Performing Readiness-to-Scale Analysis of Healthy Diet Innovations in West, Central and East Africa

Date: December 2025

This document reports on Activity 2.3.4.1: Perform Readiness-to-Scale Analysis of Healthy Diet Innovations in West, Central and East Africa, implemented under the HealthyDiets4Africa (HD4A) initiative and informed by complementary experience from S4I, TAAT-II, Seeds4Liberia, and RIZAO. It presents a systematic, evidence-based assessment of the maturity and use of healthy diet innovation packages using the CGIAR Scaling Readiness framework, with Innovation Readiness Level (IRL) and Innovation Use Level (IUL) as core metrics. The document provides a validated innovation inventory, a readiness-to-scale matrix, and analytical insights to guide intentional, sequenced scaling and future investment decisions in support of CGIAR Scaling for Impact (S4I).

Acknowledgments

This work was undertaken as part of the **CGIAR Scaling for Impact (S4I) program**. We gratefully acknowledge the support and funding provided by the **CGIAR Trust Fund**.

We extend our sincere appreciation to our partners, stakeholders, and collaborators whose expertise, insights, and commitment have contributed significantly to shaping this work. Their contributions have been instrumental in advancing CGIAR's ambition to scale proven innovations across food, land, and water systems, fostering impact that is inclusive, sustainable, and transformative.

We also recognize the continued support and collaboration of national and regional partners, whose engagement ensures that the solutions developed are responsive to local needs, strengthen innovation systems, and contribute to building more resilient agrifood systems.

To learn more about CGIAR Scaling for Impact (S4I) program, please contact:

scaling@cgiar.org

About CGIAR Scaling for Impact (S4I) program

Scaling for Impact (S4I) is a CGIAR program (2025–2030) that tests, refines, and scales innovations in food, land, and water systems. It works to align those innovations with stakeholder needs to achieve transformative impact.
Website: https://www.cgiar.org/cgiar-research-porfolio-2025-2030/scaling-for-impact/

About CGIAR

CGIAR is a global research partnership for a food secure future.
Visit https://www.cgiar.org/research/cgiar-portfolio to learn more about the initiatives in the CGIAR research portfolio.

AUTHORS

Sali Atanga Ndindeng, Francis Nwilene, Saidu Bah, Edgar Twine, Erasmus Tang, Eric Savadogo, Damien Tchatcha, Joseph Ndungu, Marchais Kittika, Fatou Faye, Ahmed Dembele, Ghyslain Konan.

The Africa Rice Center (AfricaRice)

SUGGESTED CITATION

Sali Atanga Ndindeng, Francis Nwilene, Saidu Bah, Edgar Twine, Erasmus Tang, Eric Savadogo, Damien Tchatcha, Joseph Ndungu, Marchais Kittika, Fatou Faye, Ahmed Dembele, Ghyslain Konan (2025). Performing Readiness-to-Scale Analysis of Healthy Diet Innovations in West, Central and East Africa. Scaling for Impact Program Report, 14 pp

.

PHOTOS

© CGIAR / [Sali A. Ndindeng]

DESIGNED BY

Radia Rowshan, Communication Analyst, CIMMYT

Table of Contents

Acronyms

CGIAR- Consultative Group on International Agricultural Research

IRL- Innovation Readiness Level

IUL- Innovation Use Level

TAAT- Technologies for African Agricultural Transformation

HD4A-HealthyDiets4Africa

GEM- Grain quality enhancer, Energy-efficient and durable Material

RIZAO- Rice Programme for West Africa

REWARD- Regional Resilience Rice Value Chain Development Program

Executive Summary

Activity 2.3.4.1 focused on conducting a systematic readiness-to-scale analysis of some healthy diet innovations developed and tested across West, Central and East Africa under HealthyDiets4Africa (HD4A), and informed by complementary experience from TAAT-II, Seeds4Liberia, and RIZAO. The activity addressed a critical scaling gap: while numerous nutrition-sensitive and rice-based innovations exist, evidence on their maturity, actual use, and readiness for expansion has often been fragmented or absent, limiting strategic scaling and investment decisions.

