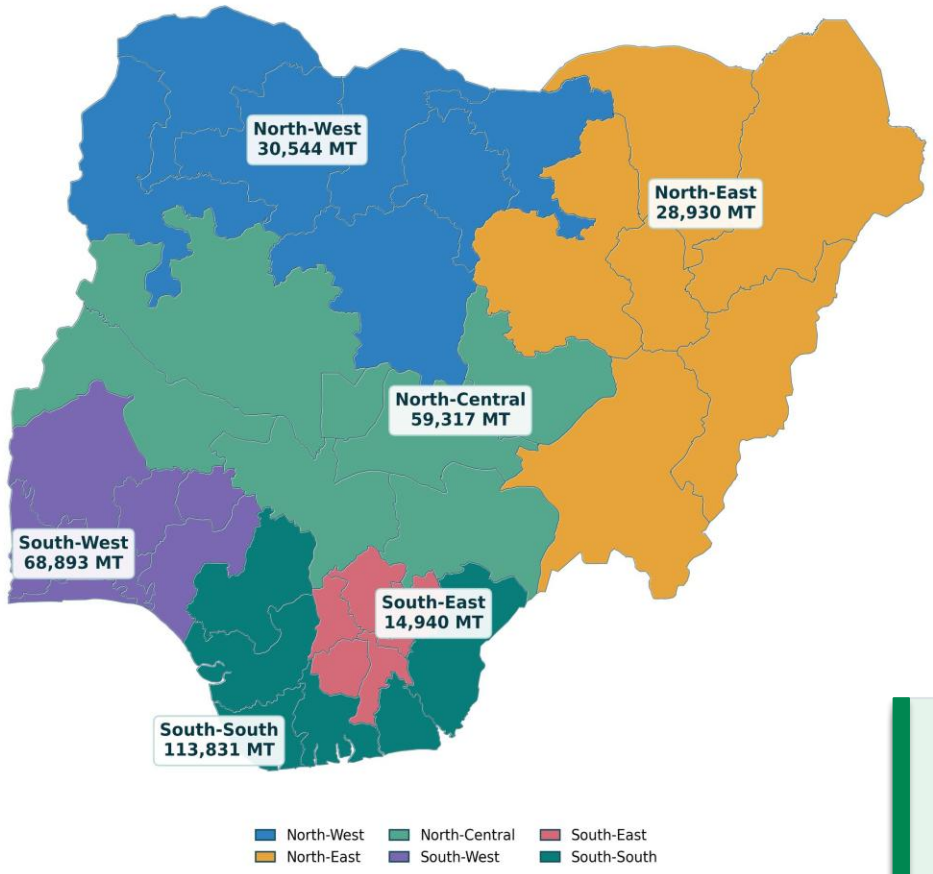
VALUE-CHAIN AT A GLANCE

SEED → GROW-OUT → PROCESSING → MARKET

Sources: NAERLS/FMAFS Agricultural Performance Survey 2024 Wet Season; FAO/FISH4ACP investment-impact report, 22 June 2026.

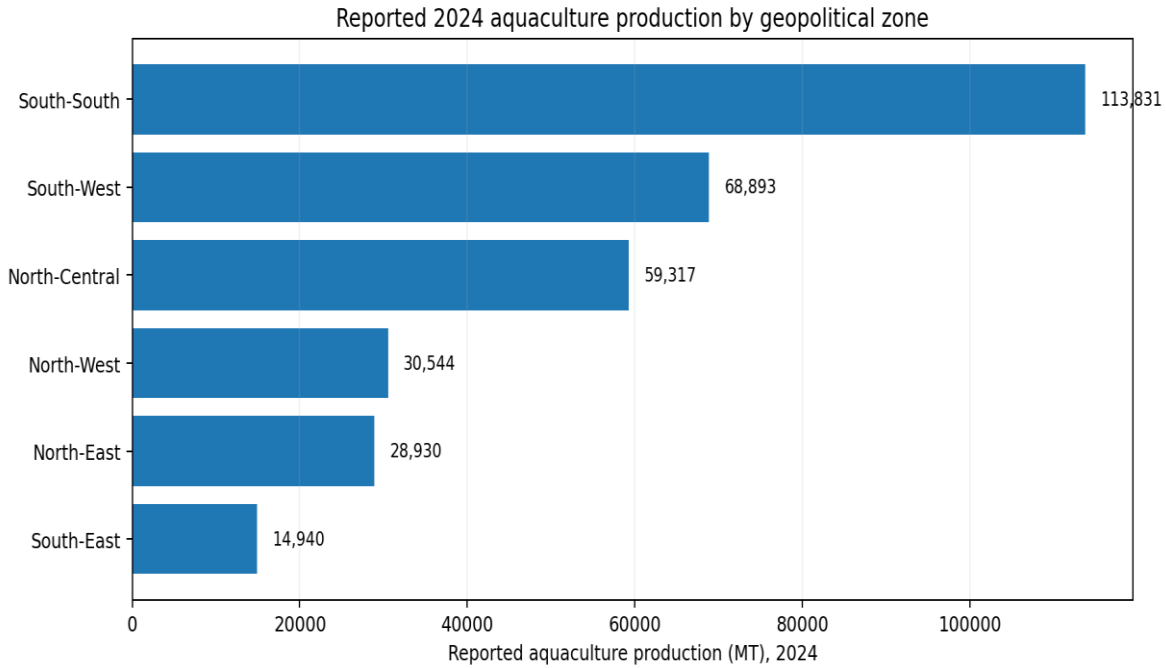
1. Current status and spatial production pattern

