



# Closing the Gap on Maternal *Anaemia* in Nigeria

A formative study establishing the baseline for anaemia funding commitment through the Child Nutrition Fund (CNF), and the level of Multiple Micronutrient Supplement (MMS) uptake across CS-SUNN focal and UNICEF-supported states.

19 FOCAL STATES

MMS & ANAEMIA

CHILD NUTRITION FUND



Academic and Research Network  
– Scaling Up Nutrition in Nigeria

Prepared for CS-SUNN, in partnership with UNICEF

PUBLISHED

February 2026



# FORMATIVE STUDY TO ESTABLISH BASELINE FOR ANEMIA FUNDING COMMITMENT THROUGH THE CHILD NUTRITION FUNDS (CNF) AND LEVEL OF MMS UPTAKE ACROSS CS-SUNN FOCAL AND UNICEF SUPPORTED STATES

Final Report

**Academic and Research Network – Scaling Up Nutrition in Nigeria (ARN-SUNN)**

February, 2026



# Table of Contents

|                                                   |    |
|---------------------------------------------------|----|
| Table of Contents .....                           | 3  |
| List of Figures .....                             | 7  |
| List of Tables .....                              | 8  |
| Abbreviations and Acronyms .....                  | 9  |
| Executive Summary .....                           | 10 |
| Introduction .....                                | 10 |
| Survey Methodology .....                          | 10 |
| Key Findings .....                                | 10 |
| Policy Implications .....                         | 12 |
| Priority Actions for Decision-Makers .....        | 12 |
| Conclusion .....                                  | 12 |
| 1.0 Introduction .....                            | 13 |
| 1.1 Background .....                              | 13 |
| 1.2 Rationale .....                               | 13 |
| 1.3 Project Goal and Objectives .....             | 14 |
| 1.3.1 Goal .....                                  | 14 |
| 1.3.2 Objectives .....                            | 14 |
| 1.3.3 Expected Outcomes .....                     | 14 |
| 2.0 Literature Review .....                       | 15 |
| 3.0 Survey Methodology .....                      | 17 |
| 3.1 Planning .....                                | 17 |
| 3.1.1 Preparatory Phase .....                     | 17 |
| 3.1.2 Mixed-Methods Approach .....                | 17 |
| 3.1.3 Data Management and Quality Assurance ..... | 18 |
| 3.2 Ethical Considerations .....                  | 18 |
| 3.3 Sampling .....                                | 18 |
| 3.3.1 Quantitative Sampling .....                 | 18 |



|                                                                                                     |    |
|-----------------------------------------------------------------------------------------------------|----|
| 3.3.2 Qualitative Sampling .....                                                                    | 19 |
| 3.4 Target Population .....                                                                         | 19 |
| 3.5 Data Collection Tools .....                                                                     | 19 |
| 3.6 Survey Team .....                                                                               | 19 |
| 3.7 Training of Data Collectors .....                                                               | 20 |
| 3.8 Pilot Testing of Tools .....                                                                    | 20 |
| 3.9 Survey Implementation Plan .....                                                                | 20 |
| 3.9.1 Data Collection .....                                                                         | 20 |
| 3.9.2 Data Cleaning and Collation .....                                                             | 20 |
| 3.9.3 Data Management .....                                                                         | 20 |
| 3.9.4 Data Analysis.....                                                                            | 21 |
| 3.9.5 Quality Assurance.....                                                                        | 21 |
| 4.0 Results.....                                                                                    | 22 |
| 4.1 Sociodemographic Characteristics of Sampled Stakeholders.....                                   | 22 |
| 4.2 Knowledge of Anaemia among Women of Reproductive Age .....                                      | 23 |
| 4.3 Antenatal Care (ANC) and Supplementation History .....                                          | 27 |
| 4.4 Barriers and Motivations to Multiple Micronutrient Supplement (MMS) Use.....                    | 29 |
| 4.5 Health Workers.....                                                                             | 31 |
| 4.5.1 Aneamia Screening, Management, and MMS Delivery.....                                          | 31 |
| 4.5.2 Health Worker Perspectives and Health System Factors Affecting MMS Delivery...                | 34 |
| 4.6 Recommendations, Success Factors, and Challenges for Scaling MMS Delivery .....                 | 39 |
| 4.7 Health Worker Awareness, Perceived Benefits, and Impact of the Child Nutrition Fund (CNF) ..... | 41 |
| 4.8 Challenges and Recommendations for Enhancing CNF Programme Impact .....                         | 44 |
| 4.8 State-Level Programme Manager Perspectives on Child Nutrition Fund (CNF) .....                  | 45 |
| 4.9 State-Level Supply Chain Assessment and Strategic Priorities for MMS and CNF .....              | 48 |
| 4.10 Characteristics of Participating States and General Child Nutrition Fund Framework...          | 52 |
| 4.11 Child Nutrition Fund (CNF) Financial Flows and Implementation Realities .....                  | 53 |



|                                                                                                                                     |    |
|-------------------------------------------------------------------------------------------------------------------------------------|----|
| 4.12 Community Perceptions and Experiences of Anaemia and Multiple Micronutrient Supplementation (MMS) – Qualitative Findings ..... | 60 |
| 4.12.1 Knowledge and Conceptualization of Anaemia .....                                                                             | 60 |
| 4.12.2 Local Treatment Practices and Health-Seeking Behaviour .....                                                                 | 60 |
| 4.12.3 Awareness and Experience with MMS.....                                                                                       | 61 |
| 4.12.4 Supplement Use During Pregnancy and Reported Side Effects .....                                                              | 61 |
| 4.12.5 Barriers to MMS Uptake.....                                                                                                  | 62 |
| 4.12.6 Cultural Beliefs and Social Acceptability .....                                                                              | 63 |
| 4.12.7 Enablers and Facilitators of Uptake .....                                                                                    | 63 |
| 4.12.8 Role of Social Networks and Community Influencers .....                                                                      | 64 |
| 4.13 Strategies and Way Forward for Improving MMS Uptake.....                                                                       | 68 |
| 5.0 Discussion.....                                                                                                                 | 70 |
| 5.1 Knowledge and Awareness of Anaemia Among Women of Reproductive Age .....                                                        | 70 |
| 5.2 Health Worker Knowledge and Capacity .....                                                                                      | 71 |
| 5.3 Antenatal Care Coverage and MMS Provision.....                                                                                  | 71 |
| 5.4 Adherence to Supplementation.....                                                                                               | 72 |
| 5.5 Supply Chain Performance and Stock Management.....                                                                              | 73 |
| 5.6 Child Nutrition Fund Performance and Governance .....                                                                           | 73 |
| 5.7 Community and Sociocultural Factors .....                                                                                       | 74 |
| 5.8 Limitations and Methodological Considerations .....                                                                             | 75 |
| 6.0 Conclusion and Recommendations .....                                                                                            | 76 |
| 6.1 Conclusion .....                                                                                                                | 76 |
| 6.1.2 Knowledge and Capacity Gaps in Anaemia and MMS .....                                                                          | 76 |
| 6.1.3 Supply Chain Fragility as the Most Critical Barrier .....                                                                     | 77 |
| 6.1.4 Child Nutrition Fund: Innovation Constrained by Governance Gaps.....                                                          | 78 |
| 6.1.5 Equity Implications and the Urgency of Systemic Action .....                                                                  | 79 |
| 6.2 Consolidated Conclusion.....                                                                                                    | 81 |
| 6.3 Actionable Recommendations.....                                                                                                 | 84 |
| References.....                                                                                                                     | 87 |



|                                                                                                      |    |
|------------------------------------------------------------------------------------------------------|----|
| Annex I: Survey Questionnaires and Checklists .....                                                  | 88 |
| I. Desk Review Questionnaire (SNO/Director of Nutrition and Chair SCFN) .....                        | 88 |
| II. Quantitative Survey Questionnaire (for Health Workers, Program Managers, Beneficiaries)<br>..... | 88 |
| II. Quantitative Survey Questionnaire .....                                                          | 90 |
| A. For Health Workers / Program Managers.....                                                        | 90 |
| B. For Women of Reproductive Age / Beneficiaries .....                                               | 90 |
| III. Key Informant Interview (KII) Guide .....                                                       | 92 |
| IV. Focus Group Discussion (FGD) Guide.....                                                          | 92 |
| Annex II: Commodity Stock.....                                                                       | 94 |



# List of Figures

Figure 1: Knowledge Score of Anaemia among Women of Reproductive Age

Figure 2: Knowledge of Aneamia Score among Women of Reproductive Age across the States

Figure 3: Barriers and Motivations to MMS use as indicated by the respondents

Figure 4: Knowledge of Anaemia Score among the Health Workers

Figure 5: Knowledge of Anaemia Score among the Health Workers across States

Figure 6: Health Workers perception of Anaemia Screening in Health Facilities

Figure 7: Programme Implementation, Success Factors, and Recommendations

Figure 8: Recommendations, Success Factors, and Challenges for Scaling MMS Delivery

Figure 9: Knowledge Child Nutrition Fund among Health Workers across States

Figure 10: Challenges and Recommendations for Enhancing CNF Programme Impact

Figure 11: Category of respondents

Figure 12: CNF Allocation, Disbursement and Allocation Per State

Figure 13: CNF Allocation for Nutrition and Anaemia Intervention

Figure 14: MMS Supply per Year across sampled States

Figure 15: Socio-ecological Model of MMS Uptake (Factors influencing MMS at multiple levels)

Figure 16: A Multisectoral Framework for Scaling Up MMS Uptake



# List of Tables

Table 1: Sociodemographic Characteristics of Sampled Stakeholders

Table 2: Knowledge of Anaemia among Women of Reproductive Age

Table 3: Antenatal Care (ANC) and Supplementation History

Table 4: Health Workers Knowledge about Anaemia

Table 5: Health Worker Capacity, Stock Availability, and Service Provision

Table 6: Client Response, Barriers, and Facility Actions to Improve Uptake

Table 7: Knowledge of Child Nutrition Fund (CNF) and Benefits to Health Facilities

Table 8: Child Nutrition Fund (CNF) Awareness and Implementation

Table 9: MMS Availability, Supply Chain Dynamics, and Key Enablers at Facility and State Level

Table 10: CNF-Specific Support, Programmatic Challenges, and Strategic Recommendations

Table 11: Respondent Profile and General CNF Information (N=52)

Table 12: State-Level Profile, Financing, and Implementation of Child Nutrition Fund (CNF) Programmes

Table 13: Commodity Procurement, Supply Chain, and Policy Environment by State



# Abbreviations and Acronyms

| Abbreviation | Meaning                                                       |
|--------------|---------------------------------------------------------------|
| ANC          | Antenatal Care                                                |
| ARN-SUNN     | Academic and Research Network Scaling Up Nutrition in Nigeria |
| BSc          | Bachelor of Science                                           |
| CBC          | Complete Blood Count                                          |
| CNF          | Child Nutrition Funds                                         |
| CS-SUNN      | Civil Society Scaling-Up Nutrition in Nigeria                 |
| FCT          | Federal Capital Territory                                     |
| FGD          | Focus Group Discussion                                        |
| HND          | Higher National Diploma                                       |
| IEC          | Information, education, and counselling                       |
| IFAS         | Iron and Folic Acid Supplementation                           |
| KII          | Key Informant Interview                                       |
| LGAs         | Local Government Areas                                        |
| MMS          | Multiple Micronutrient Supplements                            |
| MUAC         | Mid-Upper Arm Circumference                                   |
| NCE          | Nigeria Certificate in Education                              |
| NDHS         | Nigeria Demographic and Health Survey                         |
| OND          | Ordinary National Diploma                                     |
| PINNS        | Partnership for Improving Nigeria Nutrition Systems           |
| PPS          | Probability Proportional to Size                              |
| RUTF         | Ready-to-Use Therapeutic Food                                 |
| SMEP         | State Ministry of Economic Planning                           |
| SMoH         | State Ministry of Health                                      |
| SPSS         | Statistical Package for the Social Sciences                   |
| SQ-LNS       | Small-Quantity Lipid-based Nutrient Supplements               |
| UNICEF       | United Nations Children's Fund                                |
| WHO          | World Health Organization                                     |
| WRA          | Women of Reproductive Age                                     |



# Executive Summary

## Introduction

Anaemia remains a critical public health and development challenge in Nigeria, disproportionately affecting women of reproductive age and pregnant women and contributing to maternal mortality, poor birth outcomes, reduced productivity, and long-term human capital losses. Nationally, anaemia prevalence among pregnant women remains high, underscoring the urgent need for strengthened prevention and treatment strategies. Poor dietary diversity, infections, socioeconomic inequalities, and health system gaps continue to drive anaemia risk, particularly among vulnerable populations.

Multiple Micronutrient Supplements (MMS) have emerged as a more comprehensive intervention compared to traditional Iron and Folic Acid Supplementation (IFAS), with global evidence demonstrating improved maternal nutrition and birth outcomes. Following World Health Organization guidance, Nigeria initiated MMS introduction in selected states beginning in late 2023. The Child Nutrition Fund (CNF) was established to mobilise catalytic financing for high-impact nutrition interventions, including anaemia prevention and MMS scale-up. However, limited evidence existed on CNF funding flows, implementation performance, and frontline service delivery outcomes. This baseline study was conducted by the Academic and Research Network – Scaling Up Nutrition in Nigeria (ARN-SUNN), in collaboration with CS-SUNN and supported by UNICEF, to provide evidence for policy decisions and programme scale-up.

## Survey Methodology

A sequential explanatory mixed-methods design was employed across 19 focal states. Quantitative data were collected from 381 women of reproductive age, 260 frontline health workers, and 38 programme officers using structured digital questionnaires. Qualitative data were generated through Key Informant Interviews and Focus Group Discussions with policymakers, programme managers, health workers, and pregnant women. The study adopted a stratified multi-stage sampling approach covering urban and rural LGAs, with rigorous quality assurance, ethical safeguards, and triangulation applied throughout data collection and analysis.

## Key Findings

### 1. Strong ANC platform but missed opportunities for anaemia prevention



The study found high antenatal care utilisation, with over 90% of surveyed women attending ANC during their last pregnancy, demonstrating a strong delivery platform for anaemia interventions. However, only about one-quarter achieved the WHO-recommended eight ANC contacts, limiting opportunities for repeated counselling, screening, and follow-up on supplementation adherence.

## **2. High demand and acceptability of MMS among pregnant women**

MMS uptake was moderate but promising:

- Nearly two-thirds of pregnant women reported receiving MMS during pregnancy where available.
- More than 50% of MMS users reported daily adherence, indicating good compliance when supply and counselling are adequate.
- Over 90% expressed willingness to continue using MMS, highlighting strong acceptability and demand.

Key barriers to adherence included forgetfulness, side effects, inadequate counselling, and inconsistent supply.

## **3. Supply chain gaps and health worker capacity constraints**

Despite high client demand:

- Only about 40% of facilities reported consistent availability of MMS, with frequent stock-outs lasting several weeks or months.
- Approximately half of health workers had received formal MMS training, suggesting a need for expanded capacity-building.
- Although most facilities conduct haemoglobin testing, integration of MMS into routine protocols remains inconsistent.

These findings indicate that the primary constraints are systemic rather than behavioural.

## **4. Limited awareness and visibility of the Child Nutrition Fund (CNF)**

The study identified significant gaps in awareness and operational visibility of the CNF:

- Only about half of health workers were aware of CNF-supported interventions.
- Few could link funding flows to service delivery improvements.
- Weak feedback loops and accountability mechanisms limit CNF's effectiveness in driving frontline impact.

This disconnect between financing and implementation risks undermining the potential of CNF investments.



## Policy Implications

Nigeria has a strong foundation for rapid MMS scale-up through existing ANC platforms, with demonstrated demand among women and positive engagement by health workers. However, achieving impact will require transitioning from pilot implementation to a fully institutionalised, well-financed national programme. Persistent supply chain bottlenecks, training gaps, and limited financing transparency currently constrain progress.

## Priority Actions for Decision-Makers

1. Institutionalise MMS within national ANC policy and procurement systems, ensuring routine integration into maternal health services.
2. Strengthen CNF governance and accountability, including transparent tracking of allocations and service delivery outcomes.
3. Secure sustainable domestic financing for MMS procurement and distribution to reduce reliance on external partners.
4. Expand health worker training and supportive supervision to improve counselling, adherence monitoring, and anaemia management.
5. Strengthen supply chain systems, including forecasting, last-mile delivery, and real-time stock monitoring to eliminate stock-outs.
6. Scale community engagement and behaviour change interventions to improve awareness, adherence, and demand.

## Conclusion

The baseline findings demonstrate that MMS is acceptable, feasible, and scalable within Nigeria's maternal health system. With strategic policy leadership, strengthened financing mechanisms, and improved implementation systems, Nigeria has an opportunity to significantly reduce maternal anaemia and improve maternal and newborn outcomes. Accelerated action through coordinated government leadership, effective use of the Child Nutrition Fund, and partner alignment is essential to translate commitments into measurable results.



## CHAPTER ONE

# 1.0 Introduction

## 1.1 Background

Anemia remains a major public health concern contributing significantly to adverse maternal and neonatal outcomes, including maternal mortality, fetal loss, reduced work capacity, and broader economic consequences. Among pregnant women in Nigeria, the risk of anemia is further heightened by poor dietary diversity, socioeconomic inequalities, and persistent reproductive health challenges, underscoring the need for comprehensive and context-specific interventions.

In response to these challenges, micronutrient interventions have evolved beyond traditional Iron and Folic Acid Supplementation (IFAS) to include Multiple Micronutrient Supplements (MMS), which offer a broader spectrum of nutritional support during pregnancy. The World Health Organization updated its guidance in 2020 to recommend MMS, citing improved birth outcomes such as reductions in low birth weight, preterm birth, and neonatal mortality, while achieving comparable reductions in maternal anemia relative to IFAS. Building on this evidence, the Nigerian government, in collaboration with partners such as Nutrition International, began piloting MMS implementation in selected states from late 2023, integrating supplementation into antenatal care alongside nutrition education to enhance adherence and effectiveness. Within this context, the Partnership for Improving Nigeria Nutrition Systems (PINNS) 3.0 initiative seeks to establish a robust baseline on anaemia funding commitments and MMS uptake across focal states, thereby informing future advocacy, policy development, and programmatic action.

## 1.2 Rationale

A large body of evidence demonstrates that Multiple Micronutrient Supplementation (MMS) compared to Iron and Folic Acid Supplementation (IFAS) alone improves maternal and birth outcomes, but effective scale-up relies on overcoming identified barriers, including weak health systems, stock-outs, low public awareness, and insufficient resource mobilization. Addressing both nutritional and non-nutritional causes through integrated interventions is pivotal for progress.

Despite existing nutrition programs, Nigeria faces persistent barriers to adequate resource mobilization and effective integration of MMS, including gaps in data on funding flows, stakeholder coordination, health system delivery, and community behaviour. Thereby conducting this baseline study, Civil Society Scaling-Up Nutrition in Nigeria (CS-SUNN) seeks



actionable evidence to guide enhanced resource allocation, drive policy reforms, and scale MMS interventions tailored to local realities.

## 1.3 Project Goal and Objectives

### 1.3.1 Goal

To establish the baseline status of anaemia funding commitment and MMS uptake in focal states, supporting evidence-driven advocacy and programming for improved maternal and child nutrition in Nigeria.

### 1.3.2 Objectives

- i. Assess current government and partner funding commitments to anaemia control and MMS in target states.
- ii. Quantify the level of MMS uptake among women and children in the focal states.
- iii. Identify key drivers of anaemia—including nutritional, infectious, genetic, and socioeconomic factors—in the focal states.
- iv. Determine the level and trends of MMS uptake in the target states.
- v. Identify systemic, institutional, and behavioral barriers and enablers influencing MMS delivery and uptake.
- vi. Map and analyze stakeholders' roles, strategies, and coordination regarding anaemia and MMS programming.
- vii. Provide actionable recommendations to strengthen integration of Iron and Folic Acid Supplementation (IFAS) with MMS.

### 1.3.3 Expected Outcomes

- viii. Detailed mapping of anaemia funding and resource flows for MMS.
- ix. Reliable baseline indicators for MMS uptake and program delivery in focal states.
- x. Detailed identification and quantification of key drivers of anaemia in the focal states.
- xi. Clear mapping and analysis of stakeholders' roles, coordination mechanisms, and policy strategies related to anaemia and MMS interventions.
- xii. Context-specific evidence on bottlenecks and opportunities for improving MMS access and use.
- xiii. Stakeholder and policy recommendations to drive effective nutrition interventions and resource mobilization.
- xiv. Strengthened mechanisms for data-driven advocacy and planning by CS-SUNN, UNICEF, and partners.



## CHAPTER TWO

### 2.0 Literature Review

Nigeria faces one of the world's highest anaemia burdens, particularly among women of reproductive age and children under five. Anaemia is recognized as a severe public health problem in Nigeria, with multifactorial causes including micronutrient deficiencies, infections, and genetic factors. The World Health Organization notes that about 50–60% of anaemia cases globally are attributable to iron deficiency, but in malaria-endemic settings such as Nigeria, coexisting infection plays a significant role. Studies also emphasize the compounding effect of chronic malnutrition, early pregnancy, short interpregnancy intervals, and adolescent motherhood on anaemia prevalence.

Anaemia in this context is commonly multi-factorial, driven by dietary micronutrient deficiencies, and genetic hemoglobinopathies (such as sickle cell disease and thalassemias). Socioeconomic status, food insecurity, and cultural practices further exacerbate these risks by influencing dietary intake, health-seeking behavior, and access to healthcare. These facts are supported by data and research publications from 2023 to 2025, including the World Bank, WHO, and recent peer-reviewed studies in Nigeria and comparable contexts. A 2025 cross-sectional study using Nigeria's 2018 Demographic and Health Survey data found anemia prevalence among pregnant women at 61.1%, varying regionally from 55.2% in the South-West to 71.1% in the South-East. It also highlighted poor dietary diversity as an important but not sole factor for anaemia. The World Bank 2023 data reports anaemia prevalence among pregnant Nigerian women at approximately 45%, compiled from officially recognized sources. A 2024 study in Lagos, Nigeria examined moderate-to-severe anemia in pregnancy and emphasized the high burden of anemia in late pregnancy, with links to trimester progression and iron demand.

Recent evidence from the Nigeria Demographic and Health Survey (NDHS 2024) indicates that anaemia remains a major public health concern among pregnant women in Nigeria, with approximately half to over half of pregnant women reported to be anaemic nationwide, highlighting persistent regional and socioeconomic disparities. Consistent with earlier analyses, the findings suggest that while inadequate dietary diversity contributes to anaemia risk, it does not fully explain the observed variations, pointing to the influence of broader determinants such as socioeconomic conditions, health service access, and reproductive factors.

The World Health Organization's guidelines updated in 2020 recommend MMS over Iron and Folic Acid Supplementation during pregnancy due to better birth outcomes and comparable reduction in maternal anemia. There is ongoing Nigerian government pilot programs starting in



late 2023, with partners like Nutrition International, have introduced MMS in antenatal care to improve maternal nutrition and adherence. These sources provide a robust evidence base—from national surveys, global databases, and peer-reviewed research—for the high prevalence of anemia in pregnancy in Nigeria and the rationale for MMS as an improved intervention.



## CHAPTER THREE

### 3.0 Survey Methodology

The study adopted a methodology framework designed to ensure rigorous, ethical, and representative data collection for the comprehensive assessment of anaemia funding commitments, Multiple Micronutrient Supplementation (MMS) uptake, and the multidimensional drivers influencing nutrition outcomes in Nigeria.

The survey methodology was developed to address specific research questions, including: the level of funding commitment and release to the Child Nutrition Fund (CNF) in the target states and the extent to which funds were utilized for procuring nutrition commodities; the proportion of CNF allocations dedicated to anaemia-related interventions; key drivers of anaemia prevalence in the target states; current levels and trends in MMS uptake; policy gaps affecting MMS utilization; systemic, institutional, and behavioral factors influencing MMS uptake; and existing policy and financing mechanisms, including identified gaps.

### 3.1 Planning

#### 3.1.1 Preparatory Phase

The study team conducted a comprehensive review of relevant documents and literature on anaemia prevalence, MMS implementation, and the nutrition financing landscape in Nigeria. Data collection tools including structured questionnaires, Focus Group Discussion (FGD) guides, Key Informant Interview (KII) protocols, and a stakeholder mapping matrix were developed and pretested to ensure contextual relevance and clarity. A training workshop was organized for data collectors covering survey objectives, ethical standards, interview techniques, and the use of digital data collection platforms such as KoboToolbox. Logistics were coordinated to support stakeholder engagement meetings, fieldwork scheduling, and validation workshops.

#### 3.1.2 Mixed-Methods Approach

A sequential explanatory mixed-methods design was employed, combining quantitative surveys assessing MMS uptake and funding tracking with qualitative methods, including FGDs and KIIs, to explore perceptions, barriers, and systemic factors.



### 3.1.3 Data Management and Quality Assurance

Real-time digital data collection tools with built-in validation checks were used. Supervisors conducted daily data reviews to ensure completeness and accuracy, while triangulation and peer review were applied during analysis to validate findings.

## 3.2 Ethical Considerations

Ethical principles guided all stages of the study. Voluntary informed consent was obtained from all participants prior to data collection, either verbally or in writing depending on literacy levels. Participants received clear explanations regarding study objectives, procedures, risks, and benefits. Confidentiality and anonymity were maintained through data anonymization and secure storage systems with restricted access. Ethical clearance was sought from relevant national and institutional ethics review boards before data collection commenced. Participation was voluntary, with participants informed of their right to withdraw at any time without consequences. Cultural sensitivity was maintained throughout discussions, particularly when addressing health and micronutrient issues.

## 3.3 Sampling

A stratified multi-stage sampling approach was used across the CS-SUNN/UNICEF focal states to address both quantitative and qualitative research objectives.

