

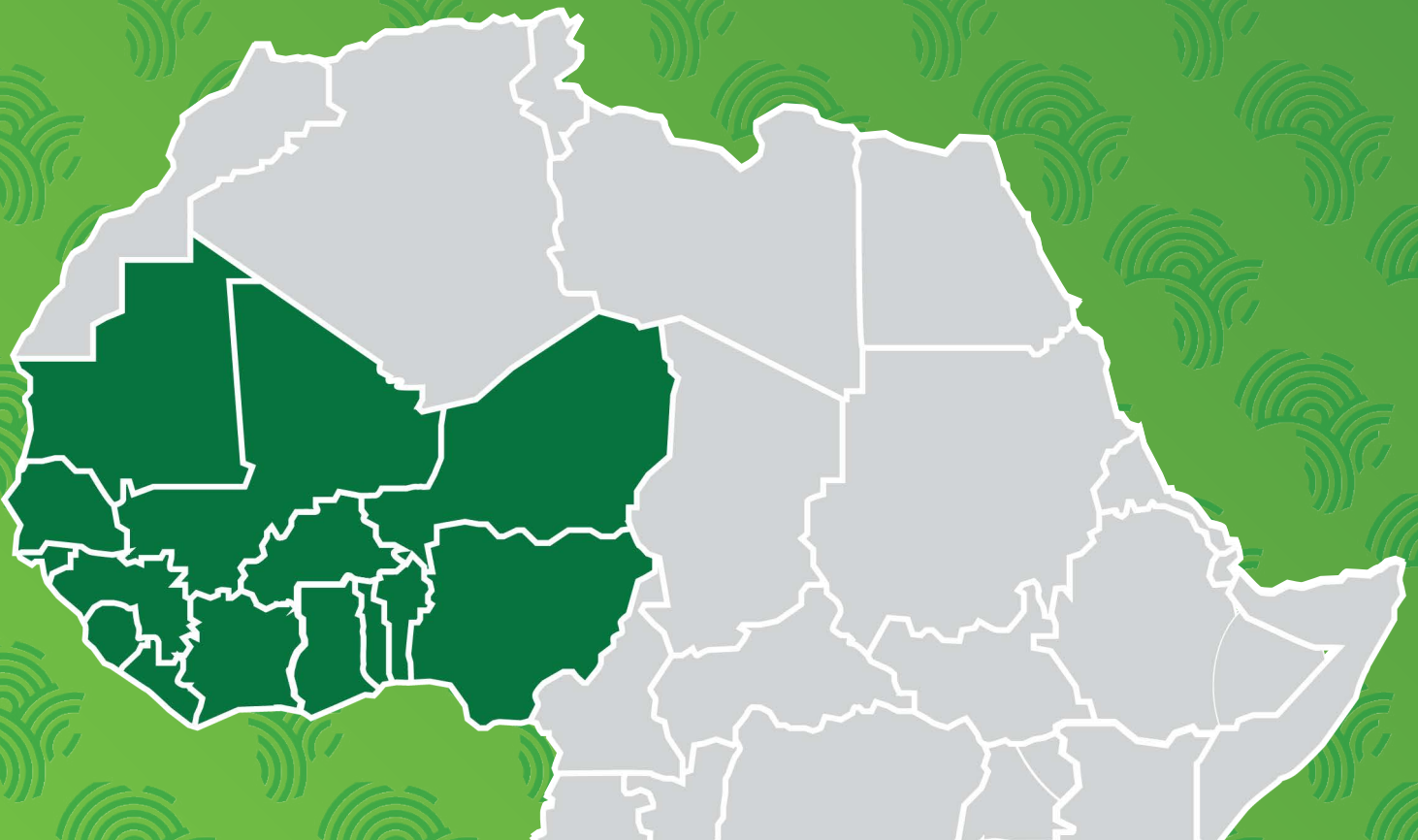
The Regional Hub for Fertilizer and Soil Health in West Africa and the Sahel

A Regional Model for Strengthening
National Soil and Fertilizer Systems





ECOWAS



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Executive Summary

***Kèlè ye kɔnɔ ye; a tɛ bɔ nyɛ fɛ.* “Preparation begins before the journey is seen.”**

Bambara proverb

The Regional Hub for Fertilizer and Soil Health in West Africa and the Sahel (referred to as Regional Hub or the Hub in the rest of the document) demonstrates how regional technical cooperation can accelerate national implementation of the Africa Fertilizer and Soil Health Action Plan, helping countries identify their needs and translating political commitments into practical investments that improve agricultural productivity and food security.

The Regional Hub is hosted by IITA and implemented through a consortium comprising International Soil Reference and Information Centre (ISRIC), International Fertilizer Development Center (IFDC), African Plant Nutrition Institute (APNI), Mohammed VI Polytechnic University (UM6P), and OCP Africa.

The Hub provides technical assistance across the soil and fertilizer system — from digital soil mapping and laboratory strengthening to site- and crop-specific fertilizer recommendations, policy support and capacity development. The Hub does not replace national institutions; rather, it strengthens their technical capacities and works with them to implement identified solutions.

