

STRATEGIES FOR SUSTAINABLE SCALE-UP OF THE FIRST 1,000 DAYS APPROACH IN FRAGILE CONTEXTS: AN INTEGRATED MODEL FOR NIGER

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ABSTRACT

This article proposes an integrated model for sustainable scale-up of the First 1,000 Days approach in fragile contexts, drawing on empirical findings from Niger's Tillabéry region and theoretical frameworks from implementation science, adaptive governance, and systems thinking. The research employed a mixed-methods design combining quantitative surveys with 306 mothers of children under two and qualitative interviews with 18 health workers and community health agents in urban (Tillabéry) and rural (Sansané Haoussa) contexts. The findings reveal critical implementation gaps: 93.5% of mothers have never heard of the approach, 54.9% cite lack of money as the primary barrier to adequate child feeding, and health workers report insufficient funding (100%), staff shortages (83.3%), and transport difficulties (93.8%). The integrated model

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addresses these challenges through seven strategic pillars: (1) institutional capacity strengthening, (2) sustainable financing mechanisms, (3) human resource development, (4) community engagement and empowerment, (5) digital health and monitoring systems, (6) adaptive governance and multisectoral coordination, and (7) resilience building in fragile contexts. The model emphasizes the interaction between institutional, community, and systemic factors while recognizing the specific challenges of fragile Sahelian environments. The article proposes an operational scale-up project (PREM-1000J) for the Tillabéry region, outlining objectives, activities, expected outcomes, and implementation phases. The project aims to strengthen sustainable implementation of the First 1,000 Days approach through capacity building, community mobilization, logistical strengthening, digital monitoring, and sustainable financing. The findings contribute to the literature on nutrition intervention scale-up in fragile contexts and provide actionable guidance for policymakers, technical partners, and community actors engaged in nutrition programming in the Sahel.

Keywords: First 1,000 Days, scale-up model, sustainable financing, fragile contexts, Niger, implementation science, adaptive governance, multisectoral coordination, digital health, community engagement, Sahel

RÉSUMÉ

Cet article propose un modèle intégré pour la mise à l'échelle durable de l'approche des 1000 premiers jours dans les contextes fragiles, s'appuyant sur les résultats empiriques de la région de Tillabéry au Niger et sur les cadres théoriques de la science de la mise en œuvre, de la gouvernance adaptative et de la pensée systémique. La recherche a employé une approche méthodologique mixte combinant des enquêtes quantitatives auprès de 306 mères d'enfants de moins de deux ans et des entretiens qualitatifs avec 18 agents de santé et agents de santé communautaires dans les contextes urbain (Tillabéry) et rural (Sansané Haoussa). Les résultats révèlent des lacunes critiques de mise en œuvre : 93,5% des mères n'ont jamais entendu parler de l'approche, 54,9% citent le manque d'argent comme principal obstacle à une alimentation adéquate des enfants, et les agents de santé signalent un financement insuffisant (100%), des pénuries de personnel (83,3%) et des difficultés de transport (93,8%). Le modèle intégré répond à ces défis à travers sept piliers stratégiques : (1) le renforcement des capacités institutionnelles, (2) les mécanismes de

financement durable, (3) le développement des ressources humaines, (4) l'engagement et l'autonomisation communautaires, (5) les systèmes de santé numériques et de suivi, (6) la gouvernance adaptative et la coordination multisectorielle, et (7) le renforcement de la résilience dans les contextes fragiles. Le modèle met l'accent sur l'interaction entre les facteurs institutionnels, communautaires et systémiques tout en reconnaissant les défis spécifiques des environnements sahéliens fragiles. L'article propose un projet opérationnel de mise à l'échelle (PREM-1000J) pour la région de Tillabéry, décrivant les objectifs, les activités, les résultats attendus et les phases de mise en œuvre. Le projet vise à renforcer la mise en œuvre durable de l'approche des 1000 premiers jours à travers le renforcement des capacités, la mobilisation communautaire, le renforcement logistique, le suivi numérique et le financement durable. Les résultats contribuent à la littérature sur la mise à l'échelle des interventions nutritionnelles dans les contextes fragiles et fournissent des orientations concrètes pour les décideurs politiques, les partenaires techniques et les acteurs communautaires engagés dans la programmation nutritionnelle au Sahel.

