Country: (Nigeria)

NATIONAL RICE INVESTMENT ACTION PLAN(NRIAP)

Strategic priorities, aligns with National Rice Development Strategy (NRDS), and attract investments

December 2025

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Acronyms and Abbreviations

Acronym	Full Meaning
AATF	African Agricultural Technology Foundation
ABP	Anchor Borrowers Programme
ADPs	Agricultural Development Programmes
AFAN	All Farmers Association of Nigeria
AFD	Agence Française de Développement
AFDB	Africa Development Bank
AGRA	Alliance for a Green Revolution in Africa
ASMORIN	Association of Small and Medium Scale Modular Rice Millers of Nigeria
ATP	Agricultural Transformation Plan
BDS	Business Development Services
BMZ	Federal Ministry for Economic Cooperation and Development (Germany)
BOA	Bank of Agriculture
BOI	Bank of Industry
CARD	Coalition for African Rice Development
CARF-FSD	Competitive African Rice Forum – Food Security Division
CBN	Central Bank of Nigeria
CORE	Carbon Offsetting Rice Emissions
DFI	Development Finance Institution
ECOWAS	Economic Community of West African States
EGS	Early Generation Seeds
ERO	ECOWAS Rice Observatory
FADAMA	Fertile, Irrigable Floodplains and Low-Lying Lands Along Nigeria's River Systems
FAO	Food and Agriculture Organization
FG	Federal Government
FMAFS	Federal Ministry of Agriculture & Food Security
FMITI	Federal Ministry of Industry Trade and Investment
FMN	Flour Mills of Nigeria
FMWR	Federal Ministry of Water Resources & Sanitation 31
FSRP	Food System Resilience Programme
GAFSP	Global Agriculture and Food Security Programme
GAP	Good Agricultural Practices
GIAE	Green Innovation Centres for the Agriculture and Food Sector Programme
GIS	Geographic Information Systems
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
i4Ag	Innovation for Agric
IFAD	International Fund for Agricultural Development
IITA	International Institute of Tropical Agriculture
InACC	Integrated Approach to Climate Change
KPIs	Key Performance Indicators
M&E	Monitoring and Evaluation
MMT	Million Metric Tons
MRV	Measurement, Reporting, Verification
MSME	Micro, Small, and Medium Enterprises
MT	Metric Tons
NADF	National Agricultural Development Fund
NAFDAC	National Agency for Food and Drug Administration and Control
NAIC	Nigerian Agricultural Insurance Corporation
NAIP	National Agricultural Investment Plan

NAMIL	Nigerian Agricultural Mechanization and Equipment Leasing Company
NASC	National Agricultural Seeds Council
NATIP	National Agricultural Technology and Innovation Plan
NBS	National Bureau of Statistics
NCAM	National Centre for Agricultural Mechanization
NCRI	National Cereal Research Institute
NCS	Nigerian Customs Service
NEPC	Nigerian Export Promotion Council
NIHSA	Nigeria Hydrological Services Agency
NIRSAL	Nigeria Incentive-Based Risk Sharing System for Agricultural Lending
NRDC	National Rice Development Council
NRDS	National Rice Development Strategy
NRIAP	National Rice Investment Action Plan
NSIA	Nigeria Sovereign Investment Authority
PFI	Presidential Fertiliser Initiative
PPP	Public-Private Partnership
PRIDAN	Paddy Rice Dealers Association
PRiFN	Promoting Rice Fortification in Nigeria
QA	Quality Assurance
RBDA	River Basin Development Authority
REA	Rural Electrification Agency
RIFAN	Rice Farmers Association of Nigeria
RIMAN	Rice Millers Association of Nigeria
RIPAN	Rice Processors Association of Nigeria
RRR	Regional Rice Roadmap
RSIF	Rice Sector Investment Fund
SAPZ	Special Agro-Industrial Processing Zones
SEEDAN	Seed Entrepreneurs Association of Nigeria
SMoA	State Ministries of Agriculture
SON	Standards Organization of Nigeria
SPS	Sanitary and Phytosanitary Standards
SRP	Sustainable Rice Production
USAID	United States Agency for International Development
VCDP	Value Chain Development Programme
VCN	Value Chain in Northern Nigeria
WFP	World Food Programme
WOFAN	Women Farmers Advancement Network
WUA	Water Users Association
WUR	Wageningen University of Research

Executive Summary

Nigeria's rice sector represents one of the most significant opportunities for agrifood transformation in Sub-Saharan Africa. Rice is one of the country's most-consumed staples, with annual demand exceeding 8 million tonnes of milled rice and growing steadily. While domestic production has expanded over the past decade, supply remains structurally insufficient, with milled output of around 5.6 million tonnes meeting only about 60–70% of national demand. This persistent gap, currently filled by formal imports and informal cross-border inflows, exposes Nigeria to foreign-exchange pressures, price volatility, and lost domestic value addition.

The National Rice Investment Action Plan (NRIAP) translates the priorities of Nigeria's National Rice Development Strategy II (NRDS II) and the ECOWAS Regional Rice Roadmap into a coherent, investment-ready framework. The Plan shifts the focus from isolated interventions to a systems-based transformation that addresses binding constraints across production, processing, markets, data, and finance. Its objective is to close Nigeria's structural rice supply gap, crowd in private investment, strengthen regional competitiveness, and deliver inclusive, climate-resilient growth.

Nigeria's rice sector is investment-ready but not investment-complete. Private capital has expanded milling and processing, yet capacity utilisation remains uneven because upstream supply and market systems have not kept pace. Less than 10% of irrigable land is under irrigation, average yields remain 2–3 t/ha, and post-harvest losses can reach 20–30% in some clusters. Weak mechanisation, low adoption of certified seed, fragmented markets, and limited long-term finance further constrain profitability and scale. The NRIAP addresses these bottlenecks through seven mutually reinforcing actions.

The indicative ten-year investment envelope for full NRIAP implementation is estimated at US$9.3 billion, benchmarked against comparable large-scale programmes supported by the World Bank, AfDB, and IFAD in Nigeria. This envelope combines public expenditure, concessional finance, and mobilised private capital, with Actions 3–7 explicitly designed to crowd in private investment alongside public and DFI funding. With supportive policy direction, active private-sector participation, and NRDS II institutional structures in place, the priority now is catalytic financing and coordinated partnerships to unlock scale. The NRIAP provides a clear, credible roadmap for development partners, DFIs, commercial financiers, and private investors to co-finance Nigeria's transition toward rice self-sufficiency and regional leadership, while delivering robust economic, social, and climate returns.

By 2035, the NRIAP will deliver:

- +13 million tonnes of paddy rice, equivalent to +8 million tonnes of milled rice, closing Nigeria's rice supply gap and enabling regional exports.
- Yield increase from ~2.5 t/ha to 4.5 t/ha in irrigated and well-served clusters.
- ~2 million direct jobs and ~3 million indirect jobs across farming, processing, mechanisation, logistics, and services, with strong youth and women participation.
- US$2.2 billion per year in foreign-exchange savings from reduced rice imports.
- US$4.5 billion in private capital mobilised through processing, mechanisation, irrigation services, seed systems, logistics, and energy investments.

Table 1: Summary of Priority Actions for Nigeria's Rice Sector Transformation for the Year 2026-2035

Action	Activities	Estimated Cost	Indicative Cost Share (%)	Financing Sources	Lead Institution	Timeline	Expected Results / Outcomes
1. Climate-Resilient Irrigation Expansion *Expand reliable irrigated rice production through rehabilitation, farmer-managed irrigation, and basin-level water governance.*	**1.1 Dam Rehabilitation and Optimisation** **1.1.1** Site investigation and Studies (Geological, Geotechnical and Exploration Investigation, bathymetric survey, SEIA). **1.1.2** Dam rehabilitation (Embankment, Inlet, Outlet, Spill Way, Flood diversion structures, stealing basin and instrumentation, electro and hydromechanical) **1.2 Rehabilitation of Large-Scale Irrigation (per annum)** **1.2.1** Basin diagnostics & feasibility studies **1.2.2** Rehabilitation of canals, drains, control structures, and headworks **1.3 Expansion of Small-Scale Irrigation Systems** **1.3.1** Solar pumps & tube wells (priority clusters) **1.3.2** Farmer training on O&M, scheduling, irrigated agronomy **1.4 Strengthening Water Users Associations (WUAs)** **1.4.1** WUA training on O&M, water allocation, mediation	**2.65US$bn**	**28.5%**	Public budget, DFIs, climate finance, PPPs	FMAFS, FMWR, RBDAs, State Governments, WUAs	2026-2035 (front-loaded in Years 1-5)	• 15 dams rehabilitated and optimized by 2035 • ≥100,000 ha of public irrigation rehabilitated and operational • ≥300,000 ha under farmer-managed irrigation • ≥50–60% of irrigated rice area double-cropped by 2035 • 20–30% yield increase in rehabilitated schemes • 100% of priority basins using real-time hydrology tools • ≥300,000 women farmers accessing irrigated plots • ≥30,000 youths employed in irrigation O&M
2. Seed System Reform & Hybrid Seed Scale-Up	**2.1 Breeder/Foundation/Certified Seed Expansion**	**2.15US$bn**	**23.1%**	Public funding, DFIs,	FMAFS, NCRI,	2026-2029	• 2–3× increase in certified seed volumes

Improve productivity and competitiveness through certified and hybrid seed systems aligned with ECOWAS standards.	**2.1.1** Upgrade breeder/foundation seed farms **2.1.2** Scale breeder & foundation seed production **2.2 Strengthening NCRI Capacity** **2.2.1–2.2.4** QA labs, cold chain, screenhouses, digital inventory **2.3 Regulatory & Quality Assurance (NASC)** **2.3.1–2.3.2** Lab upgrades, inspectorate expansion **2.4 Anti-counterfeit & Traceability** **2.4.1** Seed codex & authentication **2.5 Private Multiplication & Distribution** **2.5.1** Private multiplication & last-mile networks **2.6 Hybrid Uptake & Varietal Replacement** **2.6.1** Demonstrations, GAP training, outreach			private seed investment	NASC, SEEDAN, Private Seed Companies	(intensive early rollout)	• ≥60–70% of rice farmers using certified seed • ≥20–30% of irrigated area under hybrids • ≥60–70% reduction in counterfeit seed cases • ≥90% of certified seed digitally traceable by 2035 • ≥40% of certified seed distributed to women farmers • ≥1,500 youth (15-25 years) seed entrepreneurs certified by NASC
3. Industrial Processing, Modern Milling & Value-Added Clusters *Close the processing gap and improve quality through modernised mills and clusters.*	**3.1 Industrial Processing & Modern Milling Optimization** **3.1.1** Mill diagnostics & feasibility **3.1.2** Upgrade integrated mills **3.2 MSME Milling & Parboiling Clusters Upgrade** **3.2.1–3.2.2** Cluster retrofitting, formalising & training **3.3 Energy Cost Reduction & Efficiency** **3.3.1** Solar-hybrid upgrades	**1.35US$bn**	**14.5%**	Private investment, DFIs, blended finance	FMAFS, FMITI, State Governments, Millers' Associations, SON/NAFDAC	2026-2032	• ≥30–40 industrial mills upgraded by 2035 • ≥50 MSME milling clusters modernised • ≥65–75% average mill capacity utilisation • ≥30–50% reduction in broken rice ratios • ≥50% of rice processed using energy-efficient systems

	3.4 Quality, Packaging & Compliance **3.4.1** QA systems & packaging						• ≥30% of upgraded MSME mills owned/co-owned by women • ≥5,000 youth-managed MSME milling operations
4. Mechanisation Hubs & Service Provision *Reduce production costs and losses through shared, private-sector mechanisation services.*	**4.1 Mechanisation Hubs (Pilot & Scale-up)** **4.1.1–4.1.2** Hub design, construction & equipment; Linkage of Hub actors **4.2 Pay-per-use / Leasing Fleets** **4.2.1** Tractor/harvester, power tillers, reapers, threshers, planters, transplanters, & motorized weeders fleets & booking platforms **4.3 Operators, Maintenance & Spares Networks** **4.3.1–4.3.2** Training & service networks **4.4 Local Fabrication Support** **4.4.1** Identification and profiling of local fabricators; NCAM-linked fabrication & QA	**0.75US$bn**	**8.1%**	Private capital, leasing finance, and guarantees	FMAFS, NCAM, Private operators	2026-2032	• 60–100 mechanisation hubs operational nationwide • ≥50% of rice area in target belts mechanised • ≥25–30% reduction in post-harvest losses • ≥50% youth-led mechanisation enterprises sustained • ≥40–50% of machinery locally fabricated/adapted • 700 Women/Youth-led mechanization service enterprises
5. Market Access & Regional Trade Competitiveness *Improve market transparency, quality, and regional trade integration.*	**5A Aggregation, Drying & Storage** **5.1–5.4** Aggregation centres, dryers, storage, access roads **5B Markets, Corridors & Standards** **5.5** SPS/testing & grading **5.6** Trade corridor pilots **5.7** Branding & compliance	**0.85US$bn** **0.35US$bn**	**12.9%**	Public funding, DFIs, private logistics and trading firms	FMAFS, FMITI, NEPC, SON, Customs, private sector	2026-2030	• ≥50 mills certified under ECOWAS SPS standards • 200,000–500,000 MT/year formal rice exports via corridors • Significant reduction in informal cross-border trade • Nigerian premium rice is present in ≥3 ECOWAS markets • ≥300 Women/Youth-operated

							aggregation/trade enterprises
6. Digital & Data Systems *Enable evidence-based planning, targeting, and regional reporting.*	**6.1 National Rice Data Platform** **6.1.1** Platform linked to ERO ECO-AGRIS platform **6.2 Farmer Registry & Digital Extension** **6.2.1** Digital farmer ID & advisory rollout **6.3 Geospatial & Remote Sensing** **6.3.1** Mapping & satellite analytics **6.4Traceability & Interoperability** **6.4.1** ERP and data governance	**0.25US$bn**	**2.7%**	Public funding, donor support, PPPs	FMAFS, NBS, States, Digital Service Providers	2026-2030	• All major rice assets geospatially mapped by 2028 • 5–7 million farmers receiving digital advisory services • ≥70–80% of inputs/credit digitally targeted • Full compliance with ECOWAS/ERO reporting calendar
7. Finance & De-Risking Mechanisms (RSIF) *Mobilise long-term capital and reduce risk across the rice value chain.*	**7.1 RSIF Anchor Capital & Co-investment** **7.1.1** Anchor fund capital **7.2 Risk Sharing & Insurance** **7.2.1** Guarantees & insurance scale-up **7.3 Transaction Preparation & PPP Structuring** **7.3.1** Feasibility & safeguards **7.4 Technical Assistance Facility** **7.4.1** Deal preparation & governance support	**0.95USbn**	**10.2%**	Public anchor capital, DFIs, and private investors	Ministry of Budget, CBN, NIRSAL, BOA/BOI, Private Fund Managers	2026-2035	• US$ 600-900 million deployed to the rice value chain by 2035 • ≥1:1–2:1 private-to-public capital leverage • ≥80-120 rice SMEs supported • Scaled crop and climate-risk insurance coverage in major belts • ≥45% women registered in the digital farmer registry • ≥45% youth digital extension service users
Total Investment Requirement (10 years)		**9.30US$bn**	**100**				

1.0 Introduction

1.1 Current state of the rice sector

Nigeria's rice sector has recorded strong but uneven growth over the last decade. Domestic paddy production expanded from approximately 7.8 million metric tonnes (MMT) in 2017 to about 8.9 MMT in 2024, while milled rice output increased to roughly 5.6 MMT[1]. Despite these gains, domestic supply still meets only 57–70% of national demand.