Introduction and context:

Soil health is at the foundation of food security, agricultural productivity and climate resilience. Many West African countries face similar technical challenges: outdated soil information, limited laboratory capacity, fragmented data systems, insufficient technical expertise, and weak coordination among institutions implementing soil-health-related initiatives. Recognizing these shared challenges, ECOWAS and its partners established the Regional Hub for Fertilizer and Soil Health for West Africa and the Sahel in 2024 as a permanent regional technical assistance platform — not a time-bound project — operating through a demand-driven model with governance mechanisms involving ECOWAS, the Hub consortium and National Technical Teams.

The Journey:

Since its establishment in 2024, the Hub has moved through governance set-up and team mobilization and into piloting concrete technical solutions — improved digital soil maps, machine-learning led nutrient recommendations, and bundled agricultural advisory services — while expanding its portfolio into new priorities such as phosphorus management and land degradation.

Key Achievements:

- Established Hub governance structures and mobilized a multidisciplinary technical team (2024–2025).
- Initiated partnerships with governments and major development programmes, including Soil Values, the Ministry of Agriculture of Nigeria, the Government of Sierra Leone and the Government of Liberia.
- Produced Version 0 and Version 1 digital soil maps using continental and national datasets and launched new field sampling for Version 2 maps in priority watersheds in Mali and Nigeria.
- Established 500 nutrient omission trials across five countries (Ghana, Nigeria, Togo, Sierra Leone, Liberia), of which 399 succeeded and formed the basis for machine-learning-based, site- and crop-specific nutrient recommendations.
- Piloted bundled agricultural advisory services (inputs, advisory, climate information, financial services, insurance and market linkages) in Nigeria and Cote d'Ivoire, including a two-year roadmap and three bundle boxes for five priority value chains in Cote d'Ivoire.
- Strengthened the Fertilizer and Seed Recommendations Map for West Africa (FeSeRWAM) digital platform with fifteen technical factsheets and integrated profitability analysis.
- Expanded the Hub's technical portfolio to emerging priorities such as phosphorus management and land degradation (the latter priority being addressed in Sierra Leone).

Critical Success Factors:

- A demand-driven model in which countries identify priorities and the Hub co-designs solutions with national ministries, research institutes and development partners.
- Integrated (not standalone) technical delivery, bundling digital soil mapping, soil information systems, laboratory systems, nutrient recommendations, advisory services and dashboards.
- Governance mechanisms involving ECOWAS, the Hub consortium and National Technical Teams that keep implementation country-owned.

Key Lessons for Other Countries:

- Technical assistance only creates lasting value if it is designed for scale from the outset; prototypes alone are not enough.
- End users (governments and the private sector) care less about the tools themselves (e.g., digital soil maps) than about the practical questions those tools help answer — fertilizer dosage, yield response, profitability.
- Technical delivery works best as an integrated package rather than as a set of standalone deliverables.

Relevance for Other Countries:

The Hub's regional, demand-driven and consortium-based model offers a replicable approach for other regions seeking to accelerate domestication of the Africa Fertilizer and Soil Health Action Plan: a permanent (not project-based) regional technical assistance platform, anchored in a regional body, that strengthens rather than replaces national institutions.

Audience-Specific Summaries

For Policymakers

For policymakers, the Regional Hub illustrates how a Private Public Partnership (PPP)-led platform — anchored in a REC like ECOWAS and delivered through multi-institution consortium coordination — can turn political commitments under the Africa Fertilizer and Soil Health Action Plan into practical technical support for countries.

For Practitioners

For practitioners, the Hub's experience shows the value of bundling technical services — digital soil mapping, laboratory strengthening, site-specific nutrient recommendations and integrated advisory packages — around National Technical Teams, and of segmenting farmers by scale so that inputs, advisory, financing and market-linkage services can be matched to their capacities.

For Technical Experts

For technical experts, the Hub demonstrates a version-based approach to digital soil mapping that combines legacy data, new field sampling and machine learning, alongside close to 500 nutrient omission trials across five countries used to generate spatially explicit, crop- and site-specific nutrient recommendations rather than blanket fertilizer guidance.

A smiling man with short dark hair, wearing an orange button-down shirt, holds a cardboard box filled with fresh green leafy vegetables. He is standing in a field of similar plants. In the top right corner, there is a decorative graphic consisting of two overlapping circles, one green and one yellow.

Fertilizer and Soil Health in **West Africa** and the **Sahel**

1. Introduction

“Kasa ita ce uwar noma.”

“The soil is the mother of farming.” Hausa proverb

Soil health is at the foundation of food security, agricultural productivity and climate resilience, which is why investing in it is one of the most important decisions African countries can make. Yet many West African countries face common challenges, including outdated soil information, limited laboratory capacity, fragmented data systems, insufficient technical expertise and weak coordination among institutions working on soil health.

The Regional Hub for Fertilizer and Soil Health for West Africa and the Sahel was established by ECOWAS and its partners in June 2024 to address these shared challenges through a permanent regional technical assistance platform, rather than a time-bound project.

Positioning within the CAADP Framework

The Africa Fertilizer and Soil Health Strategic Implementation Action Plan (AFSH-AP) is positioned, through the work of the Regional Hub for Fertilizer and Soil Health for West Africa and the Sahel, as a thematic component of the broader CAADP Kampala Implementation Framework, contributing directly to the six Strategic Objectives:

CAADP Kampala Strategic Objective	Contribution of the Regional Hub / AFSH-AP
Strategic Objective 1: Intensify sustainable food production	Strengthened productivity through digital soil mapping and machine-learning-based, site- and crop-specific fertilizer recommendations (built on close to 500 nutrient omission trials) that improve nutrient use efficiency for smallholder farmers.
Strategic Objective 2: Boost investment and financing	Supported the preparation and mobilization of public and private investment opportunities in Benin, Côte d'Ivoire, Ghana, Nigeria, Sierra Leone, and Togo.
Strategic Objective 3: Ensure food and nutrition security	Improved the reliability of soil and fertilizer information underpinning food security by providing accurate, spatially explicit soil and nutrient data to guide agricultural decision-making (in Liberia, Ghana, Mali, Nigeria, and Sierra Leone).