Mots-clés: 1000 premiers jours, modèle de mise à l'échelle, financement durable, contextes fragiles, Niger, science de la mise en œuvre, gouvernance adaptative, coordination multisectorielle, santé numérique, engagement communautaire, Sahel

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1. INTRODUCTION

1.1 The Scale-Up Challenge

The First 1,000 Days approach, spanning from conception through a child's second birthday, is widely recognized as one of the most effective strategies for improving maternal and child

nutrition, cognitive development, and long-term health outcomes (Black et al., 2021; Bhutta et al., 2023). Despite robust scientific evidence and widespread policy adoption, sustainable scale-up remains elusive in fragile contexts characterized by institutional weakness, insecurity, and resource constraints (Menon et al., 2022; WHO, 2023).

Niger exemplifies this challenge. Despite adoption of the National Food and Nutrition Security Policy (PNSN 2016-2025) and commitment to the Scaling Up Nutrition (SUN) Movement, nutrition indicators remain among the highest in the Sahel region. The Tillabéry region, located in western Niger, represents one of the most vulnerable areas, combining high nutritional vulnerability, structural poverty, limited service access, and a complex security context.

1.2 Empirical Findings Summary

Empirical research in Tillabéry urban and Sansané Haoussa rural reveals critical implementation gaps:

Indicator	Finding
Mothers never heard of 1,000 Days	93.5%
Correctly identify the period	Only 2.9%
Lack of money as feeding barrier	54.9%
Perceived insufficient milk as barrier	31.7%
Cultural beliefs as breastfeeding barrier	17.0%
Health workers report insufficient funding	100.0%
Health workers report staff shortages	83.3%
Health workers report transport difficulties	93.8%

These findings indicate that addressing the scale-up challenge requires a comprehensive strategy addressing multiple dimensions simultaneously.

1.3 Article Objectives

This article aims to:

1. Synthesize empirical findings on scale-up challenges in Tillabéry
2. Propose an integrated model for sustainable scale-up
3. Present an operational scale-up project (PREM-1000J)
4. Provide recommendations for policymakers and practitioners

1.4 Article Structure

The article proceeds as follows: Section 2 presents the integrated scale-up model and its seven strategic pillars. Section 3 describes the operational project PREM-1000J. Section 4 provides recommendations for different stakeholder groups. Section 5 concludes with implications for nutrition policy and programming in fragile contexts.

2. INTEGRATED SCALE-UP MODEL

2.1 Model Rationale

The integrated scale-up model addresses the multidimensional challenges identified in the empirical research. It recognizes that sustainable scale-up requires simultaneous action on institutional, community, financial, and systemic dimensions. The model builds on the WHO/ExpandNet framework while incorporating insights from complex adaptive systems theory, collective action theory, and adaptive governance.

2.2 Seven Strategic Pillars

The model comprises seven interconnected strategic pillars:

2.2.1 Pillar 1: Institutional Capacity Strengthening

Rationale: Weak institutional capacity limits effective implementation and coordination.

Key Activities:

- Strengthen governance structures for nutrition at national and regional levels
- Enhance coordination mechanisms across sectors (health, agriculture, education, social protection)
- Improve planning, budgeting, and monitoring systems

- Strengthen accountability mechanisms
- Align policies across sectors and levels

Expected Outcomes:

- Improved multisectoral coordination
- Enhanced institutional capacity for planning and implementation
- Strengthened accountability mechanisms

2.2.2 Pillar 2: Sustainable Financing Mechanisms

Rationale: Heavy dependence on external funding threatens sustainability.

Key Activities:

- Increase domestic budget allocation for nutrition
- Integrate nutrition into sectoral budgets
- Develop innovative financing mechanisms (earmarked taxes, public-private partnerships)
- Improve financial management and absorption capacity
- Coordinate donor funding to reduce fragmentation

Expected Outcomes:

- Reduced dependence on external funding
- Increased and more predictable domestic financing
- More efficient use of resources

2.2.3 Pillar 3: Human Resource Development

Rationale: Staff shortages and inadequate training compromise service quality.

Key Activities:

- Recruit additional qualified personnel
- Provide pre-service and in-service training on the First 1,000 Days

- Strengthen supervision and mentoring systems
- Improve staff retention through incentives and career development
- Enhance community health worker programs

Expected Outcomes:

- Adequate staffing levels
- Improved staff competencies
- Reduced staff turnover
- Better supervision and support

2.2.4 Pillar 4: Community Engagement and Empowerment

Rationale: Sociocultural barriers and limited community ownership limit adoption.