Annual rice consumption has consistently exceeded 7 MMT, reaching 7.6 MMT in 2024, with projections indicating demand could rise to 8.3 MMT by 2025/26[2], driven by population growth (2.5–2.6% per annum) and rapid urbanization. In contrast, without major expansion in productivity and irrigation, domestic production is projected to stagnate at ~5.8 MMT, leaving a structural supply gap of 2–3 MMT per year. This gap is currently filled through a combination of formal and informal imports. While a portion of these volumes, estimated at ~2.4 MMT in 2024, is formally imported, informal inflows continue through Benin and Cameroon, distorting prices and lowering market confidence for domestic millers.

Private investment has responded strongly on the processing side. Installed milling capacity, aggregating large-scale. medium-scale, and small-scale mills, has expanded from less than 0.4 MMT in 2015 to over 16 MMT per annum by 2024/25[3], including more than 6 MMT per annum of modern large-scale integrated mills. However, capacity utilization remains uneven and seasonal, signalling that the sector's binding constraint has shifted from processing infrastructure to reliable, year-round paddy supply, quality consistency, and efficient aggregation systems.

1.2 Problem statement

Despite strong demand fundamentals, three interrelated constraints continue to suppress profitability and scale:

- **Persistent production deficit:** National paddy output (~5–6 MMT milled equivalent) remains structurally below demand (7–8+ MMT). This sustains an import dependence of over $2 billion in annual rice imports[4]exposing consumers to price volatility and limiting domestic value capture.
- **Supply-processing mismatch:** While installed milling capacity exceeds paddy availability, utilization fluctuates sharply - often 70% during peak harvests and below 30% in the off-season. Large integrated mills are particularly vulnerable to seasonal supply gaps, while small and modular mills operate more consistently but struggle to meet premium-quality standards. This mismatch erodes margins, disrupts pricing, and reduces investor confidence.
- **Low farm-level productivity and resilience:** Average yields remain 2–3 t/ha, well below achievable levels. Limited access to certified seed, sub-optimal fertilizer use, weak mechanization, and minimal irrigation constrain output. Less than 10% of Nigeria's irrigable land is currently under irrigation, leaving production highly climate-dependent and amplifying post-harvest losses and supply volatility.

These constraints are further reinforced by post-harvest losses (exacerbated by inadequate storage facilities, poor rural road networks, and weak transport logistics, particularly in key

1 https://ipad.fas.usda.gov/countrysummary/Default.aspx?id=NI&crop=Rice

2 https://www.world-grain.com

3 2025 Rice Sector Review Meeting (FMAFS and CARD)

4 https://www.indexmundi.com

production clusters in the North-Central and North-West), high energy costs, fragmented financing, and policy uncertainty linked to smuggling and intermittent trade measures.

1.3 National Rice Policy

Nigeria's rice sector is supported by a broadly aligned policy framework anchored in NRDS II (2020–2030) and complementary national agriculture, technology, and agro-industrialization initiatives. These frameworks explicitly prioritize:

- rice self-sufficiency and import substitution,
- productivity enhancement through seed, irrigation, and mechanization,
- private-sector-led processing and agro-industrial clustering.

Recent policy actions, including temporary import windows to manage inflation, underscore the government's balancing act between price stabilization and long-term domestic capacity building. While execution risks remain, the overall policy direction is supportive of private investment, particularly where projects demonstrably expand supply, reduce imports, and create jobs.

A summary of key policies and initiatives shaping Nigeria's rice sector is presented in **Annex 5.**

1.4 Stakeholder analysis

Nigeria's rice ecosystem is characterised by an increasingly diversified set of stakeholders spanning policy, production, processing, finance, and markets. Public institutions and regulators set the enabling environment through NRDS II, quality standards, seed certification, irrigation infrastructure, and trade management. A vibrant private sector, ranging from large integrated millers to input suppliers, mechanization providers, logistics firms, and agritech companies, now drives value-chain investment and innovation. Farmers and cooperatives remain central to supply, while financial institutions, insurers, and development partners support risk-sharing and long-term capital mobilization. Growing consumer demand for affordable, high-quality rice continues to shape market dynamics.

Stakeholder interests differ across the value chain: farmers prioritise access to affordable inputs and reliable markets; millers require consistent volumes of quality paddy; traders focus on margins and market efficiency; and the government seeks food security, employment generation, and economic growth. The NRIAP responds by providing a structured investment framework that supports private-sector participation and leverages existing platforms, including NRDS II governance structures, River Basin Development Authorities (RBDAs), NIRSAL, and seed and miller associations.

A comprehensive stakeholder mapping is presented in **Annex 6**.

1.5 Justification for Increased Investment in Rice Value Chains

Nigeria's rice sector is Africa's largest and fastest-growing agricultural investment opportunity, representing a $5 billion annual market with a structural supply gap of over 2.4 MMT against an 8 MMT demand.

This gap, is a guaranteed, de-risked market for immediate private capital deployment. Every incremental tonne of locally produced quality-milled rice is assured of a domestic buyer. An investment in Nigeria's rice value chain offers strong economic, social, and fiscal returns:

- Substituting imports with local production can progressively eliminate a US$2+ billion annual import bill, conserving scarce foreign exchange.
- Rice is central to food security; ensuring a stable, affordable supply to meet the needs of a population exceeding 220 million is a strategic priority.

- Rice sector expansion has high employment multipliers, from on-farm labour to logistics, processing, packaging, and services, with clear opportunities for youth and women.
- Upgrading rice value chains stimulates linked sectors (fertiliser, machinery, logistics, packaging, digital services), driving wider structural transformation.
- Climate-aligned investments in irrigation, seed, and digital MRV systems can unlock climate finance and improve resilience to shocks.

The National Rice Investment Action Plan (NRIAP) provides a ten-year strategic roadmap to resolve choke points and unlock the sector's full potential.

1.6 Plan of Action

The following sections detail seven Bankable Investment Areas that span the entire value chain, from input supply and large-scale mechanisation to integrated processing hubs and innovative blended finance structures, offering a definitive roadmap for investors to drive sector transformation and achieve compelling, market-rate returns.

2.0 Vision, Goal, and Objectives

2.1 Vision

By 2035, Nigeria will be self-sufficient and globally competitive in rice production, with a modern, climate-smart industry that supplies high-quality rice at affordable prices to all citizens and drives broad-based economic growth.

This vision aligns with national aspirations to make Nigeria "Africa's rice powerhouse", ensuring that domestic output meets and exceeds national demand while empowering farmers and agribusiness.

2.2 Goals and Objectives

The long-term goals are driven by the vision of food security, jobs and trade. Specific targets include:

- **Self-sufficiency:** Meet **100% of domestic rice demand** with local production by 2035. For context, the original NRDS had set a goal of 12.85 MMT paddy by 2018[5]. The new plan similarly aims to double or triple current output to cover anticipated consumption of ~8–9 MMT.
- **Productivity Enhancement:** Increase average yields from 2-3 tonnes/ha to 4–5 tonnes/ha (near global average), through improved seed varieties, access to affordable fertilizers, solar irrigation expansion, GAP programs and mechanization.
- **Processing and Value Addition:** Ensure all paddy rice is milled domestically. In the short term, optimise existing milling capacity while also targeting expansion of milling capacity from ~7.5 MMT (2021) to over 10 MMT by 2035, bridging the processing gap.
- **Jobs, Income, and Inclusion:** Create millions of additional jobs along the value chain with strong support for women and youth, and raise smallholder net incomes via higher yields, reduced losses, and improved market access.
- **Macroeconomic and Fiscal Impact:** Cut the $2+ billion rice import bill and improve the trade balance. Strengthen food price stability and reduce exposure to price shocks.
- **Value chain development:** Strengthen linkages (inputs, finance, technology) so that at least 90% of rice entering the market is processed, fortified and branded locally.
- **Climate Resilience and Sustainability:** Increase irrigated rice area and climate-smart practices so that production is stable under changing weather.

Each of these objectives will have measurable indicators (e.g., production tonnes, hectares, jobs, import volumes) and a timeline aligned with Nigeria's broader 2030/2035 development targets. Overall, these goals translate the vision into concrete outcomes – a rice sector that secures nutrition and livelihoods while powering national development

[5] inter-reseaux.org

3.0 Action Plan

This investment plan presents a strategic, integrated, and scalable roadmap for building on existing projects and transforming Nigeria's rice sector. It aims to deliver significant economic, social, and food security outcomes while aligning closely with Nigeria's national priorities (NRDS II, NAIP) and the ECOWAS Regional Rice Development Strategy. The plan combines irrigation expansion, seed system reform, mechanization, modern processing, market development, digital transformation, and innovative financing to accelerate Nigeria's path towards self-sufficiency and regional competitiveness. The key actions, associated activities, and expected outcomes are outlined below:

Action 1: Climate-Resilient Irrigation Expansion

This action focuses on transforming irrigation into the foundational driver of year-round, climate-resilient rice production in Nigeria through a dual-track approach that combines rehabilitation of large public irrigation schemes with rapid expansion of farmer-managed small-scale irrigation. With less than 10% of Nigeria's irrigable land currently developed, limited dry-season production remains a binding constraint on paddy supply, milling utilization, and value-chain profitability. By expanding irrigated area, enabling double-cropping, and improving basin-level water management, this action increases cropping intensity, reduces climate risk, improves the bankability of downstream PPPs and offtake contracts, and enables the development of concentrated rice growth corridors in major production basins such as the Niger (Sokoto, Kebbi, Niger, Kwara, Kogi, Kaduna, FCT and Nasarawa), Benue (Benue, Taraba, Adamawa, and Gombe), North-West-East (Katsina, Kano and Jigawa), South-East (Anambra, Enugu, Ebonyi, Imo and Abia)

1.1 Dam Rehabilitation

This sub-action focuses on the structural rehabilitation, desilation, safety upgrading, and operational optimization of irrigation dams that anchor Nigeria's major river basins. Many dams currently operate below design capacity due to sedimentation, aging mechanical components, compromised spillways, and weak hydrological monitoring systems. Targeted investments will restore storage capacity, improve flood control and dry-season water retention, modernise gate and monitoring systems, and strengthen dam safety compliance. Where feasible, rehabilitation will integrate hydrological data systems and climate-resilience features to support predictive water allocation and basin-level planning. Restored dam functionality ensures reliable bulk water supply to downstream irrigation schemes, reduces climate-induced variability, safeguards infrastructure investments under PPP models, and enhances long-term water security for rice growth corridors. The required budget for this activity is estimated at **US$1.20 billion**.

1.2 Rehabilitation of Large-Scale Irrigation Schemes

This sub-action supports the systematic diagnostics and phased rehabilitation of priority public irrigation schemes, including canals, drainage systems, control structures, and headworks, as well as improved command-area management. Rehabilitation restores underperforming assets, expands the effective irrigated area, and enables the transfer of irrigation management to Water Users Associations (WUAs) for sustainable operation and maintenance. The required budget for this activity is estimated at **US$0.92 billion**.

1.3 Expansion of Small-Scale Farmer-Managed Irrigation Systems

This sub-action scales the deployment of solar pumps, tube wells, and associated on-farm irrigation infrastructure within fadama and lowland ecologies to enable dry-season and double-cropping. Complementary farmer onboarding and training ensure effective operation, scheduling, and irrigated agronomy, improving productivity and reliability of paddy supply across priority clusters. The required budget for this activity is estimated at **US$0.18 billion**

1.4 Establishment and Strengthening Water Users Associations (WUAs)

This sub-action builds WUAs' institutional capacity to manage irrigation assets sustainably, covering operations and maintenance, water allocation rules, and conflict mediation. Strengthened WUAs underpin irrigation management transfer arrangements and reduce long-term risks of asset failure. The required budget for this activity is estimated at **US$0.02 billion**

Action 2: Seed System Reform & Hybrid Seed Scale-Up

This action addresses the core productivity constraint in Nigeria's rice sector by reforming the national seed system to ensure the availability, quality, and adoption of high-yielding certified and hybrid rice seed. With only a minority of farmers currently using certified seed, yield potential remains severely underexploited. The action combines upstream investment in breeder and foundation seed production, strengthened regulatory oversight and digital traceability, expanded private-sector multiplication and distribution, and targeted adoption of hybrid seed to drive sustained productivity gains and align Nigeria's seed system with ECOWAS regional frameworks.