Strategic Objective 4: Advance inclusivity and equitable livelihoods	Designed packages of services tailored to different categories of farmers, including segmentation of farmer cooperatives and individual farmers by scale (small-, medium-, and large-scale) so services match producers' needs.
Strategic Objective 5: Build resilient agrifood systems	Contributed to resilience by generating soil and land information used for watershed management, land restoration, and climate-smart agricultural advisory content (in Liberia, Ghana, Mali, Nigeria, and Sierra Leone).
Strategic Objective 6: Strengthen agrifood systems governance	Provided a permanent regional technical assistance platform with governance mechanisms involving ECOWAS, international research institutions, and National Technical Teams, ensuring country-owned, coordinated implementation.



2.The Hub’s Domestication Journey

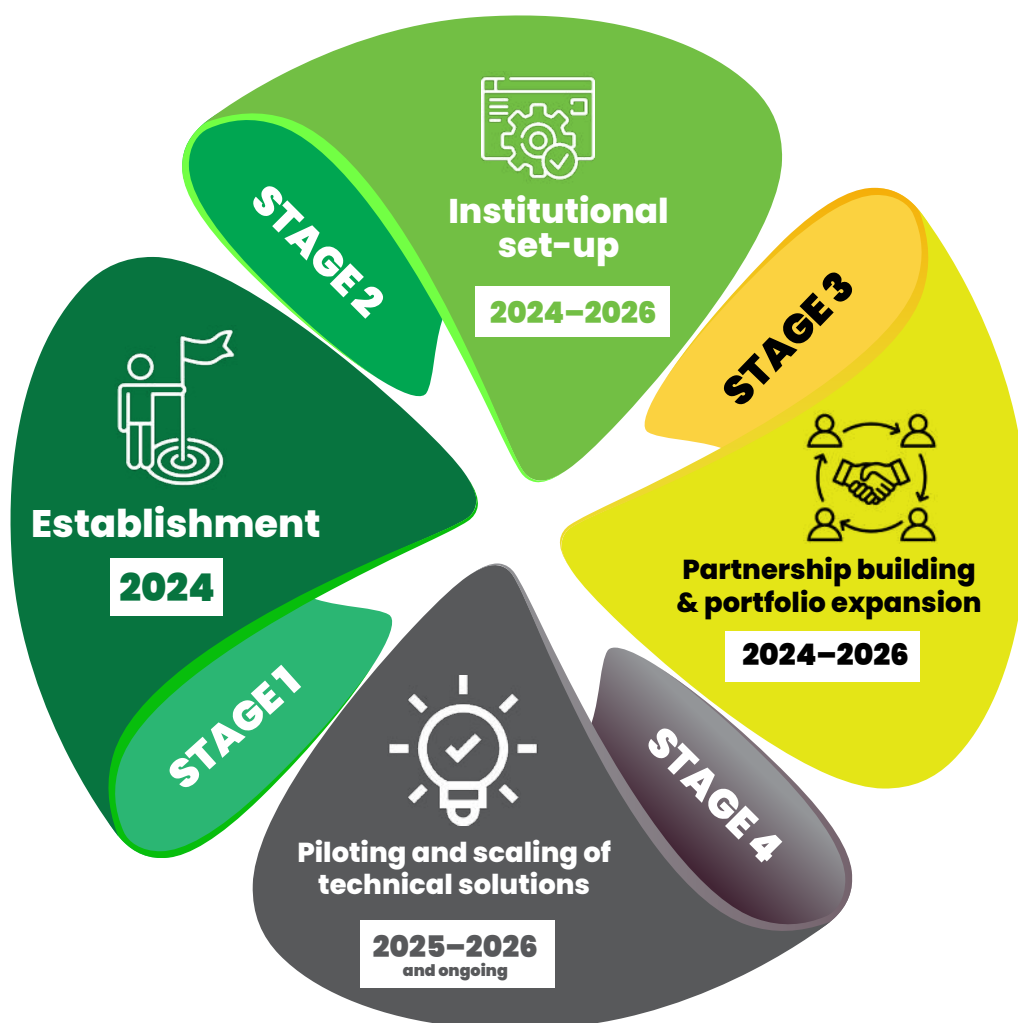
“Ọ̀nà tí a kò bá mọ̀, a máa béèrè lọ.”

“The road we do not know is travelled by asking.”

Yoruba proverb

This section traces the Regional Hub’s journey in supporting AFSH-AP domestication across West Africa and the Sahel since its establishment in 2024.