Reported aquaculture production by geopolitical zone, Nigeria, 2024



Reported total: 316,455 MT | Production source: NAERLS/FMAFS APS 2024

Boundary source: geoBoundaries NGA ADM1 (GRID3, 2022). State borders shown for geographic reference.



South-South

113,831 MT
• largest reported zone

South-West

68,893 MT

North-Central

59,317 MT

Interpretation: production differences support geographic targeting, but do not by themselves establish productivity or profitability per farm.

2. Infrastructure ecosystem: from farm assets to shared systems

WATER & FARM SYSTEMS

- Ponds
- Tanks
- pumps
- aeration
- drainage

SEED & BROODSTOCK

- Hatcheries
- broodstock centres
- certification

FEED & INPUTS

Feed mills • testing • local ingredients

ENERGY & DIGITAL

Power • solar hybrid • connectivity • records

COLD CHAIN

Ice • cold rooms • insulated transport

PROCESSING

Improved kilns • GHP/HACCP • packaging

Public / shared infrastructure priorities

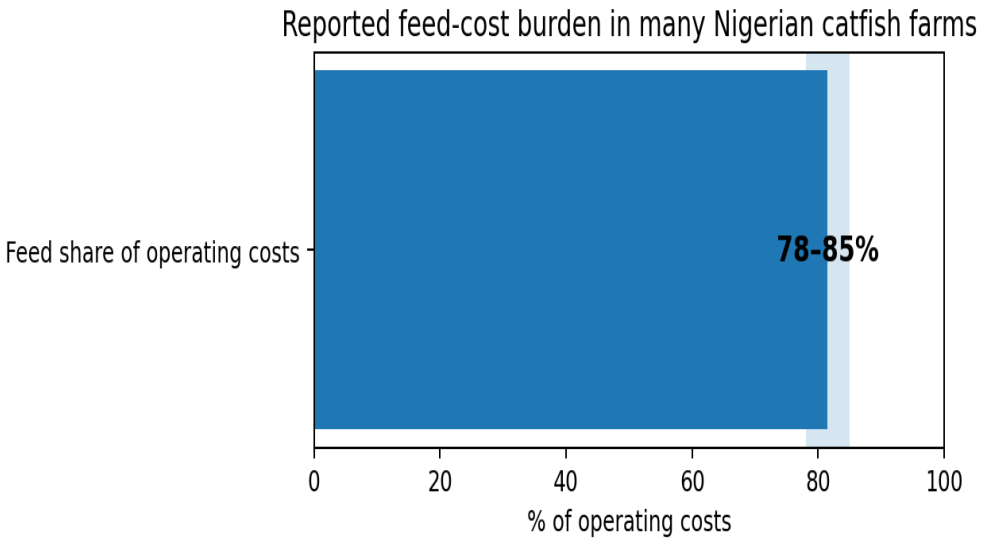
- cluster water management
- testing & diagnostics
- ice / cold rooms
- improved processing
- reliable power