### 3.3.1 Quantitative Sampling

Target respondents included State Nutrition Officers, LGA Nutrition Focal Persons, health facility officers-in-charge, and pharmacy or supply chain managers. Sampling proceeded in three stages:

- xv. State-Level Census: All 19 focal states were included to ensure geographic representation.
- xvi. LGA Selection: Two LGAs per state (one urban and one rural) were selected using stratified random sampling.
- xvii. Facility-Level Selection: Five health facilities per LGA were selected using Probability Proportional to Size (PPS) sampling based on patient load data from State Health Ministries. Within each facility, one officer-in-charge and one pharmacist were purposively surveyed.

This approach yielded a total of 380 quantitative respondents.



### 3.3.2 Qualitative Sampling

#### **Key Informant Interviews (KIIs):**

A purposive sample of policy and programme stakeholders was recruited, including federal-level policymakers involved in CNF oversight, state-level officials responsible for nutrition budgeting, development partners supporting CNF and MMS implementation, and civil society representatives. Participants were selected based on having at least three years of experience in nutrition programming, with additional stakeholders identified through snowball sampling.

#### **Focus Group Discussions (FGDs):**

FGDs were conducted with pregnant women and health workers, stratified by geographic location and participant characteristics. Recruitment was facilitated through health facilities using ANC registers. Eligibility criteria included pregnant women with at least four ANC visits and health workers with a minimum of one year of professional experience.

## 3.4 Target Population

The study population included women of reproductive age (15–49 years), particularly pregnant women and mothers of children under five, as well as children under five (indirectly through caregiver reporting). Key informants included federal and state government officials, civil society representatives, health facility staff, development partners, and donors engaged in anaemia-related programming. Community-level participants included frontline health workers and women from diverse socio-economic backgrounds.

## 3.5 Data Collection Tools

Data were collected using structured questionnaires (Annex I) targeting government officials and CSOs to assess funding flows and program implementation; FGD guides to explore knowledge, attitudes, behaviors, and barriers related to MMS and anaemia; KII protocols to examine institutional and systemic factors affecting MMS scale-up; and a stakeholder mapping matrix to analyze governance structures. Digital data collection platforms, such as KoboToolbox was utilized to enhance data quality through built-in validation checks and skip logic.

## 3.6 Survey Team

The survey team comprised a multidisciplinary group, including a Lead Consultant, technical consultants, data analysts, qualitative leads, stakeholder engagement specialists, trained state-



level data collectors (CS-SUNN coordinators), supervisors responsible for daily monitoring, and the CS-SUNN technical project team.

## 3.7 Training of Data Collectors

A comprehensive training workshop was conducted prior to fieldwork, covering methodology, ethical considerations, detailed tool review, practical exercises including role-play interviews, use of digital devices, interview techniques, confidentiality procedures, and data quality assurance measures. Pre- and post-tests were administered to assess readiness.

## 3.8 Pilot Testing of Tools

All data collection instruments underwent pilot testing to assess clarity, cultural appropriateness, length, and digital functionality. Feedback from the pilot informed revisions prior to full-scale implementation.

## 3.9 Survey Implementation Plan

### 3.9.1 Data Collection

The trained survey team deployed to selected states according to the sampling framework. Data were collected using digital platforms enabling real-time entry and secure uploads. Supervisors conducted daily reviews and spot-checks, while periodic visits ensured adherence to implementation protocols. Ethical standards, including informed consent and confidentiality, were strictly maintained.

### 3.9.2 Data Cleaning and Collation

Daily downloads enabled preliminary data cleaning, including automated checks for missing values, inconsistencies, and out-of-range responses. Identified issues were resolved through communication with field teams or revisits where feasible. Cleaned datasets were collated into master databases, and qualitative materials were securely organized.

### 3.9.3 Data Management

Data were stored on password-protected systems with restricted access, supported by automated and manual backups. Personal identifiers were removed or coded to ensure anonymity, and version control procedures were implemented to maintain data integrity.



### 3.9.4 Data Analysis

Quantitative data were analyzed using SPSS statistical software to generate descriptive statistics, cross-tabulations, and advanced modeling where necessary. Qualitative data were transcribed, and analyzed thematically. Findings from both methods were triangulated to ensure comprehensive interpretation.

### 3.9.5 Quality Assurance

Quality assurance measures included standardized training, real-time monitoring, built-in validation checks, field observations, and regular team debriefings. Multiple analysts reviewed qualitative coding to enhance reliability. Continuous ethical monitoring ensured that participant rights and data protections were maintained throughout the study.



## CHAPTER FOUR

### 4.0 Results

#### 4.1 Sociodemographic Characteristics of Sampled Stakeholders

The socio-demographic characteristics of the three categories of respondents for this study are presented in Table 1. The mean age of women of reproductive age (WRA) was  $30.7 \pm 7.3$  years, and health workers and programme officers had mean ages of  $38.46 \pm 10.02$  years and  $44.8 \pm 9.0$  years, respectively. Most of the women were married (94.5%), and a larger proportion (75.6%) had at least secondary school education including secondary (30.4%), NCE/OND (18.9%), HND/BSc (23.4%), and postgraduate training (2.9%), thereby reflecting educational diversity. A larger proportion of health workers had higher education (86.3%), mostly NCE/OND (43.0%) or HND/B.Sc. (40.1%). Programme officers were predominantly HND/B.Sc. (55.3%) holders and postgraduates (34.2%).

The mean number of children among the women of reproductive age was  $3.0 \pm 1.9$ , with 77.2% having 1-4 children and 22.8% having 5-9 children. A large proportion of the health workers (84.9%) and programme officers (81.6%) had 1-10 years of experience. The health workers were more females (77.4%) than males (22.6%), and the programme officers were largely male (63.2%) than female (36.8%).

**Table 1: Sociodemographic Characteristics of Sampled Stakeholders**

|                            |                     | WRA N=381 | %    | Health Workers N=279 | % | Programme Officers N=38 | % |
|----------------------------|---------------------|-----------|------|----------------------|---|-------------------------|---|
| Age                        |                     | 30.7±7.3  |      | 38.46±10.02          |   | 44.8±9.0                |   |
|                            | 15-20               | 26        | 6.8  |                      |   |                         |   |
|                            | 21-25               | 77        | 20.2 |                      |   |                         |   |
|                            | 26-30               | 108       | 28.2 |                      |   |                         |   |
|                            | 31-35               | 84        | 22.0 |                      |   |                         |   |
|                            | 36-40               | 49        | 12.9 |                      |   |                         |   |
|                            | 41-50               | 33        | 8.7  |                      |   |                         |   |
| Marital Status             | Married             | 360       | 94.5 |                      |   |                         |   |
|                            | Single              | 16        | 4.2  |                      |   |                         |   |
|                            | Divorced/separated  | 4         | 1.0  |                      |   |                         |   |
|                            | Widowed             | 1         | 0.3  |                      |   |                         |   |
| Highest Level of Education | No formal education | 44        | 11.5 |                      |   |                         |   |
|                            | Primary education   | 49        | 12.9 |                      |   |                         |   |



|                     |                       |     |       |     |      |    |      |
|---------------------|-----------------------|-----|-------|-----|------|----|------|
|                     | Secondary education   | 116 | 30.4  | 38  | 13.6 | 2  | 5.3  |
|                     | NCE/OND               | 72  | 18.9  | 120 | 43.0 | 2  | 5.3  |
|                     | HND/BSc               | 89  | 23.4  | 112 | 40.1 | 21 | 55.3 |
|                     | Postgraduate          | 11  | 2.9   | 9   | 3.2  | 13 | 34.2 |
| Number of Children  | 1–4                   | 294 | 77.2  |     |      |    |      |
|                     | 5–9                   | 87  | 22.8  |     |      |    |      |
|                     | <b>Mean = 3.0±1.9</b> |     |       |     |      |    |      |
| Years of Experience | 1-10                  |     |       | 237 | 84.9 | 31 | 81.6 |
|                     | 11-20                 |     |       | 32  | 11.5 | 4  | 10.5 |
|                     | 21-30                 |     |       | 8   | 2.9  | 3  | 7.9  |
|                     | >30                   |     |       | 2   | 0.7  |    |      |
| Gender              | Female                | 341 | 100.0 | 216 | 77.4 | 14 | 36.8 |
|                     | Male                  | 0   | 0.0   | 63  | 22.6 | 24 | 63.2 |

WRA – Women of Reproductive Age

## 4.2 Knowledge of Anaemia among Women of Reproductive Age

The knowledge of anaemia among the sampled women of reproductive age (WRA) is presented in Table 2. Out of 381 women of reproductive age sampled, 84.3% had heard of anaemia (awareness), however understanding of anaemia varied. Majority (61.2%) described anaemia as ‘a shortage or lack of blood’, while only a small proportion linked it directly to iron deficiency (4.5%) or red blood cell deficiency (2.6%). About 70 percent of the respondents knew the cause of anaemia; 63.5% attributed the cause of anaemia to poor nutrition, 50.7% to blood loss, 32.3% considered it pregnancy-related and 28.9% indicated infections could cause anaemia. Only 61.4% confirmed they had ever had or knew someone with anaemia. Identified common signs or symptoms included weakness (69.3%), fatigue or tiredness (62.5%), dizziness or fainting (54.6%), and pale skin (52.8%). About 62% knew that anaemia affects women more than men, with menstruation (11.0%) and pregnancy/childbearing/breastfeeding (26.8%), and combination of these conditions (15.7%) identified as the main reasons.

About 62 percent of the respondents knew pregnancy-related anaemia complications and reported that this can result in maternal death (25.2%), pregnancy complications such as miscarriage and blood loss (10.8%), foetal/neonatal death (9.7%), and maternal and child death (8.4%). Identified effective ways of preventing or treating anaemia among the respondents included consumption of iron-rich foods (80.3%), use of iron supplements (65.6%), receiving medical treatment (57.2%), good hygiene and sanitation (47.9%), and the use of contraceptives to reduce heavy bleeding (16.3%). Only 63.8% (n=243) of the women had ever tested for anaemia, of which 26.7% tested anaemic. Only 27% had used any contraceptive method; among



these users, 17.5% reported changes in health related to anaemia, 7.8% reported improved health, 3.9% noticed negative changes such as weakness or blood loss, and 46.6% reported no changes. Most of the women received information about anaemia and health generally from the health clinics or hospital (65.6%), family or friends (34.1%), community meetings or groups (31.5%), television (21.3%), internet or social media (19.7%) and radio (13.9%).

The summary of the knowledge among the women of reproductive age is presented in Figure 1. Women with good knowledge constituted 49 percent while 31.0% and 20.0% had fair and poor knowledge of anaemia, respectively. Performance across the states is presented in Figure 2 with predominance of poor knowledge in Niger, FCT, Katsina, Bauchi, Gombe, Enugu and Cross River States.

**Table 2: Knowledge of Anaemia among Women of Reproductive Age**

| Variable                                              | Frequency<br>(N=381) | Percentage |
|-------------------------------------------------------|----------------------|------------|
| Ever heard of the term anaemia                        | 321                  | 84.3       |
| <b>Respondents' interpretation of anaemia</b>         |                      |            |
| Shortage/lack of blood                                | 233                  | 61.2       |
| Iron deficiency/poor nutrition                        | 17                   | 4.5        |
| Red blood cell deficiency                             | 10                   | 2.6        |
| Others e.g. (Sickness/diseases, weakness, dizziness)  | 33                   | 8.7        |
| Don't know                                            | 28                   | 7.3        |
| Knew causes of anaemia                                | 265                  | 69.6       |
| <b>Causes of anaemia</b>                              |                      |            |
| Poor nutrition                                        | 242                  | 63.5       |
| Blood loss                                            | 193                  | 50.7       |
| Pregnancy                                             | 123                  | 32.3       |
| Infections                                            | 110                  | 28.9       |
| Others e.g genetics                                   | 9                    | 2.4        |
| Ever had anaemia or knew someone with anaemia         | 234                  | 61.4       |
| <b>Common signs or symptoms of anaemia</b>            |                      |            |
| Weakness                                              | 264                  | 69.3       |
| Fatigue or tiredness                                  | 238                  | 62.5       |
| Dizziness or fainting                                 | 208                  | 54.6       |
| Pale skin                                             | 201                  | 52.8       |
| I don't know                                          | 54                   | 14.2       |
| Others e.g. loss of appetite, cold hands and feet     | 8                    | 2.1        |
| Knew anaemia affects women more than men              | 235                  | 61.7       |
| <b>If yes, please explain why</b>                     |                      |            |
| Pregnancy/Childbearing/Breastfeeding                  | 102                  | 26.8       |
| Menstruation                                          | 42                   | 11.0       |
| Both                                                  | 60                   | 15.7       |
| Others (e.g poor diet, infections, gender inequality) | 20                   | 5.2        |




---

**If no, please explain**

|                                                                  |     |      |
|------------------------------------------------------------------|-----|------|
| Anaemia can affect anybody, irrespective of gender               | 6   | 1.6  |
| Knew complications related to anaemia in women, during pregnancy | 235 | 61.7 |

**If yes, please explain**

|                                                           |    |      |
|-----------------------------------------------------------|----|------|
| Maternal death (e.g postpartum hemorrhage)                | 96 | 25.2 |
| Foetal/Neonatal death (e.g preterm birth, still birth)    | 37 | 9.7  |
| Pregnancy complications (e.g. loss of blood, miscarriage) | 41 | 10.8 |
| Maternal and child death                                  | 32 | 8.4  |
| Others (e.g poor nutrition)                               | 24 | 6.3  |

**Effective ways to prevent or treat anaemia**

|                                                  |     |      |
|--------------------------------------------------|-----|------|
| Eating iron-rich foods (e.g., meat, spinach)     | 306 | 80.3 |
| Taking iron supplements                          | 250 | 65.6 |
| Medical treatment from a health professional     | 218 | 57.2 |
| Good hygiene and sanitation                      | 182 | 47.9 |
| Use of contraceptives to reduce heavy bleeding   | 62  | 16.3 |
| I don't know                                     | 40  | 10.5 |
| Ever tested for anaemia by a health professional | 243 | 63.8 |

**If yes, what was the result?**

|                                |     |      |
|--------------------------------|-----|------|
| Non anaemic                    | 150 | 61.7 |
| Anaemic                        | 65  | 26.7 |
| Don't remember                 | 28  | 11.5 |
| Used any contraceptive methods | 103 | 27.0 |

**Noticed changes in health related to anaemia since using contraceptive methods**

|                                           |    |      |
|-------------------------------------------|----|------|
| Yes                                       | 18 | 17.5 |
| Improved health                           | 8  | 7.8  |
| Negative effect e.g. weakness, blood loss | 4  | 3.9  |
| No changes                                | 48 | 46.6 |
| Don't know                                | 18 | 24.3 |

**Source of information about anaemia or health in general**

|                              |     |      |
|------------------------------|-----|------|
| Health clinics or hospitals  | 250 | 65.6 |
| Family or friends            | 130 | 34.1 |
| Community meetings or groups | 120 | 31.5 |
| Television                   | 81  | 21.3 |
| Internet or social media     | 75  | 19.7 |
| Radio                        | 53  | 13.9 |
| Others e.g school, workplace | 15  | 3.9  |

---

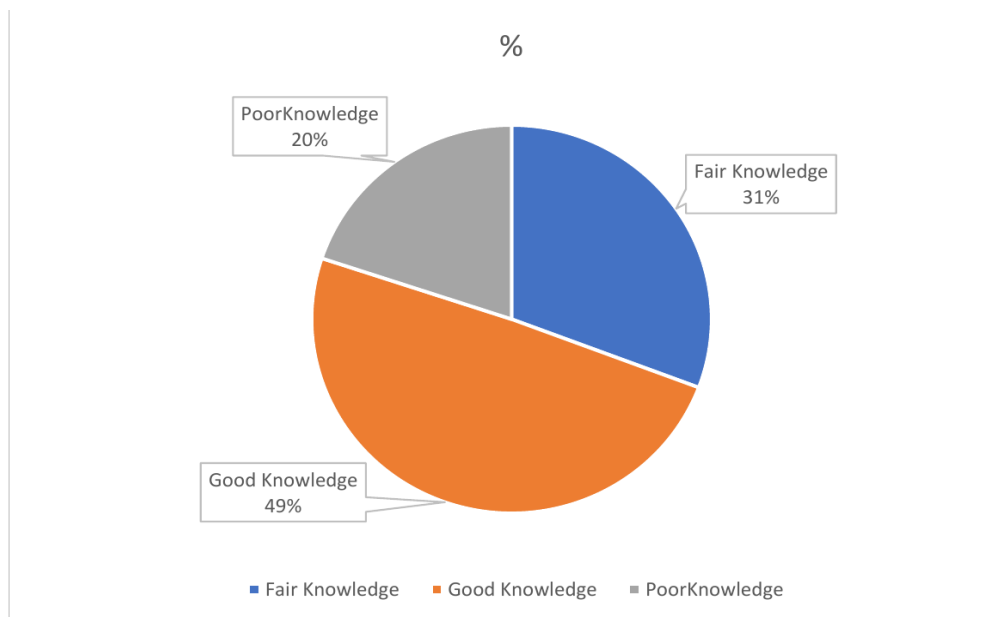


Figure 1: Knowledge Score of Anaemia among Women of Reproductive Age

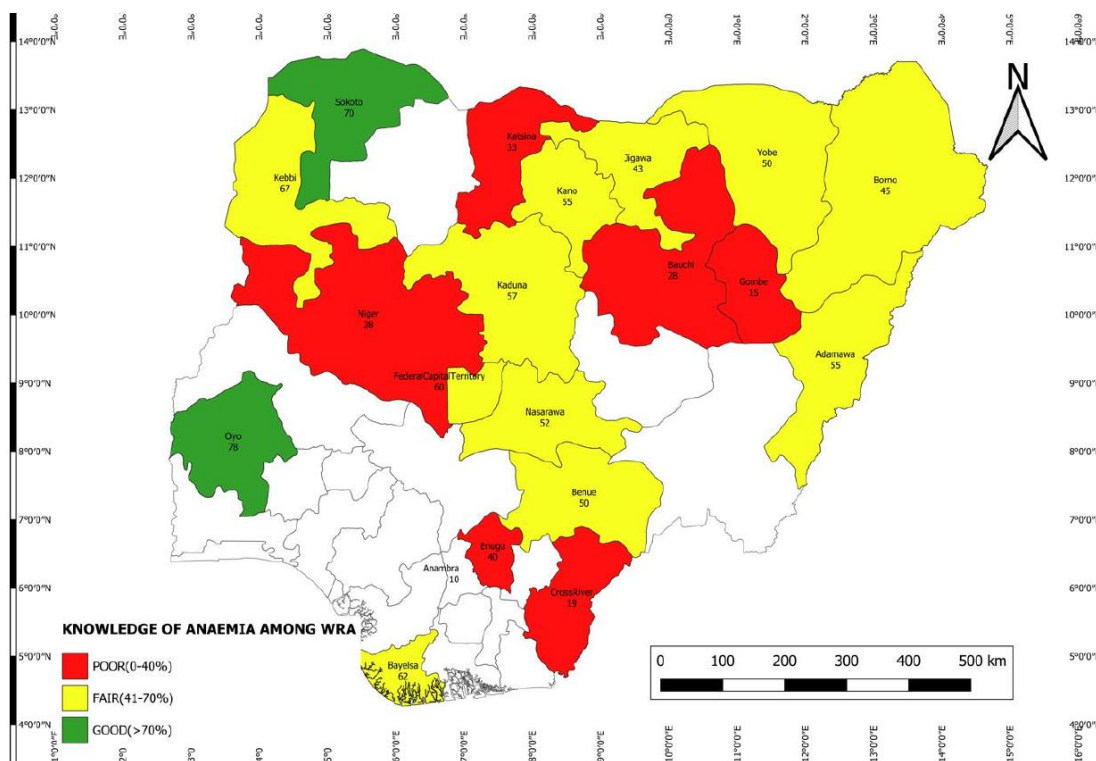


Figure 2: Knowledge of Aneamia Score among Women of Reproductive Age across the States



### 4.3 Antenatal Care (ANC) and Supplementation History

The Antenatal Care (ANC) and supplementation history of the sampled women of reproductive age is presented in Table 3. Nine out of ten women attended ANC during their most recent pregnancy. Among these women, 44.6% started ANC visit in the first trimester, 44.1% in the second trimester, and only 11.3% in the third trimester. Among the ANC users, only 25.2% reported eight or more ANC visits meeting WHO recommendations, 43.2% had 4-7 ANC visits, and 31.5% had 1-3 visits. Nearly all women (98.6%) were advised or provided with supplements during ANC, thereby reflecting strong health system performance.

Multiple micronutrient supplement (62.9%) is the most provided supplement, others are folic acid tablets (58.6%), iron tablets or syrup (38.6%), and calcium supplements (24.6%), while 7.2% did not receive any supplements. About 65% of the women reported taking supplements regularly as advised indicating adherence to supplements use, 21.0% took the supplements sometimes, 5.0% did not take them regularly, and 9.4% did not take supplements at all. The main barriers to adherence identified by the women included forgetfulness (40.9%), side effects such as nausea or constipation (19.2%), unavailability of supplements (18.1%) and lack of understanding of importance (15.7%). Cultural or religious beliefs also accounted for 10.8% of non-adherence. These barriers are largely modifiable through targeted interventions.

About 75 percent of the women had heard of the multiple micronutrient supplements (MMS), mainly from the health clinics and hospitals (66.4%), community health workers (31.2%), family and friends (20.2%), Radio/TV (17.8%) and internet/social media (5.5%). About 61% of women confirmed that health workers recommended or provided MMS during pregnancy. This reflects good MMS awareness and strong health worker engagement. Furthermore, the results showcased limited use of mass media and digital platforms, and the opportunity to leverage multiple channels for health messaging. Only 28.3% received 0-60 tablets, 23.1% received 120-180 tablets, 11.8% received 61-120 tablets, and less than 1% received more than 180 tablets. More than half of the women (53.0%) took MMS daily as prescribed indicating high adherence among MMS users, 17.1% used them occasionally, 1.5% had stopped, while about 29% never took them. Nearly all the women (92.1%) indicated willingness to take MMS again if available, thereby suggesting high acceptability.