2.1 Process Timeline and Key Milestones



Stage	Period	Key Activities	Lead Institutions
Establishment	2024	ECOWAS and partners establish the Regional Hub for Fertilizer and Soil Health for West Africa and the Sahel as a permanent regional technical assistance platform (rather than a time-bound project).	ECOWAS; Hub consortium (IITA – host, ISRIC, IFDC, APNI, UMaP, OCP Africa)
Institutional set-up	2024–2025	Governance structures established; multidisciplinary technical team mobilized and deployed.	ECOWAS; Hub consortium; National Technical Teams
Partnership building and portfolio expansion	2024–2026 (first two years)	Partnerships initiated with governments and major development programmes (e.g., Soil Values, Ministry of Agriculture of Nigeria, Government of Sierra Leone); technical portfolio expanded to new priorities such as phosphorus management and land degradation.	Hub consortium; national ministries; development partners
Piloting and scaling of technical solutions	2025–2026 and ongoing	Version 2 (V2) digital soil map sampling launched in priority watersheds in Mali and Nigeria; close to 500 nutrient omission trials rolled out across Ghana, Nigeria, Togo, Sierra Leone and Liberia to generate machine-learning-based, site- and crop-specific nutrient recommendations; bundled agricultural service pilots advanced in Nigeria and Côte d'Ivoire. First country-based technical assistance projects implemented in West Africa: the cases of the Sierra Leone national soil system and the Liberia soil system.	Hub consortium (IFDC, ISRIC, APNI); National Technical Teams; Soil Values; Soil for Liberia; FSRP Sierra Leone

2.2 Detailed Process Description

Step I: Identification of the demand

The Hub follows a demand-driven process. Countries and National Technical Teams identify priority technical needs, and multidisciplinary Hub teams work with national ministries, research institutions and development partners to better understand the problem and co-design appropriate responses. Governance mechanisms involving ECOWAS, the Hub consortium and National Technical Teams help ensure that identified priorities remain country-owned.

Step II: Mobilizing financial and technical support

Once country demand is identified, the Hub mobilizes the technical expertise and partnerships required to respond. Relevant consortium partners and national institutions are brought together according to their respective areas of expertise. The Hub also engages development programmes and financing partners where additional resources are required to develop, test or scale solutions co-designed with National Technical Teams to address constraints affecting national soil and fertilizer systems.

During its first two years, the Hub has mobilized a multidisciplinary technical team and developed partnerships with governments and development programmes. These include Soil Values, the Ministry of Agriculture of Nigeria and the Government of Sierra Leone. At regional level, OCP Africa and the World Bank-financed Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) programme, Hub activities have been supported in Mali, Nigeria, Ghana, Togo, Liberia, Sierra Leone and Senegal.

The Hub has also supported the preparation of country-specific technical assistance and helped connect identified technical needs with planned investment programmes in Togo, Benin, Nigeria and Côte d'Ivoire.

The main lesson is that identifying a technical need is only the first step. Countries also need the appropriate expertise, implementing partnerships and financing arrangements to move from identified demand to implementation and, where appropriate, to scale successful solutions.

Step III: Delivering technical assistance in response to identified demand

Actors and their Roles

Partners	Function/scope of work
IITA – International Institute of Tropical Agriculture	Host institution, coordinator and technical lead for selected Regional Hub workstreams: Provide overall technical and operational coordination of the Regional Hub and its consortium, including work planning, implementation, monitoring and reporting. Support engagement with ECOWAS, National Technical Teams, national institutions and development partners. Lead technical work on site-specific fertilizer and nutrient recommendations, including the use of soil data, field experimentation and analytical approaches to develop recommendations adapted to crops and local conditions. Lead support to laboratory analytical services, including assessment of laboratory capacities, strengthening of analytical approaches, quality assurance and development of stronger national and regional laboratory networks. Lead development of the Regional Hub digital infrastructure and knowledge repository to organize, harmonize, store and facilitate access to soil, fertilizer and related technical information generated across countries and partners. Facilitate integration of these workstreams with digital soil mapping, Soil Information Systems and advisory services to produce coherent country-level technical support.
ISRIC – International Soil Reference and Information Centre	Lead on Digital Soil Mapping and Soil Information Systems: Develop and maintain digital soil health and fertility maps for West Africa and the Sahel. Collect and harmonize georeferenced soil data, produce WebGIS-accessible maps, and support the development and strengthening of National Soil Information Systems (SIS).
APNI – African Plant Nutrition Institute	Lead on Farmer-led Experimentation: Design, implement and validate farmer-led nutrient management experiments. Co-develop, test and refine 4R-based nutrient management practices – Right Source, Right Rate, Right Time and Right Place – adapted to local conditions to improve crop productivity and nutrient use efficiency.

IFDC – International Fertilizer Development Center	Lead on Bundled Soil Fertility and Advisory Services: Design, pilot and support the scaling of integrated service packages combining fertilizers, improved seed, lime, advisory services, credit, insurance and market linkages adapted to national conditions. Coordinate input suppliers, researchers, extension services and other actors involved in bundled service delivery. Lead on Policy Development and Advocacy: Support fertilizer and soil health policy development and dialogue. Lead awareness and advocacy activities targeting governments, the private sector and farming communities. Develop policy briefs and communication materials and support engagement with ECOWAS, national ministries and development partners.
OCP Africa	Support country engagement, partnerships and scaling: Support engagement with Ministries, National Technical Teams and development programmes. Facilitate collaboration with public and private sector stakeholders, including actors in the fertilizer industry. Contribute to the dissemination, adoption and scaling of Regional Hub products and services, including fertilizer recommendations, through national and regional partnerships.
UM6P – Mohammed VI Polytechnic University	Lead on Capacity Strengthening: Strengthen the capacities of regional and national institutions responsible for soil health and fertility research, development and dissemination. Support universities and other educational institutions in building a pipeline of professionals by training the next generation of students and specialists in transdisciplinary soil health sciences.