Key Activities:

- Conduct community mobilization campaigns
- Engage men and community leaders
- Address sociocultural barriers through dialogue
- Strengthen community health committees
- Promote women's empowerment and participation
- Develop culturally appropriate communication strategies

Expected Outcomes:

- Increased community awareness and knowledge
- Improved adoption of recommended practices
- Enhanced community ownership and sustainability
- Increased male involvement

2.2.5 Pillar 5: Digital Health and Monitoring Systems

Rationale: Weak monitoring systems limit evidence-based decision-making.

Key Activities:

- Develop integrated digital platforms for data collection and analysis
- Implement real-time monitoring dashboards
- Strengthen supervision and support systems
- Improve data quality and use
- Enhance community-level data collection

Expected Outcomes:

- Improved data availability and quality
- Evidence-based decision-making
- Early detection of implementation challenges
- Enhanced accountability

2.2.6 Pillar 6: Adaptive Governance and Multisectoral Coordination

Rationale: Fragmentation and poor coordination limit effectiveness.

Key Activities:

- Establish effective coordination mechanisms
- Clarify roles and responsibilities
- Enhance information sharing across sectors
- Develop joint planning and budgeting
- Strengthen accountability frameworks

Expected Outcomes:

- Improved multisectoral coordination
- Reduced duplication of efforts

- Enhanced coherence of interventions
- Strengthened accountability

2.2.7 Pillar 7: Resilience Building in Fragile Contexts

Rationale: Insecurity and fragility affect service delivery and community access.

Key Activities:

- Adapt interventions to security contexts
- Develop emergency preparedness and response mechanisms
- Strengthen community resilience
- Address climate and environmental vulnerabilities
- Integrate humanitarian and development approaches

Expected Outcomes:

- Continued service delivery despite shocks
- Enhanced community resilience
- Improved capacity to respond to crises

2.3 Model Dynamics

The seven pillars are interconnected and mutually reinforcing:

- **Institutional capacity** enables effective coordination and resource mobilization
- **Sustainable financing** supports human resource development and logistics
- **Human resource development** enables quality service delivery
- **Community engagement** enhances uptake and sustainability
- **Digital monitoring** enables adaptive management
- **Adaptive governance** coordinates across sectors and levels
- **Resilience building** ensures continuity despite shocks

The model recognizes that progress in one pillar depends on progress in others, and that addressing single dimensions in isolation is unlikely to produce sustainable results.

2.4 Model Application in Fragile Contexts

Applying the model in fragile contexts requires specific adaptations:

1. **Flexibility:** Interventions must be adaptable to changing security and operational conditions
2. **Risk management:** Strategies must address security risks and prepare for emergencies
3. **Community-based approaches:** Strong community engagement is essential when formal systems are weak
4. **Adaptive management:** Programs must continuously adjust based on learning
5. **Integration with humanitarian responses:** Development and humanitarian approaches must be coordinated

3. OPERATIONAL SCALE-UP PROJECT: PREM-1000J

3.1 Project Overview

Title: Project to Strengthen Sustainable Scale-Up of the First 1,000 Days Approach in Tillabéry Region (PREM-1000J)

Location: Tillabéry urban and Sansané Haoussa rural

Duration: 36 months

Target Populations:

Direct Beneficiaries:

- Pregnant women
- Breastfeeding mothers
- Children aged 0-24 months
- Health workers

- Community health workers
- Community and religious leaders

Indirect Beneficiaries:

- Fathers and families
- Households
- Local authorities
- Tillabéry Health District
- Regional Health Directorate
- NGOs and partners

3.2 Project Objectives

Overall

Objective:

To contribute to sustainable improvement of maternal and child health and nutrition by strengthening scale-up of the First 1,000 Days approach in Tillabéry region.

Specific Objectives:

1. Strengthen technical capacities of health workers and community health agents
2. Improve coverage of nutrition interventions during the First 1,000 Days
3. Develop effective community mobilization mechanisms
4. Enhance participation of men, community leaders, and local organizations
5. Improve availability of equipment, educational materials, and nutrition inputs
6. Establish a digital monitoring and evaluation system
7. Strengthen coordination between health structures, local authorities, and partners
8. Promote financial sustainability of nutrition interventions

3.3 Expected Results

1. Health workers' capacities are strengthened
2. Mothers' knowledge of the First 1,000 Days is significantly improved
3. Exclusive breastfeeding rates increase
4. Complementary feeding practices improve
5. Antenatal and postnatal care coverage increases
6. Community activities are strengthened
7. Health structures have sufficient equipment and materials
8. Digital monitoring system is operational
9. Coordination mechanisms function effectively
10. Community participation is enhanced
11. Child nutrition indicators improve