**Table 3: Antenatal Care (ANC) and Supplementation History**

| Variable                                      | Frequency<br>(N=381) | Percentage |
|-----------------------------------------------|----------------------|------------|
| Had attended ANC during most recent pregnancy | 345                  | 90.6       |
| <b>Month of pregnancy ANC visits started</b>  |                      |            |
| 1st trimester (1-3 months)                    | 154                  | 44.6       |



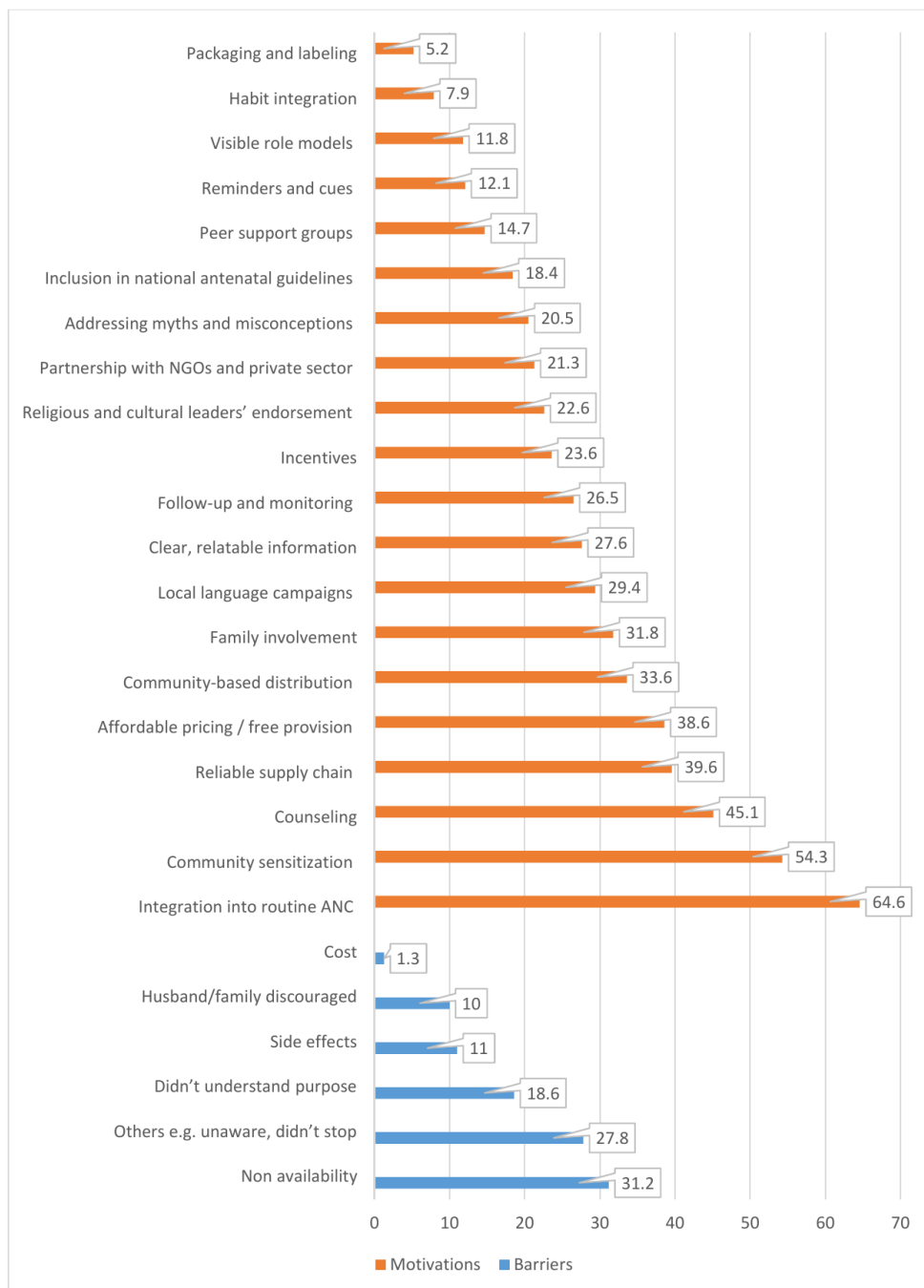
|                                                                              |     |      |
|------------------------------------------------------------------------------|-----|------|
| 2nd trimester (4-6 months)                                                   | 152 | 44.1 |
| 3rd trimester (7-9 months)                                                   | 39  | 11.3 |
| <b>Number of ANC visits during most recent pregnancy (N=345)</b>             |     |      |
| 1-3 visits                                                                   | 109 | 31.5 |
| 4-7 visits                                                                   | 149 | 43.2 |
| 8 or more visits                                                             | 87  | 25.2 |
| Advised/provided supplements during ANC                                      | 340 | 98.6 |
| <b>Supplements received/used during pregnancy (N=345)</b>                    |     |      |
| Folic acid tablets                                                           | 202 | 58.6 |
| Multiple Micronutrient Supplements (MMS)                                     | 217 | 62.9 |
| Iron tablets/syrup                                                           | 133 | 38.6 |
| Calcium supplements                                                          | 85  | 24.6 |
| None                                                                         | 25  | 7.2  |
| <b>Adherence to supplements during pregnancy</b>                             |     |      |
| Yes, regularly                                                               | 246 | 64.6 |
| Sometimes                                                                    | 80  | 21.0 |
| No, did not take regularly                                                   | 19  | 5.0  |
| Did not take at all                                                          | 36  | 9.4  |
| <b>Barriers to Adherence</b>                                                 |     |      |
| Forgetfulness                                                                | 156 | 40.9 |
| Not applicable (I took supplements regularly)                                | 82  | 21.5 |
| Side effects (e.g., nausea, constipation)                                    | 73  | 19.2 |
| Supplements not available                                                    | 69  | 18.1 |
| Did not understand importance                                                | 60  | 15.7 |
| Cultural/religious beliefs                                                   | 41  | 10.8 |
| Others e.g. first-time, not pregnant                                         | 21  | 5.5  |
| Ever heard about multiple micronutrient supplements (MMS) for pregnant women | 287 | 75.3 |
| <b>Source of information about MMS</b>                                       |     |      |
| Health clinics/hospitals                                                     | 253 | 66.4 |
| Community health workers                                                     | 119 | 31.2 |
| Radio/TV                                                                     | 68  | 17.8 |
| Family/friends                                                               | 77  | 20.2 |
| Internet/social media                                                        | 21  | 5.5  |
| Others                                                                       | 1   | 0.3  |
| Health workers recommended/provided MMS during pregnancy                     | 233 | 61.2 |
| <b>No of MMS tablets received</b>                                            |     |      |
| 0-60                                                                         | 108 | 28.3 |
| 61-120                                                                       | 45  | 11.8 |
| 120-180                                                                      | 88  | 23.1 |
| >180                                                                         | 3   | 0.8  |
| <b>Frequency of use of the MMS</b>                                           |     |      |
| Daily                                                                        | 202 | 53.0 |
| Never took                                                                   | 110 | 28.9 |
| Occasionally                                                                 | 65  | 17.1 |



|                                                   |     |      |
|---------------------------------------------------|-----|------|
| Stopped                                           | 4   | 1.5  |
| <b>Willingness to take MMS again if available</b> |     |      |
| Yes                                               | 351 | 92.1 |
| No                                                | 30  | 7.9  |

## 4.4 Barriers and Motivations to Multiple Micronutrient Supplement (MMS) Use

The barriers and motivations to the use of MMS among the sampled women of reproductive age are presented in Figure 3. Some of the identified barriers by the women included unavailability of supplements (31.2%), lack of understanding of the purpose of taking the supplement (18.6%), side effects (11%), discouragement from family (10%), cost (1.3%) and other reasons (27.8%). Key motivators to the uptake of MMS among women of reproductive age were integration into routine antenatal care (64.6%), community sensitization (54.3%) and counselling (45.1%). Other motivators included reliable supply chain (39.6%), affordable pricing and free provision (38.6%), community-based distribution (33.6%), family involvement (31.8%).



**Figure 3: Barriers and Motivations to MMS use as indicated by the respondents**



## 4.5 Health Workers

### 4.5.1 Anaemia Screening, Management, and MMS Delivery

The knowledge of the frontline health workers about anaemia and its screening in health facilities is presented in Table 4, Figures 4, 5 and 6. Nearly all the health workers (98.9%) had heard of anaemia, and majority defined it as a shortage of blood (68.1%), red blood cell deficiency (17.6%), iron deficiency/poor nutrition (10.0%), or other conditions such as disease or blood clotting disorders (4.3%). Almost all the participants (99.3%) knew anaemia is commonly screened during pregnancy in health facilities, and 96.1% were aware of the specific tests used in their facilities. The most common screening methods included haemoglobin estimation (85.8%), clinical examination, such as pallor assessment (49.1%), complete blood count (28.5%), hematocrit testing (25.5%), and serum ferritin (16.9%). This shows that the standard technique is largely used in screening for anaemia though other methods are also common. A few respondents also identified less conventional methods such as urinalysis or katum paper (9.0%). About 86.0% reported that anaemia screening during pregnancy was done in the first trimester reflecting that screening at booking is nearly universal, though some facilities extended screening into the second (44.4%) and third trimesters (31.5%), while 8.5% screened only when symptoms appeared.

Overall, 91 percent of the health workers exhibited good knowledge of anaemia and 9.0% had fair knowledge (Figure 4). Nearly all the health workers across the state except Gombe, and Enugu exhibited good knowledge of anaemia (Figure 5).

About 60% of the health workers confirmed that pregnant women were routinely screened for anaemia at every ANC visit, 30.5% screening only at selected visits, and 16.1% reported screening only once or based on special indications. Most of the health workers identified dizziness (77.8%), pallor (77.8%), weakness (76.0%), fatigue (69.5%) as common signs and symptoms of anaemia observed in pregnant women. About nine in ten health workers (88.2%) believed that iron deficiency is the main cause of anaemia in their area. The health workers noted several barriers to effective anaemia screening, including the lack of test kits or supplies (57.7%), limited laboratory facilities (33.7%), high cost of tests for patients (32.3%), pregnant women's unwillingness to be tested (28.3%), shortage of trained staff (26.2%), and delays in test results (21.5%). These barriers are largely supply-side barriers thus requiring health facility driven interventions.

Upon diagnosis, most health facilities provided anaemic pregnant women with iron supplements (80.3%), provided nutrition counselling (74.2%), provided referrals to specialised care (63.1%), and monitored haemoglobin levels regularly (34.8%). Eight out of ten health workers expressed



confidence in their facility's capacity to effectively screen and manage anaemia during pregnancy.

**Table 4: Health Workers Knowledge about Anaemia**

| Variable                                                                              | Frequency<br>(N=279) | Percentage (%) |
|---------------------------------------------------------------------------------------|----------------------|----------------|
| Heard of Anaemia                                                                      | 276                  | 98.9           |
| <b>Definitions of anaemia</b>                                                         |                      |                |
| Shortage of blood                                                                     | 190                  | 68.1           |
| Red blood cell deficiency                                                             | 49                   | 17.6           |
| Iron Deficiency/Poor nutrition                                                        | 28                   | 10.0           |
| Others (e.g., sickness/disease, blood clotting, vomiting, life-threatening condition) | 12                   | 4.3            |
| Knew anaemia is commonly screened during pregnancy in health facilities               | 277                  | 99.3           |
| Know the tests used in own health facility to screen for anaemia                      | 268                  | 96.1           |
| <b>Tests/methods used to screen for anaemia</b>                                       |                      |                |
| Hemoglobin estimation (Hb test)                                                       | 229                  | 85.8           |
| Clinical examination (e.g., pallor assessment)                                        | 131                  | 49.1           |
| Complete Blood Count (CBC)                                                            | 76                   | 28.5           |
| Hematocrit test                                                                       | 68                   | 25.5           |
| Serum ferritin test                                                                   | 45                   | 16.9           |
| Others (e.g urinalysis, katum paper)                                                  | 24                   | 9.0            |
| Don't know                                                                            | 2                    | 0.7            |
| <b>Common symptoms or signs of anaemia observed in pregnant women</b>                 |                      |                |
| Dizziness                                                                             | 217                  | 77.8           |
| Pallor                                                                                | 217                  | 77.8           |
| Weakness                                                                              | 212                  | 76.0           |
| Fatigue                                                                               | 194                  | 69.5           |
| Other (e.g difficulty in breathing, oedema)                                           | 24                   | 8.6            |
| Believed iron deficiency as the main cause of anaemia in own area                     | 249                  | 88.2           |

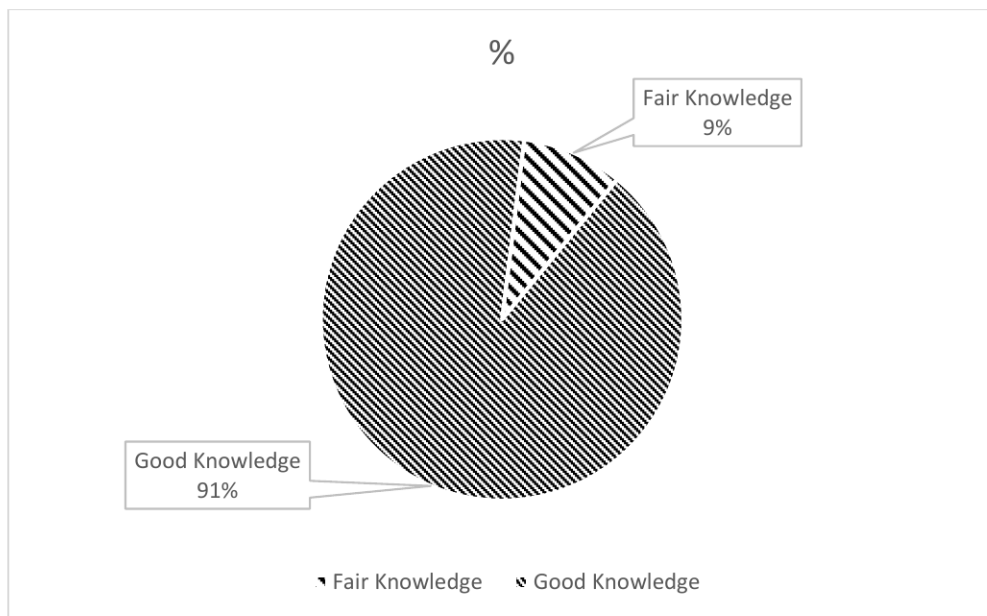


Figure 4: Knowledge of Anaemia Score among the Health Workers

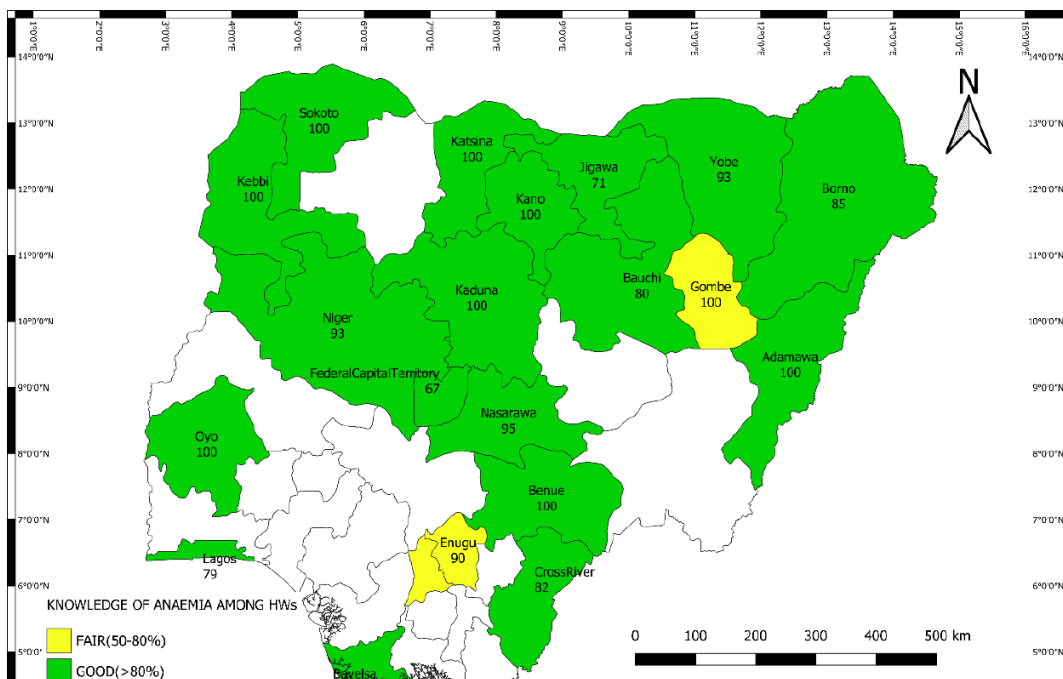
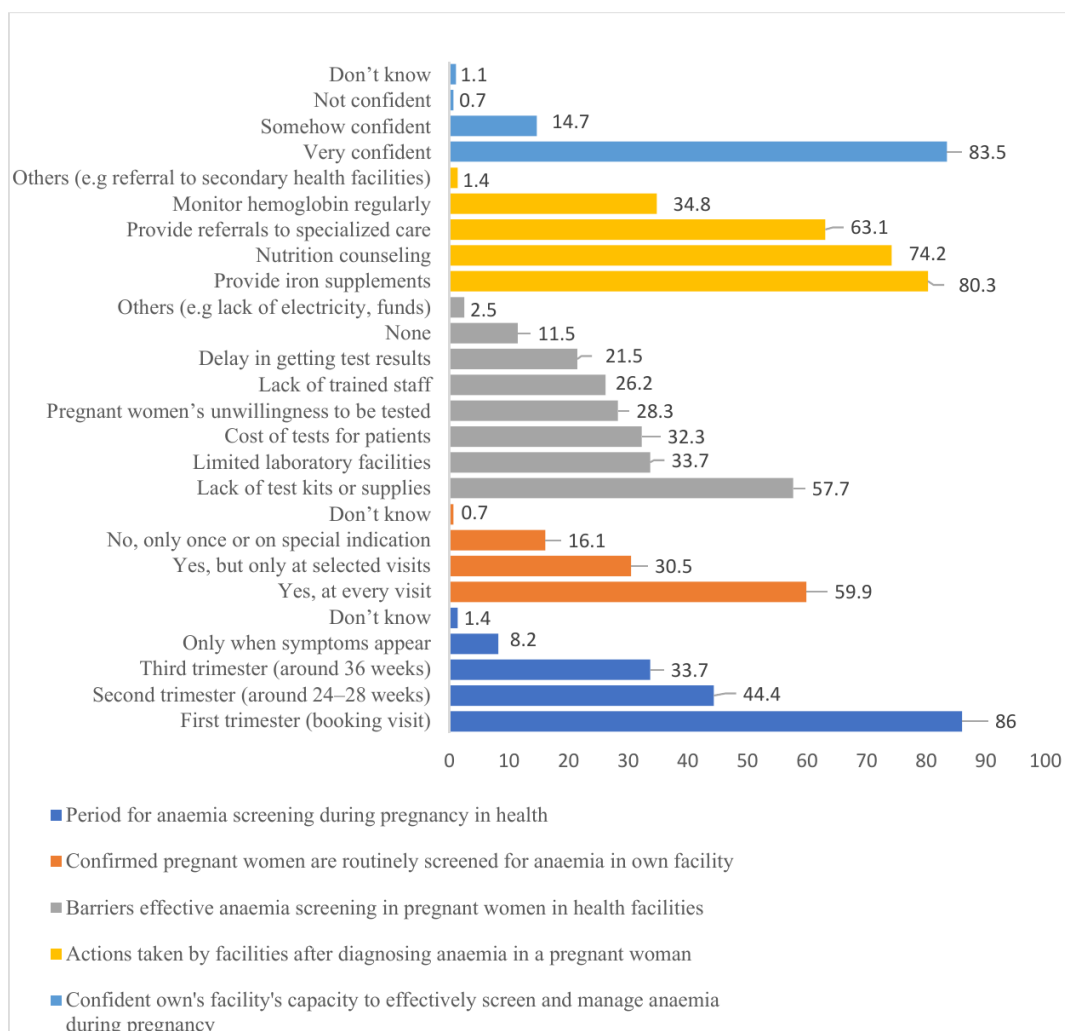


Figure 5: Knowledge of Anaemia Score among the Health Workers across the States



**Figure 6: Health Workers perception of Anaemia Screening in Health Facilities**

#### 4.5.2 Health Worker Perspectives and Health System Factors Affecting MMS Delivery

Information on the health workers capacity, stock availability, service provision and programme actions and guidelines across the sample health facilities is presented in Table 5. Only 51.3% of the health workers had received formal training on multiple micronutrient supplements (MMS) which is an indication of quality gap in MMS service provision. Also, only 39.4% affirmed sufficiency of MMS while 18.3% indicated that facilities were frequently out of MMS stock. About 67.0% of respondents reported that MMS was always offered to eligible women during antenatal care (ANC) visits, while 18.6% provided it occasionally and 7.5% rarely.



Programme actions and guidelines followed on MMS provision were mainly adherence of national and international operational guides such as the WHO/UNICEF guidelines (27.2%) and integration of MMS into maternal and child health services (20.8%). Other actions include ensuring regular supply of MMS (11.5%), nutrition education, counselling and follow-up of clients (6.5%), community outreach (2.9%) etc. Stock-outs and irregular supply of MMS were a recurrent challenge, with 31.5% reporting occasional shortages and 15.8% experiencing frequent stockouts in the last 12 months. A larger proportion of the health facilities (24.7%) get resupply of MMS more than 2 months after stockout. Despite these gaps, MMS was reported to be available for pregnant women in 71.3% of health facilities.

**Table 5: Health Worker Capacity, Stock Availability, and Service Provision**

| Health Workers Characteristics                                                           | Frequency<br>(N=279) | Percentage (%) |
|------------------------------------------------------------------------------------------|----------------------|----------------|
| Had formal MMS training                                                                  | 143                  | 51.3           |
| <b>MMS stock availability at health facility</b>                                         |                      |                |
| Always sufficient                                                                        | 110                  | 39.4           |
| Sometimes insufficient                                                                   | 97                   | 34.8           |
| Frequently out of stock                                                                  | 51                   | 18.3           |
| Don't know                                                                               | 21                   | 7.5            |
| <b>Frequency of MMS provision during ANC</b>                                             |                      |                |
| Always offer MMS to eligible women                                                       | 187                  | 67.0           |
| Offer MMS occasionally                                                                   | 52                   | 18.6           |
| Rarely offer MMS                                                                         | 21                   | 7.5            |
| Never offer MMS                                                                          | 19                   | 6.8            |
| <b>Programme actions or guideline followed on MMS provision</b>                          |                      |                |
| Adherence to National and international operational guides e.g. WHO/UNICEF MMS guideline | 76                   | 27.2           |
| Integration into Maternal and Child Health Services                                      | 58                   | 20.8           |
| Ensuring regular supply of MMS                                                           | 32                   | 11.5           |
| Nutrition education, counselling and follow-up of clients                                | 18                   | 6.5            |
| Community nutrition outreach programme                                                   | 8                    | 2.9            |
| Training of health workers                                                               | 8                    | 2.9            |
| Monitoring, record keeping and reporting                                                 | 5                    | 1.8            |
| None                                                                                     | 39                   | 14.0           |
| Don't know                                                                               | 35                   | 12.5           |
| <b>Stockouts of MMS in the last 12 months</b>                                            |                      |                |
| Never                                                                                    | 82                   | 29.4           |
| Rarely (1-2 times)                                                                       | 41                   | 14.7           |
| Sometimes (3-6 times)                                                                    | 88                   | 31.5           |
| Often (<6 times)                                                                         | 44                   | 15.8           |
| Don't know                                                                               | 24                   | 8.6            |
| <b>Duration of stock-out of MMS before resupply</b>                                      |                      |                |



|                                                              |     |      |
|--------------------------------------------------------------|-----|------|
| More than 2 months                                           | 69  | 24.7 |
| 2 weeks to 1 month                                           | 52  | 18.6 |
| Less than 2 weeks                                            | 49  | 17.6 |
| Between 1 and 2 months                                       | 45  | 16.1 |
| Don't know                                                   | 64  | 22.9 |
| Current availability of MMS for pregnant women in facilities | 199 | 71.3 |

Information on client response, barriers, and facility actions to improve uptake is presented in Table 6. Health workers reported that pregnant women were very receptive and willing to take MMS (75.6%), thus confirming that demand exists even with limitations in supply. Health workers perceived barriers to pregnant women's uptake or adherence to MMS included lack of awareness of MMS benefits (44.4%), side effects such as nausea and constipation (36.9%), forgetfulness (35.1%), and inadequate supply or stock out (33.3%). Poor counselling and inadequate follow-up (25.1%) and cultural misconceptions (21.5%) also limited adherence.

The key enabler identified by the health workers included health education and counselling by health workers (92.8%), availability and free supply of MMS (55.6%), visible health benefits observed by the women (48.4%) and family encouragement and support (45.5%). Health facilities employed several strategies to improve MMS uptake. These strategies include integration of MMS into maternal and child health services (36.2%), community mobilisation and stakeholder engagement (28.3%), nutrition counselling and health education/follow up (16.1%) and improvements in supply and logistics management (6.2%). Job aids and tools used in the delivery of MMS to pregnant women were record-keeping and tracking tools (19.6%), information, education, counselling materials (15.6%), basic service delivery tools (15.2%) and operational guides (10.5%). As high as 39.1% of respondents reported having no job aids for MMS delivery, and this constitutes a red flag.

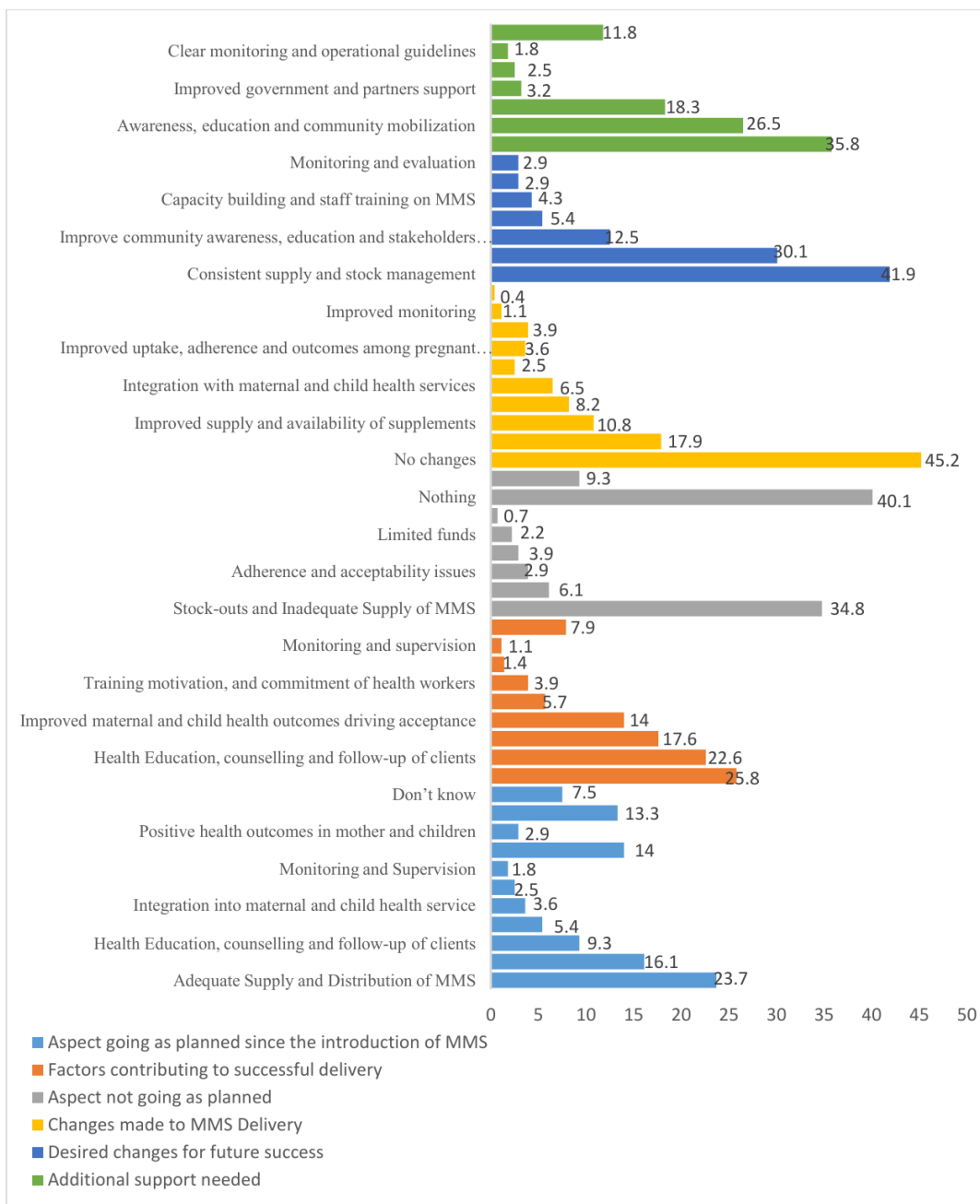
**Table 6: Client Response, Barriers, and Facility Actions to Improve Uptake**

| Health Workers Characteristics                           | Frequency<br>(N=279) | Percentage (%) |
|----------------------------------------------------------|----------------------|----------------|
| <b>Perceived response of pregnant women to MMS offer</b> |                      |                |
| Very receptive and willing to take MMS                   | 211                  | 75.6           |
| Somewhat receptive but occasionally hesitant             | 40                   | 14.3           |
| Mostly hesitant or refuse to take MMS                    | 11                   | 3.9            |
| Don't know                                               | 17                   | 6.1            |
| <b>Major barriers to MMS uptake/adherence</b>            |                      |                |
| Lack of awareness of MMS benefits                        | 124                  | 44.4           |
| Side effects (e.g., nausea, constipation)                | 103                  | 36.9           |
| Forgetfulness                                            | 98                   | 35.1           |
| Inadequate supply or stock-outs                          | 93                   | 33.3           |



|                                                                                                                            |     |      |
|----------------------------------------------------------------------------------------------------------------------------|-----|------|
| Poor counselling or inadequate follow-up                                                                                   | 70  | 25.1 |
| Cultural beliefs or misconceptions                                                                                         | 60  | 21.5 |
| None                                                                                                                       | 33  | 11.8 |
| <b>Key enablers to MMS Uptake/adherence</b>                                                                                |     |      |
| Health education & counselling by health workers                                                                           | 257 | 92.8 |
| Availability and free provision of MMS                                                                                     | 155 | 55.6 |
| Visible health benefits observed by women                                                                                  | 135 | 48.4 |
| Family support & encouragement                                                                                             | 127 | 45.5 |
| Don't know                                                                                                                 | 16  | 5.7  |
| <b>Actions taken by facilities to improve MMS uptake</b>                                                                   |     |      |
| Integration into maternal and child health service                                                                         | 100 | 36.2 |
| Community awareness, mobilisation, and stakeholder engagement/outreach                                                     | 78  | 28.3 |
| Nutrition counselling and health education/follow-up                                                                       | 45  | 16.1 |
| Supply and logistics management                                                                                            | 17  | 6.2  |
| Advocacy for supportive policies and political commitment                                                                  | 5   | 1.8  |
| Capacity building and training                                                                                             | 3   | 1.1  |
| No action                                                                                                                  | 20  | 7.2  |
| Don't know                                                                                                                 | 8   | 2.9  |
| <b>Job aids and tools used in the delivery of MMS</b>                                                                      |     |      |
| Record-keeping and tracking tools (e.g ANC cards, record cards, register)                                                  | 54  | 19.6 |
| Information, education, and counselling (IEC) materials (e.g counselling booklet, posters, flip charts)                    | 43  | 15.6 |
| Basic service delivery and screening tools (e.g. envelopes/containers/nylons, MUAC tapes, hemoglobin testing kits, gloves) | 42  | 15.2 |
| Operational guides                                                                                                         | 29  | 10.5 |
| No job aids                                                                                                                | 108 | 39.1 |

Health workers perception on the MMS programme implementation, success factors and recommendations are presented in Figure 7. Health workers identified activities going on as planned to include in supply and distribution of MMS (23.7%), improved uptake and adherence among pregnant women (16.1%), and health education, counselling and follow-up of clients (9.3%). Identified factors contributing to successful delivery of MMS to pregnant women include supply and distribution of MMS (25.8%), health education, counselling and follow-up of clients (22.6%), community awareness and mobilisation (17.6%), and improved maternal and child health outcomes driving acceptance (14%). Other factors were integration into ANC and MCH services (5.7%) and training, motivation and commitment of health workers (3.9%). However, a significant proportion of the respondents (34.8%) hinted that ensuring consistent supply and distribution of MMS had not been going as planned. Suggested changes to improve the delivery of MMS was mainly consistent supply and stock management (41.9%). Additional support needed to improve MMS uptake included capacity building for health workers (35.8%), greater awareness, education and community mobilisation (26.5%).