3. What Has Enabled Progress in the Regional Hub's Domestication Process

Although the Regional Hub covers 17 countries across West Africa and the Sahel, it has developed a practical framework for translating regional commitments under the Lomé Declaration and the Africa Fertilizer and Soil Health Action Plan into country-level support. Progress has depended on several institutional, technical and financial factors.

Strong regional political leadership and institutional ownership

Regional political and institutional leadership has provided an important foundation for the Hub. The Lomé Declaration and its Fertilizer and Soil Health Roadmap called for the establishment of a regional mechanism, while the Africa Fertilizer and Soil Health Action Plan provided a broader continental framework. Establishing the Hub as an ECOWAS sub-program anchored it within an existing regional institution and provided a basis for engagement with national governments.

A complementary consortium of technical partners

The Hub brings together institutions with complementary expertise in soil science, agronomy, fertilizer systems, soil information, capacity development and scaling. This consortium approach recognizes that no single institution has the expertise or delivery capacity required to address the range and scale of fertilizer and soil health challenges across the region. Clearly defined partner roles provide a basis for coordinated implementation and shared responsibility.

Country ownership and a demand-driven approach

National Focal Points and National Technical Teams connect the regional Hub with national institutions and priorities. They provide mechanisms through which countries can identify technical needs, coordinate relevant stakeholders and shape the support provided by the Hub.

Rather than applying the same model across all countries, the Hub responds to national demand and considers factors such as existing programmes, available resources, institutional capacity and readiness for implementation. Country consultations, needs assessments and joint planning help refine technical assistance according to local conditions.

Strategic partnerships and catalytic financing

Early technical and financial support from the World Bank-funded AICCRA programme and OCP Africa helped establish the Hub's initial systems and technical activities. The Hub

is also developing links with country programmes and technical-assistance opportunities that can connect its technical work to larger national investments.

A continuing challenge is to secure financing beyond individual project cycles and progressively diversify the sources of support for the Hub and its country-level activities.

Clear governance and coordination

Clear governance arrangements help manage an initiative involving several countries, institutions and technical partners. The Consortium Steering Committee provides strategic oversight, while National Focal Points, National Technical Teams and the Hub Secretariat connect regional coordination with national implementation.

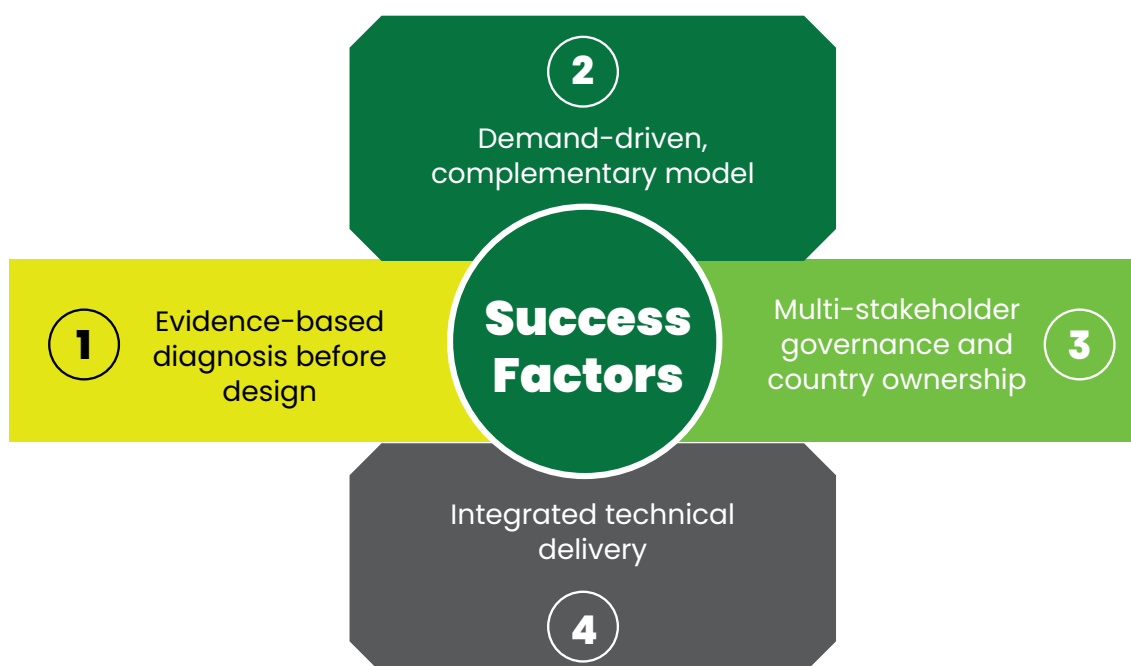
These arrangements help manage the risks of fragmented initiatives, competing priorities and complex decision-making while keeping Hub support aligned with country priorities.

“Bolo kelen tɛ se ka ta yiri bæ tige.”

“One arm cannot prune an entire tree.”

— Bambara proverb

The Hub’s first two years confirmed that no single institution can address the complexity of soil and fertilizer systems alone. Countries provide national leadership and implementation capacity, consortium partners bring complementary technical expertise, and development partners contribute resources and implementation opportunities. The Hub helps bring these actors together around identified country priorities.



