Digital Development Hub

TECHNICAL REPORT

DIGITAL DEVELOPMENT HUB (DDHub) ACTIVITIES UNDER THE TECHNOLOGIES FOR AFRICAN AGRICULTURAL TRANSFORMATION (TAAT) PROGRAMME

Lead Funder: African Development Bank (AfDB)
Compact: Soil Fertility Enabler
Country: Nigeria
Reporting Coverage: Submitted 30 January 2019

BANQUE AFRICAINE DE DEVELOPPEMENT AFRICAN DEVELOPMENT BANK
AFRICAN DEVELOPMENT FUND FONDS AFRICAIN DE DEVELOPPEMENT
FEDERAL GOVERNMENT OF NIGERIA
IFDC Developing Agriculture from the Ground Up

1. INTRODUCTION

The Technologies for African Agricultural Transformation (TAAT) programme, spearheaded by the African Development Bank (AfDB), aims to rapidly scale up proven agricultural technologies across Africa to enhance productivity, food security, and farmer incomes. Within this framework, the Soil Fertility Enabler Compact focuses on improving soil health and fertilizer efficiency through appropriate technologies, knowledge dissemination, and coordinated stakeholder engagement.

Digital Development Hub (DDHub) was engaged as a technical subcontractor under the TAAT Soil Fertility Enabler to provide **digital innovation, technology backstopping, stakeholder coordination platforms, and knowledge translation tools** to support effective implementation of the programme in Nigeria.

DDHub's mandate emphasized:

- Deployment of digital systems for coordination, performance tracking, and data management
- Development of farmer-friendly digital extension and communication materials
- Provision of IT and technical backstopping support to TAAT partners
- Support to Monitoring, Evaluation, and Learning (MEL) components of the project

This report documents the institutional role, activities, and contributions of Digital Development Hub (DDHub) as a national implementation and digital systems support partner under the TAAT Soil Fertility Compact in Nigeria.

The report is prepared to:

- Serve as an official institutional record of DDHub's engagement under TAAT
- Provide evidence for donor and partner credibility assessments
- Demonstrate DDHub's capacity in digital agriculture, extension systems, M&E support, and multi-stakeholder programme delivery

2. EXECUTIVE SUMMARY

During the reporting period, **Digital Development Hub** (DDHub) provided **technology backstopping, digital systems development, extension support, and M&E assistance** to the TAAT Soil Fertility Enabler in Nigeria.
Three (3) major outcomes were achieved:

1. **A TAAT Soil Fertility Enabler Virtual Hub and Mobile Application** was designed, developed, tested, hosted, and deployed to support performance tracking, stakeholder coordination, and data management across TAAT partners.
2. **Agricultural innovation and technology documents were translated into farmer-friendly digital extension materials**, including multilingual animated audiovisual explainer videos that demystify soil fertility technologies such as fertilizer use, Urea Super Granule (USG), and Urea Deep Placement (UDP) used in Nigeria and Burkina Faso.
3. **Technical backstopping and M&E-related support services were** provided to TAAT partners to enhance coordination, reporting, training delivery, and data collection.

Additional milestones included:

- Preparation of **monthly technical briefs and learning reports**
- Deployment of **digital data collection tools** for partner institutions
- Capacity building of TAAT stakeholders on digital platforms for coordination, extension, and monitoring

The partnership's primary impact lies in the technology backstopping role played by DDHub, which strengthened the digital readiness, coordination capacity, and extension effectiveness of the TAAT Soil Fertility Compact. While some outputs (notably farmer-facing platforms and videos) were not fully deployed due to funding delays, they remain **fully developed, tested, and ready for scale-up.**

About PROFILE OF DIGITAL DEVELOPMENT HUB (DDHub)

Digital Development Hub (DDHub) is a Nigeria-based innovation and implementation organization that designs and deploys technology-enabled solutions for development, with core focus areas including:

- Digital agriculture and AgriTech
- Innovation ecosystems and skills development
- Civic technology and policy support
- Financial technology and inclusion
- Data systems, monitoring and evaluation (M&E)

DDHub operates as a bridge institution—connecting policy, research, technology, private sector delivery, and grassroots adoption.