**Figure 7: Programme Implementation, Success Factors, and Recommendations**



## 4.6 Recommendations, Success Factors, and Challenges for Scaling MMS Delivery

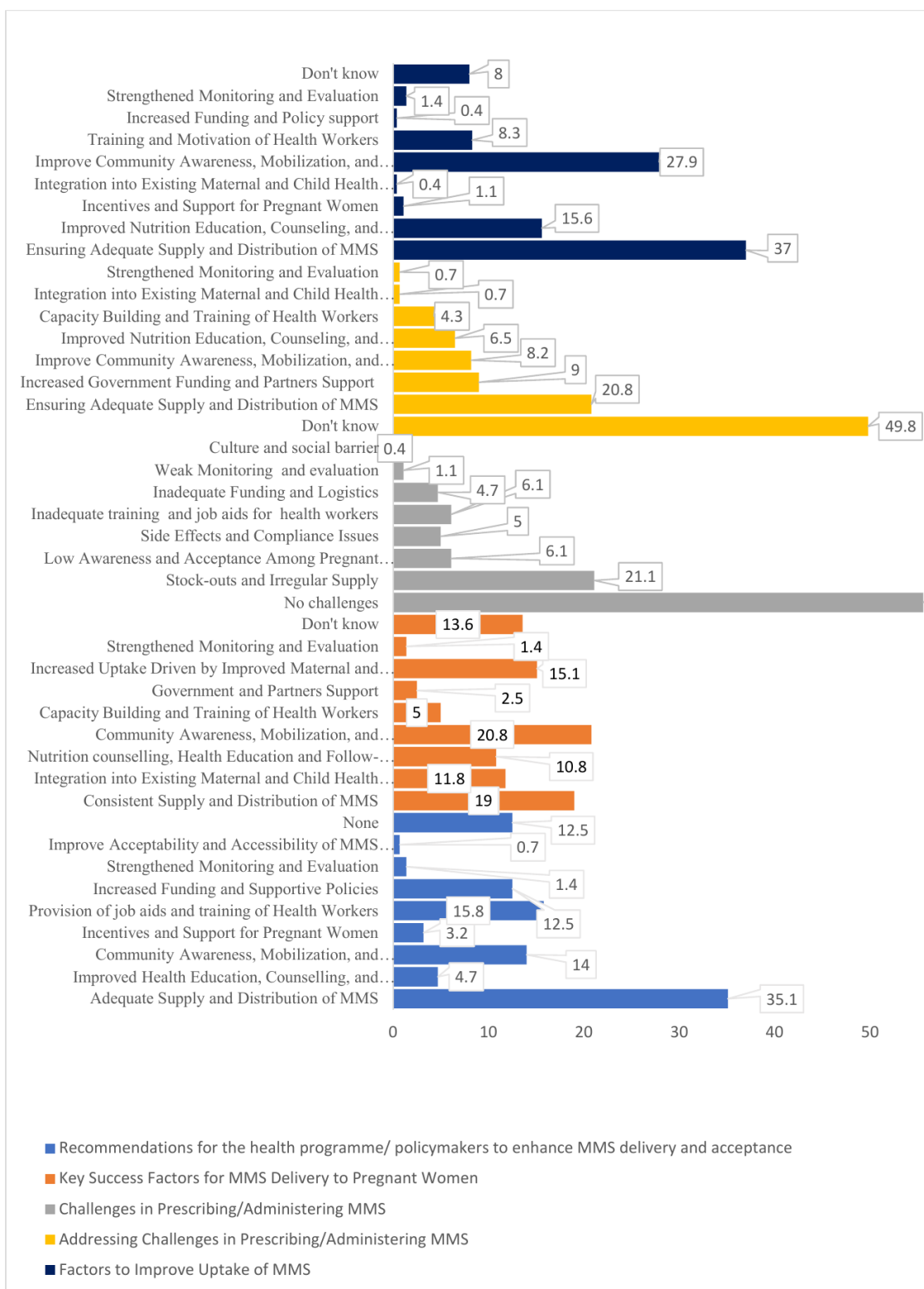
The success factors, challenges for scaling MMS and recommendations by the health workers for the health programme/policymakers to enhance MMS delivery and acceptance are presented in Figure 8. Major recommendations to enhance MMS delivery and acceptance are ensuring adequate supply and distribution of MMS (35.1%), provision of job aids and training of Health Workers (15.8%), community awareness, mobilization, and stakeholder engagement (14%), and increased funding and supportive policies (12.5%).

Key success factors of MMS delivery as identified by the health workers are community awareness, mobilization, and stakeholder engagement (20.8%), regular MMS supply and distribution (19%), increased uptake driven by improved maternal and child health outcomes (15.1%), integration into existing maternal and child health services (11.8%), and nutrition counselling and education (10.8%).

Reported key challenges are frequent stock outs and irregular supply of MMS (21.1%), inadequate training and job aids for health workers (6.1%), awareness and acceptance among pregnant women (6.1%), side effects and compliance issues (5.0%), inadequate funding and logistics (4.7%). Recommended strategies to address challenges in prescribing and administering MMS include ensuring adequate supply and distribution of MMS (20.8%), increased government and partner support (9.0%) and increased community awareness, mobilization, and stakeholder engagement (8.2%), improved nutrition education, counseling, and follow-up of clients (6.5%), and capacity building and training of health workers (4.3%).

Health workers' identified factors to improve MMS uptake are adequate supply and distribution of MMS (37.0%), improving community awareness, mobilisation, and stakeholder engagement (27.9%) and improved nutrition education, counseling, and follow-up of clients (15.6%).

The result here showcases MMS supply chain crisis as facilities experience stockout and cannot offer MMS consistently. The receptiveness of the client is high; however, limited commodities constitute a major constraint to uptake. Furthermore, findings show that inadequate supply constitute the major barrier while free provision constitute a top enabler.



**Figure 8: Recommendations, Success Factors, and Challenges for Scaling MMS Delivery**



## 4.7 Health Worker Awareness, Perceived Benefits, and Impact of the Child Nutrition Fund (CNF)

The information on health workers awareness, knowledge, perceived benefits and impacts of the Child Nutrition Fund is presented in Table 7. Only 49.8% of the health workers had ever heard of the Child Nutrition Fund (CNF), an indication of low awareness and possibly not so evident on ground activities. Among the health workers that were aware, the key sources of information included government ministries, agencies, or boards (67.6%), health facilities and health workers (44.6%), community meetings or outreach (20.9%) and the media (18.0%). Only 43.2% identified the main purpose of the child nutrition fund was to reduce malnutrition, others indicated the fund was to improve maternal and child health outcomes (16.5%), provide nutritional supplements and commodities (13.7%), and support health facilities in implementing nutrition programmes (5.8%). The knowledge of child nutrition fund across the 20 states is presented in Figure 9. Only four states including Niger, Kano, Jigawa and Gombe had health workers with good knowledge of CNF. Five states including Sokoto, Bauchi, Borno, Nasarawa, and Enugu health workers had fair knowledge of CNF while health workers across 11 states including Kebbi, Oyo, Lagos, Katsina, Kaduna, FCT, Yobe, Adamawa, Benue, Cross River and Bayelsa had poor knowledge.

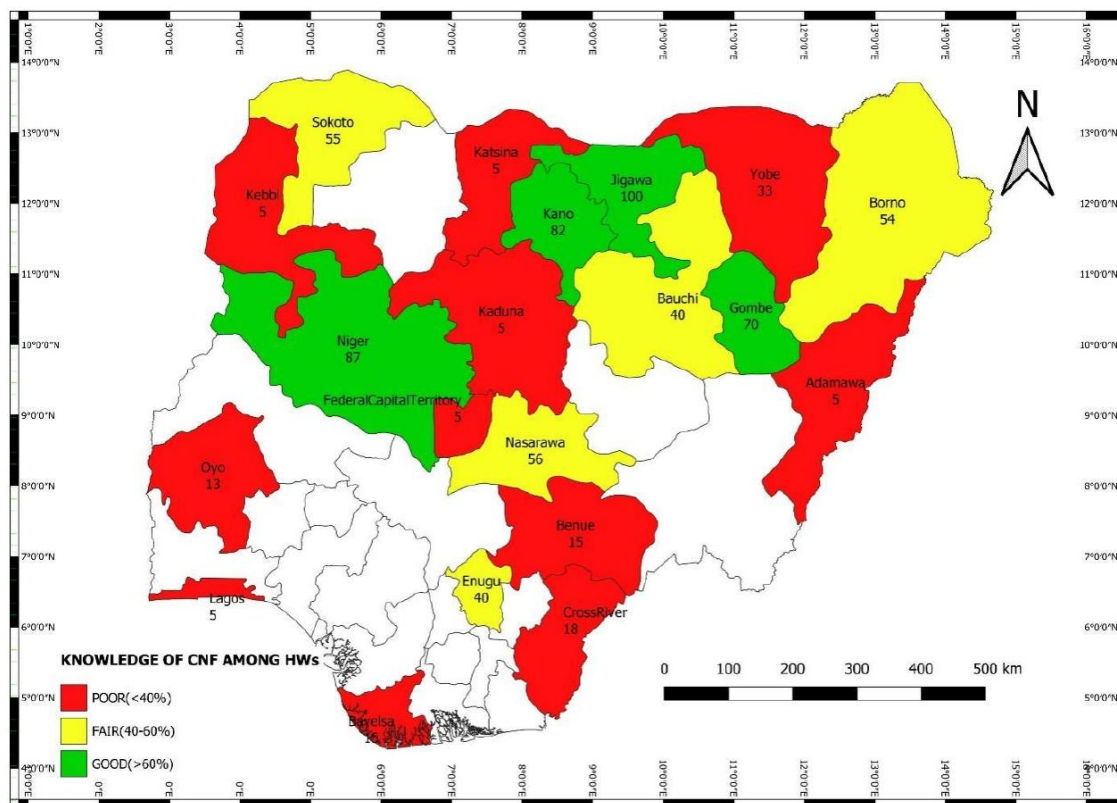
Likewise, only 37.3% were aware of specific CNF-supported programmes and activities in their communities or health facilities. Identified supported activities included the provision of micronutrient supplements and ready-to-use therapeutic foods (50.0%), nutrition education, counselling, and food demonstration (10.6%), Maternal and Child Health Weeks (10.6%), training of health workers (9.6%), growth monitoring and malnutrition management (6.7%), and community nutrition outreach programmes (3.8%).

Only 39.1% of the health workers knew the benefits health facilities received from the Child Nutrition Fund. The main benefits identified were the regular supply of micronutrient supplements (78.9%) and training of health workers on nutrition-related services (67.9%). Other benefits included support for community outreach (40.4%), improved equipment and facilities for nutrition services (33.9%), and enhanced data collection and monitoring on child nutrition (33.0%). Only 41.9% of the respondents reported that the Child Nutrition Fund contributed to improving child nutrition outcomes in their health facilities. This finding suggests that CNF resources, while allocated at the state level, are yet to effectively translate into visible, reliable support at the service delivery point.

**Table 7: Knowledge of Child Nutrition Fund (CNF) and Benefits to Health Facilities**



| Variable                                                                                                 | Frequency<br>(N=279) | Percentage (%) |
|----------------------------------------------------------------------------------------------------------|----------------------|----------------|
| Ever heard of the Child Nutrition Fund (CNF)                                                             | 139                  | 49.8           |
| <b>Source of information about the CNF</b>                                                               |                      |                |
| Government Ministry/Agencies/Board                                                                       | 94                   | 67.6           |
| Health facility or health worker                                                                         | 62                   | 44.6           |
| Community meetings or outreach                                                                           | 29                   | 20.9           |
| Media (radio, TV, internet)                                                                              | 25                   | 18.0           |
| Others (e.g NGOs)                                                                                        | 4                    | 2.9            |
| <b>Main Purpose of the CNF</b>                                                                           |                      |                |
| Support Child Nutrition Programmes to reduce Malnutrition                                                | 60                   | 43.2           |
| Improve Maternal and Child Health Outcomes                                                               | 23                   | 16.5           |
| Provision of Nutritional Supplements and Commodities (e.g. IFA, MMS, RUTFs)                              | 19                   | 13.7           |
| Support Health Facilities for Nutrition Programme Implementation                                         | 8                    | 5.8            |
| Don't know                                                                                               | 9                    | 6.5            |
| Aware of any specific activities or programmes supported by the CNF in this community or health facility | 104                  | 37.3           |
| <b>Types of nutrition services or supplies supported by the CNF at health facilities</b>                 |                      |                |
| Provision of micronutrient supplements and RUTFs                                                         | 52                   | 50.0           |
| Nutrition education, counselling and Food demonstration                                                  | 11                   | 10.6           |
| Maternal and Child Health Weeks (MCHW / MNCHW)                                                           | 11                   | 10.6           |
| Capacity building and training of health workers on nutrition-related activities                         | 10                   | 9.6            |
| Growth Monitoring, Screening, and Management of Malnutrition                                             | 7                    | 6.7            |
| Community Nutrition Outreach Programmes                                                                  | 4                    | 3.8            |
| Knew the benefits health facilities received from the Child Nutrition Fund                               | 109                  | 39.1           |
| <b>Benefits health facilities receive from the CNF</b>                                                   |                      |                |
| Regular supply of micronutrient supplements (iron, vitamin A, multiple micronutrients)                   | 86                   | 78.9           |
| Training of health workers on nutrition-related services                                                 | 74                   | 67.9           |
| Community nutrition outreach programs                                                                    | 44                   | 40.4           |
| Improved equipment or facilities for nutrition services                                                  | 37                   | 33.9           |
| Enhanced data collection and monitoring on child nutrition                                               | 36                   | 33.0           |
| CNF contributed to improving child nutrition outcomes                                                    | 117                  | 41.9           |



**Figure 9: Knowledge of Child Nutrition Fund among Health Workers across the States**

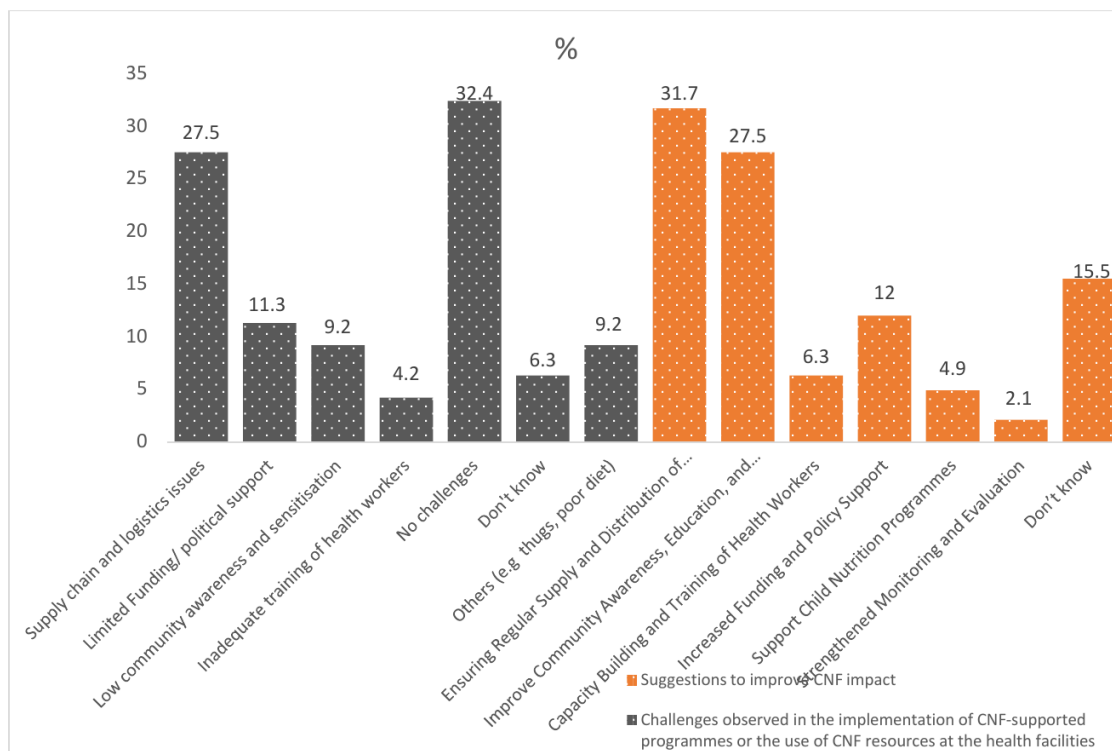
**Figure 9: Knowledge of Child Nutrition Fund among Health Workers across the States**



## 4.8 Challenges and Recommendations for Enhancing CNF Programme Impact

The challenges observed in the implementation of CNF-supported programmes and suggestions to improve CNF impact are presented in Figure 10. Although 42% of the health workers reported no challenges in the implementation of CNF-supported programmes, about 39.0% identified supply chain and logistics issues as a bottleneck, 16.0% identified political support and limited funding as a challenge, and 13.0% perceived low community awareness and sensitisation, and 6.0% perceived inadequate training of health workers as challenges. Respondents suggested areas to prioritise to improve CNF impact include ensuring regular supply and distribution of supplements (44.0%), increased community awareness, education, and stakeholder engagement (38.0%), increased funding and policy commitment (17.0%), and health worker training and capacity building (9.0%).

The challenges observed in the implementation of CNF-supported programmes and suggestions to improve CNF impact are presented in Figure 10. Although 32.4% of the health workers reported no challenges in the implementation of CNF-supported programmes, about 27.5% identified supply chain and logistics issues as a bottleneck, 11.3% identified political support and limited funding as a challenge, and 9.2% perceived low community awareness and sensitisation, and 4.2% perceived inadequate training of health workers as challenges. Respondents suggested areas to prioritise to improve CNF impact include ensuring regular supply and distribution of supplements (31.7%), increased community awareness, education, and stakeholder engagement (27.5%), increased funding and policy commitment (12.0%), and health worker training and capacity building (6.3%).



**Figure 10: Challenges and Recommendations for Enhancing CNF Programme Impact**

## 4.8 State-Level Programme Manager Perspectives on Child Nutrition Fund (CNF)

The perspectives of the Programme Officers at SMoH and SMEP on Child Nutrition Fund awareness, allocations and utilization are presented in Table 8. All the programme officers (100.0%) were aware of the Child Nutrition Fund (CNF) and its objectives, however, only 73.7% were aware of CNF allocations in their state and could confirm the health facilities benefitting from the CNF programme. Identified benefits from the Child Nutrition Fund according to the programme officers include provision of funds for nutrition-related activities (31.6%), procurement of nutrition commodities (26.3%), and improvements in maternal and child health outcomes (26.3%). About 42% of the programme officers reported that the main use of the Child Nutrition Fund was to provide nutrition commodities such as MMS, IFA and RUTFs, promoting maternal and child health interventions (18.4%) and supporting nutrition programmes (10.5%). Also, 21.1% of the programme officers did not know how CNF was utilised.

Fund allocation for CNF differed by state, 68.4% of the programme officers reported that CNF allocation for nutrition and anaemia interventions in the last fiscal year was less than ₦100 million, 33.3% indicated allocations between ₦100–₦500 million, and 3.7% indicated allocation



above ₦500 million. Most of the respondents (73.7%) reported that the Child Nutrition Fund allocated for nutrition activities was less than ₦100 million, 23.7% indicated allocation was between ₦100–₦500 million, while 2.6% reported allocation was above ₦500 million. Commodities procured through the CNF were mainly RUTFs (73.7%), IFA (50.0%), MMS (50.0%), Vitamin A, small-quantity lipid-based nutrient supplements (SQ-LNS), and equipment for food demonstrations (39.5%), and deworming tablets (36.8%). Interestingly, about 61% of the programme officers confirmed that the commodities provided through the fund were sufficient to meet facility demand.

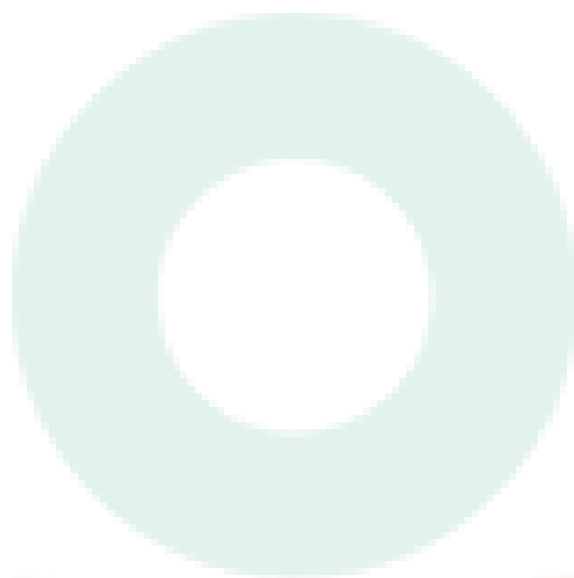
Only 55.3% of respondents indicated having anaemia-related interventions funded through the CNF. A larger proportion of the respondent (57.9%) couldn't estimate the CNF funding for anaemia-related intervention but 31.6% estimated it to be less than ₦10 million. Anaemia intervention implemented included distribution of iron-folic acid and MMS (78.9%), nutrition education (63.2%), and deworming (52.6%). Others include Vitamin A supplementation and SQ-LNS (7.9%).