3.4 Implementation Phases

Phase	Activities	Duration	Responsible
Phase 1: Preparation	Project validation, partner mobilization, team recruitment, baseline study	2 months	Ministry of Health, Health District
Phase 2: Capacity Building	Training health workers, CHWs, community relays	3 months	Health District, NGOs
Phase 3: Community Mobilization	IEC/CCC campaigns, home visits, culinary demonstrations, dialogue groups	12 months	CHWs, community relays
Phase 4: Logistical Strengthening	Distribution of equipment, educational materials, nutrition inputs, mobility means	6 months	Ministry of Health, partners

Phase 5: Digital Monitoring	Establishment of digital data collection and analysis platform, dashboards	8 months	IT team, Health District
Phase 6: Monitoring-Evaluation	Supervision, indicator collection, semi-annual and final evaluations	Throughout project	Steering Committee

3.5 Expected Contributions

Health Contribution:

- Reduction in chronic malnutrition
- Decrease in nutritional deficiencies
- Improved child growth
- Reduced maternal and child mortality

Social Contribution:

- Enhanced family knowledge
- Improved feeding practices
- Increased male participation
- Strengthened community cohesion

Institutional Contribution:

- Strengthened health structures
- Improved multisectoral coordination
- Development of a high-performing monitoring-evaluation system
- Improved nutrition governance

Economic Contribution:

- Reduced costs related to malnutrition

- Improved human capital
- Increased future productivity of beneficiary children
- Optimized public nutrition investments

Scientific Contribution:

- Operational application of thesis results
- Replicable model for First 1,000 Days scale-up in Sahelian contexts
- Contribution to nutrition policy strengthening
- Contribution to Sustainable Development Goals achievement

3.6 Governance Structure

Steering Committee:

- Ministry of Health (chair)
- Regional Health Directorate
- Health District
- Technical and financial partners
- Community representatives
- Project coordination team

Technical Coordination Unit:

- Project coordinator
- Technical advisors
- Monitoring and evaluation specialist
- Administrative and financial officer

Implementation Teams:

- Health workers and CHWs

- Community relays
- NGO partners

4. RECOMMENDATIONS

4.1 Recommendations for the Government of Niger and Ministry of Health

1. **Increase Domestic Financing:** Increase national budget allocation for nutrition to reduce dependence on external partners. Integrate nutrition expenditures into sectoral budgets.
2. **Integrate the First 1,000 Days Approach:** Fully integrate the approach into national health, nutrition, and social protection policies. Ensure policy coherence across sectors.
3. **Recruit Qualified Personnel:** Recruit additional qualified personnel in health structures, particularly in rural areas. Improve staff retention through incentives.
4. **Improve Availability of Inputs:** Improve availability of nutrition inputs, equipment, and educational materials. Strengthen supply chain management.
5. **Strengthen Supervision Systems:** Strengthen supervision, monitoring-evaluation, and coordination systems. Ensure regular supervision visits.
6. **Develop Digital Systems:** Develop digital systems for data collection, analysis, and monitoring of nutrition indicators. Strengthen health information systems.

4.2 Recommendations for Regional Health Directorates and Health Districts

1. **Organize Continuing Education:** Regularly organize continuing education on the First 1,000 Days approach. Conduct refresher training for all staff.
2. **Strengthen Formative Supervision:** Strengthen formative supervision for health workers and community health agents. Ensure supportive supervision.
3. **Improve Activity Planning:** Improve planning of community activities. Ensure activities are planned and budgeted adequately.

4. **Improve Logistics:** Improve availability of logistical means for mobile teams. Ensure transport, fuel, and supplies are available.
5. **Establish Performance Monitoring:** Establish a system for regular monitoring of health structure performance. Use data for decision-making.

4.3 Recommendations for Technical and Financial Partners

1. **Support Nutrition Programs:** Provide sustainable support for maternal and child nutrition programs. Commit to multi-year funding.
2. **Strengthen Investments:** Strengthen investments in health infrastructure and community equipment. Support both hardware and software.
3. **Support Digital Solutions:** Support development of digital solutions for intervention monitoring. Invest in health information technology.
4. **Support Capacity Building:** Support capacity building programs for health workers. Provide technical assistance.
5. **Support Operational Research:** Encourage operational research on nutrition intervention scale-up. Support learning and innovation.