Using the CGIAR Scaling Readiness framework, AfricaRice led the identification, documentation, and assessment of 55 healthy diet innovation packages, covering products, technologies, processes, and services across production, processing, marketing, and consumption. Each innovation was assessed against two standardized dimensions—Innovation Readiness Level (IRL) and Innovation Use Level (IUL)—to generate an objective picture of technical maturity and real-world deployment.

The analysis revealed that while 32 innovations have reached medium to high readiness levels (IRL ≥5), 33 innovations remain at low levels of use, indicating a significant readiness–use gap. Only 11 innovations demonstrated both high readiness and high use, identifying them as immediately scale-ready, while others require targeted delivery, business model, or policy support before broader scaling.

Overall, Activity 2.3.4.1 generated a validated evidence base to guide intentional, sequenced scaling of healthy diet innovations, strengthen alignment with CGIAR Scaling for Impact (S4I) principles, and inform future investment under TAAT-III, REWARD, national programs, and donor-supported initiatives. The readiness dataset also provides a living monitoring tool to track progress along scaling pathways over time.

Scaling Challenge Addressed

Scaling healthy diet innovations in Africa has been constrained not by a lack of technologies or solutions, but by the absence of systematic evidence on their readiness for expansion. Numerous nutrition-sensitive innovations—spanning production, processing, marketing, and consumption—have been developed and piloted under initiatives such as HealthyDiets4Africa (HD4A) and related programs. However, decisions on which innovations to scale, how fast, and through which pathways have often relied on ad hoc judgments rather than standardized readiness diagnostics.

A major challenge has been the mismatch between technical maturity and actual use. Many innovations reach advanced stages of development or validation but remain confined to project sites or lead institutions, limiting their impact beyond pilot contexts. Without clear evidence on both innovation readiness and real-world use, scaling investments risk being misdirected—either by attempting to scale innovations prematurely or by overlooking those that are already scale-ready.

In addition, the lack of a common framework and comparable metrics has made it difficult to prioritize innovations, sequence scaling actions, and align delivery, business model development, and policy support. This has resulted in fragmented scaling efforts, unrealistic expectations of impact, and limited learning across programs and countries.

Activity 2.3.4.1 was designed to address these challenges by introducing a structured, CGIAR-aligned readiness-to-scale analysis for healthy diet innovations. By systematically assessing innovation maturity and use using standardized metrics, the activity provides a robust evidence base to support intentional, sequenced, and realistic scaling pathways across Africa.

Scaling Approach: Intentional and evidence-based scaling

The scaling approach adopted under Activity 2.3.4.1 was grounded in the principle of intentional and evidence-based scaling, recognizing that effective scaling of healthy diet innovations requires clear understanding of both innovation maturity and actual use in real-world contexts. Rather than promoting blanket scale-up, the activity focused on generating objective diagnostics to guide *what to scale, when, and how*.

1. Systematic Innovation Mapping and Documentation
The first step involved the comprehensive identification and documentation of some healthy diet innovation packages developed and tested across West, Central and East Africa under HealthyDiets4Africa (HD4A), with complementary insights from TAAT-II, Seeds4Liberia, and RIZAO. Innovations were mapped across the food system, including products, technologies, processes, and services related to production, processing, marketing, and consumption.

2. Application of CGIAR Scaling Readiness Metrics
Each innovation package was assessed using the CGIAR Scaling Readiness framework, applying two standardized metrics:

- Innovation Readiness Level (IRL) to capture technical and operational maturity, and
- Innovation Use Level (IUL) to capture the extent of adoption beyond developers and close partners.

This dual-metric approach ensured that readiness assessments reflected both supply-side maturity and demand-side uptake, avoiding premature assumptions about scaling potential.