Success factor	Description
Demand-driven, complementary model	The Hub responds to priorities identified by countries. It strengthens existing national institutions and programmes rather than replacing them, increasing national ownership and the relevance of the technical assistance provided.
Integrated technical delivery	Digital soil mapping, Soil Information Systems, laboratory strengthening, nutrient recommendations, advisory services and decision-support tools are delivered as an integrated package rather than as separate activities. This enables countries to move more easily from technical outputs to investment and implementation decisions.
Multi-stakeholder governance and country ownership	Implementation is guided by governance mechanisms involving ECOWAS, the Hub consortium, National Focal Points and National Technical Teams. These structures bring together government institutions, research organizations, the private sector, and farmer-led umbrella organizations to ensure that implementation remains country-led.
Evidence-based diagnosis before design	Country needs assessments and ecosystem mapping are conducted before technical assistance is designed. For example, the regional assessment of bundled agricultural services across 12 countries helped identify existing capacities, implementation gaps and partnership opportunities before piloting interventions.

4. Financing the Fertilizer and Soil Health Action Plan

“A kì í kọ ilé láì kọ ìpílẹ̀.”

“One does not build a house without first laying the foundation.”

Yoruba proverb

The Regional Hub for Fertilizer and Soil Health in West Africa and the Sahel does not finance large-scale investments itself but provides the technical services, institutional capacity, and evidence base that enable countries and partners to implement the AFSH-AP. The Hub’s role is to generate the foundational data and technical products—digital soil maps, site-specific nutrient recommendations, soil information systems, and laboratory frameworks—that inform and support investment decisions by governments, development partners and the private sector.

AFSH Action Plan Outcome / Output	Contribution of the Regional Hub Technical Assistance
Outcome 1 – Improved policies, investment, finance and markets	
Output 1.1 Improved policy environment	The Hub provides technical evidence through digital soil maps, Soil Information Systems (SIS), laboratory assessments and site-specific nutrient recommendations that can support future policy development. No dedicated policy support activities have been implemented yet.
Output 1.2 Improved financing and investment opportunities	The Hub is assessing regional laboratory analytical capacity and developing a future regional investment plan for a hub-and-spoke framework for laboratory services.
Output 1.3 Integrated climate-smart soil fertility investment plans	The Hub develops digital soil maps, Soil Information Systems and site-specific nutrient recommendations that provide the technical foundation for future climate-smart soil fertility investment planning. No dedicated investment planning activities have been implemented yet.

Outcome 2 – Improved access to and affordability of mineral and organic fertilizers	
Output 2.1 Increased domestic production, distribution and research	The Hub develops crop- and site-specific nutrient recommendations and strengthens national research capacity. These technical products can support the fertilizer industry in developing products adapted to priority crops and soils. The Hub does not finance fertilizer production or distribution.
Output 2.2 Enhanced intra-African fertilizer trade	Not a direct mandate of the Hub.
Outcome 3 – Greater efficiency, resilience and sustainable use of fertilizers	
Output 3.1 Recommendations targeted to specific crops	Core contribution. The Hub develops in 6 countries (Nigeria, Togo, Ghana, Liberia, Sierra Leone) machine-learning-based site-specific nutrient recommendations using legacy datasets and Nutrient Omission Trial (NOT) data. Recommendations are progressively validated through field experimentation before dissemination.
Output 3.2 Agronomic fertilizer use efficiency increased	The Hub improves fertilizer use efficiency through Integrated Soil Fertility Management (ISFM), field validation of nutrient recommendations and farmer-led experimentation. Farmer-led experimentation approaches are currently tested in Ghana and Côte d'Ivoire.
Output 3.3 Digital soil monitoring databases	Core contribution. The Hub develops high-resolution digital soil maps, national soil information systems, a regional data infrastructure and knowledge repository, and interoperable decision-support services. Digital soil maps have already been produced for Nigeria and Mali, while SIS development has been initiated in Togo, Liberia, Sierra Leone, Ghana and Nigeria.
Outcome 4 – Enhanced institutional and human capacity	
Output 4.1 Locally relevant technologies and farm practices developed and promoted	The Hub is establishing farmer-led experimentation platforms in Ghana and Côte d'Ivoire to validate nutrient management options under farmers' conditions. It is also developing bundled advisory services that combine fertilizers, knowledge and complementary agricultural services adapted to local contexts.

Output 4.2 Laboratory capacity	The Hub is assessing laboratory analytical capacity across the region and developing a laboratory capacity enhancement framework geared towards the deployment of a future regional hub-and-spoke model.
Output 4.3 Regional knowledge networks established	The Hub provides a regional platform that brings together National Technical Teams, research institutions, Regional Economic Communities and technical partners. It also develops a regional data infrastructure and a knowledge repository to facilitate knowledge sharing and interoperability across countries.
Output 4.4 Enhanced last-mile delivery systems	The Hub supports the design of bundled advisory services by diagnosing farmer constraints, mapping local service providers, integrating nutrient recommendations into digital advisory tools (e.g. AKILIMO), and assembling bundles of inputs, knowledge and services. Scaling remains the responsibility of national programmes and development projects.