2.1 Expansion of Breeder, Foundation, and Certified Seed Production

This sub-action upgrades breeder and foundation seed farms with irrigation, cold rooms, and modern equipment, while scaling multiplication blocks and field operations to expand the national supply of high-quality seed available for commercial distribution. The required budget for this activity is estimated at **US$1.75 billion.**

2.2 Strengthening NCRI Seed Infrastructure and Systems

This sub-action modernises seed quality assurance laboratories, cold-chain storage, screenhouses, and digital inventory systems at NCRI hubs, strengthening Nigeria's technical capacity for seed development, storage, and distribution at scale. The required budget for this activity is estimated at **US$0.18 billion.**

2.3 Strengthening Regulatory and Quality Assurance Systems (NASC)

This sub-action upgrades NASC seed-testing laboratories, expands field-inspection capacity, and improves certification oversight to reduce adulteration, enforce quality standards, and build confidence in certified seed markets. The required budget for this activity is estimated at **US$0.10 billion.**

2.4 Anti-Counterfeit and Digital Seed Traceability Systems

This sub-action deploys authentication technologies, seed codex, and digital traceability tools to secure the seed value chain, reduce the circulation of counterfeit seed, and support enforcement at the last mile. The required budget for this activity is estimated at **US$0.07 billion.**

2.5 Private-Sector Seed Multiplication and Distribution

This sub-action supports private seed companies in expanding multiplication capacity and last-mile distribution networks, thereby improving access to certified and hybrid seed in major rice belts. The required budget for this activity is estimated at **US$0.05 billion.**

2.6 Hybrid Seed Adoption and Varietal Replacement

This sub-action finances demonstration hubs, good agricultural practice (GAP) training, and targeted marketing to accelerate farmer adoption of hybrid rice and institutionalise regular varietal replacement cycles. The required budget for this activity is estimated at **US$0.10 billion.**

Action 3: Industrial Processing, Modern Milling & Value-Added Clusters

This action focuses on closing Nigeria's processing and quality gap by upgrading priority industrial mills, modernising MSME milling and parboiling clusters, reducing energy costs, and strengthening compliance with quality and packaging standards. While installed milling capacity has expanded rapidly,

inconsistent quality, high energy costs, and weak cluster integration limit competitiveness against imports. This action ensures that increased paddy production translates into high-quality, market-competitive rice for domestic and regional markets.

3.1 Industrial Processing and Modern Milling Upgrades

This sub-action undertakes diagnostics and phased upgrading of large and medium mills, including installation of modern cleaning, destoning, polishing, drying, and colour-sorting equipment to reduce broken rice ratios and improve output quality. The required budget for this activity is estimated at **US$0.75 billion.**

3.2 MSME Milling and Parboiling Cluster Upgrading

This sub-action retrofits priority MSME clusters with shared infrastructure and equipment, alongside improved parboiling units and operator training, recognising that most domestic rice passes through small-scale processors. The required budget for this activity is estimated at **US$0.30 billion.**

3.3 Energy Cost Reduction and Efficiency Improvements

This sub-action deploys solar-hybrid and energy-efficient systems across mills and clusters to reduce reliance on diesel, stabilise power supply, and improve cost competitiveness. The required budget for this activity is estimated at **US$0.20 billion.**

3.4 Quality Assurance, Packaging, and Compliance Support

This sub-action strengthens quality management systems, packaging, branding, and compliance with national and ECOWAS standards at the mill and cluster levels. The required budget for this activity is estimated at **US$0.10 billion.**

Action 4: Mechanization Hubs & Service Provision

This action establishes a nationwide network of private-sector-led mechanization hubs that provide affordable, on-demand access to modern machinery through pay-per-use and leasing models. Heavy reliance on manual labour increases production costs, delays operations, and contributes to post-harvest losses. By professionalising mechanization services, supporting youth-led enterprises, and strengthening local fabrication and maintenance, this action improves productivity, timeliness, and value-chain efficiency.

4.1 Establishment of Mechanization Hubs

This sub-action finances cluster mapping, site identification, and the construction and equipping of mechanization hubs, including service yards, workshops, storage facilities, and linkage of hub actors. The required budget for this activity is estimated at **US$0.30 billion.**

4.2 Pay-Per-Use and Leasing Fleets

This sub-action deploys machinery such as Power tillers, reapers, threshers, planters and transplanter, motorised weeders, tractors, and harvester fleets supported by leasing arrangements and digital booking platforms to ensure efficient and equitable access for farmers. The required budget for this activity is estimated at **US$0.30 billion.**

4.3 Operators, Maintenance, and Spare-Parts Networks

This sub-action supports operator training and certification, safety compliance, and the establishment of maintenance and spare-parts networks to reduce downtime and extend equipment life. The required budget for this activity is estimated at **US$0.12 billion.**

4.4 Local Fabrication and Adaptation Support

This sub-action identifies and profiles local fabricators, strengthens NCAM-linked local fabrication and

retrofit capacity, improving the suitability of machinery for local conditions and reducing dependence on imports. The required budget for this activity is estimated at **US$0.03 billion.**

Action 5: Market Systems Development, Aggregation & Regional Trade Competitiveness

This action strengthens domestic and regional market integration to ensure that rising paddy and milled rice output translates into stable prices, reduced volatility, and improved competitiveness. While Nigeria has expanded milling capacity, fragmented aggregation systems, weak storage infrastructure, and inconsistent quality grading continue to constrain structured trade and formal market participation. This action builds modern aggregation and warehousing systems, strengthens commodity exchange integration, improves grading and standard compliance, and promotes Nigerian rice branding to support import substitution and regional export readiness under the AfCFTA framework.

5.1 Paddy Aggregation Centres

This sub-action undertakes a national needs assessment to identify priority rice clusters and establish modern aggregation centres equipped with grading bays, weighbridges, standardised handling platforms, and digital record systems. These centres will serve as structured collection hubs that improve bulk trading, transparency, traceability, and farmer price discovery while reducing informal leakage across value chains. The required budget for this activity is estimated at **US$0.28 billion.**

5.2 Drying Infrastructure

This sub-action deploys solar-powered drying floors and clustered mechanical dryers to address high post-harvest moisture levels that drive quality deterioration and price discounts. Improved drying capacity reduces losses, stabilises grain quality, and supports year-round aggregation, particularly during peak harvest periods. The required budget for this activity is estimated at **US$0.22 billion.**

5.3 Storage, Warehousing & Grading

This sub-action finances modern warehouses equipped with grading lines, moisture meters, and quality-testing equipment to enable standardisation and structured trade. Linked to warehouse receipt systems, these facilities improve collateralisation for finance, reduce distress sales, and enable premium-quality market segmentation. The required budget for this activity is estimated at **US$0.25 billion.**

5.4 Cluster Logistics Enablers

This sub-action upgrades feeder and cluster access roads, loading infrastructure, and basic logistics enablers to reduce transport bottlenecks, lower transaction costs, and improve the timely movement of paddy and milled rice from production hubs to processing centres and markets. The required budget for this activity is estimated at **US$0.10 billion.**

5.5 SPS/Testing & Standards

This sub-action strengthens the capacity for anitary and phytosanitary (SPS) testing, laboratory infrastructure, and harmonised grading frameworks aligned with ECOWAS protocols. Standardisation enhances domestic consumer confidence and supports compliance with cross-border trade. The required budget for this activity is estimated at **US$0.15 billion.**

5.6 Trade Corridor Competitiveness

This sub-action pilots structured rice trade corridors with Benin and Niger, integrating digital border systems, quality verification, and customs coordination to formalise flows, reduce informal leakage, and test scalable export models under regional trade agreements. The required budget for this activity is estimated at **US$0.10 billion.**

5.7 Branding & Compliance

This sub-action develops a national quality mark and certification framework under a "Premium Nigerian Rice" brand, coupled with compliance support for millers and aggregators to meet defined standards. The initiative promotes differentiation, strengthens domestic preference for local rice, and enhances export positioning. The required budget for this activity is estimated at **US$0.10 billion.**

Action 6: National Data Systems, Digitalization and MRV

This action addresses fragmented data systems that currently undermine sector planning, policy targeting, private investment confidence, and regional reporting obligations. Weak integration across farmer registries, production data, aggregation systems, and trade flows limits evidence-based decision-making and restricts access to climate and impact finance. By establishing an integrated national rice data architecture, linked to ECOWAS platforms, alongside geospatial monitoring, traceability systems, and robust data governance frameworks, this action institutionalises transparency, performance monitoring, and climate-aligned reporting. A strengthened MRV backbone enhances eligibility for climate finance, supports ECOWAS reporting requirements, improves subsidy targeting, and enables structured investment at scale.

6.1 National Rice Data Platform (NRDP)

This sub-action establishes a centralised National Rice Data Platform that interoperates with the ECOWAS ECO-AGRIS system and integrates data on production, processing, markets, trade, and prices. The platform will support policy analytics, investment planning, and regional reporting while enhancing transparency across the value chain. The required budget for this activity is estimated at **US$0.08 billion.**

6.2 National Digital Farmer Registry and Digital Extension Rollout

This sub-action develops a harmonised, geo-referenced national rice farmer registry linked to digital identity systems, input support, financing windows, and insurance coverage. Integrated digital extension services will deliver agronomic advice, weather alerts, and market information via mobile platforms, improving targeting efficiency and productivity. The required budget for this activity is estimated at **US$0.09 billion.**

6.3 Geospatial Mapping and Satellite/Remote Sensing Systems

This sub-action uses geospatial mapping and remote sensing tools to monitor acreage, crop performance, irrigation status, and climate risks in near-real time. Satellite-based monitoring strengthens yield estimation, drought and flood risk tracking, and supports climate-aligned MRV and insurance verification systems. The required budget for this activity is estimated at **US$0.05 billion.**

6.4 Traceability, Interoperability and Data Governance

This sub-action establishes interoperable traceability systems linking farmers, aggregation centres, mills, financiers, and regulators through cluster-level ERP integration. It defines data governance protocols, privacy safeguards, and reporting standards to ensure system integrity while enabling supply-chain transparency and quality verification. The required budget for this activity is estimated at **US$0.03 billion.**

Action 7: Rice Sector Investment Fund(RSIF), Blended Finance & Risk-Sharing

This action addresses the binding constraint of long-term, affordable finance required for irrigation infrastructure, aggregation systems, storage, mechanisation, and SME scaling. Given the capital intensity and time sensitivity of rice production and processing, commercial lenders require structured risk-sharing instruments to crowd in capital at scale. This action establishes a dedicated Rice Sector Investment Fund (RSIF) with anchor capital, guarantee mechanisms, tailored insurance products, and

structured PPP support to unlock private investment, stabilise production cycles, and strengthen competitiveness across the value chain.

7.1 RSIF Anchor Capital and Investment Windows

This sub-action capitalises the Rice Sector Investment Facility with public and development anchor funding to mobilise co-investment from commercial banks, DFIs, and institutional investors. Structured investment windows will target irrigation, storage, mechanisation hubs, and processing clusters through blended finance instruments. The required budget for this activity is estimated at **US$0.65 billion.**

7.2 Guarantees, Risk-Sharing and Insurance Scale-Up

This sub-action expands credit guarantees, first-loss instruments, and risk-sharing frameworks to reduce risk in agricultural lending. It includes developing tailored insurance products for rice producers and processors, running awareness and sensitisation campaigns to drive uptake, and bundling insurance premiums with financing packages. Government support will be channelled to subsidise insurance premiums through accredited insurance providers to enhance farmers' protection and improve bankability. The required budget for this activity is estimated at **US$0.15 billion.**

7.3 Feasibility Studies, Safeguards and PPP Structuring Support

This sub-action finances technical feasibility assessments, environmental and social safeguards, transaction advisory services, and PPP structuring support to prepare irrigation, storage, and processing projects for investment readiness. The required budget for this activity is estimated at **US$0.10 billion.**

7.4 Technical Assistance, Pipeline Development and Fund Governance

This sub-action provides ongoing technical assistance for project pipeline development, deal structuring, fund governance, and monitoring frameworks to ensure the RSIF's sustainability, transparency, and accountability for performance. The required budget for this activity is estimated at **US$0.05 billion.**

Table 2: Summary of National Rice Action Plan

Investment Area	Proposed Activities	Proposed Actions	Expected Results / Outcomes
Action 1: Climate-Resilient Irrigation Expansion	1.1 Dam Rehabilitation and Optimisation	1.1.1 Site investigation and Studies (Geological, Geotechnical and Exploration Investigation, bathymetric survey, SEIA) 1.1.2 Dam rehabilitation (Embankment, Inlet, Outlet, Spill Way, Flood diversion structures, stealing basin and instrumentation, electro and hydromechanical)	Enhanced dam stability and safety
	1.2 Rehabilitation of Large-Scale Irrigation (per annum)	1.1.1 Conduct basin diagnostics & feasibility studies 1.1.2 Rehabilitation works (canals, drains, control structures, headworks).	Restored and expanded irrigated area; improved water control; increased dry-season production; higher cropping intensity and paddy throughput
	1.3 Expansion of Small-Scale Irrigation Systems	1.2.1 Deploy solar pumps & tube wells/ Boreholes (priority clusters). 1.2.2 Construction of River diversion/wells 1.2.3 Train & onboard farmers (O&M, scheduling, irrigated agronomy)	Rapid expansion of farmer-led irrigation, reduced climate risk, improved reliability of paddy supply
	1.4 Establishment and Strengthening Water Users Associations (WUAs)	1.4.1 WUA training on O&M, water allocation & mediation	Sustainable operation and maintenance of schemes; reduced water-use conflicts; stronger local governance
Action 2: Seed System Reform & Adoption	2.1 Breeder/Foundation/Certified Seed Expansion	2.1.1 Upgrade breeder/foundation seed farms (irrigation, cold rooms, equipment) 2.1.2 Scale breeder & foundation seed production (multiplication blocks, field operations)	Increased availability of high-quality seed; strengthened upstream seed supply; improved yield potential