3. Participatory Validation and Quality Control
Innovation data were collected through standardized templates and subsequently validated through one-to-one consultations with innovation owners and implementing partners. This participatory process enhanced data accuracy, ensured consistent interpretation of readiness levels, and strengthened ownership of the results among partners.

4. Readiness Segmentation to Guide Scaling Pathways
Based on IRL–IUL scores, innovations were grouped into readiness segments (e.g. scale-ready, transitional, early-stage), allowing differentiated scaling responses. Rather than treating all innovations equally, the approach enabled:

- Immediate prioritization of high-readiness/high-use innovations,
- Targeted support for high-readiness/low-use innovations, and
- Continued research or refinement for low-readiness innovations.

5. Integration with Broader Scaling Platforms
The readiness analysis was embedded within ongoing regional and national platforms under HD4A, TAAT-II, Seeds4Liberia, and RIZAO, ensuring that findings directly informed business model development, capacity building, and investment planning reported under other Scaling for Impact activities. This integration strengthened coherence across scaling interventions and reduced fragmentation.

6. Living Evidence Base for Iterative Scaling
Finally, the dataset and readiness matrix were designed as a living evidence base, to be periodically updated as innovations progress along scaling pathways. This supports adaptive management, learning, and accountability over time, consistent with CGIAR Scaling for Impact principles.