Financing Sources

The Hub is supported by a combination of funding sources:



Current and potential source of funding	Nature of support and requirements
World Bank – AICCRA / FSRP IV	Provides catalytic financing for Regional Hub activities and country-level technical assistance. Continued or expanded support depends on demonstrating concrete technical results, country demand, effective implementation and a clear pathway for integrating successful solutions into larger national or regional investment programmes.
OCP Africa	Provides technical and financial support through its partnership with IITA and the Regional Hub, including support to country engagement and selected soil and fertilizer activities. Continued support requires alignment with agreed regional and country priorities, delivery of agreed outputs and evidence that supported interventions can generate practical value and be scaled.
European Union – Soil for Liberia	Provides technical and financial support for activities in Liberia, particularly digital soil mapping and the strengthening of the national Soil Information System. The partnership requires delivery of agreed technical outputs, strong national institutional engagement and integration of the resulting soil information into national planning and decision-making.
Private sector	Can provide investment and commercial partnerships for areas such as fertilizer products and blending, laboratory and analytical services, digital advisory services, input delivery and market development. Mobilizing such investment requires viable business models, clear market demand, supportive policies, appropriate public-private partnership arrangements and opportunities to connect investors with scalable solutions.

Sustainability and Future Resource Mobilization

To ensure the Hub's long-term sustainability and continued delivery of services, the following resource mobilization strategies are being pursued:

Strategy	Description
Integration into ECOWAS programmes	Embedding the Hub's functions into ECOWAS's regular programmes and budget cycles to ensure institutional continuity beyond project funding.
Diversification of funding sources	Engaging multiple bilateral and multilateral development partners, philanthropic institutions, and private sector actors to reduce reliance on a single donor.
Development of bankable investment cases	Packaging Hub-generated technical products into investment-ready proposals that attract financing from development finance institutions and private investors.
Public-Private Partnerships	Facilitating PPPs for fertilizer blending, laboratory services, and digital advisory platforms to leverage private sector investment.
Carbon markets and climate finance	Exploring opportunities for carbon credits and climate finance to support soil health interventions, particularly in land restoration and sustainable land management.
National budget integration	Supporting Member States to allocate national budget resources for soil health and fertilizer interventions informed by Hub-generated evidence.
African Fertilizer Financing Mechanism (AFFM)	Leveraging the AFFM to support fertilizer value chain investments, including local production, blending, and distribution.



5.0 Contribution to Investment Planning and Monitoring Systems

Beyond generating technical products, the Hub is increasingly focused on ensuring that its work translates into tangible investment and accountability outcomes. This section outlines how the Hub is linking technical assistance to national investment planning processes and contributing to the monitoring framework for the AFSH-AP, including the continental Dashboard.

5.1 Linking Technical Assistance to Investment Planning and AFSH-AP Monitoring

The Hub's contribution has so far been mainly through technical assistance. It helps countries generate the evidence and technical priorities that can inform national and regional agricultural investment plans. This includes digital soil maps, Soil Information Systems, laboratory capacity assessments, site-specific nutrient recommendations, farmer-led experimentation and bundled advisory services.

The Hub is also increasingly linking identified technical needs with existing or planned national investment programmes. This approach is being pursued in Togo, Benin, Nigeria and Côte d'Ivoire, where technical assistance is being connected to larger investment opportunities and national programmes. This is already consistent with the process described earlier in your report.

Systematic integration into NASIPs and RASIPs, however, is still work in progress. The next step is to link major technical interventions to a national investment programme, a responsible institution, an indicative budget and, where possible, a financing source. Thus, technical recommendations are more likely to be sustained when they are translated into costed investment priorities, rather than remaining stand-alone technical outputs.

5.2 Strengthening AFSH-AP Monitoring and the Dashboard

During its first two years, the Regional Hub has not directly developed or managed the continental AFSH-AP Dashboard. Its contribution has instead been to generate and organize technical data and knowledge that can support future monitoring of AFSH-AP implementation.

This includes information from digital soil mapping, national Soil Information Systems,

site-specific nutrient recommendations, laboratory capacity assessments, farmer-led experimentation and advisory services. The Hub is also developing a regional data infrastructure and knowledge repository to facilitate harmonization and exchange of information generated through national systems. That is already reflected elsewhere in your report.

The next step is to work with ECOWAS and the institutions responsible for the AFSH-AP monitoring framework to determine which Hub-generated indicators can feed into the Dashboard. This will require agreement on common indicators, definitions, reporting frequency, validation responsibilities and data-sharing arrangements. Thus, strengthening the Dashboard is not only about the digital platform; rather it requires a system through which countries generate, validate and regularly transmit comparable information.



6. Key Lessons from the Regional Hub's Domestication Journey

“Ilimi ba ya karewa.”

“Knowledge never comes to an end.”

Hausa proverb.

The Hub's experience since 2024 points to three recurring lessons: technical assistance should be designed with a pathway to scale; technical products should respond to practical decisions faced by end users; and technical services work best when delivered as an integrated package rather than as disconnected activities.

Summary table of the lessons

Lesson	What This Means for Others
Design for scale from the start	Countries and partners should pair every prototype or pilot with an explicit scaling pathway and the institutional, financial and technical conditions needed to reach it.
Focus on the questions end users need answered, not the tool itself	Investments in soil and fertilizer information systems should be framed around the practical decisions they enable (fertilizer dosage, yield response, profitability), not around the technology alone.
Deliver technical solutions as an integrated package	Bundling digital soil mapping, soil information systems, laboratory systems, nutrient recommendations, advisory services and dashboards helps translate technical outputs into investment and scaling decisions.
Anchor implementation in country-led governance	National Technical Teams bringing together government, research, private sector, financial institutions and producer organizations help keep technical assistance aligned with national priorities.