	2.2 Strengthening NCRI Capacity	2.2.1 Establish/upgrade seed QA lab & ISO accreditation 2.2.2 Modernise cold-chain storage & smart warehouses 2.2.3 Construct screenhouses & deploy solar-powered perimeter irrigation 2.2.4 Deploy ERP-linked digital seed inventory & tracking	Improved seed quality control, storage, and traceability; enhanced institutional capacity
	2.3 Regulatory & Quality Assurance (NASC)	2.3.1 Upgrade NASC seed testing labs 2.3.2 Expand inspectorate & field certification	Reduced seed adulteration; improved farmer confidence in certified seed
	2.4 Anti-counterfeit & Traceability	2.4.1 Seed codex, authentication & anti-counterfeit systems	Secure seed supply chain; reduced counterfeit seed circulation
	2.5 Private Multiplication & Distribution	2.5.1 Private multiplication support + last-mile distribution networks	Expanded private-sector participation; improved access to seed in rice belts
	2.6 Hybrid Uptake & Varietal Replacement	2.6.1 Demo hubs, GAP training, marketing/outreach for hybrid uptake	20–35% yield gains in target areas; accelerated varietal replacement
Action 3: Processing & Quality Upgrading	3.1 Industrial Processing & Modern Milling Optimization	3.1.1 Mill diagnostics & feasibility for upgrade pipelines 3.1.2 Upgrade integrated mills (cleaning, destoning, sorting, dryers)	Reduced broken rice ratios; improved milling efficiency and quality
	3.2 MSME Milling & Parboiling Clusters Upgrade	3.2.1 Retrofit MSME parboiling/milling clusters; formalise milling clusters 3.2.2 Supply improved parboiling units + operator training	Improved quality of MSME-processed rice; reduced post-harvest losses
	3.3 Energy Cost Reduction & Efficiency	3.3.1 Solar-hybrid/efficiency upgrades for mills and clusters	Lower operating costs; improved competitiveness
	3.4 Quality, Packaging & Compliance	3.4.1 QA systems, packaging upgrades, compliance support	Compliance with national and ECOWAS standards; stronger branding

Action 4: Mechanization Services	4.1 Mechanization Hubs (Pilot & Scale-up)	4.1.1 Site identification, cluster mapping & hub design; Linkage of hub actors 4.1.2 Construct & equip mechanization hubs	Improved access to mechanization; timely farm operations
	4.2 Pay-per-use / Leasing Fleets	4.2.1 Tractor/harvester, power tillers, reapers, threshers, planters, transplanters & motorized weeders fleets + leasing systems & booking platforms	Lower cost per hectare; expanded mechanization coverage
	4.3 Operators, Maintenance & Spares Networks	4.3.1 Operator training/certification + safety compliance 4.3.2 Maintenance, spare parts & service networks	Reduced downtime; improved service quality
	4.4 Local Fabrication Support (NCAM-linked)	4.4.1 Identification and profiling of local fabricators; Local fabrication/retrofit support, standards & QA	Increased local manufacturing and adaptation capacity
Action 5A: Aggregation, Drying & Storage	5.1 Paddy Aggregation Centres	5.1.1 Establish aggregation centres (grading bays, weighbridges)	Improved aggregation and price formation
	5.2 Drying Infrastructure	5.2.1 Drying floors & mechanical dryers	Reduced moisture-related losses
	5.3 Storage, Warehousing & Grading	5.3.1 Warehouses, grading lines, quality equipment	Improved quality consistency
	5.4 Cluster Logistics Enablers	5.4.1 Cluster access roads & logistics enablers	Lower logistics costs; improved market access
Action 5B: Markets, Corridors & Standards	5.5 SPS/Testing & Standards	5.5.1 SPS/testing capacity + harmonised grading systems	Improved quality assurance
	5.6 Trade Corridor Competitiveness	5.6.1 Trade corridor pilots (Nigeria–Benin/Niger) + border tech	Reduced informal trade; improved corridor efficiency
	5.7 Branding & Compliance	5.7.1 "Premium Nigerian Rice" branding & certification	Stronger consumer confidence; regional market entry
Action 6: Digital & Data Systems	6.1 Nigerian Rice Data Platform	6.1.1 National Rice Data Platform (linked to ERO ECO-AGRIS platform)	Evidence-based planning and reporting
	6.2 Farmer Registry & Digital Extension	6.2.1 Digital farmer registry + extension rollout	Improved targeting of inputs and services

	6.3 Geospatial & Remote Sensing	6.3.1 Geospatial mapping + remote sensing updates	Improved production and asset visibility
	6.4 Traceability & Interoperability	6.4.1 Traceability, interoperability & data governance	Reduced leakages; climate-finance-ready MRV
Action 7: Finance & De-risking (RSIF)	7.1 RSIF Anchor Capital & Co-investment Windows	7.1.1 RSIF anchor capital + co-investment windows	Increased private capital mobilization
	7.2 Risk Sharing & Insurance	7.2.1 Guarantees, risk-sharing and insurance scale-up	Reduced cost and risk of finance
	7.3 Transaction Preparation & PPP Structuring	7.3.1 Feasibility, safeguards, PPP structuring support	Bankable project pipeline
	7.4 Technical Assistance Facility	7.4.1 TA for pipeline development and fund governance	Improved deal quality and fund performance

4.0 Financing Strategy

5.1 Cost Estimates of the Investment Plan

The total estimated cost of implementing Nigeria's National Rice Investment Action Plan (NRIAP) is $9.3 billion over 2026–2035, with a focus on seven priority actions to achieve rice self-sufficiency. These estimates are derived from unit costs for infrastructure rehabilitation, equipment deployment, capacity building, and operational scaling, benchmarked against similar AfDB/World Bank-supported irrigation and agribusiness projects in West Africa. A detailed, year-by-year budget breakdown is provided in Annex 1.

Table 3: Summary of Indicative Budget for the Implementation of the National Rice Action Plan[6]

Key Action	Estimated Cost (US$ bn)	Estimated Cost (₦ trn)	Timeframe	Cost Share (%)
Action 1: Climate-Resilient Irrigation Expansion	2.65	3.76	2026-2035	28.5
Action 2: Seed System Reform & Adoption	2.15	3.05	2026-2029	23.1
Action 3: Processing & Quality Upgrading	1.35	1.92	2026-2032	14.5
Action 4: Mechanization Services	0.75	1.06	2026-2032	8.1
Action 5A: Aggregation, Drying & Storage	0.85	1.21	2026-2030	9.1
Action 5B: Markets, Corridors & Standards	0.35	0.50	2026-2030	3.8
Action 6: Digital & Data Systems	0.25	0.35	2026-2030	2.7
Action 7: Finance & De-risking (RSIF)	0.95	1.35	2026-2035	10.2
TOTAL INVESTMENT REQUIREMENT (10 Years)	**9.30**	**13.20**	**2026-2035**	**100.0**

5.2 Sources of funding: public budget, private sector, and donors

Funding will be mobilized through a balanced mix of public budgets, private investments, and development partner contributions, leveraging each source's proven track record in Nigeria's rice value chain. This approach ensures sustainability by aligning with ongoing or past projects for credibility and continuity.

[6] Diagnostics/feasibility peak early to unlock procurement-ready designs, safeguards, and sequencing across basins/clusters (especially irrigation, mills, and corridors). For heavy civil works, rehabilitation typically mobilizes over 2–3 years, peaks mid-programme, then tapers as schemes are commissioned, and O&M regimes take over. Technology rollouts - small-scale irrigation, mechanization fleets, and digital registries follow an adoption curve of rapid scale early in priority belts, then taper to expansion/refresh. Standards, branding, corridor competitiveness are most effective once supply, quality, and aggregation systems are strong enough to sustain formal trade and premium market positioning. RSIF early years focus on structuring + first close; mid years scale equity/mezzanine + guarantees; later years sustain the portfolio and recycle capital.

Table 4: List of Funding Sources

Funding Source	Target Share	What They Fund in the Rice Value Chain
Public Sector (Federal/State)	20–30%	Budget lines under FMAFS and FMWR & S, Anchor Borrowers-type programmes, Fadama-style irrigation and input support, and counterpart funding to donor projects.
Development Partners	40–50%	AfDB, World Bank, IFAD, JICA, FAO and others are financing irrigation rehabilitation, seed system strengthening, value chain projects, nutrition-sensitive agriculture and capacity building, including NRDS-II seed and irrigation concept notes.
Private Sector	20–30%	PPP investments by millers, mechanization service firms, seed companies and financiers, building on recent expansion of integrated milling, outgrower schemes and energy solutions.
Innovative / Blended Finance	10–20%	Credit guarantees, blended facilities, climate/green finance and diaspora-linked instruments supporting solar irrigation, energy-efficient processing, and the Rice Sector Investment Fund (RSIF).
Farmers & Cooperatives	5–10%	Own contributions for inputs, small equipment, local storage, and co-financing of small-scale irrigation and mechanization services via cooperatives.

5.3 Funding Gaps and Financing Scenarios

Nigeria has attracted substantial rice-related financing over the past decade through IFAD, the World Bank, AfDB, USAID, JICA, and private investors. Major ongoing and completed programmes include IFAD's Value Chain Development Programme, World Bank-supported rural access and market projects, AfDB-led Special Agro-Industrial Processing Zones, JICA rice seed financing, USAID value-chain initiatives, and large-scale private investments such as Dangote Rice.

The table below lists major programs, funding amounts and timelines. It distinguishes disbursed funding (confirmed commitments) from pledged or ongoing efforts:

Table 5: Major Rice Programs, Funding Amounts and Timelines

Program (Rice Focus)	Funder(s)	Amount (USD)	Time Frame	Status
IFAD Value Chain Dev. Programme	IFAD + FG	$334.0 M	2012–2026	Fully financed, ongoing
IFAD Private Sector Inv. Facility	IFAD + FG	$5.0 M (loan)	2021–2025	Disbursed (Babban Gona rice)
World Bank TRIMING	WB + FG	$495.0M	2018-2026	Completed
World Bank RAAMP (roads & markets)	WB + AFD + FG	$700.0 M	2020–2028	Ongoing

World Bank RAAMP-SU (scale-up)	WB + FG	$500.0 M	2024–2030	Approved
AfDB SAPZ Phase I (8 states)	WB + AfDB + FG + partners +IFAD	$538.0 M	2022–2028	Ongoing
USAID Feed the Future AIA	USAID	$244.0 M	2018–2023	Completed
USAID/WACOT Outgrowers	USAID + WACOT	$1.5 M grant	2020	Completed
JICA NAGS-AP (Rice Seed Loan)	JICA + FG	$90.0 M (¥12 B)	2025–2027	Partially disbursed
Dangote Rice Expansion	Dangote + States	>$1.0 B	2017–ongoing	In progress (multiphase)
FG, State Rice/Maize Offtake	FG → States	$235.0 M	2023–2025	Disbursed (2-year loan/grant)
Sustainable Power and Irrigation in Nigeria (SPIN)	WB + FG	$500M	2025 - 2029	Ongoing

While these programmes provide a strong foundation, confirmed public and donor commitments fall short of the full NRIAP requirement relative to the US$9.3 billion investment envelope. To address this gap, the NRIAP proposes three progressive scenarios.

Scenario 1: A Public-Led Catalytic Transition (~US$2.0bn) relies predominantly on public and donor finance, prioritising irrigation rehabilitation, seed system scaling, extension, and basic aggregation. This scenario delivers productivity gains in high-potential zones but results in uneven milling utilization, enabling Nigeria to reach about 70% rice self-sufficiency by 2035.

Scenario 2: The Balanced Transformation (Base Case) scenario (~US$3–4 billion) combines public and donor funding with significant private investment and blended finance. It supports full NRIAP rollout across production, processing, logistics, and markets, resulting in expanded irrigation, functional seed markets, strong private-sector participation, and improved post-harvest efficiency. Under this scenario, Nigeria achieves around 90% self-sufficiency, price stability, and regionally competitive value chains.

Scenario 3: Private-Led Accelerated Growth (~US$5.6 billion) mobilizes higher levels of private capital alongside public and blended finance to support large-scale PPPs in irrigation, commercial farming, modern milling clusters, export logistics, and trade facilitation. This scenario enables surplus production, high-capacity utilization, improved quality standards, and positions Nigeria as a net regional exporter.

5.3 Investment Readiness and Bankable Projects

The financing strategy is anchored in a clear pipeline of ready and near-ready investments developed through the NRDS II Technical Working Group and complementary national processes. Projects are categorised by readiness to ensure rapid deployment and effective absorption of funds.

Tier I projects are ready to finance, with completed designs, budgets, and institutional arrangements. These include Fadama-type irrigation rehabilitation and lowland development in priority basins, and NRDS II seed system pilots led by NCRI and NASC to scale breeder, foundation, and certified seed production.

Tier 2 projects comprise structured, bankable proposals with defined objectives, activities, budgets, and indicative funders, requiring limited additional appraisal. These cover seed quality infrastructure and capacity building at NCRI and NASC, irrigated lowland development across geopolitical zones, upgrading mechanization workshops and skills at NCAM, quality upgrading and value addition in milling, national branding and marketing of Nigerian rice, inclusive digital finance for value-chain actors, rice fortification, and establishment of a National Rice Development Council. Together, these form the core NRIAP bankable portfolio for grants, concessional finance, PPPs, and RSIF investments.

Tier 3 concepts include early-stage ideas such as micro earth dams, green energy solutions for milling clusters, and advanced traceability platforms. These will be developed into full concept notes during the first two years of implementation, ensuring a rolling pipeline for future financing rounds.

5.0 Implementation Arrangements

4.1 Operationalization of the investment priorities

Operationalization will follow a programme-based approach, with each investment area implemented through multi-year programmes supported by annual and rolling 3–5-year workplans, clear outputs and performance indicators, and costed schedules aligned to the national budget cycle.

Implementation will be sequenced by readiness, distinguishing shovel-ready investments, bankable projects requiring limited upstream work, and early-stage concepts requiring feasibility or piloting. Delivery will be integrated within existing national frameworks, including NRDS II, NAIP, water and extension strategies, and ECOWAS coordination mechanisms. Execution will rely on established platforms such as RBDAs and FMWR for irrigation; ADPs and state ministries for extension and cluster management; NASC for seed quality assurance; NCAM and service providers for mechanization; and private-sector associations for processing and markets, ensuring coherence, accountability, and sustained impact.

4.2 Coordination Mechanisms

NRIAP implementation will be guided by a multi-tier coordination architecture to enable joint planning, information flow, and synchronised delivery. The Federal Ministry of Agriculture and Food Security (FMAFS) will provide overall policy oversight, coordinate the National Rice Technical Working Group, and supervise the NRIAP Implementation Unit responsible for monitoring, reporting, and stakeholder engagement.