**Table 8: Child Nutrition Fund (CNF) Awareness and Implementation**

| Variable (N=38)                                                                      | Frequency (N) | Percentage (%) |
|--------------------------------------------------------------------------------------|---------------|----------------|
| Aware of CNF and its objectives                                                      | 38            | 100.0          |
| Aware of CNF allocations in your state                                               | 28            | 73.7           |
| Facilities benefited from the CNF programme                                          | 28            | 73.7           |
| <b>Benefits from the CNF</b>                                                         |               |                |
| Provision of funds for nutrition activities/programme                                | 12            | 31.6           |
| Procurement of nutrition commodities                                                 | 10            | 26.3           |
| Improved maternal and child health outcomes                                          | 10            | 26.3           |
| Don't know                                                                           | 6             | 15.8           |
| <b>Main uses of CNF in nutrition programmes</b>                                      |               |                |
| Provision of nutrition commodities                                                   | 16            | 42.1           |
| Maternal and child health interventions                                              | 7             | 18.4           |
| Support nutrition programmes                                                         | 4             | 10.5           |
| Others                                                                               | 3             | 7.9            |
| Don't know                                                                           | 8             | 21.1           |
| <b>CNF allocation for nutrition programmes and anaemia interventions in 2025 (₦)</b> |               |                |
| <100 million                                                                         | 26            | 68.4           |
| 100-500 million                                                                      | 9             | 33.3           |
| >500 million                                                                         | 3             | 3.7            |
| <b>Commodities procured using CNF</b>                                                |               |                |
| RUTF                                                                                 | 28            | 73.7           |
| MMS                                                                                  | 19            | 50.0           |
| Iron-folic acid                                                                      | 19            | 50.0           |
| Deworming tablets                                                                    | 14            | 36.8           |



|                                                                            |    |      |
|----------------------------------------------------------------------------|----|------|
| Others e.g Vitamin A, SQ-LNS, Food demonstration equipment                 | 15 | 39.5 |
| None                                                                       | 7  | 18.4 |
| Commodities made available through the CNF met the demand for the facility | 23 | 60.5 |
| <b>CNF allocation for nutrition activities</b>                             |    |      |
| <100 million                                                               | 28 | 73.7 |
| 100-500 million                                                            | 9  | 23.7 |
| >500 million                                                               | 1  | 2.6  |
| Anaemia-related interventions funded through CNF                           | 21 | 55.3 |
| <b>Estimate of CNF funding for anaemia-related intervention (₦)</b>        |    |      |
| <10,000,000                                                                | 12 | 31.6 |
| 10,000,000-50,000,000                                                      | 2  | 5.3  |
| >50,000,000                                                                | 2  | 5.3  |
| Don't know                                                                 | 22 | 57.9 |
| <b>Anaemia interventions implemented</b>                                   |    |      |
| Iron-folic acid distribution                                               | 30 | 78.9 |
| MMS distribution                                                           | 28 | 73.7 |
| Nutrition education                                                        | 24 | 63.2 |
| Deworming                                                                  | 20 | 52.6 |
| Others e.g Vitamin A, SQ-LNS                                               | 3  | 7.9  |





## 4.9 State-Level Supply Chain Assessment and Strategic Priorities for MMS and CNF

This section summarises information on supply chain and strategic priorities for MMS and CNF across sampled states. Table 9 shows the information on the availability of MMS, supply chain dynamics and key enablers at facility and state levels according to the programme officers. The availability of MMS across health facilities was inconsistent as only 31.6% reported that MMS was always stocked, while 55.3% stated it was sometimes available, 7.9% never had stock, and 5.3% rarely stocked it. The primary sources of MMS supplies included UNICEF (52.6%) and the State Ministry of Health (26.3%). The quantity of MMS received by the health facilities varied across years. In 2023, about 60.5% of facilities received less than 10,000 bottles. By 2024 the proportion receiving more than 50,000 bottles increased to 18.4% and reduced to 15.8% in 2025. The management and distribution of MMS was largely done through a centralised supply chain (55.3%), stock monitoring and supervision (18.4%), and special distribution mechanisms and partners' support (13.2%). About 82 percent of the programme officers had received training on MMS and anaemia interventions.

About 58 percent of the programme officers described the uptake of MMS among pregnant women as moderate, 31.6% rated it high, while only 7.4% considered it as low. Key enablers that support the uptake of MMS included consistent MMS stock (86.8%), strong community awareness and demand (81.6%), and training of health workers (68.4%). Other enablers were monitoring systems (57.9%) and supportive policies (50%). Identified major barriers affecting uptake included inconsistent supply (65.8%), insufficient funding (63.2%), stockouts and irregular supplies (60.5%), budgets constraints (57.9%), inadequate training of health workers (52.6%), low awareness among women (50.0%), and logistics and supply chain issues (36.8%), among others.

Information on CNF-specific support, programmatic challenges and strategic recommendations are provided in Table 10. Despite the CNF support, a larger proportion of the programme officers (44.7%) reported that MMS was available but limited in supply at the health facilities. Only 42.1% reported that MMS was widely available at the health facilities.

Implementation of the CNF faced bottlenecks, including inadequate funding and weak political commitment (31.6%), inadequate training of health workers (18.4%), and supply chain issues (13.2%). Recommended major programmatic actions to address these challenges included advocacy visit to government officials and stakeholder engagement (39.5%), improved monitoring of funds and programmes (23.7%) and capacity building and data management (13.2%). Others are awareness and community mobilization (7.9%) and improving supply chain (7.9%). A significant proportion of the programme officers indicated that increased funding



allocation (47.4%), improved logistics and consistent supplies (21.1%), capacity building (13.2%), and collaboration with partners (10.5%) are necessary to enhance CNF utilisation, MMS availability and nutrition/anaemia interventions. Respondents' recommendations for policymakers or programme managers to enhance the effectiveness of CNF-supported nutrition programmes included improved government funding and commitment (28.9%), advocacy visit to government officials and stakeholder engagement (21.1%) and stronger policy development and enforcement (18.4%), enhanced monitoring and evaluation (13.2%) and awareness and community mobilization (10.5%).

The findings reveal a strong, high-level awareness of the Child Nutrition Fund (CNF) and its intended role in procuring essential nutrition commodities, notably Multiple Micronutrient Supplements (MMS), RUTF, and Iron-Folic Acid. Despite this, significant systemic barriers severely constrain its operational impact. A core challenge is the fragility of the supply chain, characterized by inconsistent funding and logistical disruptions, which directly leads to widespread stockouts of key commodities. This fragility interrupts the very anemia interventions like MMS distribution that CNF is designed to support. Consequently, while MMS is procured through CNF and central to state-level anemia programmes, its inconsistent availability directly hampers uptake among pregnant women. Further compounding this issue is a persistent gap in health worker capacity. Although general training coverage is relatively high, inadequate or insufficient training remains a prominent, self-reported barrier. This gap likely affects the quality of counseling, demand generation, and side-effect management, creating another layer of resistance to consistent MMS use.

Finally, the data suggests potential geographic inequities in CNF implementation. Reports from specific states (notably Cross River and Benue) indicating no CNF presence highlight disparities in fund distribution that may undermine nationwide coverage and equity goals. In essence, the CNF is recognized as a critical policy instrument aligned with national priorities, but its effectiveness is currently undermined by interconnected operational weaknesses in financing, logistics, and capacity building.

**Table 9: MMS Availability, Supply Chain Dynamics, and Key Enablers at Facility and State Level**

| Variable (N=38)                                    | Frequency | Percentage |
|----------------------------------------------------|-----------|------------|
| <b>Is MMS stocked in health facility</b>           |           |            |
| Always                                             | 12        | 31.6       |
| Sometimes                                          | 21        | 55.3       |
| Rarely                                             | 2         | 5.3        |
| Never                                              | 3         | 7.9        |
| Had experienced any stockouts in the last 6 months | 24        | 63.2       |



#### MMS supplies Route

|                                         |    |      |
|-----------------------------------------|----|------|
| UNICEF                                  | 20 | 52.6 |
| SMOH                                    | 10 | 26.3 |
| CNF                                     | 3  | 7.9  |
| Others e.g. ANRIN, Helen Keller, FMOHSW | 5  | 13.2 |

| Quantity of MMS received per year | 2023       | 2024       | 2025       |
|-----------------------------------|------------|------------|------------|
| <10,000                           | 23 (60.5%) | 21 (55.3%) | 19 (50.0%) |
| 10,000-50,000                     | 3 (7.9%)   | 2 (5.3%)   | 3 (7.9%)   |
| >50,000                           | 4 (10.5%)  | 7 (18.4%)  | 6 (15.8%)  |
| Don't know                        | 8 (21.1%)  | 8 (21.1%)  | 10 (26.3%) |

| Variable (N=38)                                          | Frequency | Percentage |
|----------------------------------------------------------|-----------|------------|
| <b>Management and distribution of MMS in the state</b>   |           |            |
| Centralised supply chain and decentralized distribution  | 21        | 55.3       |
| Stock monitoring and supervision                         | 7         | 18.4       |
| Special distribution mechanisms and partner's support    | 5         | 13.2       |
| Don't know                                               | 5         | 13.2       |
| Had received training on MMS & Anaemia intervention      | 31        | 81.6       |
| <b>Uptake level of MMS supplements among PW</b>          |           |            |
| High uptake (majority use as recommended)                | 12        | 31.6       |
| Moderate uptake (some irregular use)                     | 22        | 57.9       |
| Low uptake                                               | 2         | 7.4        |
| Don't know                                               | 1         | 2.6        |
| <b>Key enablers for uptake of MMS</b>                    |           |            |
| Consistent availability of MMS stock                     | 33        | 86.8       |
| Strong community awareness and demand                    | 31        | 81.6       |
| Adequate and regular training of health workers          | 26        | 68.4       |
| Monitoring and supervision systems                       | 22        | 57.9       |
| Supportive health policies and guidelines                | 19        | 50.0       |
| <b>Major barriers or challenges affecting MMS uptake</b> |           |            |
| Inconsistent supply                                      | 25        | 65.8       |
| Insufficient funding or delayed disbursement             | 24        | 63.2       |
| Stock-outs or irregular supplies                         | 23        | 60.5       |
| Budget constraints                                       | 22        | 57.9       |
| Lack of adequate training for health workers             | 20        | 52.6       |
| Low awareness or misconceptions among pregnant women     | 19        | 50.0       |
| Logistics and supply chain issues                        | 14        | 36.8       |
| Programme monitoring and data management gaps            | 11        | 28.9       |
| Cultural or social barriers                              | 6         | 15.8       |
| Low demand from clients                                  | 9         | 23.7       |
| Side effect concerns                                     | 3         | 7.9        |



**Table 10: CNF-Specific Support, Programmatic Challenges, and Strategic Recommendations**

| Variable (N=38)                                                                                                 | Frequency | Percentage |
|-----------------------------------------------------------------------------------------------------------------|-----------|------------|
| <b>Availability of MMS at health facilities through CNF support</b>                                             |           |            |
| Available but limited supply                                                                                    | 17        | 44.7       |
| Widely available                                                                                                | 16        | 42.1       |
| Not available                                                                                                   | 5         | 13.2       |
| <b>CNF implementation challenges</b>                                                                            |           |            |
| Inadequate funding/political commitment                                                                         | 12        | 31.6       |
| Inadequate of training of health workers                                                                        | 7         | 18.4       |
| Logistics and supply chain issues                                                                               | 5         | 13.2       |
| Low awareness and weak stakeholder engagement                                                                   | 2         | 5.3        |
| Cultural and social barriers                                                                                    | 1         | 2.6        |
| Inadequate maternal and child health services                                                                   | 1         | 2.6        |
| Don't know                                                                                                      | 6         | 15.8       |
| None                                                                                                            | 4         | 10.5       |
| <b>Programmatic actions to address CNF challenges</b>                                                           |           |            |
| Advocacy visit to government officials and stakeholder engagement                                               | 15        | 39.5       |
| Monitoring and supervision of funds and programmes                                                              | 9         | 23.7       |
| Capacity building and data management                                                                           | 5         | 13.2       |
| Awareness and community mobilization                                                                            | 3         | 7.9        |
| Improving supply chain e.g addressing stock out                                                                 | 3         | 7.9        |
| None                                                                                                            | 3         | 7.9        |
| <b>Additional support needs to improve CNF utilization, MMS availability and Nutrition/anemia interventions</b> |           |            |
| Increased funding and budget allocation                                                                         | 18        | 47.4       |
| Consistent supply chain and logistics                                                                           | 8         | 21.1       |
| Capacity building                                                                                               | 5         | 13.2       |
| Collaboration with partners                                                                                     | 4         | 10.5       |
| Advocacy, Awareness and Community sensitization                                                                 | 3         | 7.9        |
| <b>Suggestion/recommendation for policy makers</b>                                                              |           |            |
| Improved government funding and commitment                                                                      | 11        | 28.9       |
| Advocacy visit to government and stakeholder engagement                                                         | 8         | 21.1       |
| Policy development and enforcement                                                                              | 7         | 18.4       |
| Monitoring and Evaluation                                                                                       | 5         | 13.2       |
| Awareness and community mobilization                                                                            | 4         | 10.5       |
| Capacity building and training of health workers                                                                | 3         | 7.9        |



## 4.10 Characteristics of Participating States and General Child Nutrition Fund Framework

The characteristics of participating states and general Child Nutrition Fund framework is presented in this section. Table 11 and Figure 11 show the respondent profile and general CNF information. Respondents per State vary significantly from one respondent in Kaduna, Katsina and Kebbi, to two respondents each from Adamawa, Benue, Borno, Enugu, FCT, Gombe, Niger and Sokoto, to three respondents in Bayelsa, Jigawa, Kano, Nasarawa, and Yobe, four in Cross River and Oyo, and ten in Bauchi state. The respondents are largely State Nutrition Officer, Chairman of the State Committee on Food and Nutrition, Director of Nutrition, among others (Figure 11).

Most of the respondents (82.7%) had between 1 and 5 years of work experience in their designated roles. About 75 percent of the respondents confirmed their respective States contributed to the Child Nutrition Fund (CNF). However, only 42.3% indicated availability of financial/audit reports for CNF, thereby reflecting poor financial accountability. In addition, 82.7% of the respondents reported that fewer than 100 health facilities are beneficiaries of the CNF fund in their states.

**Table 11: Respondent Profile and General CNF Information (N=52)**

| Variable (N=52) | Frequency (N) | Percentage (%) |
|-----------------|---------------|----------------|
| <b>State</b>    |               |                |
| Adamawa         | 2             | 3.8            |
| Bauchi          | 10            | 19.2           |
| Bayelsa         | 3             | 5.8            |
| Benue           | 2             | 3.8            |
| Borno           | 2             | 3.8            |
| Cross River     | 4             | 7.7            |
| Enugu           | 2             | 3.8            |
| FCT             | 2             | 3.8            |
| Gombe           | 2             | 3.8            |
| Jigawa          | 3             | 5.8            |
| Kaduna          | 1             | 1.9            |
| Kano            | 3             | 5.8            |
| Katsina         | 1             | 1.9            |
| Kebbi           | 1             | 1.9            |
| Nasarawa        | 3             | 5.8            |
| Niger           | 2             | 3.8            |
| Oyo             | 4             | 7.7            |
| Sokoto          | 2             | 3.8            |
| Yobe            | 3             | 5.8            |



|                                        |    |      |
|----------------------------------------|----|------|
| <b>Years of experience</b>             |    |      |
| 1-5                                    | 43 | 82.7 |
| 6-10                                   | 6  | 11.5 |
| >10                                    | 3  | 5.8  |
| Contribution of states to CNF – Yes    | 39 | 75.0 |
| <b>Financial/Audit Reports for CNF</b> |    |      |
| Yes                                    | 22 | 42.3 |
| No                                     | 30 | 57.7 |
| <b>Facilities Benefiting from CNF</b>  |    |      |
| <100 facilities                        | 43 | 82.7 |
| 100-500 facilities                     | 4  | 7.7  |
| >500 facilities                        | 5  | 9.6  |

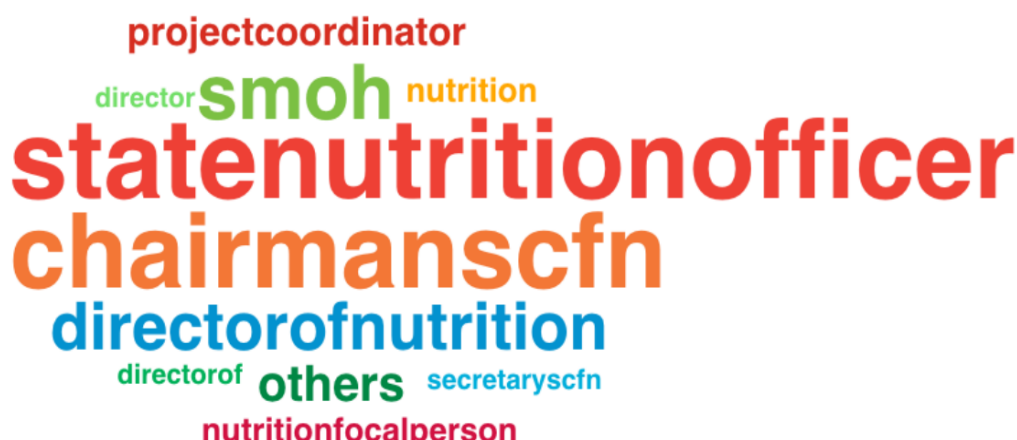


Figure 11: Category of respondents

## 4.11 Child Nutrition Fund (CNF) Financial Flows and Implementation Realities

Information on the state-level profile, financing and implementation of Child Nutrition Fund (CNF) programmes including the financial commitment, funding levels, and programme focus is presented in Table 12. Of the 21 states (including FCT) included in the analysis, 76.2% (16) of the state government contributed to the CNF, thereby suggesting high political buy-in. Non-Contributing States including Bayelsa, Benue, Cross River, FCT and Yobe reported no contribution, and notably, indicating a complete lack of active CNF financing. Also, some states indicated contribution to CNF and still has no allocations in some years, thereby suggesting a gap between stated commitment and actual budgeting.



There is a major disparity between states. High investors like Katsina, Kaduna, and Jigawa have the largest multi-year allocations, while states like Bayelsa, Benue, Cross River, FCT, and Yobe have no allocations across the period. One major insight from the data is the disbursement gap. In states like Jigawa, Katsina, and Sokoto, disbursement closely matches or is near allocation, indicating relatively efficient fund release. However, in several other states, large budgets are planned but not released. For instance, Kebbi had ₦750 million allocated in 2025 but ₦0 disbursed, while Kano allocated ₦500 million in 2023 with ₦0 utilized that year. This trend points to a significant bottleneck where budgeted funds are not reaching implementation.

About 57 percent of states (12 out of 21) have nutrition-specific CNF allocations, indicating a dedicated focus on nutrition programmes such as Ready-to-Use Therapeutic Food (RUTF) or Multiple Micronutrient Supplements (MMS). However, notable large-budget states like Borno, Kano, and Oyo do not have nutrition-specific CNF, suggesting that in these states, the CNF may be directed toward general health or other sectors rather than dedicated nutrition actions. Overall, there is positive growth in CNF over time in the number of states allocating and disbursing meaningful amounts (₦100–500 million). In 2023, 66.6% of states had no allocation (₦0), and 23.8% allocated between ₦100–500 million. By 2024, improvement occurred, with only 38.1% having ₦0 and 57.1% in the ₦100–500 million range. By 2025, 33.3% had no allocation, while 52.4% were in the ₦100–500 million bracket, and 9.5% had allocations exceeding ₦500 million.

For CNF disbursed and utilised, the pattern closely mirrors allocations. In 2023, 47.6% of states had no disbursement, and 42.9% disbursed in the ₦100–500 million range. By 2024, 61.9% had no disbursement, while 28.6% disbursed in the ₦100–500 million range. By 2025, the share with no disbursement fell to 47.6%, and those disbursing ₦100–500 million rose to 47.6%, with one state (Katsina) disbursing over ₦500 million. Despite growth in allocation and disbursement over time, a significant proportion of states continue to show no financial activity in their CNF year after year, underscoring persistent challenges in both budget commitment and fund release for nutrition in Nigeria.

**Table 12: State-Level Profile, Financing, and Implementation of Child Nutrition Fund (CNF) Programmes**

Amounts in ₦ millions (m). CNF Alloc. = CNF Allocation; CNF Disb. = CNF Disbursed & Utilised.

| State   | Contributes | Alloc.<br>2023 | Alloc.<br>2024 | Alloc.<br>2025 | Disb.<br>2023 | Disb.<br>2024 | Disb.<br>2025 | Nutrition-<br>Specific | Anaemia-<br>Specific |
|---------|-------------|----------------|----------------|----------------|---------------|---------------|---------------|------------------------|----------------------|
| Adamawa | Yes         | Nil            | 100m           | 300m           | 400m          | Nil           | 100m          | Yes                    | Yes                  |
| Bauchi  | Yes         | 40m            | 35m            | 85m            | 160m          | 50m           | Nil           | Yes                    | Yes                  |
| Bayelsa | No          | Nil            | Nil            | Nil            | Nil           | Nil           | Nil           | No                     | No                   |
| Benue   | No          | Nil            | Nil            | Nil            | Nil           | Nil           | Nil           | No                     | No                   |
| Borno   | Yes         | Nil            | 200m           | Nil            | 200m          | Nil           | 200m          | No                     | No                   |



|             |     |      |      |      |      |      |      |     |     |
|-------------|-----|------|------|------|------|------|------|-----|-----|
| Cross River | No  | Nil  | Nil  | Nil  | Nil  | Nil  | Nil  | No  | No  |
| Enugu       | Yes | Nil  | Nil  | 160m | 160m | Nil  | Nil  | Yes | No  |
| FCT         | No  | Nil  | Nil  | Nil  | Nil  | Nil  | Nil  | No  | No  |
| Gombe       | Yes | Nil  | 175m | Nil  | 175m | Nil  | 175m | Yes | No  |
| Jigawa      | Yes | 250m | 250m | 500m | 250m | 250m | 500m | Yes | Yes |
| Kaduna      | Yes | Nil  | 400m | 500m | Nil  | 400m | 350m | Yes | No  |
| Kano        | Yes | 500m | 500m | 500m | Nil  | 500m | Nil  | No  | No  |
| Katsina     | Yes | 250m | 350m | 550m | 200m | 317m | 515m | Yes | Yes |
| Kebbi       | Yes | 150m | 350m | 750m | 44m  | 32m  | Nil  | Yes | Yes |
| Lagos       | Yes | Nil  | 150m | 150m | Nil  | Nil  | 150m | Yes | Yes |
| Nasarawa    | Yes | Nil  | Nil  | 250m | 250m | Nil  | 150m | Yes | Yes |
| Niger       | Yes | 100m | 100m | 100m | 100m | 100m | Nil  | Yes | Yes |
| Oyo         | Yes | Nil  | 250m | 500m | Nil  | Nil  | 225m | No  | No  |
| Sokoto      | Yes | 50m  | 300m | 300m | 50m  | 108m | 100m | No  | No  |
| Yobe        | No  | Nil  | Nil  | Nil  | Nil  | Nil  | Nil  | No  | No  |
| Zamfara     | Yes | Nil  | Nil  | 500m | Nil  | Nil  | 500m | Yes | Yes |

Summary – States contributing to CNF: 76.2%. Nutrition-specific CNF: Yes (57.1%). Anaemia-specific CNF: Yes (42.8%). Across 2023/2024/2025 respectively – No allocation: 14 (66.6%), 8 (38.1%), 7 (33.3%); <₦100m: 2 (9.5%), 1 (4.8%), 1 (4.8%); ₦100–500m: 5 (23.8%), 12 (57.1%), 11 (52.4%); >₦500m: 0 (0.0%), 0 (0.0%), 2 (9.5%). Disbursement – No disbursement: 10 (47.6%), 13 (61.9%), 10 (47.6%); <₦100m: 2 (9.5%), 2 (9.5%), 0 (0.0%); ₦100–500m: 9 (42.9%), 6 (28.6%), 10 (47.6%); >₦500m: 0 (0.0%), 0 (0.0%), 1 (4.8%).



Information on commodity procurement, supply chain, and policy environment by State is presented in Table 13. The key commodities purchased with CNF funds are Multiple Micronutrient Supplements, Iron-Folic Acid, Ready-to-Use Therapeutic Food, Deworming tablets, and others such as small-quantity lipid-based nutrient supplements, micronutrient powder and vitamin A supplements. There is diversity of procurement as States showed varied priorities. Adamawa, Jigawa, Katsina, and Nasarawa States procured a wide range (MMS, IFA, RUTF, Deworming). Borno, Kano, Kaduna, Kebbi, and Oyo States primarily procure RUTF (for treating severe acute malnutrition), indicating a focus on curative, not preventive, nutrition. There was no procurement in Benue, Cross River, FCT and Yobe, thereby aligning with their ₦0 CNF allocation. The Table also shows the MMS planning gap, as 12 states (63.2%) include MMS in their plans and seven do not. Also, 10 out of 19 states (52.6%) reported stockouts, indicating widespread problem in supply chain performance. Stockouts in high-procurement States like Kaduna and Nasarawa suggests high demand, poor pipeline management, or inequitable distribution. Stock out in Bauchi and Bayelsa States despite low procurement indicates weak procurement planning or forecasting. There were no stock outs in Adamawa, Borno, Gombe, Jigawa, Kebbi, Oyo, thereby demonstrating more reliable supply chains. A total of 15 states (78.9%) indicated having anaemia policy (mostly with evidence), and 12 states (63.2%) indicated having MMS Guidelines, but only seven provided evidence. This gap between claim and verifiable practice is a major red flag for programme quality. Likewise, 10 states (52.6%) have integrated the CNF into plans, and this reflects sustainability beyond political cycles.

Overall, there is fragmented priorities as there is no standardized package of commodities being procured. State choices vary widely, likely leading to uneven health impacts. Also, weak supply chains exist as stockouts are endemic, undermining the entire purpose of procurement and denying beneficiaries' access. The result shows that even when funds are available, failures in planning, logistics, and foundational governance can severely limit the real-world impact of the Child Nutrition Fund. The state-by-state variation highlights a systemic lack of standardization and accountability.