3. PROJECT OBJECTIVES

3.1 Overall Objective

To strengthen the implementation of the TAAT Soil Fertility Enabler in Nigeria through digital platforms, farmer-focused knowledge products, and technical backstopping support through:

- Strengthening coordination and performance tracking among Soil Fertility Enabler stakeholders through digital platforms
- Enhancing farmer understanding and adoption of soil fertility technologies via innovative digital extension tools
- Providing technical and IT backstopping support to TAAT implementation partners
- Supporting Monitoring, Evaluation, and Learning (MEL) processes through digital data systems

3.2 Specific Objectives

- Develop and deploy a digital stakeholder engagement and performance tracking platform
- Translate complex soil fertility innovations into accessible digital extension materials
- Provide technical and IT support to TAAT partners
- Strengthen Monitoring, Evaluation, and Learning through digital tools

3.3 Project Components

- **Component 1:** Digital Platforms and Systems Development
- **Component 2:** Digital Extension and Knowledge Translation
- **Component 3:** Technical Backstopping and Capacity Building
- **Component 4:** Monitoring, Evaluation, and Learning Support

4. PROJECT CONTEXT AND RATIONALE

4.1 Sector Context

Low soil fertility remains a major constraint to agricultural productivity in Nigeria and across Africa. Despite the availability of proven technologies—such as Urea Deep Placement (UDP), Urea Super Granules (USG), and improved fertilizer management practices—adoption by smallholder farmers has remained suboptimal due to:

- Weak extension systems
- Poor translation of scientific knowledge into farmer-friendly formats
- Fragmented coordination among implementing partners
- Limited use of digital tools for monitoring and stakeholder engagement

The African Development Bank's Technologies for African Agricultural Transformation (TAAT) initiative was designed to address these challenges by accelerating the deployment of proven technologies at scale through compact-based implementation.

4.2 Project Rationale

The TAAT programme aims to accelerate agricultural transformation by scaling proven technologies through coordinated value chain compacts. The **Soil Fertility Enabler** plays a cross-cutting role in supporting multiple crop compacts by improving soil diagnostics, fertilizer efficiency, and adoption of best practices.

DDHub was engaged to support this objective by deploying **digital systems, extension innovations, and technology-enabled coordination tools** to address key bottlenecks in:

- Stakeholder coordination
- Farmer understanding of complex technologies
- Performance tracking and results reporting
- Monitoring, evaluation, and learning (MEL)

5. DDHub’S ENGAGEMENT UNDER TAAT

5.1 Institutional Role

Under the TAAT Soil Fertility Compact, **DDHub** was engaged as a **national implementation and technology support partner working** in collaboration with:

- International Fertilizer Development Center (IFDC)
- CGIAR centres (ICRISAT, IITA, AfricaRice, ICARDA)
- National research and academic institutions
- Federal and state-level agricultural stakeholders
- Private sector input and agro-dealer networks