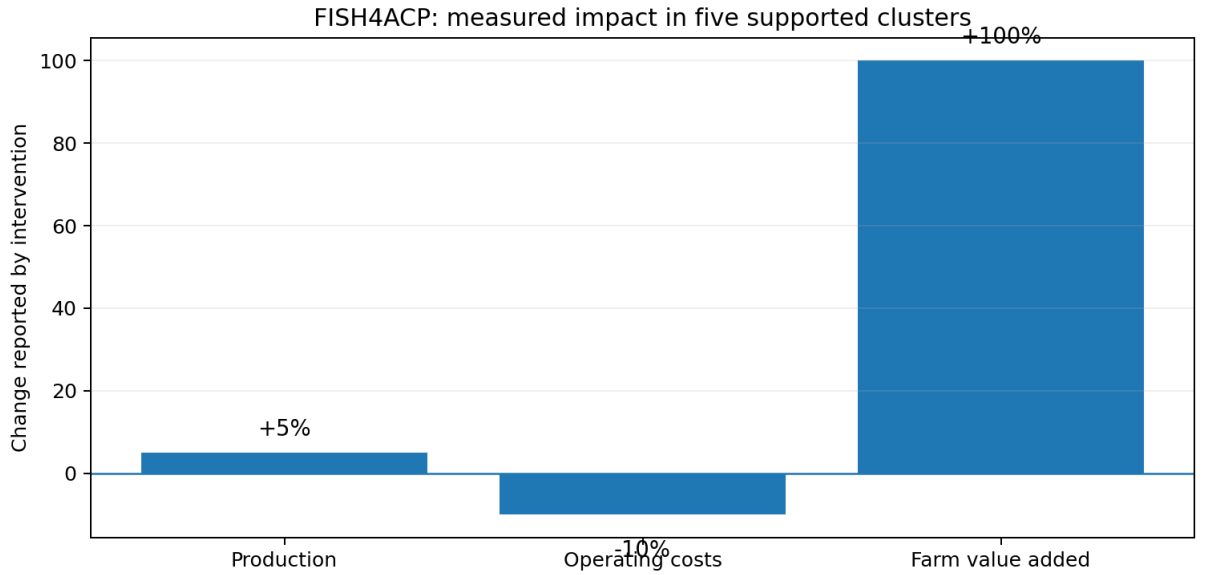
Private investment priorities

- farm production assets
- hatchery / feed businesses
- aggregation
- branded products
- market logistics

Source framing: uploaded Ministry deck; FAO/FISH4ACP Nigeria value-chain analysis and 2026 investment evidence.

3. Production economics: efficiency is a major growth lever





Measure

Feed • growth • mortality • water quality • records

Diagnose

FCR • survival • stocking density • cycle time

Improve & verify

Feeding • health • management • profitability

Programme evidence: FAO/FISH4ACP, 22 June 2026; 500 farmers in five supported clusters. Results are not national averages.

4. Value-chain architecture: where value is created—and lost

BROODSTOCK & HATCHERY	GROW-OUT	HARVEST & AGGREGATION	PROCESSING	PACKAGING & COMPLIANCE	MARKETS
Genetics • biosecurity • seed quality	Feed • water • health • records	Grading • handling • icing	Smoking • drying • filleting • portioning	Labelling • traceability • food safety	Wholesale • retail • institutions • export

VALUE LEAKAGE

Mortality • poor handling • inconsistent grading

COST PRESSURE

Feed • energy • finance • logistics

VALUE OPPORTUNITY

Processed • branded • traceable products

Source: FAO/FISH4ACP Nigeria catfish value-chain analysis; uploaded Ministry technical deck.

5. Processing and value addition: move from commodity to market-ready fish

Fresh / chilled — Live or fresh fish • ice-assisted distribution

Improved smoked — Improved kilns • controlled smoking • hygienic handling

Dried / portioned — Standard sizes • controlled drying • packaging

Ready-to-cook — Fillets • portions • marinated / pre-packed products

Institutional / export-ready — Traceability • labelling • documented food-safety systems

Food safety
GHP → SSOP/SOP → HACCP where appropriate

Technology
Improved smoking/drying; efficient cold chain

Inclusion
Women and youth in processing, packaging and distribution

Source: FAO/FISH4ACP Nigeria catfish value-chain strategy; food-safety pathway presented as a proposed upgrading framework.

6. Marketing: from informal trade to structured market systems

FARM GATE	AGGREGATOR	WHOLESALE	RETAIL	INSTITUTIONS	REGIONAL/ EXPORT
Fresh / live	Volume and logistics	Distribution	Markets and supermarkets	Schools • hospitals • hospitality	Compliance and traceability

Market-enabling infrastructure and institutions

PRICE INTELLIGENCE

Regular cluster-level price, demand and buyer information.