**Table 13: Commodity Procurement, Supply Chain, and Policy Environment by State**

| State       | Commodities Procured via CNF                     | MMS in Plan? | MMS Qty (tablets) | Stockouts? | Anaemia Policy | MMS Guidelines | CNF in State Plans |
|-------------|--------------------------------------------------|--------------|-------------------|------------|----------------|----------------|--------------------|
| Adamawa     | MMS, IFA, RUTF, Deworming, Other (Vit A, SQ-LNS) | Yes          | 226               | No         | *Yes           | *Yes           | *Yes               |
| Bauchi      | MMS                                              | Yes          | 20                | Yes        | *Yes           | *Yes           | *Yes               |
| Bayelsa     | MMS, IFAS, MNP, RUTF, Deworming, SQLNS           | Yes          | 20                | Yes        | *Yes           | *Yes           | No                 |
| Benue       | None (Other: N/A)                                | No           | 0                 | Yes        | *Yes           | *Yes           | No                 |
| Borno       | RUTF                                             | No           | 0                 | No         | *Yes           | No             | *Yes               |
| Cross River | None (Other: None)                               | No           | 0                 | No         | *Yes           | *Yes           | No                 |
| Enugu       | MMS, RUTF, Other (SQLNS)                         | Yes          | 679               | Yes        | *Yes           | Yes            | No                 |
| FCT         | None (Other: Not applicable)                     | No           | 0                 | No         | Yes            | Yes            | No                 |
| Gombe       | RUTF, Other (SQ LNS)                             | Yes          | 23                | No         | *Yes           | *Yes           | *Yes               |



|          |                                        |     |      |     |      |      |      |
|----------|----------------------------------------|-----|------|-----|------|------|------|
| Jigawa   | MMS, IFA, RUTF, Deworming              | Yes | 780  | No  | *Yes | *Yes | *Yes |
| Kaduna   | RUTF, Other (SQ-LNS)                   | Yes | 1064 | Yes | *Yes | *Yes | *Yes |
| Kano     | RUTF                                   | No  | 44   | Yes | *Yes | No   | No   |
| Katsina  | MMS, IFA, RUTF, Deworming              | Yes | 0*   | Yes | *Yes | Yes  | *Yes |
| Kebbi    | RUTF, Deworming                        | Yes | 225  | No  | *Yes | *Yes | *Yes |
| Nasarawa | MMS, IFA, RUTF, Deworming, Other (MNP) | Yes | 500  | Yes | *Yes | No   | *Yes |
| Niger    | MMS, IFA, RUTF, Other (SQ-LNS)         | Yes | 274  | Yes | *Yes | *Yes | Yes  |
| Oyo      | RUTF, Other (SQ-LNS)                   | No  | 580  | No  | *Yes | Yes  | No   |
| Sokoto   | MMS, IFA, RUTF, Deworming              | No  | 0    | Yes | Yes  | Yes  | No   |
| Yobe     | None (Other: None benefited)           | No  | 0    | No  | No   | No   | No   |

\*Yes = Yes with Evidence; Yes = Yes (No Evidence). “Supply Chain Docs” (all \*Yes/Yes) omitted for space – see original dataset.

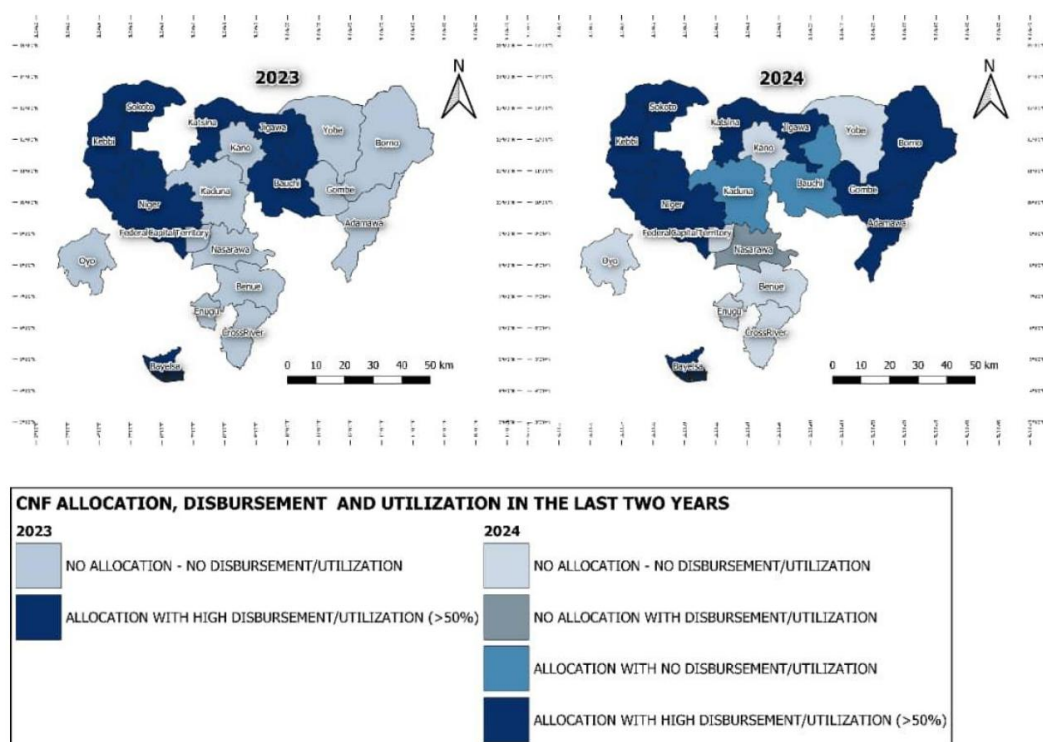
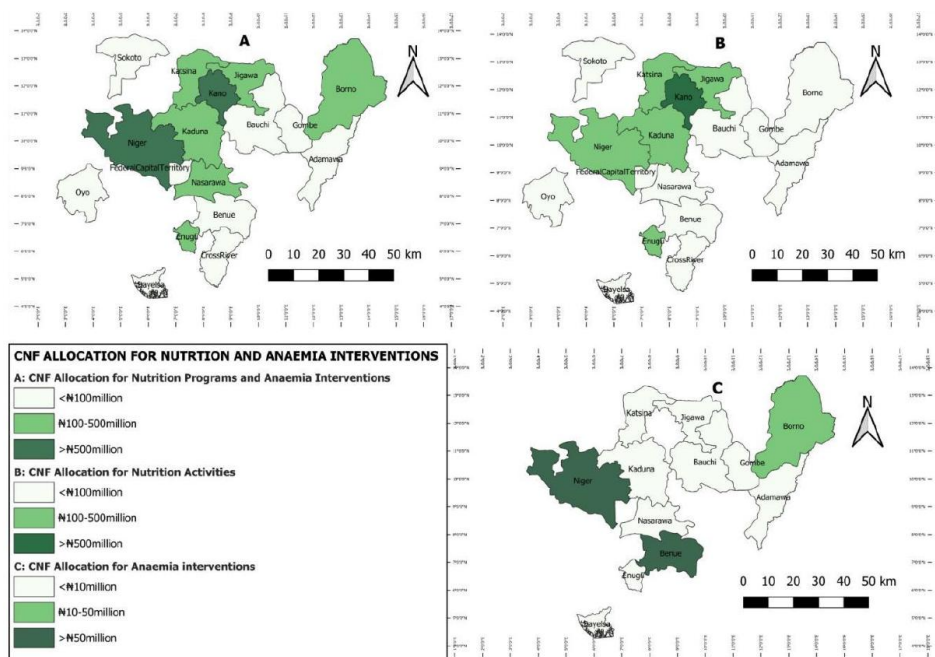


Figure 12: CNF Allocation, Disbursement and Allocation Per State



**Figure 13: CNF Allocation for Nutrition and Anaemia Intervention**

**Figure 13: CNF Allocation for Nutrition and Anaemia Intervention**

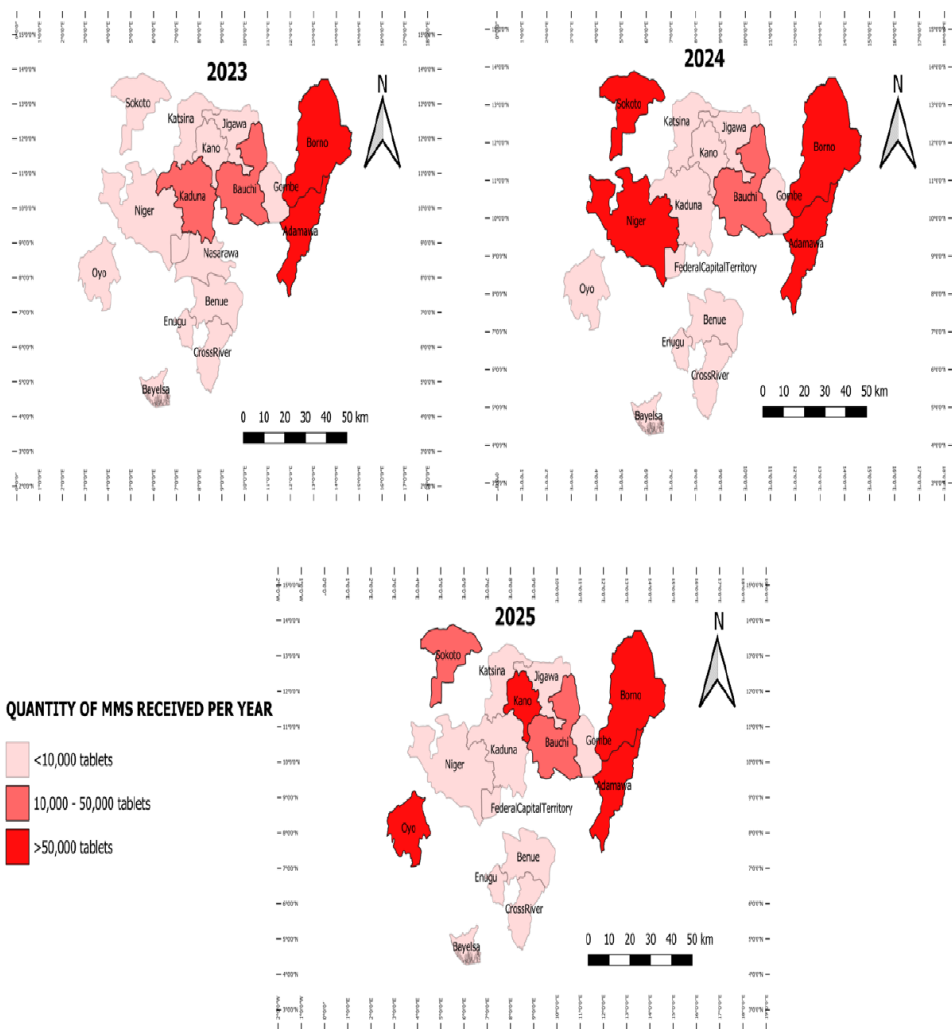


Figure 14: MMS Supply per Year across sampled States

Figure 14: MMS Supply per Year across sampled States



## 4.12 Community Perceptions and Experiences of Anaemia and Multiple Micronutrient Supplementation (MMS) – Qualitative Findings

### 4.12.1 Knowledge and Conceptualization of Anaemia

Participants had a basic understanding of anaemia, primarily describing it as “low blood” and associating it with symptoms like weakness and fatigue. They recognized it as a serious issue, particularly for pregnant women. However, their knowledge was largely descriptive. They did not differentiate between types of anaemia (like iron deficiency), understand its biomedical causes, or use distinct traditional terms for it. Instead, they used translated phrases like “low blood” or loosely linked it to other conditions like sickle cell disease.

*“Short of blood” – FGD Participants*

*“It brings about a lot of issues during childbirth”*

*“It is a big problem that affects pregnant women and breastfeeding mothers”*

*“Most of the women that have it, have convulsions during labour and childbirth”*

*“We don't know any name aside the short of blood”*

Perceptions of how common anaemia was varied widely; some saw it as a serious community problem, while others viewed it as less prevalent. This inconsistency, combined with the non-specific conceptualization within local health beliefs, may lead to the condition receiving less priority and influence how it is perceived and addressed in the community.

*“Yes it is a common problem”*

*“Women can also experience stroke as a result of short of blood”*

*“If women refuse to take MMS which enhance blood in the body, they will experience short of blood which might lead to blood transfusion and other problems”*

### 4.12.2 Local Treatment Practices and Health-Seeking Behaviour

Participants primarily used traditional and dietary remedies to manage anaemia. Common practices included drinking “blood tonics” and consuming specific foods like leafy greens (e.g., spinach, zogale), beans, milk, and tomatoes.

*“We used blood tonic”*



*“Use of leaves and herbs like salad and spinach, leaves of potatoes”*

*“Taking of milk, beans, zogale and tomatoes”*

These practices show a strong cultural trust in local remedies and food-based solutions. While nutritionally beneficial, these approaches often replace rather than complement formal biomedical treatments (like iron supplements). This preference for familiar cures means health programs must carefully integrate these practices to be accepted by the community.

#### 4.12.3 Awareness and Experience with MMS

General awareness of Multiple Micronutrient Supplements (MMS) exists, often described as “drugs that increase blood.” However, actual use is very low, especially in rural areas. The MMS is obtained almost exclusively through health facilities during antenatal care. There is no alternative local source. However, availability is inconsistent, with frequent stock-outs, creating a major barrier to use. The few users who had taken MMS reported positive effects, such as increased strength, reduced weakness, and more active children. These firsthand accounts, however, are rare, indicating MMS has not become a common practice in the community.

*“Yes we are aware of MMS”*

*“Drug that increases blood”*

*“It's given during pregnancy when we attend ANC”*

*“If not here at the health centre we don't get it anywhere else”*

*“It increases strength for the mother and make the child active after, even during pregnancy the child kicks well”*

*“You will have reduced weaknesses of the body”*

*“There is difference in children that their mother take MMS during pregnancy as they are more active”*

*“When I am sick when I take MMS, I feel better”*

#### 4.12.4 Supplement Use During Pregnancy and Reported Side Effects

Adherence varied among users; some women reported consistent use, but participants stated that regular supplement use during pregnancy is uncommon. Many women rely more on food or traditional remedies. Even when supplements are received at antenatal care, adherence is often irregular. Also, most users reported no side effects. However, some experienced headaches,



vomiting, or a feeling of heaviness. Although not common, these effects can influence perceptions and discourage uptake if not addressed with proper counselling.

*"Yes we take it regularly because each time they tell us the benefits during ANC that we will experience ease during and after pregnancy"*

*"I have feeling like vomiting"*

#### 4.12.5 Barriers to MMS Uptake

Participants identified multiple, interconnected barriers to using multiple micronutrient supplements (MMS), operating across supply, health system, economic, and socio-cultural levels. The most frequently cited was a fundamental lack of awareness and understanding of its benefits. Access was a major structural problem, characterized by poor supplement availability, frequent stock-outs at health facilities, and a weak health system presence in communities, especially in remote areas. Knowledge and awareness gaps further constrained uptake. Many participants reported limited understanding of the benefits of MMS and their importance for maternal and child health. Inadequate counselling at health facilities meant that women often lacked clear guidance on how and when to take the supplements, as well as how to manage potential side effects. This lack of information contributed to uncertainty, fear, and inconsistent use. Economic barriers also featured prominently.

Poverty limited women's ability to access health facilities regularly, while food insecurity affected adherence, as some women reported difficulty taking supplements on an empty stomach. These economic constraints interacted with supply and knowledge barriers, compounding challenges to consistent MMS use. Other barriers were more experiential and cultural. These included inadequate counselling on how to take supplements or manage side effects, a strong cultural preference for traditional remedies over unfamiliar "modern drugs," and fear of potential side effects. Underlying socioeconomic factors like poverty, which limits travel to clinics, and food insecurity also played a significant role in preventing consistent use.

*"Yes, some women don't take it at all"*

*"Ignorance about the importance and effectiveness of the supplement"*

*"Ignorance make some women avoid taking it, but if they know the advantages of the supplements they will ignore all the complaints of smell and feeling of vomiting"*

*"It makes them to feel as vomiting"*

*"Some said they don't like the smell after taking it"*

*"Such women always have issues and complications during and after child birth"*



*“Those that take it enjoy the benefits of not having complications during and after child birth”*

#### 4.12.6 Cultural Beliefs and Social Acceptability

Participants' views on cultural and religious barriers to MMS were mixed. While formal religious opposition was minimal, significant cultural influences emerged. These include a strong, generational trust in traditional medicine, fear of unfamiliar “modern drugs,” myths about supplement harm, and a preference for “natural” solutions over tablets. Fear of unfamiliar medicines, concerns about potential side effects, and widespread trust in herbs and food-based remedies perceived as safer and more natural discouraged acceptance of MMS. Myths about supplements causing harm or having adverse effects were commonly reported, alongside concerns about becoming dependent on tablets. This preference for “natural” solutions, including food-based or herbal approaches, actively discouraged the acceptance and consistent use of MMS. Participants noted that health messages that fail to acknowledge and engage with these deeply held beliefs are unlikely to result in meaningful behaviour change. Instead, successful programmes were perceived as those that work within existing cultural frameworks, showing respect for traditional knowledge while positioning MMS as a complementary rather than competing intervention. Despite this, some participants saw no conflict, viewing the supplement as a clear benefit for women.

*“Something that is of benefit to women, why would they attach any myth to it”*

*“Both religious and cultural beliefs are not against taking the supplement”*

#### 4.12.7 Enablers and Facilitators of Uptake

Participants suggested that increasing MMS use depends heavily on clear communication and reliable access. Key strategies include expanding awareness through repeated education in the community, linking supplement advice to familiar dietary practices, involving trusted local figures in outreach, ensuring a consistent supply is available, and having health workers provide better counselling to explain benefits and address safety concerns. Increased awareness and health education were consistently emphasized, particularly the need for repeated and consistent messaging on the benefits of MMS delivered through multiple channels. Participants suggested that integrating MMS promotion with dietary advice, especially messages emphasizing vegetable consumption and familiar food-based practices, could help create complementary narratives that resonate more strongly with communities.

Community-based sensitisation was also viewed as critical. Engagement strategies that respect local practices and involve trusted community members were perceived as more likely to foster



acceptance and sustained use. Improved reliability of supply, including consistent availability of supplements at accessible points, was identified as a practical enabler. In addition, strengthened counselling by health workers—through clear explanations, reassurance about safety, and responsiveness to concerns—was seen as essential for building confidence and supporting adherence.

*“It's beneficial to mother and her newborn as it improves blood level and health of both mother and child”*

*“We can only advice those women that are not taking it to start now because of the benefits we are enjoying”*

*“We that are taking it can talk about the benefit our health and wellbeing are sound compared to those that are not taking it”*

*“Keep telling saying benefits to those women that are not taking it, even at any gathering especially during their Islamic school, so that the eyes of those ones will be open by creating awareness”*

#### 4.12.8 Role of Social Networks and Community Influencers

Participants highlighted three key groups as critical for promoting MMS use including men and family decision-makers, community leaders, and health workers. Men can be pivotal in supporting women by encouraging adherence, facilitating clinic visits, and reinforcing health messages. When adequately informed and engaged, men were reported to support adherence to supplements, facilitate access to health services, and reinforce positive health messages within households. Participants noted that current programmes often fail to engage men systematically, representing a missed opportunity to leverage household-level influence.

Traditional and religious leaders are trusted figures who can legitimize health interventions, build community trust, and help dispel myths about supplements. Participants suggested that early and meaningful engagement of community leaders could accelerate community buy-in and normalize supplement use. Frontline health workers are essential for more than distribution. Their quality of counselling, explaining benefits, managing side effects, and building trust, directly influences whether women continue taking the supplements. Health workers were identified as essential intermediaries between biomedical knowledge and community belief systems. Beyond distributing supplements, their role included providing clear explanations, addressing fears, managing side effects, and building trust through respectful interactions. The quality of the health worker–client relationship was seen as a decisive factor influencing whether women continued taking MMS.



Overall, community involvement was consistently identified as central to behaviour change. Participants emphasized that health messages gain credibility and acceptance when delivered by trusted voices within the community. This finding underscores the importance of shifting from top-down service delivery models to participatory, community-owned approaches that engage men, family elders, community leaders, peer networks, and health workers as co-actors in promoting MMS uptake.

*“Men should be taking their wives to the ANC”*

*(Men should) “Also encourage women to take their supplements at home”*

*“Men to be encouraged to be the one to give the supplement to the women as a reminder at home to ensure they take it, as not just the women that benefits but as wellbeing is of benefit to the men also”*

*“Community leaders should continue to gather the people to create awareness on the importance of the taking the supplement and health benefits”*

*“Community leaders should keep emphasizing on the importance of the benefits”*

*“When women keep hearing from the community leaders on it, this will make the women to always take the supplement everyday”*

*“Health workers should be reminding women during ANC on the benefits of the MMS”*

*“Health workers always talk about the advantages of taking the supplement and disadvantages of not taking it”*

*“Those women that don't pay attention during the ANC health talk are those that are found not to take the supplement”*

The findings from the participants are synthesized and presented using a socio-ecological model to reflect factors influencing the uptake and use of the MMS. Figure 15 presents a socio-ecological model illustrating the multiple, interrelated factors that influence the uptake of multiple micronutrient supplements (MMS). At the individual level, women's knowledge, perceptions of benefits, fear of side effects, and personal health beliefs shape willingness to initiate and continue MMS use. Interpersonal factors, particularly the influence of husbands, family members, and peers, affect decision-making, resource allocation, and adherence to supplementation. At the community level, cultural norms, prevailing myths, and the role of traditional and religious leaders strongly influence acceptance or rejection of MMS. Community trust in traditional remedies and shared beliefs about “modern medicines” can either hinder or support uptake depending on how interventions are framed.



Health workers operate at the organizational level, where the quality of counselling, provider–client relationships, and follow-up support directly affect confidence and sustained use. Health system factors such as supply reliability, distribution channels, and access to health facilities further shape availability and continuity of MMS. At the policy and structural level, financing, procurement systems, and integration of MMS into routine maternal health services determine programme reach and sustainability. The model highlights that barriers and facilitators do not act in isolation but interact across levels. Effective MMS programmes therefore require coordinated interventions across individual, household, community, health system, and policy domains. Addressing only one level is unlikely to produce sustained improvements in MMS uptake.

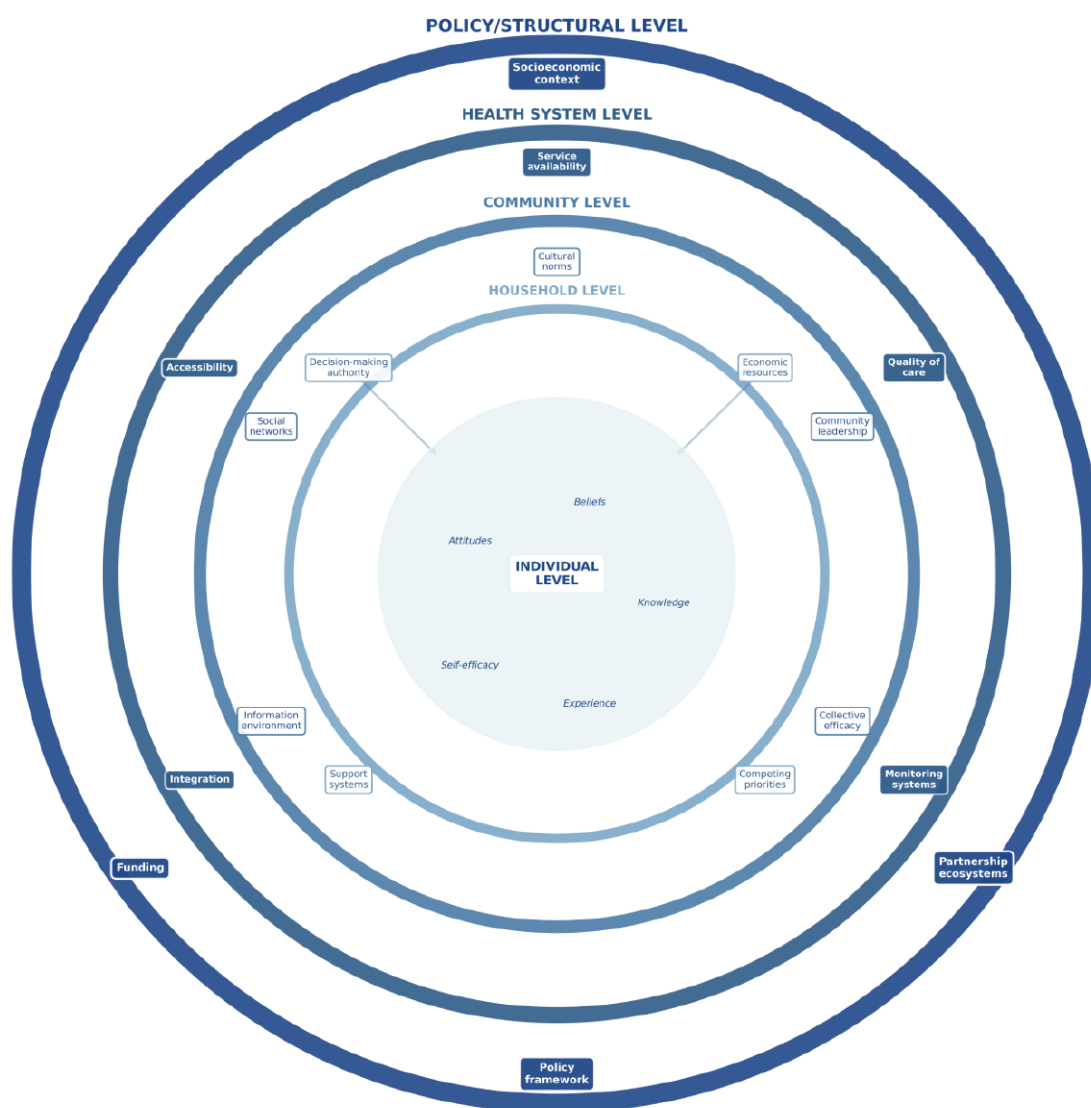
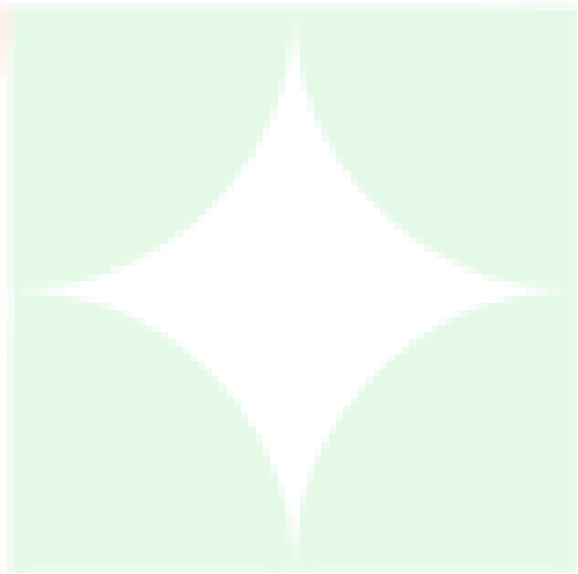
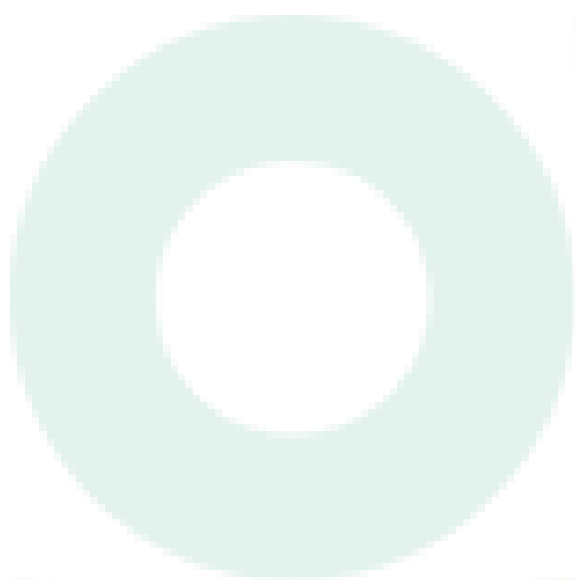


Figure 15: Socio-ecological Model of MMS Uptake (Factors influencing MMS at multiple levels)





## 4.13 Strategies and Way Forward for Improving MMS Uptake

Figure 16 provides an integrative summary of the collective efforts required to improve the uptake of multiple micronutrient supplements (MMS) and outlines a clear pathway for future action. The figure brings together the various demand-side and supply-side strategies discussed in this study, showing how coordinated action across multiple levels can create an enabling environment for sustained MMS use. At the foundation are health system efforts, including strengthening procurement, improving last-mile distribution, and ensuring consistent availability of MMS at community-accessible points. Without a reliable supply, other interventions are unlikely to achieve lasting impact.