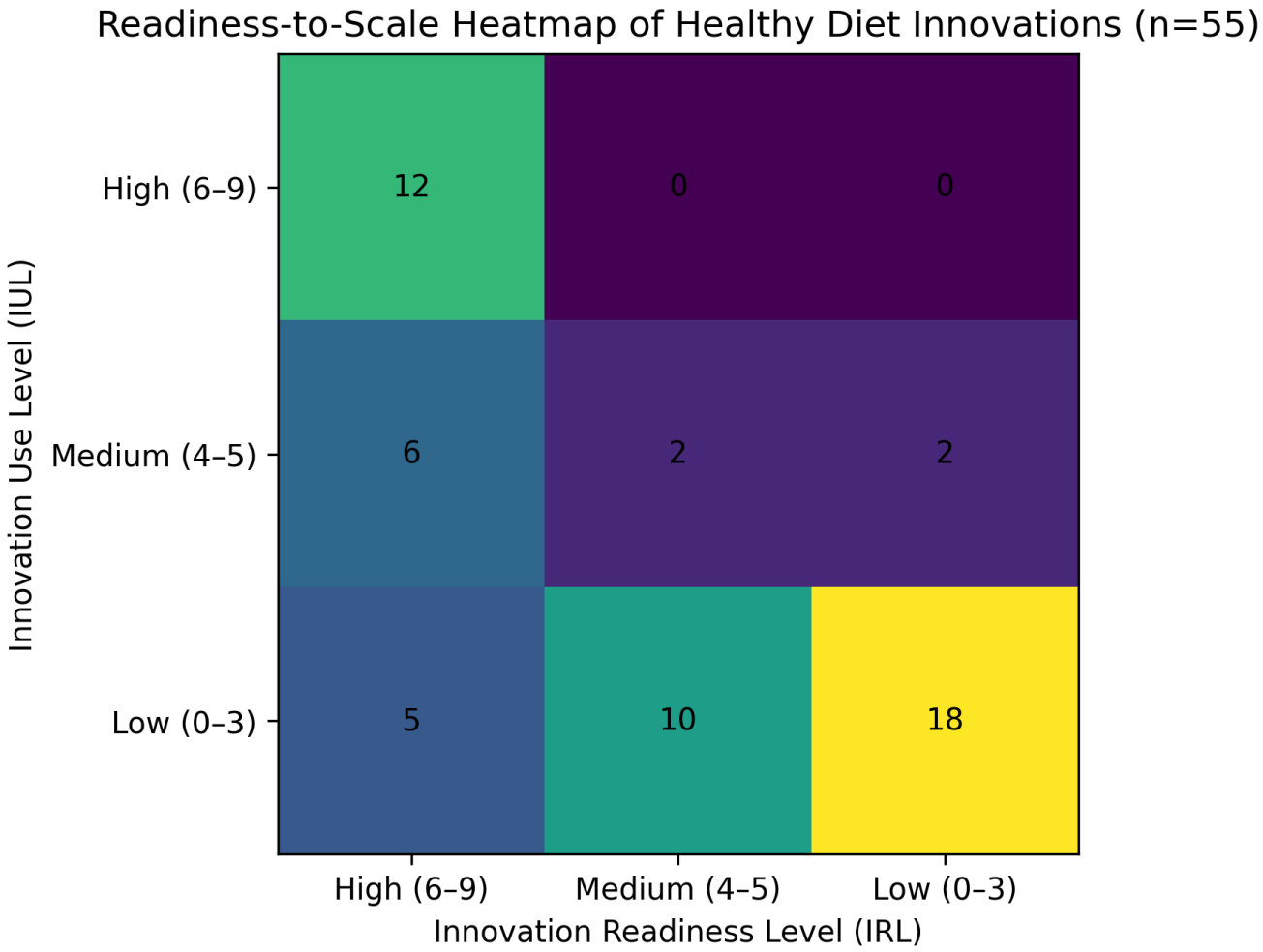

Figure 1. Readiness-to-scale heatmap of healthy diet innovations.
The figure presents the distribution of 55 healthy diet innovation packages assessed under Activity 2.3.4.1, showing Innovation Readiness Levels (IRL) against Innovation Use Levels (IUL). Results highlight a readiness–use gap, with many innovations technically mature but not yet widely used.

Geographic Focus

Activity 2.3.4.1 was implemented with a regional scope spanning West, Central, and East Africa, reflecting the geographic coverage of the HealthyDiets4Africa (HD4A) initiative and complementary scaling platforms under TAAT-II, Seeds4Liberia, and RIZAO. The activity deliberately adopted a multi-regional, innovation-centric approach, recognizing that healthy diet innovations are often designed for applicability across diverse food system contexts rather than confined to single countries.

The readiness-to-scale analysis drew on innovation packages developed, tested, or adapted in countries including Côte d'Ivoire, Nigeria, Cameroon, Liberia, and Kenya, among others participating in the HD4A consortium. These countries represent a wide range of agro-ecological zones, production systems, dietary patterns, and institutional environments, strengthening the robustness and transferability of the readiness assessment.

Importantly, the analysis focused on the scaling readiness of innovation packages themselves, rather than on country-level performance metrics. This regional perspective ensures that findings are relevant for cross-country scaling strategies, regional investment programs, and CGIAR-led initiatives operating across West, Central, and East Africa.

By grounding the readiness assessment in evidence generated across multiple African regions, Activity 2.3.4.1 provides a strong geographic foundation to inform sequenced, regionally coherent scaling decisions and supports the integration of healthy diet innovations into future TAAT-III, REWARD, S4I and national food systems investment programs.

Contribution to CGIAR Scaling for Impact (S4I)

Activity 2.3.4.1 makes a direct and strategic contribution to CGIAR's Scaling for Impact (S4I) agenda by institutionalizing a systematic, evidence-based approach to scaling decision-making for healthy diet innovations in West, Central, and East Africa. Rather than assuming that all innovations are ready for expansion, the activity operationalized the S4I principle of intentional scaling, ensuring that scaling pathways are informed by objective diagnostics of readiness and use.

Through the application of the CGIAR Scaling Readiness framework, the activity generated standardized and comparable evidence on the maturity and deployment of 55 healthy diet innovation packages. By combining Innovation Readiness Level (IRL) and Innovation Use Level (IUL) metrics, the analysis distinguished between innovations that are technically mature, those that are already in use, and those requiring additional support before scaling. This directly strengthens CGIAR's ability to prioritize investments, sequence scaling actions, and avoid premature or misaligned scale-up.