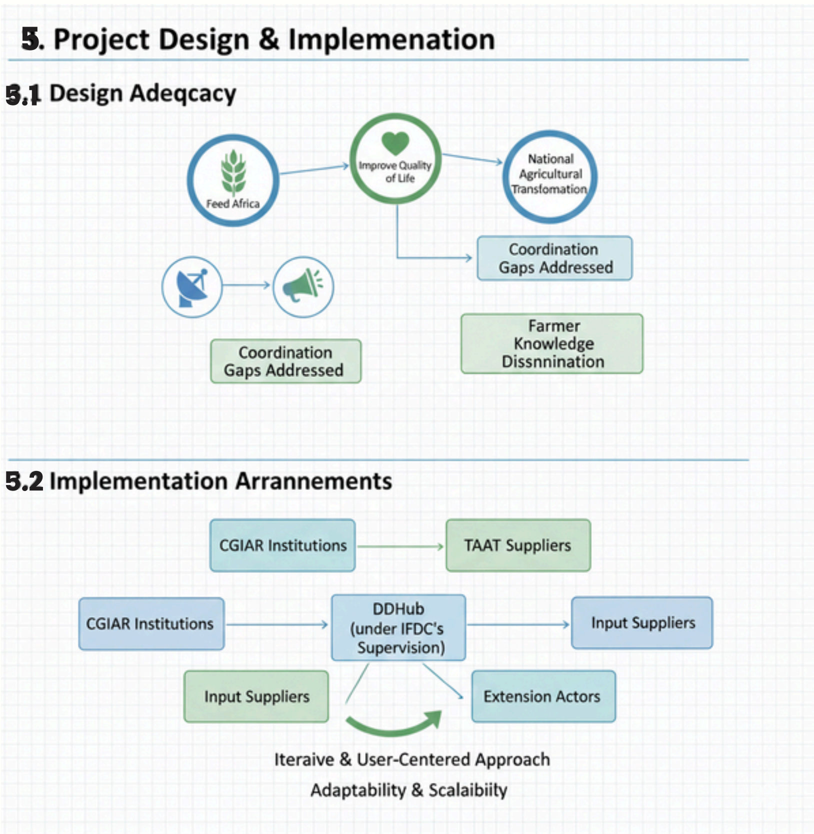
DDHub’s role extended beyond technology provision to include systems design, stakeholder engagement, extension support, and M&E assistance.

5.2 Implementation Arrangements

DDHub worked under IFDC’s supervision, collaborating with:

- CGIAR institutions
- TAAT compact members
- Input suppliers
- Extension actors

Implementation adopted an iterative and user-centered approach, ensuring adaptability and scalability.



6. ACHIEVEMENT OF PROJECT OUTPUTS

6.1 Component 1: Digital Platforms and Systems

Key Outputs:

- Development and deployment of the TAAT Soil Fertility Enabler Virtual Hub and Mobile App
- Cloud-based stakeholder engagement and data management system
- Modules for:
  - Project management
  - Digital data collection
  - Visualization and reporting
  - M&E support

Achievement Rating: ✓ **Achieved**

6.2 Component 2: Digital Extension and Knowledge Translation

Key Outputs:

- Three series of animated explainer videos on:
  - Fertilizer fundamentals series
  - UDP and USG technologies series
  - Safe USG handling and IECs Series
- Local language voice-over with English subtitles
- Farmer-friendly visualization of sub-soil processes

Achievement Rating: ✓ **Achieved**

6.3 Component 3: Technical Backstopping and Capacity Building

Key Outputs:

- Web-based data collection tools for partner mapping exercises
- Tablet-based applications for field agents
- Training of 12 TAAT stakeholders during national review meetings
- Ongoing IT support and system configuration

Achievement Rating: ✓ **Achieved**

6.4 Component 4: Monitoring, Evaluation, and Learning (MEL)

Key Outputs:

- Digital data workflows supporting MEL
- Monthly technical briefs highlighting lessons learned
- Performance tracking architecture embedded in the platform

Achievement Rating: ✓ **Achieved**

7. OUTCOMES AND DEVELOPMENT EFFECTIVENESS

5.1 KEY OUTCOMES

1. **Improved Coordination Capacity:**

   Availability of a centralized digital platform enhanced readiness for coordinated implementation and reporting.