Building on this foundation, the figure highlights the critical role of health workers as frontline change agents. Investments in their capacity, particularly in counselling skills, cultural sensitivity, and side-effect management are essential for translating availability into effective use. Health worker engagement is positioned not merely as distribution but as relationship-building, reassurance, and ongoing support that sustains adherence.

The figure also emphasizes community-level engagement as a central pillar of progress. Meaningful involvement of traditional and religious leaders, community gatekeepers, and peer networks is presented as a strategy for addressing myths, reshaping norms, and legitimizing MMS within local belief systems. Rather than confronting traditional practices, the way forward involves aligning MMS messaging with existing food-based and culturally familiar health narratives.

At the household level, the figure underscores the importance of engaging men and family decision-makers. Male involvement is framed not only as permission-giving but as active support, facilitating access to services, encouraging adherence, and reinforcing positive health behaviours. This reflects the recognition that women's health decisions are embedded within broader household power dynamics.

At the individual level, sustained behaviour change is supported through repeated, consistent, and context-appropriate health education that improves knowledge, reduces fear, and builds confidence in MMS. The figure illustrates how individual understanding is shaped by interpersonal, community, and system-level influences, reinforcing the need for layered and reinforcing interventions.

Overall, Figure 16 conveys that improving MMS uptake requires a shift from fragmented, top-down programming to integrated, participatory approaches that engage the full socio-ecological context. The way forward lies in synchronizing policy support, health system strengthening, community ownership, household engagement, and individual empowerment. When these



elements are aligned, MMS programmes are more likely to achieve not only higher uptake but also sustained use and meaningful improvements in maternal and child nutrition outcomes.

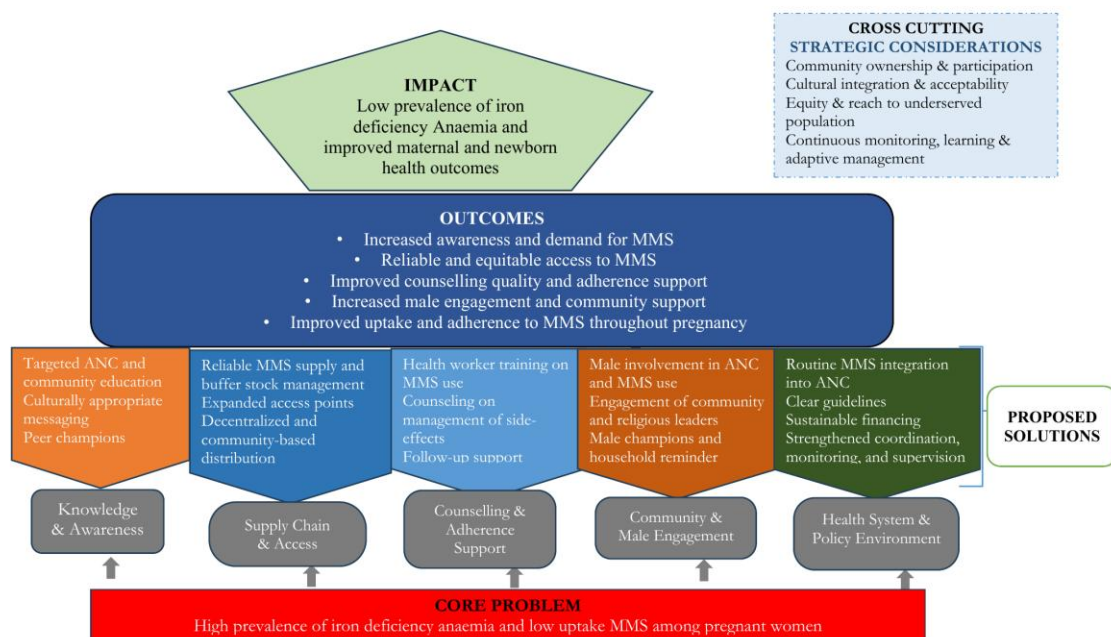


Figure 16: A Multisectoral Framework for Scaling Up MMS Uptake

Figure 16: A Multisectoral Framework for Scaling Up MMS Uptake



## CHAPTER FIVE

### 5.0 Discussion

This study provides insights into knowledge, attitudes, and practices surrounding anaemia and multiple micronutrient supplementation (MMS) among women of reproductive age, health workers, and programme officers across 21 Nigerian states. The findings reveal a complex interplay of individual, health-system, and policy-level factors that shape MMS uptake and anaemia-prevention efforts in Nigeria. The discussion that follows examines each thematic area in turn, drawing on both quantitative findings and qualitative evidence to explain the mechanisms behind observed patterns.

#### 5.1 Knowledge and Awareness of Anaemia Among Women of Reproductive Age

The study found that 84.3% of women of reproductive age had heard of anaemia; however, their understanding was predominantly descriptive rather than conceptual. The majority characterised anaemia simply as a 'shortage or lack of blood,' with only 4.5% linking it to iron deficiency. This pattern is consistent with research from comparable Nigerian settings, where broad awareness of anaemia coexists with a limited grasp of its underlying causes (Okunade et al., 2024). Qualitative data reinforced this finding: women lacked distinct traditional terminology for anaemia and frequently conflated it with other conditions, which may contribute to delayed or inappropriate treatment-seeking behaviour.

Despite these conceptual gaps, 69.6% of respondents could identify causes of anaemia, most commonly poor nutrition and blood loss. This suggests that health education interventions have achieved some success in communicating risk factors, even where pathophysiological understanding remains shallow. Nevertheless, the finding that only 49% of women demonstrated good knowledge overall, and that 20% showed poor knowledge underscores the need for more comprehensive, sustained health communication that moves beyond awareness to genuine understanding.

Geographic disparities in knowledge were pronounced. States including Niger, FCT, Katsina, Bauchi, Gombe, Enugu, and Cross River showed a predominance of poor knowledge. These disparities likely reflect underlying variation in health system strength, educational infrastructure, and access to health information. They are also a reminder that national-level statistics can obscure deeply unequal distributions of health literacy. Recent evidence confirms that Nigeria continues to miss global anaemia-reduction targets, with no state on track to meet



the benchmarks originally set for 2025, now extended to 2030 further underscoring the urgency of addressing these knowledge gaps as part of a broader, state-sensitive anaemia reduction strategy.

## 5.2 Health Worker Knowledge and Capacity

Health workers demonstrated considerably stronger knowledge of anaemia than the general population, with 92% exhibiting good knowledge. Nearly all had heard of anaemia and could correctly identify common screening methods, with haemoglobin estimation being the most widely used technique. These findings are encouraging: they indicate that a solid technical knowledge base exists at the health-system level and that foundational training investments have not been wasted.

However, significant capacity gaps emerged specifically around MMS. Only about half of health workers had received formal training on MMS, a critical quality gap, given that MMS requires distinct counselling approaches to support adherence and manage side effects (Nutrition International, 2024). This means that nearly half of providers delivering or advising on MMS lack the training to do so effectively, creating an environment where inconsistent guidance, unaddressed concerns about side effects, and missed adherence opportunities are likely to be widespread.

Compounding this, 40% of health workers lacked basic job aids for MMS delivery. Job aids are not optional extras, they are foundational tools for ensuring consistent, high-quality service in resource-constrained environments where health workers simultaneously manage multiple priorities. Their absence in four out of ten facilities points to systemic underinvestment in MMS programme infrastructure and suggests that training efforts, where they have occurred, have not been reliably followed through with the practical support materials that translate training into practice.

## 5.3 Antenatal Care Coverage and MMS Provision

The study documented strong antenatal care (ANC) coverage, with 90.6% of women attending ANC during their most recent pregnancy. This high coverage is significant: ANC represents the primary platform through which MMS can be systematically delivered, and broad coverage means that the infrastructure for reaching pregnant women is largely in place. Near-universal provision of supplements during ANC (98.6%) further confirms health system capacity to reach women through this channel.



However, the types of supplements provided varied considerably. While 62.9% of women received multiple micronutrient supplements, substantial proportions also received iron tablets (38.6%) or folic acid only (58.6%), indicating an incomplete transition from iron-folic acid supplementation (IFAS) to MMS. This partial transition reflects the broader implementation challenge that has characterised MMS scale-up across sub-Saharan Africa.

The evidence base for this transition is clear and compelling. MMS reduces the risk of low birth weight by 12% and small-for-gestational-age births by 8% compared to IFAS alone (Evidence Action, 2024), and offers a return on investment of approximately \$37 for every \$1 spent. Nigeria has taken important first steps including MMS in its Essential Medicines List and investing in local manufacturing, yet the current study reveals a persistent gap between policy commitment and consistent programme delivery. Bridging this gap must be a priority if the documented benefits of MMS are to reach Nigeria's 12 million annual pregnancies.

## 5.4 Adherence to Supplementation

Adherence emerged as a significant challenge, with only 64.6% of women taking supplements regularly as advised. Barriers operated across multiple levels, and any effective response must address all of them simultaneously.

At the individual level, the most commonly reported barriers were forgetfulness (40.9%), side effects such as nausea or constipation (19.2%), and a lack of understanding of the importance of supplementation (15.7%). These findings mirror global evidence on supplement adherence and point to the need for proactive, ongoing counselling that anticipates and addresses these concerns before they lead to discontinuation.

Structural barriers were equally significant. Stock unavailability (18.1%) directly undermined adherence – even among motivated women, when supplements are absent at health facilities, no amount of individual willingness can compensate. Qualitative findings reinforced this point: women reported having no alternative access points when facilities ran out of stock, creating a complete and immediate barrier to use. This finding is a direct illustration of why supply chain reliability is a prerequisite for any adherence strategy.

Cultural and religious beliefs accounted for 10.8% of reported non-adherence. Qualitative data, however, provided important nuance: the barrier was less about formal religious prohibition than about generational trust in traditional remedies and a general wariness of unfamiliar 'modern drugs.' This distinction matters for programme design — the response is not to counter religion but to build familiarity, trust, and positive associations through community-embedded communication strategies.



Health worker-related barriers including poor counselling and inadequate follow-up accounted for 24.6% of non-adherence, confirming that adherence is not solely a client-side challenge. Evidence from the AMMI project in Pakistan demonstrated that comprehensive counselling packages addressing common concerns, providing safety reassurance, and offering practical adherence strategies can significantly improve outcomes (Nutrition International, 2024). This evidence underscores the dual imperative of investing in both health worker capacity and the tools that enable consistent counselling.

## 5.5 Supply Chain Performance and Stock Management

Supply chain dysfunction emerged as the most critical systemic barrier to MMS scale-up. Less than 2 in 5 health facilities reported always having sufficient MMS stock, with about one in five experiencing frequent stock-outs. Among programme officers, 63.2% reported stock-outs in the preceding six months. More concerning still, 26.2% of facilities waited more than two months for resupply after a stock-out, meaning that pregnant women faced extended periods during which MMS was simply inaccessible, regardless of their motivation or awareness.

Importantly, stock-outs were not confined to low-procurement states. Their occurrence in states with high procurement levels — such as Kaduna and Nasarawa — points to weaknesses in pipeline management and equitable distribution rather than to an absolute shortage of commodities. Conversely, states like Bauchi and Bayelsa experienced stock-outs despite low procurement levels, indicating weak forecasting and planning capacity at the sub-national level. Together, these patterns confirm that supply chain dysfunction is both a financing problem and a systems problem, and that procurement volumes alone are insufficient if distribution, forecasting, and pipeline management are not simultaneously strengthened.

The financing dimension of the supply chain challenge is significant and specific. Kaduna, for example, allocated ₦400 million in 2024 and ₦500 million in 2025, yet disbursed ₦0 in both 2023 and 2024. Several states — Benue, Cross River, FCT, and Yobe — recorded zero allocation across all years assessed. These figures reveal critical bottlenecks in fund release mechanisms and represent a systemic failure of the financial architecture that is supposed to underpin commodity availability. When allocations exist on paper but funds are not released, the supply chain has no financial foundation on which to operate.

## 5.6 Child Nutrition Fund Performance and Governance

The Child Nutrition Fund represents a significant and purposeful policy innovation for maternal and child nutrition financing in Nigeria. However, its implementation performance reveals a wide



gap between policy intent and operational reality – one that requires urgent and specific attention if the CNF is to fulfil its mandate.

Only 51.5% of health workers had heard of the CNF, indicating that while the fund exists at the policy and state budget levels, it has not translated into a recognisable, reliable resource at the frontline of service delivery. Among health workers who were aware of the CNF, only 22.3% could correctly identify its main purpose. This knowledge vacuum – whether reflecting weak communication, inconsistent implementation, or both – means that the fund's intended influence on service delivery is being substantially lost.

Financial accountability presented equally serious concerns. Only 42.3% of programme officers indicated that financial or audit reports for CNF expenditures were available, reflecting poor transparency and monitoring across the majority of states. The absence of audit infrastructure at this scale of public expenditure is a fundamental governance failure, not merely an administrative gap. It means that programme managers, oversight bodies, and the public have no reliable way of knowing whether allocated funds are reaching their intended purposes.

Only 2 in 5 health workers reported awareness of specific CNF-supported activities in their communities or facilities despite CNF allocations existing in multiple states. This disjunction between resource existence and service visibility is perhaps the most telling indicator of the CNF's current performance gap. A fund that is invisible to those it is designed to support cannot be said to be functioning as intended.

## 5.7 Community and Sociocultural Factors

The qualitative findings revealed nuanced sociocultural dynamics that shape MMS acceptance and adherence in ways that aggregate statistics can obscure. While formal religious opposition to MMS was minimal, several cultural influences emerged as meaningful barriers: generational trust in traditional medicine, fear of unfamiliar 'modern drugs,' and a preference for food-based, 'natural' solutions to health challenges. These findings align with broader anthropological research on health-seeking behaviour in Nigeria, which documents strong cultural authority for traditional health practices alongside a gradual, uneven acceptance of biomedical interventions.

Crucially, community members did not frame these influences as immovable obstacles. They suggested – and the evidence supports – that linking MMS messaging to familiar dietary practices, and involving trusted local figures such as community leaders, religious authorities, and peer supporters, could significantly enhance acceptance. This framing reflects an important principle of implementation science: successful health interventions work within cultural frameworks, not against them. Approaches that position MMS as complementary to existing



practices, rather than as a replacement for traditional wisdom, consistently achieve better uptake (Nutrition International, 2024). The programme design implication is direct — community engagement must be early, genuine, and embedded within existing social structures rather than delivered as a top-down information cascade.

## 5.8 Limitations and Methodological Considerations

Several limitations warrant careful consideration when interpreting the findings of this study. The cross-sectional design precludes causal inference about the relationships between the variables examined. Responses to questions about adherence, supplement use, and side effects relied on self-report, which introduces potential recall and social desirability biases — respondents may have reported more favourable behaviours than actually occurred.

Geographic representation, while spanning 21 states across Nigeria's six geopolitical zones, does not cover all 36 states and the FCT. Variation in sample sizes across states — ranging from one to ten programme officer respondents per state — limits the precision of state-level estimates and may mean that some state-specific findings should be interpreted with caution. These limitations do not undermine the overall conclusions of the study, but they do signal the need for longitudinal research and more uniform state-level sampling in future assessments.



## CHAPTER SIX

# 6.0 Conclusion and Recommendations

## 6.1 Conclusion

Nigeria has demonstrated meaningful policy leadership in maternal nutrition. The inclusion of MMS in the Essential Medicines List, the establishment of the Child Nutrition Fund as an innovative domestic financing mechanism, and investments in local manufacturing capacity collectively position the country as a credible candidate for MMS scale-up across sub-Saharan Africa. These are substantive gains and must be recognised as the foundation on which further progress can and must be built.

Yet structural foundations, however well designed, are only as effective as the systems that operationalise them. The findings of this assessment reveal a persistent and widening gap between policy design and programme reality – a gap rooted not in the absence of frameworks, but in the systemic weaknesses of financing, procurement, supply chain management, and institutional accountability that undermine those frameworks at every level of implementation. The sections below examine each dimension of this gap, drawing together the evidence to frame the recommendations that follow.

### 6.1.2 Knowledge and Capacity Gaps in Anaemia and MMS

Only half of women of reproductive age demonstrated good knowledge of anaemia, reflecting a chronic underinvestment in demand-side communication and community-level sensitisation. Health worker training on MMS, while reaching just over half of providers, remains inconsistent in depth and quality. That 2 of 5 health workers lack basic job aids for MMS counselling and delivery indicates that the human resource foundation for effective service delivery has not been adequately established.

These deficits are not simply a training shortfall. They reflect a broader institutional failure to embed MMS into the routines and professional identity of primary health care. Health workers without counselling tools, side-effect management protocols, and supervisory support cannot counsel women effectively, manage adherence challenges, or build the community trust on which sustained MMS uptake depends. Critically, no investment in demand creation or awareness-raising can compensate for absent commodities or under-equipped providers. Knowledge and capacity interventions must therefore be designed as a system integrating training, tools, supervision, and supply security rather than as isolated activities.



### 6.1.3 Supply Chain Fragility as the Most Critical Barrier

Supply chain fragility – characterised by frequent stock-outs, delayed resupply, and inequitable geographic distribution – is the most immediate and direct barrier to MMS access. It prevents women from obtaining supplements even when they actively seek antenatal care and have been counselled on the importance of supplementation. Addressing demand without ensuring supply is not only ineffective; it actively erodes the trust in health services that programmes depend on to sustain engagement.

The root causes of supply chain fragility are multiple and deeply interconnected. They begin at the financing level. Low budgetary allocations for child nutrition commodities mean that procurement volumes are chronically insufficient relative to programme demand. Even where allocations exist, delays in fund releases disrupt procurement timelines and create pipeline gaps that cascade into facility-level stock-outs. Compounding this, nutrition funds are routinely embedded within broader health budgets without dedicated budget lines, making it nearly impossible to track, protect, or advocate for nutrition-specific resources. Funding that is invisible in the budget is invisible in expenditure reports and accountability systems alike.

These financing weaknesses are further compounded by limited forecasting and quantification capacity at state and facility levels. When procurement quantities are not calibrated to actual programme need, the result is simultaneous over-procurement in some areas and acute stock-outs in others. Poor pipeline planning – especially in states with large catchment areas and constrained logistics infrastructure – accelerates the collapse of supply at the last mile.

At the procurement level, delays in procurement approvals and lengthy public procurement processes on child nutrition funds act as additional, independent bottlenecks that extend the time between need identification and commodity availability. In a context where procurement cycles can span multiple months, even well-resourced programmes face near-inevitable delivery gaps. The current heavy reliance on donor-procured MMS, while filling critical short-term voids, is not a sustainable solution and it actively obscures the urgency of building domestic procurement capacity.

Running across all of these challenges is a fundamental structural weakness: the inadequate integration of MMS into routine primary health care commodity supply systems. Where MMS is managed as a vertical, project-based commodity rather than as an integral part of the essential medicines supply chain, it remains perpetually exposed to the volatility of project funding cycles, donor priorities, and ad hoc procurement decisions. Sustainable access requires embedding MMS supply within the same logistics systems that serve other PHC commodities, with shared forecasting, tracking, and resupply mechanisms.



## Key Challenges Affecting Child Nutrition Funds for MMS Procurement

- Low budgetary allocations for child nutrition commodities, resulting in procurement volumes that are chronically below programme demand.
- Delays in fund releases that disrupt procurement timelines and generate pipeline gaps cascading to facility-level stock-outs.
- Nutrition funds embedded within broader health budgets with no dedicated budget lines, rendering nutrition financing invisible to planners, auditors, and advocates.
- Delays in procurement approvals and lengthy public procurement processes that extend delivery timelines well beyond programme need.
- Limited forecasting and quantification capacity at state and facility levels, producing chronic mismatches between procurement volumes and actual demand.
- Risk of stock-outs from poor pipeline planning, particularly in states with large geographic catchment areas and limited logistics infrastructure.
- Inadequate integration of MMS into routine PHC commodity supply systems, leaving it exposed outside the protections of the essential medicines chain.
- Absence of nutrition-specific budget tracking and monitoring systems, preventing real-time oversight of expenditure and pipeline status.
- Limited real-time monitoring of fund releases and expenditures, creating persistent information asymmetries between federal and state levels.
- Lack of expenditure accountability mechanisms, including independent audits, public expenditure tracking, and beneficiary feedback systems.
- Weak engagement with the private sector and philanthropic organisations as alternative procurement and co-financing partners.
- Heavy reliance on donor-procured MMS and other nutrition commodities, with no long-term domestic financing roadmap to guide a sustainable transition.

### 6.1.4 Child Nutrition Fund: Innovation Constrained by Governance Gaps

The Child Nutrition Fund is a genuine financing innovation, a domestic resource mobilisation mechanism designed to reduce Nigeria's dependence on external donors and to institutionalise predictable nutrition funding. The ambition behind it is well-placed. However, the findings of this assessment reveal that the CNF has not yet translated into reliable, visible support at the service delivery level, and that fundamental governance weaknesses must be resolved if the fund is to fulfil its mandate.

Low CNF awareness among health workers signals that the fund has not been mainstreamed into the consciousness and workflows of the providers it is intended to support. Poor financial accountability and substantial gaps between allocation and disbursement reveal a governance



architecture that lacks the transparency, oversight, and enforcement capacity needed to ensure that resources flow to their intended purposes. With cumulative CNF allocations exceeding ₦5 billion from 2023 to 2025, the absence of routine audit infrastructure is not a minor administrative gap; it is a structural accountability failure.

These failures are traceable to specific, addressable systemic weaknesses. The absence of nutrition-specific budget tracking systems means that CNF disbursements and expenditures cannot be monitored with precision, making it impossible to identify bottlenecks, enforce accountability, or build the expenditure evidence base needed to justify future allocations. Limited real-time monitoring of fund releases creates persistent information asymmetries between federal and state levels, undermining the ability of programme managers to intervene before stock-outs and service disruptions occur. Without expenditure accountability mechanisms – including independent audits, public tracking systems, and feedback loops from beneficiaries – misalignment between allocations and disbursements continues without consequence.

At the strategic level, weak engagement with the private sector and philanthropic organisations limits the CNF's potential as a blended financing mechanism. The absence of a long-term domestic financing roadmap leaves even high-performing states without a framework for progressively scaling domestic contributions and reducing external dependency. These are the structural prerequisites for the CNF to become the durable, self-sustaining mechanism it was created to be.

These governance deficits reflect broader weaknesses in public financial management that are not unique to the nutrition sector. However, their consequences in nutrition are uniquely severe: commodity stock-outs directly translate into compromised maternal and child health outcomes. A financing system that is opaque, slow, and under-audited cannot reliably support a programme that must serve 12 million pregnant women every year.

### 6.1.5 Equity Implications and the Urgency of Systemic Action

The cumulative weight of these challenges falls most heavily on the women and children who can least afford to bear them. The inequitable distribution of MMS – concentrated in urban and peri-urban facilities with stronger resource bases – means that rural and underserved communities, which already carry higher burdens of anaemia and malnutrition, receive the least benefit from existing programme investments. With anaemia affecting 58–61% of pregnant women in Nigeria, the scale of preventable harm attributable to implementation gaps is both measurable and morally indefensible.