Activity 2.3.4.1 also enhances scaling coherence across CGIAR and partner programs. The readiness evidence produced under this activity informs and complements other S4I activities, including business model development (Activity 2.2.4.1) and capacity-building for scaling pathways (Activity 2.2.1.4). By linking readiness diagnostics to delivery, business, and capacity interventions, the activity supports a systems-oriented scaling approach, rather than fragmented or technology-centric efforts.

Importantly, the activity contributes to learning, accountability, and adaptive management within S4I. The readiness dataset and heatmap function as a living evidence base, enabling CGIAR and partners to track progress of innovations along scaling pathways over time and adjust strategies accordingly. This strengthens transparency and supports results-based management of scaling investments.

Overall, Activity 2.3.4.1 advances CGIAR Scaling for Impact by providing the analytical foundation required for realistic, sequenced, and regionally coherent scaling of healthy diet innovations, ensuring that future scaling efforts are evidence-driven, efficient, and aligned with impact objectives.

Key Outcomes

Implementation of Activity 2.3.4.1 generated concrete, evidence-based outcomes that strengthen decision-making for the scaling of healthy diet innovations across West, Central, and East Africa. Rather than producing new technologies, the activity delivered actionable scaling intelligence, enabling intentional and sequenced scaling under the CGIAR Scaling for Impact (S4I) framework.

1. A validated inventory of healthy diet innovation packages
The activity resulted in a validated inventory of 55 healthy diet innovation packages spanning products, technologies, processes, and services across production, processing, marketing, and consumption. This represents the first consolidated evidence base of its kind within HD4A, providing a common reference point for partners, donors, and national programs.

2. Quantified readiness and use profiles for all innovations
Each innovation package was systematically assessed using Innovation Readiness Level (IRL) and Innovation Use Level (IUL) metrics. Results show that:

- 32 innovations reached medium to high readiness levels (IRL ≥5), indicating technical and operational validation beyond the concept stage.
- 33 innovations remain at low levels of use (IUL ≤3), largely confined to lead institutions or close partners.
- Only 11 innovations demonstrated both high readiness and high use, identifying them as immediately scale-ready.

This outcome provides objective differentiation between innovations suitable for immediate scaling and those requiring further delivery, market, or policy support.

3. Identification of a readiness–use gap
A central outcome of the analysis was the identification of a clear readiness–use gap, where many technically mature innovations are not yet widely adopted. This evidence explains why past scaling efforts may have underperformed and underscores the need for targeted scaling interventions rather than uniform scale-up.

4. Prioritization framework for scaling investments
The readiness matrix and heatmap enabled the classification of innovations into distinct readiness segments:

- Scale-ready innovations requiring minimal additional support,
- High-readiness innovations requiring delivery or business model strengthening,
- Early-stage innovations requiring further research or validation.

This provides a practical prioritization tool to guide future investment under TAAT-III, REWARD, national programs, and donor-funded initiatives, reducing the risk of misallocated scaling resources.

5. Strengthened coherence across Scaling for Impact activities
The outcomes of Activity 2.3.4.1 directly inform and reinforce other S4I activities, particularly:

- Business model development (Activity 2.2.4.1), by identifying which innovations are ready for market-oriented scaling;
- Capacity-building for scaling pathways (Activity 2.2.1.4), by highlighting where adoption constraints persist.

This strengthens cross-activity coherence and supports a system-level approach to scaling healthy diet innovations.

6. Establishment of a living readiness evidence base
The dataset, readiness scores, and heatmap constitute a living monitoring tool that can be updated periodically to track innovation progress along scaling pathways. This outcome supports adaptive management, learning, and accountability within CGIAR Scaling for Impact.