2. **Enhanced Knowledge Accessibility:**

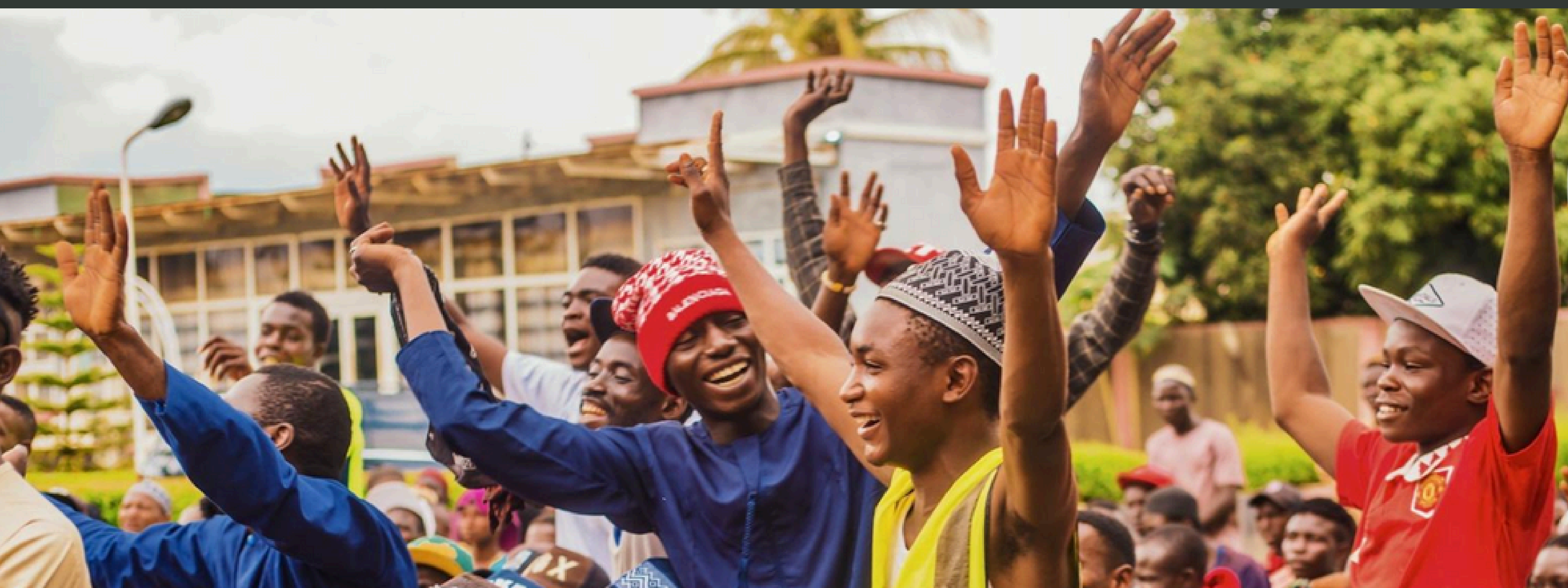
   Farmers and extension actors gained access to simplified, multilingual-visual explanations of soil fertility technologies.

3. **Strengthened Digital Readiness of Partners:**

   TAAT partners improved capacity to use digital tools for data collection, reporting, and M&E.

4. **Foundation for Scale and Replication:**

   Digital assets and systems developed are reusable across Nigeria and other TAAT countries.



8. CHALLENGES AND CONSTRAINTS

Delayed funding affecting deployment timelines

Limited availability of agronomic experts during content validation

Temporary project suspension reduced early platform uptake

9. LESSONS LEARNED

1. Digital platforms require strong institutional anchoring to ensure adoption
2. Extension content must be co-created with agronomic experts from inception
3. Early partner onboarding improves data availability and system use