Key government agencies will execute clearly defined mandates across irrigation (FMWR&S/RBDAs), seed systems (NASC, NCRI), extension and cluster support (ADPs and state ministries), mechanisation (NCAM), quality and SPS compliance (SON/NAFDAC), finance and risk-sharing (NIRSAL, BOA, BOI), and data validation (NBS). The private sector and development partners will drive investment, innovation, financing, and technical assistance, while local governments and farmer organisations will support beneficiary targeting, aggregation, service uptake, and feedback. Coordination will be enabled through a National Rice Steering Committee, Technical Working Groups (including thematic TWGs), the Annual Joint Agriculture Sector Review, and the National Rice Data Platform, providing structured decision-making, performance tracking, and real-time coordination.

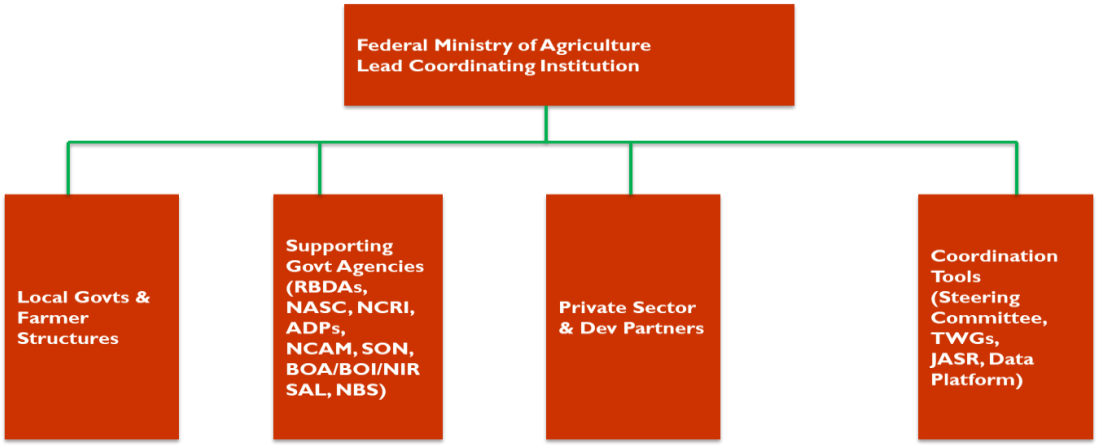

Figure 1: *Coordination Mechanism*

4.3 Coordination with private sector and development partners

The private sector and development partners are central to financing, scaling, and innovation under the NRIAP. Engagement with the private sector will be structured through biannual public–private investment forums, PPPs in irrigation, mechanization, processing, and digital infrastructure, and contract farming and aggregation models that link farmers to markets. Joint quality assurance programmes will align millers, input suppliers, and regulators.

Development partner coordination will focus on aligning donor programmes to NRIAP priorities, co-financing infrastructure and systems, and conducting joint technical missions and annual reviews to harmonise approaches, avoid duplication, and streamline reporting.

4.4 Implementation Timeline and Phasing

Implementation will be phased over ten years. In the short term (2026–2027), the emphasis will be on diagnostics, pilots, rapid rollout of small-scale irrigation (solar pumps), strengthening the seed system, initial mechanization hubs, priority mill upgrades, digital platform design, and establishing the Rice Sector Investment Fund. The medium term (2028–2030) will focus on scaling infrastructure, mechanization, processing clusters, trade corridors, national digital systems, and financing across major rice belts. The long term (2031–2035) will consolidate nationwide coverage, integrated value-added clusters, regional market penetration, advanced digital analytics, and sustained mobilization of private capital. A detailed implementation timeline and phasing are presented below.

Table 6: Implementation Timeline and Phasing

Investment Area / Priority Action	**Short Term (Years 1–2)** ***2026–2027***	**Medium Term (Years 3–5)** ***2028–2030***	**Long Term (Years 6–10)** ***2031–2035***
1. Climate-Resilient Irrigation Expansion	• Diagnostics & design studies • Rapid small-scale irrigation rollout (tube wells and solar pumps)[7]	• Large-scale irrigation rehabilitation • Basin-level water governance reforms • PPP-driven O&M systems	• National irrigation consolidation • Climate-smart water management mainstreamed

[7] 20,000 to 30,000 farmer-managed systems over 5 years; Blended grants + leasing/pay-as-you-own private suppliers and MFIs

	• Pilot rehabilitation of priority schemes[8]		
2. Seed System Reform & Hybrid Seed Scale-Up	• Expand breeder & foundation seed • Launch hybrid seed adoption programme • Strengthen NASC certification & digital traceability	• Large-scale hybrid seed dissemination • Upgrade NASC labs & enforcement systems • Full alignment with ECOWAS seed protocols	• Sustained varietal replacement cycles • Full national digital seed traceability system
3. Mechanization Hubs & Service Provision	• Establish first 10–15 mechanization hubs • Youth/women operator training • Launch leasing and pay-per-use models	• Scale to all major rice belts • Expand local fabrication of machinery • Integrate mechanization with processing clusters	• Full mechanization coverage • Regional market for machinery exports
4. Industrial Processing & Value-Added Clusters	• Diagnostics of existing mills • Priority mill upgrades • Solar-hybrid energy pilots	• Develop processing clusters with storage, drying, branding • Standardized parboiling & ECOWAS SPS compliance	• Fully integrated value-added clusters • Renewable-energy powered processing nationwide
5. Market Access & Regional Trade Competitiveness	• Harmonise SPS/quality standards • Launch national rice branding framework • Train Nigerian aggregators/farmers on post-harvest handling techniques	• Formalise Nigeria–Benin & Nigeria–Niger trade corridors • Deploy certification & traceability tools • Capacity building of stakeholders on Sustainable Rice Production (SRP) standards to meet international standards	• Regional export readiness • Expanded ECOWAS market share for Nigerian rice
6. Digital & Data Systems	• National Rice Data Platform design • Farmer ID & geospatial mapping rollout (1M farmers)	• Full national mapping • Digital extension to 5M+ farmers • Integrated dashboards for states	• AI-driven analytics & predictive modelling • Full ECOWAS reporting compliance
7. Financing & De-Risking Mechanisms (RSIF) Rationale – Time sensitivity of rice; Support production and processing competitive;	• Establish Rice Sector Investment Fund (RSIF) Rice Development Council • Deploy first equity/mezzanine investments • Pilot credit guarantees & insurance	• Scale financing to all clusters • Bring in global impact investors • Expand insurance penetration	• Long-term financing institutionalized • Strong private capital inflows sustained

[8] Phase 1 (Short-term) targets 4-6 priority RBDA/FADAMA schemes in high-production basins (Niger, Benue, Sokoto-Rima, Hadejia-Jama'are). Public + concessional fiancé in year 1-2; PPP-based O&M form year 3 onward

dependence on externalities	Unbundling insurance – Advocacy work with private/development organization resources Guarantee minimum price (commodities) Policies- inputs, low-cost fund		

4.5 Capacity Needs and Support

Successful implementation will require targeted capacity strengthening at institutional, technical, and farmer levels. This includes strengthening the FMAFS implementation unit; enhancing state-level extension and cluster management; upgrading laboratories and certification systems (NASC, NCAM, SON/NAFDAC); and building capacity for irrigation governance. Technical capacity will focus on seed technology, mechanization, digital agriculture, SPS, and quality assurance, while farmer-level support will prioritise GAPs, hybrid seed adoption, water management, mechanised operations, cooperative governance, and Sustainable Rice Platform (SRP) standards. Support will be delivered through training, embedded advisors, South–South cooperation, and partnerships with research and private institutions.

4.6 Resource Mobilization Strategy

NRIAP financing will rely on a blended and diversified approach that combines public budgets, concessional finance, private investment, and innovative instruments. Public funding will be drawn from federal and state budgets and existing NRDS II and NAIP allocations. External financing will include loans, grants, technical assistance, and climate finance from development partners. Private capital will be mobilised through direct investments, SME financing, PPPs, and outgrower schemes. Innovative mechanisms, including the Rice Sector Investment Fund, blended finance, guarantees, bonds, and pay-as-you-grow models. will be used to crowd in long-term capital. A detailed financing plan is presented in Section 5.0. A blended and diversified financing approach will be adopted to mobilize the resources needed for NRIAP delivery.

4.7 Communication Plan

The communication strategy will keep stakeholders informed, build investor confidence, sustain political commitment, and promote adoption among farmers and value-chain actors. Key tools include quarterly progress bulletins, an annual Rice Sector Performance Report aligned with ECOWAS cycles, a public digital dashboard, media engagement, and stakeholder and community forums. Target audiences include government institutions, state authorities, private investors, farmer organizations, development partners, civil society, and the general public.

6.0 Conclusion

Rice is one of Nigeria's most politically and socially sensitive staples, consumed by almost every household and closely linked to inflation, social stability, and poverty outcomes. Today, the country spends over US$2 billion annually on rice imports, exports jobs and foreign exchange, and remains vulnerable to external price shocks.

With an estimated financing envelope of US$9.3 billion, the NRIAP provides an opportunity to transform this vulnerability into opportunity by:

- Scaling up productivity to 4–5 t/ha and expanding irrigated area to stabilise production and reduce climate risk.
- Ensuring that all paddy is processed domestically through modern, energy-efficient mills and value-added clusters.
- Building a competitive seed, mechanization, and service ecosystem that underpins commercialization and youth-led agribusiness growth.
- Strengthening market systems, SPS/quality standards, and trade corridors to enable Nigeria to become West Africa's rice powerhouse, in line with the ECOWAS Regional Rice Roadmap.

In doing so, the NRIAP directly supports national goals on food security, job creation, trade balance, industrialization, and resilience, and offers a de-risk entry point into a large, growing, and politically prioritized market for investors and development partners. Realising the NRIAP's vision requires joint commitment and timely action:

- Federal and State Governments must ensure policy coherence, predictability, and adequate budget allocations, and operationalise platforms such as the proposed National Rice Development Council (NRDC) to provide long-term governance of the rice sector.
- Development partners (AfDB, World Bank, IFAD, JICA, EU, USAID, GCF and others) are called upon to fund and scale the bankable pipeline of TWG-developed concepts (currently >US$30 million), and to anchor broader programme lending to the NRIAP.
- Private investors, millers, seed companies, mechanization and energy service providers, and financial institutions are encouraged to leverage RSIF and PPP frameworks to invest in irrigation, processing clusters, mechanization hubs, storage, and digital platforms.
- Farmers, cooperatives, women's and youth groups are central to adoption. With targeted extension, incentives, and inclusive financing, they will convert investment into productivity, jobs, and income gains.

Together, these stakeholders can close the supply gap, stabilise prices, and unlock rice's full economic promise.

Annexes

Annex 1: Detailed Budget Table (US$bn)

Investment Area 1: Climate-Resilient Irrigation Expansion												
ACTIVITIES	**ACTIONS**	**INDICATIVE COST (US$ bn)**										**TOTAL** (US$ bn)
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	
1.1 Dam Rehabilitation and Optimisation	1.1.1 Site investigation and Studies (Geological, Geotechnical and Exploration Investigation, bathymetric survey, ESIA)	0.1	0.08	0.05	-	-	-	-	-	-	-	**0.23**
	1.1.2 Dam rehabilitation (Embankment, Inlet, Outlet, Spill Way, Flood diversion structures, stealing basin and instrumentation, electro and hydromechanical)	-	0.06	0.13	0.13	0.13	0.13	0.13	0.13	0.13	-	**0.97**
	Subtotal – Activity 1.1	0.10	0.14	0.18	0.13	0.13	0.13	0.13	0.13	0.13	-	**1.2**
1.2 Rehabilitation of Large-Scale Irrigation	1.1.1 Conduct basin diagnostics & feasibility studies	0.08	0.07	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.20
	1.1.2 Rehabilitation works (canals, drains, headworks)	0.32	0.35	0.38	0.36	0.34	0.15	0.08	0.05	0.01	0.01	1.07
	Subtotal – Activity 1.2	**0.40**	**0.42**	**0.45**	**0.42**	**0.39**	**0.18**	**0.10**	**0.06**	**0.02**	**0.01**	**1.27**
1.3 Expansion of Small-Scale Irrigation Systems	1.2.1 Deploy solar pumps & tube wells (priority clusters)	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.15
	1.2.2 Train & onboard farmers (O&M, scheduling, agronomy under irrigation)	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	Subtotal – Activity 1.3	**0.04**	**0.04**	**0.04**	**0.02**	**0.02**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.18**
1.4 Strengthening Water User Associations (WUAs)	1.3.1 WUA training on O&M, water allocation & mediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	Subtotal – Activity 1.4	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	0.02
	TOTAL – Investment Area 1	**0.44**	**0.46**	**0.49**	**0.44**	**0.41**	**0.19**	**0.11**	**0.06**	**0.03**	**0.01**	**2.65**

Investment Area 2: Seed System Reform & Hybrid Seed Scale-Up												
ACTIVITIES	**ACTIONS**	**INDICATIVE COST (US$ bn)**										**TOTAL (US$ bn)**
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	
2.1 Breeder/Foundation/Certified Seed Expansion	2.1.1 Upgrade breeder/foundation seed farms (irrigation, cold rooms, equipment)	0.45	0.40	0.30	0.20	0.10	0.06	0.04	0.00	0.00	0.00	1.55
	2.1.2 Scale breeder & foundation seed production (multiplication blocks, field operations)	0.00	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.01	0.01	0.20
	Subtotal – Activity 2.1	**0.45**	**0.42**	**0.33**	**0.23**	**0.13**	**0.09**	**0.06**	**0.02**	**0.01**	**0.01**	**1.75**
2.2 Strengthening NCRI Capacity	2.2.1 Establish/upgrade seed QA lab & ISO accreditation	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	2.2.2 Modernise cold-chain storage & smart warehouses (IPM, ventilation)	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	2.2.3 Construct screenhouses & deploy solar-powered perimeter irrigation for foundation farms	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	2.2.4 Deploy ERP-linked digital seed inventory & tracking for NCRI hubs	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	Subtotal – Activity 2.2	**0.07**	**0.06**	**0.04**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.18**
2.3 Regulatory & Quality Assurance (NASC)	2.3.1 Upgrade NASC seed testing labs (equipment, accreditation)	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.06
	2.3.2 Expand inspectorate & field certification (mobility, QA supervision)	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04
	Subtotal – Activity 2.3	**0.03**	**0.03**	**0.02**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**
2.4 Anti-counterfeit & Traceability	2.4.1 Seed codex, authentication & anti-counterfeit systems (last-mile enforcement)	0.02	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.07
	Subtotal – Activity 2.4	**0.02**	**0.02**	**0.01**	**0.01**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.07**
2.5 Private Multiplication & Distribution	2.5.1 Private multiplication support + last-mile distribution networks	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.05
	Subtotal – Activity 2.5	**0.00**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**
2.6 Hybrid Uptake & Varietal Replacement	2.6.1 Demo hubs, GAP training, marketing/outreach for hybrid uptake	0.02	0.02	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.10
	Subtotal – Activity 2.6	**0.02**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	0.10