AGGREGATION

Producer groups / clusters improve volume consistency and logistics.

QUALITY & BRAND

Origin, specification, hygienic processing and traceability.

FINANCE

Working capital linked to credible production and offtake.

Source: FAO/FISH4ACP Nigeria catfish programme; marketing pathway is a strategic framework.

7. Core challenges: an infrastructure-gap matrix

Constraint	Observed gap	Infrastructure / system response	Lead coordination role
Seed	Variable hatchery quality; weak traceability	Broodstock centres; hatchery accreditation; seed certification	FDFA, states and hatcheries
Feed	High cost; variable efficiency	Feed testing; local ingredient R&D; farmer BMPs	FDFA, research and private sector
Fish health	Weak surveillance and diagnostics	Labs; reporting; biosecurity; early warning	FDFA, states and research
Energy / water	Unreliable power; water-management risks	Solar/hybrid systems; water-quality monitoring	Public, PPP and clusters
Cold chain	Insufficient ice, cold rooms, transport	Cluster ice plants; cold rooms; insulated logistics	PPP and clusters
Processing	Uneven hygiene and technology	Improved kilns; GHP/HACCP; packaging	FDFA and private sector
Data	Inconsistent production statistics	Digital registry; harmonised reporting	FDFA and states

Synthesis from uploaded Ministry deck and FAO/FISH4ACP evidence; matrix is a policy-planning tool, not a quantified infrastructure inventory.

8. Opportunities: where Nigeria can capture more value

CLUSTER-BASED AQUACULTURE

Shared hatchery, feed, ice, cold room, testing and processing

DIGITAL AQUACULTURE

Farm records, traceability, advisory, price intelligence and dashboards

ALTERNATIVE FEED INGREDIENTS

BSF and locally available ingredients—subject to safety and performance validation

PRODUCT DIVERSIFICATION

Smoked, dried, chilled, filleted, portioned and ready-to-cook products

INSTITUTIONAL PROCUREMENT

Schools, hospitals, hospitality and public programmes

EXPORT READINESS

Compliance, traceability, QA and market-specific certification

CLIMATE-SMART SYSTEMS

Efficient water/energy use, flood resilience and responsible waste management

PPP / INVESTMENT PIPELINE

Commercial processing, cold-chain, hatcheries and shared infrastructure

❖ **Investment logic : Prioritise bottlenecks where shared infrastructure,standards and private investment can generate measurable productivity and market gains.**

Opportunity framing informed by FAO/FISH4ACP Nigeria programme priorities and 2026 investment-impact evidence.

9. Strategic pathway 2026–2030

PHASE 1 | 2026–27

Build the evidence base

Digital aquaculture registry
Cluster & infrastructure baseline
Harmonised production reporting
Seed/feed/fish-health diagnostics

PHASE 2 | 2027–28

Fix high-impact bottlenecks

Cluster infrastructure
Hatchery & broodstock QA
Feed efficiency & quality
Cold chain & improved processing

PHASE 3 | 2028–29

Scale markets & value addition

Structured buyer linkages
Institutional procurement pilots
Branding & packaging
Export-readiness pathways

PHASE 4 | 2029–30

Institutionalise performance

Annual sector report
Risk-based regulation
Investment pipeline
Continuous-improvement dashboard

Governance FDFA: standards + regulation + data + technical coordination

Delivery States + research + private sector + producer organisations + partners

10. FMMBE/FDFA priority actions and performance dashboard

1	**National aquaculture data & digital registry**	Production • farms • hatcheries • feed • infrastructure • markets
2	**Cluster development programme**	Shared water • power • ice • cold chain • testing • processing
3	**Seed & broodstock quality assurance**	Registration • standards • traceability • biosecurity
4	**Feed efficiency & quality programme**	Surveillance • farmer training • alternative ingredients
5	**Fish health & climate risk system**	Surveillance • diagnostics • biosecurity • early warning
6	**Processing / value-addition upgrade**	Improved smoking/drying • GHP/HACCP • packaging • traceability
7	**Market & investment facilitation**	Price intelligence • buyer linkage • PPP pipeline • export readiness

DASHBOARD **Data • Seed • Feed • Production • Fish health • Processing • Cold chain • Prices • Buyers • Water • Energy • Waste • Climate resilience • Inclusion**

Success measure: annual sector performance report with verified indicators and geographic disaggregation. Proposed actions aligned to the institutional framing in the uploaded Ministry deck.