10. RECOMMENDATIONS

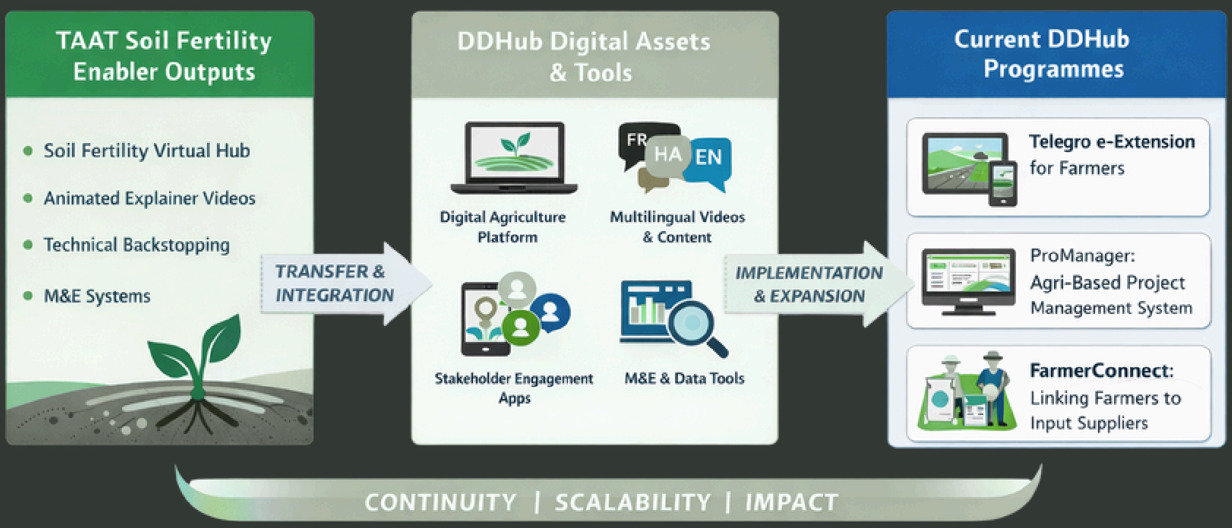
- Institutionalize the TAAT Stakeholder Engagement Platform at national level
- Appoint a dedicated national digital coordination focal point
- Expand audiovisual content to additional crops and languages (including French)
- Integrate digital platforms into TAAT regional coordination mechanisms

11. OVERALL PROJECT PERFORMANCE RATING

Criterion	Rating
Relevance	Highly Satisfactory
Effectiveness	Satisfactory
Efficiency	Satisfactory
Sustainability	Moderately Likely
Overall Performance	Satisfactory

12. CONCLUSION

The Digital Development Hub's contribution to the TAAT Soil Fertility Enabler successfully demonstrated how digital platforms, innovative extension tools, and technical backstopping can strengthen agricultural transformation programmes. The project delivered all planned outputs, generated valuable digital public goods, and laid a foundation for scale, replication, and institutional learning within TAAT and beyond.



ANNE I: ALIGNMENT OF TAAT SOIL FERTILITY ENABLER WITH CURRENT DIGITAL DEVELOPMENT HUB (DDHUB) PROGRAMMES

I.1 Purpose of the Annex

This annex demonstrates how the outputs, systems, and institutional capacities developed under the TAAT Soil Fertility Enabler Project have been institutionalized, scaled, and repurposed within the current programme portfolio of the Digital Development Hub (DDHub).

The alignment confirms sustainability, continuity, and value-for-money, consistent with African Development Bank (AfDB) expectations for Project Completion Reports.

I.2 Strategic Continuity from TAAT to DDHub Core Programmes

The TAAT engagement enabled DDHub to transition from a project-specific digital service provider to a permanent digital delivery institution supporting agriculture, extension, and project management systems at scale.

Key continuity pillars:

- Digital extension and farmer engagement
- Project coordination and M&E systems
- Input delivery and market linkage platforms
- Data-driven agriculture and decision support

I.3 Mapping of TAAT Outputs to Current DDHub Programmes

Table X.1: TAAT Outputs and Their Evolution into DDHub Programmes

TAAT Output / Capability	Description under TAAT	Current DDHub Programme	Continuity & Scale Effect
TAAT Soil Fertility Enabler Virtual Hub & App	Web and mobile platform for coordination, performance tracking, and data management	**ProManager – Agri-based Project Management System**	ProManager builds directly on TAAT architecture, offering enhanced modules for project planning, reporting, M&E dashboards, and donor compliance across multiple agriculture projects
Farmer Engagement Platform	Digital platform for stakeholder coordination and farmer interaction	**Telegro eExtension for Farmers**	Telegro expands TAAT's farmer engagement model into a structured e-extension system delivering advisory, multimedia content, and feedback loops
Animated Explainer Videos (UDP/USG, Fertilizer Use)	Multilingual audiovisual content to demystify soil fertility technologies	**Telegro eExtension Content Library**	TAAT videos serve as foundational digital assets; DDHub now produces multilingual, crop-specific, and season-based extension content
Agro-dealer & Supplier Mapping Tools	Digital mapping and data collection tools for input suppliers	**FarmerConnect Platform**	FarmerConnect institutionalizes this capability to connect farmers with nearest verified input suppliers and service providers
Digital M&E and Reporting Support	Performance tracking, reporting, and learning documentation	**DDHub Digital M&E Framework**	TAAT M&E modules are now embedded in all DDHub agriculture and development programmes