TOTAL – Investment Area (Action 2)		**0.61**	**0.56**	**0.43**	**0.33**	**0.16**	**0.12**	**0.08**	**0.02**	**0.01**	**0.01**	**2.15**

Investment Area 3: Industrial Processing, Modern Milling & Value-Added Clusters												
ACTIVITIES	**ACTIONS**	**INDICATIVE COST (US$ bn)**										**TOTAL (US$ bn)**
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	
3.1 Industrial Processing & Modern Milling	3.1.1 Mill diagnostics & feasibility for upgrade pipelines	0.05	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	3.1.2 Upgrade integrated mills (cleaning/destoning/sorting/dryers)	0.18	0.15	0.12	0.10	0.06	0.03	0.01	0.00	0.00	0.00	0.65
	Subtotal – Activity 3.1	**0.23**	**0.18**	**0.14**	**0.10**	**0.06**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**0.75**
3.2 MSME Milling & Parboiling Clusters	3.2.1 Retrofit MSME parboiling/milling clusters (shared facilities)	0.06	0.06	0.05	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.22
	3.2.2 Supply improved parboiling units + operator training	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	Subtotal – Activity 3.2	**0.09**	**0.08**	**0.07**	**0.04**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.30**
3.3 Energy Cost Reduction & Efficiency	3.3.1 Solar-hybrid/efficiency upgrades for mills and clusters	0.06	0.05	0.04	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.20
	Subtotal – Activity 3.3	**0.06**	**0.05**	**0.04**	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.20**
3.4 Quality, Packaging & Compliance	3.4.1 QA systems, packaging upgrades, compliance support at mills/clusters	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.10
	Subtotal – Activity 3.4	**0.03**	**0.03**	**0.02**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**
	TOTAL – Investment Area (Action 3)	**0.41**	**0.34**	**0.27**	**0.18**	**0.11**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**1.35**

Investment Area 4: Mechanization Hubs & Service Provision												
ACTIVITIES	**ACTIONS**	**INDICATIVE COST (US$ bn)**										**TOTAL (US$ bn)**
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	
4.1 Mechanization Hubs (Pilot & Scale-up)	4.1.1 Site identification, cluster mapping & hub design	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	4.1.2 Construct & equip mechanization hubs (service yards, workshops, storage)	0.10	0.08	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	Subtotal – Activity 4.1	**0.13**	**0.10**	**0.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.30**
4.2 Pay-per-use / Leasing Fleets	4.2.1 Machineries fleets + leasing systems & booking platforms	0.12	0.10	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
	Subtotal – Activity 4.2	**0.12**	**0.10**	**0.08**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.30**
4.3 Operators, Maintenance & Spares	4.3.1 Operator training/certification + safety compliance	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	4.3.2 Maintenance, spare parts & service networks (private MRO linkages)	0.03	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
	Subtotal – Activity 4.3	**0.06**	**0.04**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.12**
4.4 Local Fabrication Support (NCAM-linked)	4.4.1 Local fabrication/retrofit support, standards & QA for implements	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	Subtotal – Activity 4.4	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**
	TOTAL – Investment Area (Action 4)	**0.33**	**0.25**	**0.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.75**

Investment Area 5: Market Access & Regional Trade Competitiveness			
ACTIVITIES	**ACTIONS**	**INDICATIVE COST (US$ bn)**	**TOTAL (US$ bn)**

		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	
5.1 Paddy Aggregation Centres	5.1.1 Establish aggregation centres (grading bays, weighbridges, handling)	0.10	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
	Subtotal – Activity 5.1	**0.10**	**0.09**	**0.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.28**
5.2 Drying Infrastructure	5.2.1 Drying floors & mechanical dryers (clustered)	0.08	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
	Subtotal – Activity 5.2	**0.08**	**0.07**	**0.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.22**
5.3 Storage, Warehousing & Grading	5.3.1 Warehouses, grading lines, moisture/quality equipment	0.09	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
	Subtotal – Activity 5.3	**0.09**	**0.08**	**0.08**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.25**
5.4 Cluster Logistics Enablers	5.4.1 Cluster access roads & basic logistics enablers	0.04	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	Subtotal – Activity 5.4	**0.04**	**0.03**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**
	TOTAL – Investment Area (Action 5A)	**0.31**	**0.27**	**0.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.85**

5.5 SPS/Testing & Standards	5.5.1 SPS/testing capacity + harmonised grading systems	0.06	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
	Subtotal – Activity 5.5	**0.06**	**0.05**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.15**
5.6 Trade Corridor Competitiveness	5.6.1 Trade corridor pilots (Nigeria–Benin/Niger) + border tech	0.05	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	Subtotal – Activity 5.6	**0.05**	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**
5.7 Branding & Compliance	5.7.1 "Premium Nigerian Rice" branding, certification & compliance support	0.04	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10

Subtotal – Activity 5.7	**0.04**	**0.03**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**
TOTAL – Investment Area (Action 5B)	**0.15**	**0.11**	**0.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.35**

Investment Area 6: Digital & Data Systems												
ACTIVITIES	**ACTIONS**	**INDICATIVE COST (US$ bn)**										**TOTAL (US$ bn)**
		Y1	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**	
6.1 National Rice Data Platform	6.1.1 National Rice Data Platform (linked to ERO ECO-AGRIS platformg)	0.04	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
	Subtotal – Activity 6.1	**0.04**	**0.03**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.08**
6.2 Farmer Registry & Digital Extension	6.2.1 National Digital Farmer Registry + digital extension rollout	0.04	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
	Subtotal – Activity 6.2	**0.04**	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.09**
6.3 Geospatial & Remote Sensing	6.3.1 Geospatial mapping + satellite/remote sensing updates	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	Subtotal – Activity 6.3	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**
6.4 Traceability & Interoperability	6.4.1 Traceability, interoperability & data governance (cluster ERP links)	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
	Subtotal – Activity 6.4	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.03**
	TOTAL – Investment Area (Action 6)	**0.12**	**0.09**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.25**

Investment Area 7: Finance & De-Risking Mechanisms (RSIF)			
		INDICATIVE COST (US$ bn)	**TOTAL (US$ bn)**

ACTIVITIES	ACTIONS	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	
7.1 RSIF Anchor Capital & Co-investment Windows	7.1.1 RSIF anchor capital + co-investment windows	0.25	0.20	0.10	0.05	0.03	0.02	0.00	0.00	0.00	0.00	0.65
	Subtotal – Activity 7.1	**0.25**	**0.20**	**0.10**	**0.05**	**0.03**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.65**
7.2 Risk Sharing & Insurance	7.2.1 Guarantees, risk-sharing and insurance scale-up	0.05	0.04	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.15
	Subtotal – Activity 7.2	**0.05**	**0.04**	**0.03**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.15**
7.3 Transaction Preparation & PPP Structuring	7.3.1 Feasibility, safeguards, PPP structuring support	0.04	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10
	Subtotal – Activity 7.3	**0.04**	**0.03**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**
7.4 Technical Assistance Facility	7.4.1 TA for pipeline development, deal support, and fund governance	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
	Subtotal – Activity 7.4	**0.02**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.05**
	TOTAL – Investment Area (Action 7)	**0.36**	**0.29**	**0.16**	**0.08**	**0.04**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.95**

Annex 2: Action Plan Summary Table

Pillar / Investment Area	Action	Rationale	Key Activities	Responsible partner(s)	Timeline	Estimated cost	Indicators	Key Risks & Mitigation
1. Climate-Resilient Irrigation Expansion	1.1 Dam Rehabilitation and Optimisation 1.2 Rehabilitation of Large-Scale	Less than 10% of irrigable potential is currently developed; without dependable water, investments in	1.1.1 Site investigation and Studies (Geological, Geotechnical and Exploration Investigation, bathymetric survey, ESIA) 1.1.2 Dam	**Lead:** FMWR. **Implementers:** RBDAs, FMAFS. **Support:** State MoA/Water, private irrigation & solar	**2026–2027:** diagnostics + pilot rehab + initial solar rollout; **2028–2030:** scale rehabilitation +	**2.65 US$bn**	• Public irrigation rehabilitated & operational (**ha**) • Farmer-managed irrigation area (**ha**)	**Security/vandalism:** community monitoring and distributed assets. **Weak O&M:** PPP

	Irrigation (per annum) 1.3 Expansion of Small-Scale Irrigation Systems 1.4 Strengthening Water Users Associations (WUAs)	seed, fertilizer, mechanisation and processing will not translate into stable paddy volumes or bankable offtake. Most of the dams are aging and silted up, which reduces their storage capacity	rehabilitation (Embankment, Inlet, Outlet, Spill Way, Flood diversion structures, stealing basin and instrumentation, electro and hydromechanical) 1.2.1 Conduct basin diagnostics & feasibility studies 1.2.2 Rehabilitation works (canals, drains, control structures, headworks). 1.3.1 Deploy solar pumps & tube wells (priority clusters) 1.3.2 Train & onboard farmers (O&M, scheduling, agronomy under irrigation). 1.4.1 WUA training on O&M, water allocation & mediation.	providers, AfDB/World Bank/GCF, WUAs.	basin tools + IMT/PPP O&M; **2031–2035:** consolidate + sustained double-cropping		• Double-cropped share of irrigated area (%) • Yield increase in rehabilitated schemes (%) • Priority basins with operational hydrology tools (#%)	maintenance, ring-fenced O&M, and WUA capacity. **Water conflicts:** basin allocation rules and mediation. **Low adoption:** flexible financing and demos/training.
2. **Seed System Reform & Hybrid Seed Scale-Up**	2.1 Breeder/Foundation/Certified Seed Expansion	Only ~20–25% of farmers use certified seed; yield competitiveness and import substitution depend on	2.1.1 Upgrade breeder/foundation seed farms (irrigation, cold rooms, equipment); 2.1.2 Scale breeder & foundation seed	**Lead technical**: NCRI, NASC. **Scaling:** SEEDAN/private seed firms.	**2026:** expand breeder/foundation + NASC audit + demos. 2027: hybrid programme + private contracts +	**2.15 US$bn**	• Certified seed volumes (MT/year) • Share of farmers using certified seed (%)	**Counterfeit seed:** QR + enforcement + audits. **Low adoption**: demos + targeted

	2.2 Strengthening NCRI Capacity: 2.3 Regulatory & Quality Assurance (NASC):	scaling certified/hybrid seed and reducing counterfeit seed risk.	production (multiplication blocks, field operations). 2.2.1 Establish/upgrade seed QA lab & ISO accreditation; 2.2.2 Modernise cold-chain storage & smart warehouses (IPM, ventilation); 2.2.3 Construct screenhouses & deploy solar-powered perimeter irrigation for foundation farms; 2.2.4 Deploy ERP-linked digital seed inventory & tracking for NCRI hubs. 2.3.1 Upgrade NASC seed testing labs (equipment, accreditation); 2.3.2 Expand inspectorate & field certification (mobility, QA supervision). 2.4 Anti-counterfeit & Traceability: 2.4.1 Seed codex, authentication & anti-counterfeit systems (last-mile enforcement). 2.5 Private Multiplication & Distribution: 2.5.1	**Oversight:** FMAFS/FMARD seed council. **Adoption:** State MoAs/ADPs. **Support:** AfDB/IFAD/JICA, research partners.	QR traceability. **2028–2030:** scale adoption + labs/enforcement + ECOWAS alignment. **2031–2035:** varietal replacement cycles + full traceability.		• Hybrid share of irrigated area (%) • Counterfeit/adulteration cases (#) • Digitally traceable certified seed (%)	incentives + extension bundles. **Capacity constraints**: contract multiplication + finance + breeder seed expansion. **Climate risk on seed farms**: irrigation + insurance.

			Private multiplication support + last-mile distribution networks. 2.6 Hybrid Uptake & Varietal Replacement: 2.6.1 Demo hubs, GAP training, marketing/outreach for hybrid uptake.					
3. **Industrial Processing, Modern Milling & Value-Added Clusters**	3.1 Industrial Processing & Modern Milling Optimization 3.2 MSME Milling & Parboiling Clusters Upgrade: 3.3 Energy Cost Reduction & Efficiency: 3.4 Quality, Packaging & Compliance:	Milling capacity exists, but quality, energy reliability, and cluster integration constrain competitiveness and utilisation; MSMEs account for a large share and must meet standards to improve national quality.	3.1.1 Mill diagnostics & feasibility for upgrade pipelines; 3.1.2 Upgrade integrated mills (cleaning/destoning/sorting/dryers). 3.2.1 Formalise milling clusters; Retrofit MSME parboiling/milling clusters (shared facilities); 3.2.2 Supply improved parboiling units + operator training. 3.3.1 Solar-hybrid/efficiency upgrades for mills and clusters. 3.4.1 QA systems, packaging upgrades, compliance support at mills/clusters.	**Lead**: FMAFS (Agribusiness/Processing); **Co-leads:** State MoAs, FMITI. **Implementers:** RIPAN/RIMAN/ ASMORIN, REA, energy service firms. Quality: SON/NAFDAC/ NASC, Gates Foundation, ISDB, FCDO/UKAID, DARES	**2026:** diagnostics + priority upgrades pilots + MSME training. **2027–2029:** scale upgrades + cluster retrofits + ECOWAS-aligned parboiling. **2030–2035:** integrated value-added clusters + renewable-powered expansion.	**1.35 US$bn**	• Industrial mills upgraded (#) • MSME clusters upgraded (#) • Average utilisation of large/medium mills (%) • Broken rice ratio reduction (%) • Share processed using energy-efficient systems (%)	**High capex:** leasing/PPP/blended finance. Power reliability: solar-hybrid + ESCOs. **MSME compliance:** phased certification + hands-on coaching. **Supply volatility**: strengthen farmer–miller contracts/outgrowers.