The path forward requires not incremental adjustments but coordinated, systemic action across financing, procurement, supply chain management, human resources, and accountability simultaneously. These domains are deeply interdependent: procurement delays rooted in budget fragmentation cannot be resolved without budget line reform; supply chain gaps cannot be closed without improved quantification capacity; quantification capacity cannot improve without real-time data systems; and data systems cannot function without political commitment to transparency and accountability. Pursuing reform within any single domain in isolation will yield limited and temporary gains. Only a systems-wide approach can produce the durable change that Nigeria's nutrition programme requires.



## 6.2 Consolidated Conclusion

This comprehensive assessment of anaemia knowledge and multiple micronutrient supplementation in Nigeria reveals a programme at a critical juncture. The country has demonstrated genuine policy leadership through the inclusion of MMS in the Essential Medicines List, the establishment of the Child Nutrition Fund, and investments in domestic manufacturing – and these achievements deserve recognition. They also create the obligation to build on them. Sustaining and extending Nigeria's leadership in this space will require confronting, with urgency and honesty, the implementation gaps that have thus far prevented policy ambition from reaching the women it is meant to serve.

Significant and interconnected challenges continue to undermine programme performance at every level. Low budgetary allocations and chronic delays in fund releases create a fragile financial foundation that prevents reliable supply. The embedding of nutrition funds within broader health budgets without clear, dedicated, trackable budget lines renders nutrition financing invisible in planning and accountability processes. Lengthy procurement timelines, limited forecasting capacity, and stock-out risk from poor pipeline planning compound the delivery challenge further, while the heavy dependence on donor-procured commodities masks a strategic vulnerability that this programme cannot sustain.

The Child Nutrition Fund, though an important and necessary innovation, has not yet delivered reliable support at the service delivery level. Low health worker awareness, poor financial accountability in the majority of states, and persistent gaps between allocation and disbursement all point to a governance architecture that requires structural reform – not merely better implementation of current arrangements. Without nutrition-specific budget tracking, real-time expenditure monitoring, and meaningful accountability mechanisms, no financing mechanism, however well designed, can function as intended.

The inadequate integration of MMS into routine PHC commodity systems reinforces all of these vulnerabilities, keeping MMS outside the systemic protections that other essential medicines benefit from. Without a long-term domestic financing roadmap and structured engagement with private sector and philanthropic co-investors, the programme's dependence on external partners will persist – and with it, the risk of supply disruptions driven by factors entirely outside Nigeria's control.

Supply chain strengthening must be prioritised as the prerequisite for all other interventions. No investment in demand creation or health worker capacity can compensate for absent commodities. Health worker capacity building must go beyond basic orientation to include comprehensive counselling skills, side-effect management, and structured supportive supervision – and it must be matched by consistent provision of the tools and job aids that allow



those skills to be applied. Community engagement must be designed as a programme component in its own right, not an afterthought, drawing on trusted local structures and culturally resonant communication to build the demand, trust, and adherence that commodities alone cannot generate.

### Priority Actions Required

- Establish dedicated, ring-fenced nutrition budget lines within federal and state health budgets to protect child nutrition funds from absorption into broader health expenditures.
- Reform fund release and procurement approval processes to reduce delays, with clear timelines, escalation mechanisms, and enforceable accountability for non-compliance.
- Build state-level forecasting and quantification capacity so that procurement volumes are calibrated to actual programme need and pipeline risks are identified and managed proactively.
- Integrate MMS fully into routine PHC commodity supply systems — including shared forecasting, tracking, and resupply infrastructure — so it benefits from the same systemic protections as other essential medicines.
- Establish nutrition-specific budget tracking and real-time expenditure monitoring systems, linked to independent audit requirements and public accountability frameworks.
- Develop a long-term domestic financing roadmap for the CNF, with structured and time-bound engagement with private sector and philanthropic co-investors.
- Expand and deepen health worker training on MMS — covering counselling quality, adherence support, and side-effect management — and ensure consistent provision of job aids at all service delivery points.
- Design and implement culturally grounded community engagement strategies that build demand through trusted local structures rather than relying on facility-based information alone.

With 12 million pregnancies annually and anaemia affecting 58–61% of pregnant women, Nigeria faces both an urgent public health imperative and a genuine opportunity. The country possesses the policy frameworks, financing mechanisms, and technical partnerships required for MMS scale-up. What remains is to close the implementation gap — transforming paper commitments into reliable service delivery that reaches every pregnant woman in every state, including those in the most remote and underserved communities. The evidence from this study provides a clear and actionable roadmap for that transformation.

The goal is transformational. Every stock-out, every unaudited disbursement, every health worker without a job aid, and every pregnant woman who seeks but cannot access MMS



represents a preventable failure with lifelong consequences. Nigeria has the ambition and the institutional architecture to end these failures. What is now required is the governance discipline, the financing predictability, and the implementation tenacity to ensure that ambition becomes reality.



## 6.3 Actionable Recommendations

The recommendations below are organised across four thematic areas. They are grounded in the findings of this assessment and are intended to guide coordinated action at federal, state, and community levels. Taken together, they constitute a practical framework for closing the gap between Nigeria's policy commitments and the service delivery reality experienced by pregnant women.

### A. Supply Chain and Commodity Management

- xviii. Strengthen MMS supply chains by institutionalising routine stock monitoring, establishing buffer stocks at the state and facility levels, and implementing rapid procurement mechanisms that can prevent and respond to stock-outs without waiting for standard procurement cycles.
- xix. Improve forecasting and procurement planning using standardised, evidence-based methods drawing on ANC attendance data, pregnancy estimates, and historical consumption records – coordinated through national procurement structures to ensure consistent application across states.
- xx. Expand last-mile distribution by systematically leveraging community health workers, outreach services, and community-based distribution points, with particular attention to rural and hard-to-reach areas where facility-based access is limited.
- xxi. Invest in logistics and quality assurance infrastructure, including adequate storage capacity, regional distribution hubs, and routine monitoring of product quality and supplier performance, to protect commodity integrity throughout the supply chain.

### B. Health Worker Capacity and Service Quality

- xxii. Build health worker capacity through comprehensive, role-specific MMS training that addresses counselling skills, side-effect management, adherence support, and culturally sensitive communication – moving beyond one-off orientations to structured, assessed learning.
- xxiii. Integrate MMS into both pre-service and in-service training curricula, supported by cascade training models, skills certification, and digital learning platforms, to ensure sustainability and equitable reach across all cadres of health workers.
- xxiv. Ensure universal provision of job aids, counselling guides, and reference materials at all MMS delivery points, treating these as essential programme infrastructure rather than optional additions.

### C. Financing, Governance, and Accountability



- xxv. Strengthen policy and financial governance by enforcing transparent budgeting, conducting regular independent audits, linking fund disbursement to performance, and establishing dedicated, protected allocations for preventive maternal nutrition interventions.
- xxvi. Ring-fence and protect CNF allocations for maternal and child nutrition, with explicit MMS expenditure lines that cannot be reprogrammed without approval from national and sub-national oversight bodies, ensuring predictable and sustained financing.
- xxvii. Link CNF financing to results-based performance frameworks in which continued or increased funding is contingent on verified improvements in MMS availability, coverage, counselling quality, and adherence, supported by independent verification and routine public reporting.
- xxviii. Create a dedicated, standalone budget line for CNF and MMS procurement within annual appropriation frameworks, institutionalise quarterly cash-backing for nutrition commodities, and integrate MMS into the Basic Health Care Provision Fund (BHCPF) operational plans.
- xxix. Advocate for automatic release triggers for essential nutrition commodities – removing discretionary delays from the fund release process for pre-approved essential items – and use evidence-based cost-effectiveness data to build the political and fiscal case for sustained investment.
- xxx. Establish a State Nutrition Financing Framework with incremental annual targets for state counterpart funding contributions, creating a structured pathway toward greater domestic financing and reduced donor dependence.

#### **D. Community Engagement and Demand Creation**

- xxxi. Implement culturally grounded behaviour change communication that situates MMS within familiar food-based health practices, directly addresses myths and fears, and promotes positive narratives around maternal and child health – co-designed with community members rather than imposed from outside.
- xxxii. Engage community leaders, religious institutions, and trusted local influencers early and meaningfully, building their understanding of MMS and enabling them to serve as credible advocates for supplementation within their communities.
- xxxiii. Systematically involve household decision-makers including male partners through targeted education, accessible communication materials, and, where culturally appropriate, inclusion in ANC activities.
- xxxiv. Promote community ownership by embedding MMS interventions within existing social networks, women's groups, peer structures, and community organisations,



ensuring that programmes are experienced as locally rooted rather than externally delivered.

- xxxv. Institutionalise monitoring, learning, and adaptation through routine data use at the facility and community levels, supported by regular supervision and periodic programme evaluations, so that implementation can be continuously improved in response to emerging evidence and changing contexts.

### **Strategic Financing Recommendations: Summary**

- Create a dedicated budget line for CNF and MMS procurement within the national and state appropriation frameworks.
- Institutionalise quarterly cash-backing mechanisms for nutrition commodities to break the cycle of allocation-without-disbursement.
- Formally include MMS in the essential medicines list and integrate it into the national drug procurement framework.
- Embed MMS supply within the Basic Health Care Provision Fund (BHCPF) operational plans.
- Advocate for automatic release triggers for essential nutrition commodities, removing discretionary delays for pre-approved items.
- Use cost-effectiveness evidence to build the case for sustained CNF and MMS investment in reducing stunting and anaemia.
- Establish a State Nutrition Financing Framework with annual counterpart funding scale-up targets.
- Create a standalone MMS budget line in the next appropriation cycle at both federal and state levels.



## References

7. Evidence Action. (2024). Multiple micronutrient supplementation for pregnant women in Nigeria: Preventing maternal anemia. Retrieved from <https://www.evidenceaction.org/multiple-micronutrient-supplementation-for-pregnant-women-in-nigeria-preventing-maternal-anemia>
8. Healthy Mothers Healthy Babies (HMHB) Consortium. (2024). Call to action - 2nd Africa Maternal Nutrition and Multiple Micronutrient Supplementation (MMS) Technical Meeting. Micronutrient Forum.
9. Iron deficiency anemia in pregnancy in Nigeria, systematic review (2025), <https://pmc.ncbi.nlm.nih.gov/articles/PMC12140781/>
10. Mwangi, M.N., Mukendi, E.T., Pereira, C., Gomes, F., Kissell, M.C., Pandav, R., Waudo, M.N., Birhanu, T.T., Ayele, A., McColl, A. and van Liere, M.J. (2025). Scaling Up Antenatal Multiple Micronutrient Supplementation (MMS) in Africa: A Unified Call for Action. *Nutrition*, p.112911.
11. Nutrition International. (2024). Introduction of Multiple Micronutrient Supplementation (MMS) through Antenatal Care (ANC): Training for healthcare providers. <https://nutritionintl.org/project/multiple-micronutrient-supplementation-implementation-research-nigeria/>
12. Nutrition International. (2025, March 4). Watch: Strengthening maternal health through MMS in Nigeria.
13. Okunade, K.S., Olowoselu, F.O., Oyediji, O.A., Oshodi, Y.A., Ugwu, A.O., Olumodeji, A.M., Adejimi, A.A., Adenekan, M.A., Ojo, T., Ademuyiwa, I.Y. and Adaramoye, V. (2024). Prevalence and determinants of moderate-to-severe anaemia in the third trimester of pregnancy: a multicenter cross-sectional study in Lagos, Nigeria. *Scientific Reports*, 14(1), p.11411.
14. Study on moderate-to-severe anemia in Lagos, Nigeria, 2024, <https://www.nature.com/articles/s41598-024-61487-4>
15. WHO anemia data and guidelines, 2023, [https://www.who.int/data/gho/data/themes/topics/anaemia\\_in\\_women\\_and\\_children](https://www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children)
16. World Bank, "Nigeria - Prevalence of anemia among pregnant women," 2023, <https://tradingeconomics.com/nigeria/prevalence-of-anemia-among-pregnant-women-percent-wb-data.html>



# Annex I: Survey Questionnaires and Checklists

## I. Desk Review Questionnaire (SNO/Director of Nutrition and Chair SCFN)

### Section A: Budget & Financing

17. What is the annual CNF allocation for each of the focal states?
18. What percentage of the CNF budget is earmarked for nutrition?
19. What percentage of the CNF budget is specifically for anaemia intervention?
20. What percentage of the CNF has been disbursed and utilized in the past 2 years?
21. What line items specifically relate to anemia or MMS?
22. Are there any financial or audit reports showing CNF expenditure?

### Section B: Procurement & Commodities

23. Has MMS been included in procurement plans in the last 2 years?
24. Number of MMS tablets/capsules procured by state.
25. List of vendors or agencies involved in procurement.
26. Reports of stockouts or distribution delays.
27. Documentation on supply chain and logistics.

### Section C: Policy Documents

28. Is there a state-level anemia policy or strategy?
29. Are there guidelines on MMS administration?
30. Are there monitoring indicators tied to anemia in reporting frameworks?
31. Are there references to CNF in state health or nutrition strategies?

## II. Quantitative Survey Questionnaire (for Health Workers, Program Managers, Beneficiaries)

### Target Respondents:

- Health workers (PHC facilities, MNCH units)
- Program officers at SMOH/SMEP
- Pregnant women and women of reproductive age (15–49 yrs)

### A. Demographics (for all respondents)

32. Age:
33. Gender:



34. Role (for health staff/program staff):

35. Location (State, LGA, facility):

36. Education level (for beneficiaries):

**B. CNF Awareness and Implementation (Health workers/program officers)**

37. Are you aware of CNF allocations in your state? [Yes/No]

38. Is CNF used in your facility or program? [Yes/No]

39. If yes, what proportion of funding supports nutrition? \_\_\_\_%

40. What commodities have been procured using CNF? [Tick all that apply – MMS; Iron-folic acid; RUTF; Deworming tablets; Other]

41. Is there specific funding for anemia-related interventions from CNF? [Yes/No]

**C. MMS Uptake (for beneficiaries and health workers)**

42. Have you received or prescribed MMS in the last 6 months? [Yes/No]

43. How frequently are MMS stocks available in your facility?  
[Always/Sometimes/Rarely/Never]

44. How many MMS tablets were taken during your last pregnancy? \_\_\_\_

45. What influenced your decision to take or not take MMS? [Health worker recommendation; Availability; Side effects; Cost; Not aware of MMS]

46. What side effects, if any, did you experience?

**D. Barriers and Enablers**

47. What challenges do you face in prescribing/administering MMS? (Open-ended)

48. What could improve uptake of MMS in your facility/community?



## II. Quantitative Survey Questionnaire

### A. For Health Workers / Program Managers

#### Demographics

49. Age: \_\_\_\_
50. Gender: \_\_\_\_
51. Facility/Organization: \_\_\_\_
52. Position: \_\_\_\_
53. LGA & State: \_\_\_\_

#### CNF & Anemia

54. Are you aware of CNF funds in your state? ☐ Yes ☐ No
55. Does your facility benefit from CNF allocations? ☐ Yes ☐ No
56. What percentage of CNF in your facility goes to nutrition activities? \_\_\_\_%
57. Have anemia-related interventions been funded through CNF? ☐ Yes ☐ No
58. If yes, state the amount \_\_\_\_\_
59. What anemia interventions are implemented? ☐ Iron-folic acid distribution ☐ MMS distribution ☐ Deworming ☐ Nutrition education ☐ Other

#### MMS Availability

60. Is MMS stocked in your facility? ☐ Always ☐ Sometimes ☐ Rarely ☐ Never
61. How are MMS supplies obtained? ☐ CNF ☐ UNICEF ☐ SMOH ☐ Others
62. Have there been any stockouts in the last 6 months? ☐ Yes ☐ No
63. What quantity of MMS is typically distributed per woman per ANC visit? \_\_\_\_

#### Challenges

64. What challenges affect MMS availability or prescription? (Select all) ☐ Inconsistent supply ☐ Lack of training ☐ Low demand from clients ☐ Budget constraints ☐ Side effect concerns ☐ Others

### B. For Women of Reproductive Age / Beneficiaries

#### Demographics

65. Age: \_\_\_\_
66. Marital Status: \_\_\_\_
67. Education: \_\_\_\_
68. Number of children: \_\_\_\_
69. LGA & State: \_\_\_\_



### ANC and Supplementation History

70. Did you attend ANC during your last pregnancy? ☐ Yes ☐ No
71. Were you offered any supplements? ☐ Yes ☐ No
72. Did you receive MMS? ☐ Yes ☐ No ☐ Don't know
73. How many MMS tablets did you receive? \_\_\_\_
74. How regularly did you take them? ☐ Daily ☐ Occasionally ☐ Stopped ☐ Never took

### Barriers to Use

75. If you stopped or didn't take MMS, why? ☐ Side effects ☐ Not available ☐ Didn't understand purpose ☐ Cost ☐ Husband/family discouraged ☐ Other
76. Would you take MMS again if available? ☐ Yes ☐ No
77. What could help you or others take MMS more consistently?



### III. Key Informant Interview (KII) Guide

#### Respondent Information

- Name: \_\_\_\_\_
- Position: \_\_\_\_\_
- Institution/Agency: \_\_\_\_\_
- Location: \_\_\_\_\_

#### Questions

78. What is the size and structure of CNF in your state?
79. What proportion is earmarked for nutrition?
80. What amount is specifically for anemia intervention?
81. What are the main anemia-focused programs funded under CNF?
82. Is MMS part of the CNF-funded interventions?
83. Who manages procurement and distribution of MMS?
84. What are the observed barriers to effective MMS uptake?
85. How effective are existing policies and strategies on anemia?
86. What are the gaps in financing or coordination?
87. What recommendations do you have to increase uptake of MMS?

### IV. Focus Group Discussion (FGD) Guide

Participants: 6–10 women of reproductive age or mixed community group. Setting: Community hall/health facility. Facilitator Notes: Use open-ended questions and probes. Record with permission.

#### Introductory Questions

88. What do you know about anemia?
89. Is it a common problem in your community?

#### Awareness and Use of MMS

90. Have you or anyone you know taken MMS?
91. Where did you get it from?
92. What was your experience?
93. Do women regularly take supplements during pregnancy?

#### Barriers

94. What stops women from taking MMS?
95. Are there myths, fears, or religious/cultural issues?



## Solutions

96. What would encourage more women to take MMS?
97. What role can men, community leaders, or health workers play?



## Annex II: Commodity Stock

The tables below summarise reported commodity stock, supply sources, and projected needs by state for 2026 and 2027. Only states with reported data for each commodity are listed; other sampled states did not report data for that commodity.

### MMS Supply (2025) and Projected Need

| State    | Total Supply (2025)          | Free Supply (2025)           | State Procured (2025)                                                 | Projected Need (2026) | Projected Need (2027) | Other Sources         |
|----------|------------------------------|------------------------------|-----------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Bayelsa  | 29,547 Bottles               | 29,547                       |                                                                       | 30,000                | 45,000                |                       |
| Benue    | 71,716                       | 71,716                       |                                                                       | 381,021               | 392,452               |                       |
| Enugu    | 664ctns+60tins = 59,820 tins | 664ctns+60tins = 59,820 tins | Yet to receive 30% ratio from the 160,000,000.00 State release of CNF | 294,152 Tins          | 302,977 Tins          |                       |
| Kaduna   | 10,287,000 Tablets           | 10,287,000                   | 0                                                                     | 12,960,000            | 25,000,000            |                       |
| Kano     | 43,081,920 Tablets           | 43,081,920                   | 43,081,920                                                            | 0                     | 61,730,640            |                       |
| Katsina  | 214,256                      | 214,256                      |                                                                       |                       |                       |                       |
| Lagos    |                              | 80,711 (UNICEF)              |                                                                       |                       |                       | UNICEF through FMOHSW |
| Nasarawa | 7,128,000                    | 7,128,000                    |                                                                       | 378,484               | 397,408               | UNICEF through FMOHSW |
| Niger    | 66,248 Bottles               | 66,248                       | 66,248                                                                |                       |                       |                       |
| Oyo      | 214,132 Bottles              | 214,132                      | 214,132                                                               | 172,265               |                       |                       |
| Sokoto   | 51,450 Bottles               | 51,450                       |                                                                       |                       |                       | UNICEF through HKI    |
| Zamfara  | 108,908 Bottles              | 108,908                      |                                                                       |                       |                       | UNICEF through FMOHSW |

### IFAS Supply (2025) and Projected Need

| State   | Total Supply (2025)                | Free Supply (2025) | State Procured (2025) | Projected Need (2026) | Projected Need (2027) | Other Sources             |
|---------|------------------------------------|--------------------|-----------------------|-----------------------|-----------------------|---------------------------|
| Bayelsa |                                    |                    |                       | 3,000 bottles         | 4,500                 |                           |
| Enugu   | 0                                  | 0                  | 0                     |                       |                       |                           |
| Kaduna  | 2,050,000                          | 2,050,000          |                       | 2,050,000             |                       | Tablets                   |
| Kano    |                                    |                    |                       | 7,265,000             |                       | Tablets                   |
| Niger   | 1,620 Tins F/Acid & 1,620 Iron Tin | 3,240 Tins         | 3,240 Tins            | 3,240 Tins            | 3,240 Tins            | ANRiN Sustainability fund |
| Oyo     | 4,131                              | 4,131              | 4,131                 |                       |                       | ANRiN Sustainability fund |



## RUTF Supply (2025) and Projected Need

| State   | Total Supply (2025) | Free Supply (2025) | State Procured (2025) | Projected Need (2026) | Projected Need (2027) | Other Sources               |
|---------|---------------------|--------------------|-----------------------|-----------------------|-----------------------|-----------------------------|
| Bayelsa | 60 cartons          |                    | 60                    | 500                   | 750                   |                             |
| Benue   | 100 cartons         | 100                |                       |                       |                       |                             |
| Enugu   | 854 Cartons         | 0                  | 854 Ctns from CNF     | 41,299 Ctns           | 42,538 ctns           |                             |
| Kaduna  | 8,600 cartons       | 8,600              |                       | 9,860                 |                       |                             |
| Kano    | 12,948 cartons      | 12,948             | 6,474                 | 6,474                 | 12,948                |                             |
| Katsina | 118,172             | 128,763            |                       | 10,591                |                       |                             |
| Kebbi   |                     | 41,299             |                       |                       |                       |                             |
| Niger   | 3,000 cartons       | 3,000              | 1,000 (ANRiN)         | 2,000 (CNF)           | 3,465                 | CNF & ANRiN (3,638 by 2027) |
| Oyo     | 600 cartons         | 600                | 600                   | 700                   |                       | CNF                         |
| Sokoto  | 70,870 Cartons      | 70,870             |                       |                       |                       |                             |

## Deworming Tablet Supply (2025) and Projected Need

| State   | Total Supply (2025)        | Free Supply (2025) | State Procured (2025)      | Projected Need (2026) | Projected Need (2027) | Other Sources      |
|---------|----------------------------|--------------------|----------------------------|-----------------------|-----------------------|--------------------|
| Bayelsa | 785 bottles                |                    | 745                        | 3,500                 | 4,500                 |                    |
| Benue   | 145,211                    |                    | 145,211                    | 1,219,267             | 1,255,845             |                    |
| Enugu   | 2,000,000.00 Tabs of 200mg | 0                  | 2,000,000.00 Tabs of 200mg | 988,352 Tabs          | 1,018,002 Tabs        |                    |
| Kaduna  | 357,000 Tablets            | 357,000            |                            | 1,896,000             |                       |                    |
| Kano    |                            |                    |                            | 8,939,448             |                       |                    |
| Katsina | 500,000 doses              | 500,000            | 500,000                    |                       |                       |                    |
| Lagos   |                            |                    |                            | 560,000               |                       |                    |
| Niger   | 1,600 tins                 | 1,600              | 1,600                      | 1,680                 |                       | ANRiN              |
| Oyo     |                            |                    |                            | 531                   | 831                   | Rotary club (Free) |
| Zamfara | 2,400 packs                | 2,400              | 893 Tins                   |                       |                       |                    |

## SQ-LNS Supply (2025) and Projected Need

| State   | Total Supply (2025) | Free Supply (2025) | State Procured (2025) | Projected Need (2026) | Projected Need (2027) | Other Sources |
|---------|---------------------|--------------------|-----------------------|-----------------------|-----------------------|---------------|
| Bayelsa |                     |                    |                       | 500 cartons           | 750                   |               |
| Enugu   | 2,088 Ctns          | 1,400 Ctns         | 688 Ctns from CNF     | 352,983 ctns          | 363,572 ctns          |               |



|         |                             |         |       |           |         |
|---------|-----------------------------|---------|-------|-----------|---------|
| Kaduna  | 1,632 cartons x 600 sachets | 979,200 |       | 1,292,544 | sachets |
| Kano    |                             |         |       | 2,700,000 | sachets |
| Katsina | 1,800                       | 3,720   |       |           |         |
| Niger   | 500 cartons                 | 500     | 500   |           | CNF     |
| Oyo     | 3,972                       | 3,972   | 3,972 | 5,000     | CNF     |
| Zamfara | 5,440                       | 5,440   |       |           |         |

### MNP Supply (2025) and Projected Need

| State   | Total Supply (2025) | Free Supply (2025) | State Procured (2025) | Projected Need (2026) | Projected Need (2027) | Other Sources |
|---------|---------------------|--------------------|-----------------------|-----------------------|-----------------------|---------------|
| Bayelsa |                     |                    |                       | 108,000 cartons       | 162,000               |               |
| Enugu   | 0                   | 0                  | 0                     | 352,983ctns           | 363,572 ctns          |               |
| Kano    |                     |                    |                       | 1,500 cartons         |                       |               |
| Katsina | 3,110               | 3,110              |                       |                       |                       |               |
| Niger   | 300 cartons         | 300                | 300                   | 1,000                 | 1,200                 | ANRiN         |
| Oyo     |                     |                    |                       | 5,000                 |                       |               |