4.4 Recommendations for Health Workers and Community Health Agents

1. **Intensify Sensitization:** Intensify sensitization activities on the First 1,000 Days. Use diverse communication channels.
2. **Develop Home Visits:** Develop more home visits and culinary demonstrations. Reach families where they are.
3. **Promote Best Practices:** Promote exclusive breastfeeding and good complementary feeding practices. Provide consistent messages.
4. **Strengthen Growth Monitoring:** Strengthen growth monitoring of children. Ensure regular follow-up.
5. **Improve Data Quality:** Improve quality of data collected for intervention monitoring. Ensure accurate and complete recording.

4.5 Recommendations for Communities and Community Leaders

1. **Promote Male Involvement:** Promote active participation of men in maternal and child health activities. Engage fathers.
2. **Sensitize Families:** Sensitize families on the importance of the First 1,000 Days. Involve extended family.
3. **Address Harmful Practices:** Address beliefs and traditional practices unfavorable to nutrition. Promote evidence-based practices.
4. **Encourage Service Use:** Encourage regular attendance at antenatal, postnatal, and vaccination services. Address barriers.
5. **Strengthen Community Relays:** Strengthen the role of community relays in supporting households. Provide ongoing support.

5. CONCLUSION AND IMPLICATIONS

5.1 Summary of Findings

Empirical research in Tillabéry urban and Sansané Haoussa rural reveals critical challenges to scaling up the First 1,000 Days approach in fragile Sahelian contexts. Despite relatively good utilization of maternal and child health services, mothers' knowledge of the approach is critically low (93.5% never heard of it), and adoption of recommended practices is limited by economic constraints (54.9% lack money for feeding), sociocultural factors (17% cite cultural beliefs as barriers), and health system weaknesses (100% of health workers report insufficient funding).

5.2 Contribution of the Integrated Model

The integrated scale-up model addresses these challenges through seven strategic pillars: institutional capacity strengthening, sustainable financing, human resource development, community engagement, digital health and monitoring, adaptive governance, and resilience building. The model recognizes that sustainable scale-up requires simultaneous action across multiple dimensions and that addressing single dimensions in isolation is unlikely to produce lasting results.

5.3 Contribution to SDGs

The model contributes to multiple Sustainable Development Goals:

- **SDG 2 (Zero Hunger):** Reducing child malnutrition
- **SDG 3 (Good Health and Well-being):** Improving maternal and child health
- **SDG 4 (Quality Education):** Strengthening nutrition education
- **SDG 5 (Gender Equality):** Promoting women's role and male involvement
- **SDG 10 (Reduced Inequalities):** Reducing urban-rural disparities
- **SDG 16 (Peace, Justice, and Strong Institutions):** Strengthening governance
- **SDG 17 (Partnerships):** Enhancing coordination and partnerships

5.4 Implications for Policy and Practice

The findings and model have several implications for policy and practice:

1. **Policy Integration:** The First 1,000 Days approach must be fully integrated into national policies and adequately funded domestically.
2. **Systemic Approach:** Scale-up requires a systemic approach addressing institutional, community, financial, and contextual dimensions simultaneously.
3. **Community Engagement:** Effective scale-up requires meaningful community engagement and empowerment, not just service delivery.
4. **Adaptive Management:** Programming in fragile contexts requires adaptive management approaches that can adjust to changing conditions.
5. **Sustainable Financing:** Heavy dependence on external funding must be addressed through increased domestic financing and innovative mechanisms.

5.5 Future Research Directions

Future research should examine:

1. **Effectiveness of the Integrated Model:** Evaluate the effectiveness of the proposed integrated model in different contexts.

2. **Cost-Effectiveness:** Assess the cost-effectiveness of different scale-up strategies.
3. **Mechanisms of Change:** Investigate the mechanisms through which institutional, community, and systemic factors interact.
4. **Digital Health:** Explore the role of digital health in strengthening scale-up.
5. **Comparative Studies:** Compare scale-up processes across different fragile contexts.

5.6 Final Remarks

The sustainable scale-up of the First 1,000 Days approach in Niger and similar fragile contexts requires a fundamental shift from project-based to system-based approaches. It requires moving beyond technical solutions to addressing institutional, financial, and political barriers. It requires engaging communities as partners, not just beneficiaries. And it requires sustained political commitment and domestic investment.

The integrated model and operational project presented in this article provide a framework for achieving sustainable scale-up. They offer actionable guidance for policymakers, practitioners, and partners engaged in nutrition programming in the Sahel. By addressing the multiple dimensions of the scale-up challenge simultaneously, they offer a path toward lasting improvements in maternal and child nutrition.

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