4. **Mechanisation Hubs & Service Provision**	4.1 Mechanisation Hubs (Pilot & Scale-up): 4.2 Pay-per-use / Leasing Fleets: 4.3 Operators, Maintenance & Spares Networks: 4.4 Local Fabrication Support (NCAM-linked): 4.4.1 Local fabrication/retrofit support, standards & QA for implements.	Heavy reliance on manual labour increases cost and reduces timeliness; mechanisation is critical for double-cropping and loss reduction, and enables youth-led service enterprises.	4.1.1 Site identification, cluster mapping, hub design and linkage to hub actors; 4.1.2 Construct & equip mechanisation hubs (service yards, workshops, storage). 4.2.1 Tractor/harvester power tillers, reapers, threshers, planters, transplanters, & motorized weeders fleets + leasing systems & booking platforms. 4.3.1 Operator training/certification + safety compliance 4.3.2 Maintenance, spare parts & service networks (private MRO linkages). 4.4.1 Identification and profiling of local fabricators; Local fabrication/retrofit support, standards & QA for implements.	**Lead:** FMAFS. **Implementers:** NAMIL, private mechanisation firms/digital platforms, NCAM + engineering firms. **Finance:** BOI/BOA/NIRSAL. Local: State MoAs/ADPs.	**2026:** framework + pilot hubs + training. **2027:** leasing + platforms + maintenance networks. **2028–2030:** scale hubs + fabrication centres + integration with clusters. **2031–2035:** full mechanization coverage + export-ready fabrication.	**0.75 US$bn**	• Mechanisation hubs operational (#) • Area serviced (ha/year) • Post-harvest loss reduction in serviced clusters (%) • Youth-led enterprises active (#) • Share of machinery locally fabricated/adapted (%)	**High equipment cost:** leasing/hire-purchase + blended finance. **Breakdowns:** local MRO hubs + spares + operator training. **Low uptake**: pay-per-use + cooperative models. Security: hub siting + mobile units.
5A. Aggregation, Drying & Storage	5.1 Paddy Aggregation Centres:	Post-harvest handling and storage gaps drive losses and quality issues;	5.1.1 Establish aggregation centres (grading bays,	**Lead:** FMAFS/States. **Implementers**: aggregators,	**2026–2027:** priority clusters + pilots.	**0.85 US$bn**	• Aggregation centres operational (#)	**Underutilisation:** anchor offtake

	5.2 Drying Infrastructure: 5.3 Storage, Warehousing & Grading: 5.4 Cluster Logistics Enablers:	aggregation infrastructure is foundational to formal trade and premium-quality markets.	weighbridges, handling). 5.2.1 Drying floors & mechanical dryers (clustered), solar powered. 5.3.1 Warehouses, grading lines, moisture/quality equipment. 5.4.1 Cluster access roads & basic logistics enablers.	millers, logistics firms. **Support/finance:** DFIs, commercial banks, PPPs.	**2028–2030:** scale to major belts. **2031–2035**: optimise and integrate with corridors/export lines.		• Drying capacity installed (MT/day or # units) • Storage capacity added (MT) • Loss reduction in target clusters (%)	contracts + PPP ops. **O&M issues**: private O&M contracts + cost recovery. **Siting/security:** cluster-based siting + community ownership.
5B. Markets, Corridors & Standards	5.5 SPS/Testing & Standards: 5.6 Trade Corridor Competitiveness: 5.7 Branding & Compliance:	Quality inconsistency, high logistics costs and informal flows undermine domestic competitiveness and regional export potential.	5.5.1 SPS/testing capacity + harmonised grading systems. 5.6.1 Trade corridor pilots (Nigeria–Benin/Niger) + border tech. 5.7.1 "Premium Nigerian Rice" branding, certification & compliance support.	**Lead:** FMAFS. **Enforcement/trade:** NCS, Immigration, FMITI, ECOWAS. **Quality/branding:** SON, NAQS, NEPC, NASC, PRIDAN.	**2026:** standards alignment + branding framework. **2027:** corridor pilots + certification tools. **2028–2030:** scale certification/traceability. **2031–2035:** regional market deepening + trade intelligence.	**0.35 US$bn**	• Export-ready mills certified (#) • Formal exports via corridors (MT/year) • Reduction in informal flows (trend/%) • Adoption of branding/certification (# mills/brands)	**Non-compliance**: incentives + enforcement + MSME support. **Smuggling:** joint taskforces + digitised clearance. **Weak cross-border coordination:** bilateral committees + ECOWAS anchoring.

6. Digital & Data Systems	6.1 National Rice Data Platform (NRDP): 6.2 Advocate Farmer Participation in Farmer Registry & Digital Extension: 6.3 Geospatial & Remote Sensing: 6.4 Traceability & Interoperability	Fragmented data undermines planning, targeting and investor confidence; robust MRV enables climate/impact finance and ECOWAS reporting.	6.1.1 National Rice Data Platform (linked to ERO ECO-AGRIS platform). 6.2.1 National Digital Farmer Registry + digital extension rollout. 6.3.1 Geospatial mapping + satellite/remote sensing updates. 6.4.1 Traceability, interoperability & data governance (cluster ERP links).	**Lead:** FMAFS. Data: NBS, NASC, RBDAs/NIHSA, NASRDA, NAERLS, NCRI, **Finance integration:** NIRSAL/BOA. Delivery: States/ADPs + digital service providers, FMAFS- FISS, NIMET, RiceAdvice **Regional**: ERO.	**2026:** architecture + pilots + 1M onboarding. **2027:** national mapping + 3–5M extension. 2028–2030: scale to 5–7M + dashboards. **2031–2035:** predictive analytics + full compliance.	**0.25 US$bn**	• Rice assets mapped (coverage/#) • Farmers reached digitally (#) • Interventions delivered via digital ID (%) • Timely ERO submissions (# / compliance)	**Low literacy/connectivity:** IVR/USSD + offline-first. **Data quality:** GIS verification + audits. Agency resistance: MoUs + governance rules. Cyber risk: encryption + security testing.
7. Finance & De-Risking (RSIF)	7.1 RSIF Anchor Capital & Co-investment Windows: 7.2 Risk Sharing & Insurance: 7.3 Transaction Preparation & PPP Structuring: 7.4 Technical Assistance Facility:	Long-term finance is the binding constraint for irrigation, storage and scaling SMEs; risk-sharing is needed for commercial lenders and investors. Given the time-sensitive nature of rice production and post-harvest handling, timely financing is also	7.1.1 RSIF anchor capital + co-investment windows. 7.2.1 Guarantees, risk-sharing and insurance scale-up; Conduct targeted awareness, sensitization and advocacy to increase insurance uptake 7.3.1 Feasibility, safeguards, PPP structuring support. 7.4.1 TA for pipeline development, deal	**Policy/seed capital:** MoF/CBN/NADF. **Risk:** NIRSAL/NAIC. Consortium of underwriters – private insurance companies and Takaful providers **Administration:** BOA/BOI. **Fund mgmt**: PE/VC managers (Fund Mgr	**2026:** governance + design + seed capital + first deals. **2027:** deploy equity/mezz + pilot insurance. **2028–2030:** scale + onboard impact investors. **2031–2035:** institutionalise and deepen.	**0.95 US$bn**	• Capital deployed (US$) • Private capital leverage (ratio) • SMEs financed (#) – disaggregated across value chain actors • Jobs created (#, gender/youth disaggregated)	**Defaults:** credit risk, guarantees + insurance + portfolio diversification. **Macro volatility:** concessional + local currency structuring. **Governance:** independent IC + audits. Low uptake BDS +

		critical to sustain production cycles and enhance processing competitiveness.	support, and fund governance 7.4.2 Design customized SHF and SME financial products (low-cost, long-tenor facilities; differentiated terms by risk category and value chain role)	domiciled within the Rice Council governance framework **On-lending:** banks/MFIs.			• Insurance coverage (ha/# farms) • Cost of capital reduction (% vs baseline) • Insurance uptake rate (%) • PPPs closed(#/US$) • Financial products developed (#)	simplified digital applications.

Annex 3: List of Core Key Performance Indicators (KPIs)[9]

Action / Indicator Category	Core KPIs	Baseline	Endline Target (2035)	Data Source	Frequency
Climate-Resilient Irrigation Expansion (Action 1)	Public irrigation rehabilitated (RBDA/FADAMA)	43,000	**100,000 ha rehabilitated**	FMWR/RBDA, GIS	Annual
	Farmer-managed irrigation area constructed		**300,000 ha** under solar/tube-well systems	FMAFS, State MoAs	Annual
	Dry-season & double-cropping share	TBD	**50–60%** of the irrigated rice area is double-cropped	Remote sensing, ADPs	Annual

[9] Where baseline values are not yet available, "TBD (Year 1 baseline)" will be used with the understanding that first-year diagnostics will firm up baselines and targets.

	Yield increase in irrigated clusters	3.5 t/ha	**+20–30%** vs baseline	Yield surveys	2–3 yearly
	Number of dams rehabilitated and optimized	3 dams	**15 dams** rehabilitated	TRIMING	Annual
Seed System Reform & Hybrid Scale-Up (Action 2)	Certified seed production (all classes)	TBD	**2-3× baseline volumes** nationally	NCRI/NASC, Seed Tracker	Annual
	Adoption of certified seed	~20–25%	**60–70% of rice farmers using certified seed**	ADPs, surveys	Bi-annual
	Hybrid seed coverage (targeted belts)	TBD	**20–30% of irrigated area** under hybrids	NASC, seed firms	Annual
	Seed quality enforcement	TBD	**≥60–70% reduction in adulteration cases** **90% of certified seed digitally traceable**	NASC inspections	Annual
Processing & Milling Clusters (Action 3)	Industrial mills upgraded	TBD	**30–40 mills upgraded with** **≥50% of rice processed using energy-efficient systems**	FMAFS, RIMAN	Annual
	MSME milling clusters improved	TBD	**40–50 clusters** upgraded	State MoAs	Annual
	Average mill capacity utilisation	TBD	**65–75% utilisation** (realistic vs 80%+)	Mill reports	Annual
	Milling loss reduction	TBD	**30–50% reduction** in broken rice	QA audits	Annual
Mechanisation Services (Action 4)	Mechanisation hubs established and operational	TBD	**60–100 hubs** across major belts	FMAFS, States	Annual
	Area serviced by mechanisation	TBD	**50% of rice area** in target belts	Hub logs, ADPs	Annual
	Women/Youth-led service enterprises	TBD	**≥50% viable Mechanization enterprises**	Programme records	Annual

	Local Fabrication	TBD	**≥40–50% of machinery locally fabricated/adapted**	NCAM	Annual
Market Access & Trade Competitiveness (Action 5)	Mills certified to ECOWAS SPS	TBD	**50 export-ready mills**	SON/NAFDAC	Annual
	Formal rice exports	Very low	**200–500k MT/year with Nigerian premium rice present in ≥3 ECOWAS markets**	Customs, NEPC	Annual
	Informal trade share	TBD	**Clear downward trend** (baseline-dependent)	Border surveys	2–3 yearly
Digital & Data Systems (Action 6)	Rice farms/assets digitised	TBD	**Full coverage in priority states**	FMAFS/NBS GIS, NCRI, NASRDA	Annual
	Farmers receiving digital extension	TBD	**5–7 million farmers reached**	FMAFS, NAERLS, NCRI, Private sector, e.g. RiceAdvice	Annual
	Digital targeting of support	TBD	**70–80%** of inputs/credit digitally delivered	MIS, NIRSAL	Annual
	Farmers receiving weather information	TBD	**70 -80% of farmers receiving weather information**	FMAFS (FISS), FMAFS, NIMET	Annual
Finance & De-Risking (RSIF – Action 7)	Capital deployed to rice VC	TBD	**US$600–900m cumulative**	RSIF, CBN (Independent fund mgr.)	Annual
	Private capital leverage	TBD	**≥1:1 private-to-public**	Fund reports	Annual
	Rice SMEs financed	TBD	**80–120 SMEs** supported	BOA/BOI, RSIF	Annual
	Farms/area insured	Very low	**Meaningful coverage in priority belts**	NAIC/NIRSAL	Annual

Annex 4: Risk and Mitigation Framework

Risk Category	Key Risks	Mitigation Measures

Security & Social	Insecurity in some production zones; vandalism of assets; land and water conflicts	Community-based security and monitoring; prioritisation of local labour; siting major assets in relatively secure clusters; use of distributed small-scale solutions in higher-risk areas, insurance
Institutional, Governance & Coordination	Weak inter-agency coordination; overlapping mandates; policy reversals; slow procurement	Clearly mandated national coordination platform; MoUs and harmonised policy roadmap; streamlined procurement for priority investments; regular joint reviews with partners
Financing & Sustainability	Budget shortfalls and delays; donor financing gaps; low uptake of credit and insurance; weak O&M funding	Diversified financing (public, PPPs, blended finance); phased investments tied to confirmed resources; deployment of guarantees and de-risking instruments; cost-recovery and ring-fenced O&M mechanisms, consortium of underwriters.
Technical, Climate & Environmental	Climate shocks; technology failures; weak O&M; environmental risks	Climate-smart infrastructure and Climate Smart Agriculture practices (CSA); stress-tolerant varieties; robust O&M frameworks and irrigation management transfer to WUAs; implementation of environmental and social safeguards, insurance
Market, Private Sector & Adoption	Low adoption of improved practices; limited MSME participation; non-compliance with quality standards; import and smuggling pressure	Scaled extension and demonstrations; incentives and enforcement for quality standards; structured aggregation and offtake contracts; strengthened border and trade management, information dissemination (farmers' radio station), and advocacy.