Base design on evidence and diagnostics	Regional and country-level assessments (e.g., of bundled agricultural services across countries) should precede the co-design of context-specific solutions.
Translate technical outputs into costed investment priorities	Technical recommendations are more likely to be sustained when they are translated into costed investment priorities, rather than remaining stand-alone technical outputs. Other hubs should ensure that their technical products are linked to national investment programmes, responsible institutions, indicative budgets, and financing sources to maximize impact and sustainability.
Strengthen country-level data systems before focusing on dashboards	Strengthening the Dashboard is not only about the digital platform. It requires a system through which countries generate, validate, and regularly transmit comparable information. Other hubs should invest in building national data generation and validation capacity as the foundation for effective continental monitoring.



7. Cultural Anchoring: A Deliberate Strategy for Ownership

This case study uses regional languages and proverbs to connect technical themes with familiar cultural references and oral traditions. As the late Kenyan author Ngũgĩ wa Thiong’o reminds us, “Language is not just a means of communication; it is a carrier of culture.”

Strategic Use of Cultural Anchoring:

Element	How It Was Used	Intended Impact
Local languages	Proverbs in Hausa, Yoruba and Bambara open each major section of this case study, linking the Hub’s technical themes (soil health, patience through process, financing, learning) to well-known regional sayings.	Aims to make key messages more accessible and memorable by connecting technical themes with familiar cultural references.
Farmer perspectives	APNI leads farmer-led experimentation, co-designing and validating nutrient management trials directly with farmers in Ghana and Côte d’Ivoire under their own field conditions; advisory and input bundles are also segmented by farm scale (small-, medium- and large-scale). On-farm trials were codesigned with local technical experts and managed by local farmers.	Helps ensure that fertilizer and advisory recommendations are tested against farmers’ practical conditions and experience.

8. Recommendations for Replication

“Sa andi a anda a anda. Sa anda a anda a andata.”
“If you know that you do not know, you will know. If you do not know that you do not know, you will not know”. Fulani proverb

A. For Other African Countries

Recommendation	Why It Matters	How to Apply
Design regional technical-assistance mechanisms as demand-driven platforms, not one-off projects	A permanent, demand-driven structure (like the Regional Hub) allows countries to keep steering priorities while benefiting from pooled technical expertise.	Anchor the mechanism in a regional body (e.g., a REC) with clear governance links to National Technical Teams.
Bundle technical deliverables instead of delivering them as standalone products	Integrated packages (soil mapping + information systems + laboratories + nutrient recommendations + advisory + dashboards) are what actually help translate technical outputs into investment and scaling decisions.	Map out the full chain of deliverables early and design delivery so they connect to one another rather than being commissioned separately.
Build a scaling pathway into every pilot from the start	Prototypes and pilots (e.g., digital soil map versions, nutrient recommendation trials) only create lasting value if the conditions for scale are planned alongside them.	Define, at design stage, what would need to be true institutionally and financially for a successful pilot to be scaled nationally.
Use National Technical Teams to keep initiatives country-led and aligned with national agrifood-system priorities.	Bringing together government, research, private sector, financial institutions, producer organizations and development partners in one body helped keep the Hub’s work aligned with national priorities in Nigeria and Côte d’Ivoire.	Co-organize major diagnostic, design and roundtable activities directly with the National Technical Team rather than in parallel to it.

B. For other subnational systems/landscape/etc.

Recommendation	Why It Matters	How to Apply
Start with a needs assessment and ecosystem/partner mapping	Country- and landscape-level diagnosis of constraints and available service providers is what allowed context-specific 'bundle boxes' to be co-designed rather than assumed.	Conduct a structured assessment of farmer constraints, agroecological conditions and existing service providers before designing interventions.
Prioritize a manageable number of value chains for piloting	Focusing on a defined set of priority value chains (e.g., irrigated rice, maize, cassava, tomato and eggplant in Côte d'Ivoire) made it feasible to design tailored bundle boxes and a phased roadmap.	Use participatory stakeholder processes to select a limited number of priority value chains before scaling to others.
Build shared data infrastructure connected to national systems	Connecting national systems to a shared regional infrastructure can facilitate data exchange, harmonization and regional analysis without replacing national data systems.	Agree on data standards, governance arrangements and interoperability mechanisms, and connect National Soil Information Systems to the Regional Hub data infrastructure.

9. Conclusion and next steps

Two years into its establishment, the Regional Hub for Fertilizer and Soil Health have moved from setting up its governance and technical team to piloting concrete technical solutions – improved digital soil maps, machine-learning-based nutrient recommendations, and bundled agricultural advisory services – in a first set of countries.

The next phase will focus on scaling these achievements by supporting countries to develop and sustain their National Soil Information Systems, strengthening laboratory analytical capacity, expanding site-specific nutrient recommendation services, and operationalizing the Regional Hub's data infrastructure. The Hub will also continue supporting countries in integrating these technical products into national agricultural investments, extension services and decision-making processes, thereby contributing to the long-term implementation of the Africa Fertilizer and Soil Health Action Plan.

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