I.4 Description of Current DDHub Programmes Referenced in the PCR

X.4.1 Telegro eExtension for Farmers

A digital extension and advisory system that delivers:

- Multilingual animated and audiovisual extension content
- Soil fertility, input use, and climate-smart advisory
- Two-way communication between farmers and extension providers

TAAT Contribution:
Built directly from TAAT's farmer engagement platform and explainer video methodology.

I.4.2 ProManager – Agri-Based Project Management System

A web-based and mobile project management and M&E system designed for:

- Agriculture and rural development projects
- Donor reporting and results tracking
- Field data collection and performance dashboards

TAAT Contribution:

The TAAT Virtual Hub served as the prototype for ProManager's architecture and functionality.

I.4.3 FarmerConnect – Input Supplier Linkage System

A **digital market linkage platform** that:

- Connects farmers to nearest certified agro-input suppliers
- Supports last-mile input delivery
- Reduces information asymmetry and transaction costs

TAAT Contribution:

Evolved from TAAT agro-dealer mapping and stakeholder coordination tools.

I.5 Sustainability and Institutionalization

The TAAT Soil Fertility Enabler intervention did not end as a standalone project. Instead, it resulted in:

- **Permanent digital infrastructure hosted** and maintained by DDHub
- **Reusable digital public goods** (platforms, content, systems)
- **Strengthened institutional capacity for digital agriculture delivery**
- **Long-term application across multiple geographies and value chains**

This demonstrates **strong sustainability outcomes,** exceeding minimum PCR expectations.

I.6 Contribution to project Strategic Priorities

The continuity from TAAT to current DDHub programmes aligns with AfDB priorities, including:

- ✓ Feed Africa
- ✓ Digital transformation for development
- ✓ Knowledge-based extension systems
- ✓ Private sector–led input delivery ecosystems
- ✓ Data-driven project implementation and accountability

I.7 Conclusion

The **TAAT Soil Fertility Enabler Project** served as a catalytic investment that enabled DDHub to institutionalize digital agriculture systems now deployed through **Telegro eExtension, ProManager, and FarmerConnect.**

These programmes represent a direct lineage from TAAT outputs to scalable, sustainable development solutions—validating DDHub as a credible long-term partner for AfDB and other development financiers.

1.8 EFFICIENCY

Despite funding delays, DDHub delivered all contracted outputs within scope. Use of open-source technologies and modular system design enhanced cost efficiency and long-term value.

Efficiency Rating:

Satisfactory

1.9 SUSTAINABILITY

7.1 Institutional Sustainability

- Platforms designed for transfer and continued use by TAAT partners
- Capacity building supported institutional ownership

7.2 Technical Sustainability

- Use of scalable, cloud-based architecture
- Compatibility with multiple hosting environments

7.3 Financial Sustainability

- Systems can be maintained at low marginal cost
- Potential for integration into future donor-funded projects

Overall Sustainability Rating:

Moderately Likely

1.10 CROSS-CUTTING ISSUES

Innovation:

Use of animation and digital platforms in agricultural extension

Inclusion:

Local language voice-over improved accessibility for smallholder farmers

Knowledge Management:

Digital tools supported learning and evidence generation

Digital Development Hub

Thank you!

We appreciate your consideration of this report and invite interested partners, clients, and collaborators to engage with Digital Development Hub in advancing scalable digital solutions for agriculture and development. We are available to discuss the findings, explore co-creation opportunities, and support future programmatic or commercial engagements.

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