Annex 5: Key Policies and Initiatives in Nigeria's Rice Sector

Policy/Initiative Name	Administration/ Timeline	Key Objective/Action	Sources
National Rice Development Strategy (NRDS-II)	Strategy runs 2020–2030 (Launched 2023) CARD initiative	Explicitly aims for rice self-sufficiency in Nigeria, focusing on high-yield varieties, mechanization, and value chain development. Serves as the high-level framework for the NRIAP.	NRDS-II (2020-2030) Official Document
National Agricultural Technology and Innovation Plan (NATIP)	2022–2027	Emphasizes modern technology, innovation, and digital agriculture to drive productivity and includes the rice value chain.	National-Agricultural-Technology-and-Innovation-Policy-NATIP-2022-2027
The 150 Days Duty Free Window Food Importation	Current Government's announcement (Mid 2024)	Temporary measure to curb food inflation via duty-free importation of rice, maize, and other staples, while ongoing reforms and wet-season harvests stabilize supply.	FG Announces 150-Day Duty-Free Import Window (Channels TV)
Proposed National Rice Development Council	Current Federal Government ("Renewed Hope" era)	Aims to establish a dedicated institutional platform for sector coordination, innovation, and oversight	Rice Council Development Bill Discussion (WOFAN/Senate Committee)
Special Agro-Industrial Processing Zones (SAPZ) Programme	Ongoing (Launched post-2020)	Creates designated zones with infrastructure and policy support to reduce post-harvest losses and attract private investment in processing, including rice.	Official SAPZ Program Website (sapz.gov.ng)
Anchor Borrowers Programme (ABP) Legacy	Launched 2015 (Legacy impacts continue)	Provided massive credit to smallholder farmers and processors for key agricultural commodities like rice to boost domestic production.	Anchor Borrowers' Programme (ABP) Revised Guidelines (CBN)
Presidential Fertiliser Initiative (PFI)	Launched 2016 (currently undergoing structural transitions)	Facilitates local production and supply of subsidized NPK fertilizer to farmers, a critical input for rice yield improvement.	Presidential Fertiliser Initiative (PFI) Overview (NSIA)
Import Tariff and Border Ban	Buhari Administration (2015–2023)	Imposed a 70% tariff on imported rice and a land-border closure to protect domestic production and milling capacity.	Study on Border Closure and Domestic Rice Production (Academic Source)
Agricultural Transformation Plan (ATP)	2011 (Targeted until 2015)	Aimed to modernize agriculture and identified rice as a priority crop within the broader food security and import-substitution agenda, setting a specific goal to double paddy output from 3.4 to 7.4 MMT by 2015.	Agricultural Transformation Agenda Blueprint (FUNAAB)
National Rice Development Strategy (NRDS-I)	Launched in 2009 (CARD initiative)	The initial comprehensive strategy sets explicit self-sufficiency objectives, with pillars on seed irrigation, mechanization, and processing. Outlining goals to increase rice production from 3.4 MMT to 12.85 MMT by 2018.	NRDS-I Official Document (Inter-Réseaux)

Annex 6: Nigerian Rice Sector Stakeholder Analysis

Stakeholder Category	Key Entities & Roles	Primary Focus & Interests
Government & Regulators	• Federal/State Ministries of Agriculture & Food Security (FMAFS/SMoA): Set policy, design programs (subsidies, extension, mechanization), coordinate research. • Central Bank of Nigeria (CBN): Major financier (e.g., Anchor Borrowers' Programme/ABP). • Standards Organization of Nigeria (SON): Enforces quality and grading standards. • Nigerian Customs Service (NCS): Enforces trade rules and combats informal trade. • National Agricultural Seeds Council (NASC): Regulates seed quality and certification.	Food security, rural employment, import reduction, policy alignment, and quality enforcement.
2. Producers & Cooperatives	• Rice Farmers Association of Nigeria (RIFAN): Largest farmer cooperative • All Farmers Association of Nigeria (AFAN): Includes rice growers. • Women Farmers Advancement Network (WOFAN) & Youth Cooperatives: Active in cultivation and processing.	Access to quality inputs (seed, fertilizer, mechanization), reliable markets, and credit.
3. Millers & Agribusiness	• Large Agribusiness Firms: Olam Agri Nigeria, Dangote Rice, Flour Mills of Nigeria (FMN), • Industry Associations: Rice Millers Association of Nigeria (RIMAN), Association of Small/Medium Modular Rice Millers (ASMORIN), Rice Processors Association of Nigeria (RIPAN).	Steady supply of good-quality paddy, improved mechanization/post-harvest technology, stable policies, and high-capacity utilization.
4. Input & Service Providers	• Seed Companies (SEEDAN): Local and international hybrid seed providers, NASC-certified seed system. • Fertilizer Blenders & Distributors: Supply blended NPK and micronutrients. • Agro-dealers: Last-mile input sellers in rural areas. • Mechanization Service Providers: Tractor service companies, threshing/harvesting suppliers (often under schemes like NAMIL/NIRSAL). • Research & Extension: National Cereals Research Institute (NCRI), IITA, AfricaRice, African Agricultural Technology Foundation **(**AATF), universities.	Wider adoption of technology (seeds, irrigation), higher productivity, and technology commercialization.
5. Financial Institutions & Development Partners	• Financial Institutions : Bank of Agriculture, commercial/microfinance banks, NIRSAL, NAIC. • Development Partners/Donors: World Bank (GAFSP), IFAD (VCDP, VCN), AFDB, AGRA, USAID, GIZ, World Food Programme.	Profitable lending products, risk reduction through aggregation, poverty reduction, food security, and value-chain development.

6. Traders & Logistics	• Aggregators & Commodity Traders: Buy paddy from farmers and sell to millers. • Wholesale & Retail Traders: Link supply to urban markets. • Transporters & Storage Operators: Move grain between fields, mills, and markets. • Brokers & Commodity Exchanges.	Maximizing margins, price arbitrage, and overcoming logistics/storage bottlenecks.
7. Consumers	• Wholesalers, Retailers, and End Consumers.	Affordable price, high quality (low broken rice ratio, good taste), consistency, and satisfaction of national demand.

Annex 7 : NRIAP Validation

The NRIAP Validation Workshop represents the culminating phase of the NRIAP development process. Its primary objectives were to subject the draft Plan to rigorous technical scrutiny, verify the accuracy and realism of cost estimates, validate underlying financing assumptions, and secure both institutional and political ownership of the Plan's commitments.

The Nigerian NRIAP Validation Workshop was convened from 10–12 February 2026 at Treasure Suites and Conference Centre, Abuja. The workshop brought together a broad and representative cross-section of key stakeholders identified in the NRIAP Stakeholder Analysis (Annex 7), including representatives from the private sector, development partners, input service providers, regulatory bodies, financial institutions, and commercial actors across the rice value chain.

The workshop was structured to facilitate maximum engagement with the NRIAP content. Each thematic area was reviewed and validated by dedicated breakout groups composed of subject-matter experts, ensuring that all components of the Plan were subject to focused and informed deliberation. Upon conclusion of the review process, Nigeria's NRIAP was formally endorsed by rice-sector stakeholders, subject to minor adjustments to proposed actions. The revisions detailed below have been fully incorporated into the Plan's narrative.

S/N	Action	Revisions
I	Action 1: Climate-Resilient Irrigation Expansion	Sub-Actions were expanded to include a dam rehabilitation component, leveraging existing infrastructure to enable faster deployment of irrigation interventions. Primary Target Regions were also assigned to include: Niger Basin (Niger, Kebbi); North-West-East (Jigawa, Kano); Benue Basin (Benue, Nasarawa); Lower Niger (Kogi) The establishment and strengthening of Water User Associations (WUAs) were introduced to ensure equitable water allocation, transparent management, and the long-term sustainability of irrigation schemes at the community level.

2	Action 2: Seed System Reform & Adoption	Revisions focused primarily on strengthening implementation arrangements. Clear delineation of responsibilities among relevant MDAs was emphasised, given overlapping seed-sector mandates. Funding allocations were revised as follows: Government (30%), Development Partners (45%), Private Sector (15%), Blended Finance Structures (5%), and Farmers/Cooperatives (5%).
3	Action 3: Processing & Quality Upgrading	Activity 3.2.1 was adjusted to include the formalisation and upgrading of existing parboiling and milling clusters, with a focus on improving standards, traceability, and competitiveness of locally processed rice.
4	Action 4: Mechanisation Services	Activity 4.2.1 was expanded to broaden the pay-per-lease equipment fleet to include power tillers, reapers, threshers, planters, transplanters, and motorised weeders. Additional activities now include identifying, profiling, and formalising local agricultural equipment fabricators to support scale-up and local manufacturing capacity.
5	Action 5: Market Access & Regional Trade Competitiveness	Sub-Action 5.1 was expanded to include a needs assessment to determine optimal site selection for aggregation centres, with coverage extended across all six geopolitical zones. Sub-Action 5.2 was revised to incorporate climate-smart approaches, including the adoption of solar-powered drying infrastructure across production clusters.
6	Action 6: Digital & Data Systems	Sub-Action 6.1 was renamed the Nigeria Rice Data Platform, with implementation designed to leverage existing advisory systems such as RiceAdvice. The indicator framework was strengthened to include "Number of farmers receiving weather information," reflecting the importance of climate-informed advisory services.
7	Action 7: Finance & De-risking (RSIF)	The rationale was expanded to reflect the time-sensitive nature of rice production and processing cycles. Sub-Action 7.1 will be housed under a proposed National Rice Development Council, which will serve as the fund manager for the Rice Sector Investment Fund (RSIF). Sub-Action 7.4 was expanded to include preparatory activities for RSIF rollout, including awareness and sensitisation campaigns, development of tailored insurance products, and bundling of insurance premiums within the fund structure. Government subsidies will be channelled through insurance mechanisms to enhance farmer risk coverage. The list of implementation partners now includes a consortium of underwriters, private insurance companies, and Takaful providers.

		The indicator framework was strengthened to include: • ratio of claims payout per insured farmer, • % reduction in cost of capital (relative to baseline), • %increase in return on investment, and • %reduction in interest rates.

Nigeria's National Rice Investment Action Plan (NRIAP) was formally validated on 26 February 2026. Official acceptance on behalf of Nigeria's rice sector stakeholders was conveyed by the Honourable Minister of Agriculture and Food Security, represented by Dr. Abdulmalik Nura, Rice Desk Officer of the Federal Ministry of Agriculture and Food Security, on behalf of the public sector. The private sector endorsement was delivered by Mr. Peter Dama, National Chairman of CARF and Board Chair of the Nigeria Rice Task Force.

Gallery

Validation Workshop Attendance

National Validation Workshop on the National Rice Investment Action Plan (NRIAP).

Venue: Treasure Suites and Conferences

Date: 10th – 12th, February 2026

S/N	FULL NAME	Organisation	Designation	Phone number.	Sign (Day 1)	Sign (Day 2)	Sign (Day 3)
1.	MOHAMMED UMAR KURA	ASMORIN	SEC. GENERAL	0803[illegible]9959			
2.	Tukur Nuhu	✓	VP N/west	08063837[illegible]			
3.	Joshua Jonathan	✓	N/c NVP	0806555[illegible]			
4.	ISUOLA OLUSEGUN. S.	✓	N D President	0807212[illegible]			
5.	Muhammad Auwal	PRIDAN	President	0803887[illegible]			
i.	Muhammad Tura	PRIDAN	Member	0803430873[illegible]			
	Mustapha I. Belop	FMITI	Commercial Officer	08032780675			
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	Kazeem Adegoke	ERO	Advisor	0808566379 8			
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12.	DR. JOSHUA ZIRA	STERLING	Head Agribusiness North, Partnership	08060793136			
13.	SHARIF JIBRIL	RIFAN	Coordinator Water Users	0706377000[illegible]			
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15.	Prof. Ali ABDULLAHI	CARF / B.U.K.	MEMBER	0803228[illegible]			
16.	Opeyemi Emmanuel Olaleinni	Leadway Assurance Co. Ltd.	Agric Insurance Regional Analyst	07032985229			
17.	SHEHU Musa Ibrahim	FMAFS	Principal Agric. Officer	08039194563			
18.	Eleojo Rosemary Peters	CARF Women in Rice Value Chains / CARF	President	080231[illegible]			
19.	Chris Echukwu	CARF	Marketing	0810[illegible]			
20.	Cosmas Jr. MADUKA	COSCHARIS FARM LTD	M. D	08034009[illegible]			
21.	Lamido Abdulsalam	CARF	Member	08037[illegible]			
22.	OLOFU Margaret	ERO	TECH & ADm Asst	08167972[illegible]			

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24.	MUHAMMAD ALIBABA	RIFAN	Sat. President	[illegible]			
25.	Oyaichirome Florence I.	FMWR&S	Director (ISD)	[illegible]			
26.	Engr. Lawal Abdulrahman	FMWR&S	ACCE (ISD)	07083234196			
27.	Alh. KABIR IBRAHIM	NABG	President	08037873321			
28.	Godwin Kurmi Gogwim	Jelnang Nig Ltd	MD	[illegible]			
29.	Dr. Ayeleke Dauda -A	FMAFS	ACAO (Rice)	0803[illegible]4680			
30.	ISA SHUAIBU	FALGATES	Head of Programs	08162939081			
31.	ABUBAKAR MAKINTA	JAIZ BANK	HEAD, AGRIBIZ.	0803658[illegible]			
32.	BABA ALKALI	JAIZ TAKAFUL LTD	HEAD, AGRIC TAKAFUL	09018015372			
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38.	ALKALI IBRAHIM	RIMAN	MEMBER	08066283461		e	c
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40.	Musa Sadiq Yamta	Fursa Foods Ltd	Exec. Assistant	08032919770			
41.	~~HAJARA USMAN~~	~~FMITI~~	~~Member~~	~~08075176355~~			
42.	~~Dr. Ayeleke Dauda -A~~	~~FMAFS~~	~~ACAO (Rice)~~	~~08031404680~~			
43.	~~Joshua Jonathan~~	~~ASMAPAN~~	~~NVP - NC~~	~~08065655562~~			
44.	Dr Philip Idinoba	CARF. NIG	Coordinator	08167198083			
45.	Dr Umar Halilu	JICA	Sen. Prog. Off.	07038445118			
46.	Musa Sadiq Yamta	FURSA FOODS LTD	EXEC. ASSISTANT	08032919770		✓	

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