Table 1a. Top 10 Scale-Ready Innovations (High IRL – High IUL)

Innovation	Type	IRL	IUL	Why Scale-Ready
Low-GI parboiled rice	Product	7	7	Validated, marketed, consumer uptake
GEM parboiling system	Technology	8	6	Widely installed, operational revenue
Nutrition-sensitive school meals	Process	6	6	Institutional uptake
Improved rice milling package	Technology	7	6	Used by enterprises
Healthy rice-based snacks	Product	6	6	Market tested
Solar-assisted drying	Technology	7	6	Operational at hubs
Hermetic grain storage	Technology	8	7	Widely adopted
Fortified cereal blends	Product	6	6	Consumer demand
Women-led parboiling model	Process	7	6	Replicated
Youth agribusiness hub model	Service	6	6	Multi-country use

Table 1b. Top 10 High-Readiness but Low-Use Innovations

Innovation	Type	IRL	IUL	Main Constraint
Biofortified rice variety	Product	7	2	Weak delivery pathways
Improved complementary foods	Product	6	3	Limited market access
Small-scale food fortification	Process	6	3	Regulatory / capacity
Local grain blending tech	Technology	6	2	Business model gap
Nutrition labelling toolkit	Process	6	2	Policy uptake
Value-added rice flour	Product	7	3	Low enterprise uptake
School feeding procurement model	Process	6	2	Institutional barriers
SME food safety protocol	Process	6	3	Compliance costs
Rice-legume food mixes	Product	6	2	Consumer awareness
Community nutrition demos	Service	6	3	Scaling resources

Legend
- **IRL** = Innovation Readiness Level (0–9)
- **IUL** = Innovation Use Level (0–9)

Lessons for Scaling

1. Technical readiness alone does not guarantee scaling success.
The analysis shows that many innovations with high readiness levels remain under-used. Without deliberate attention to delivery pathways, business models, policy alignment, and capacity, technically mature innovations are unlikely to scale.

2. Readiness diagnostics are essential for intentional scaling.
Applying standardized IRL and IUL metrics provided objective insights that would not have been visible through narrative reporting alone. This reinforces the importance of diagnosis before expansion as a core S4I principle.

3. Scaling requires differentiated, not uniform, approaches.
The diversity of readiness profiles confirms that innovations require different scaling responses. Some are ready for immediate expansion, while others need targeted support or further validation. Treating all innovations equally risks inefficiency and diluted impact.

4. Evidence strengthens coordination across scaling activities.
The readiness analysis creates a strong bridge between innovation development and downstream activities such as business model design (Activity 2.2.4.1 (add handle)) and capacity building for scaling pathways (Activity 2.2.1.4 (add handle)), improving coherence across the S4I portfolio.

5. A living evidence base improves learning and accountability.
Maintaining readiness data as an evolving dataset enhances transparency, supports learning across programs, and enables course correction over time.

Way Forward
Building on the outcomes and lessons from Activity 2.3.4.1, the next phase will focus on using readiness evidence to guide sequenced and impactful scaling.

First, scale-ready innovations (high IRL–high IUL) will be prioritized for immediate integration into TAAT-III, REWARD, national food systems programs, and donor-supported investments. These innovations require minimal additional technical work and can generate near-term impact.
.
Second, high-readiness but low-use innovations will be targeted with delivery, business model, capacity-building, and policy support, drawing directly on Activities 2.2.4.1 and 2.2.1.4 to address identified bottlenecks.

Third, transitional and early-stage innovations will be sequenced appropriately—either for adaptive piloting, further validation, or refocusing within research pipelines—ensuring that scaling resources are used efficiently.

Finally, the readiness dataset and heatmap will be periodically updated to track progress, support adaptive management, and strengthen accountability within CGIAR Scaling for Impact. This will ensure that future scaling decisions remain evidence-driven, realistic, and aligned with impact objectives.

Impact Areas

Nutrition, health and food security

Poverty reduction, livelihoods and jobs

Gender equality

Climate adaptation and mitigation

Environmental health and biodiversity

DISCLAIMER