HEALTH SECTOR COMPONENT OF NATIONAL FOOD AND NUTRITION POLICY

NATIONAL STRATEGIC PLAN OF ACTION FOR NUTRITION

(2014 – 2019)

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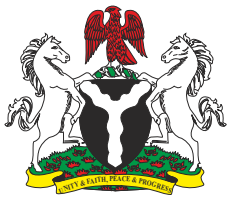


FEDERAL REPUBLIC OF NIGERIA

HEALTH SECTOR COMPONENT OF NATIONAL FOOD AND NUTRITION POLICY

NATIONAL STRATEGIC PLAN OF ACTION FOR NUTRITION

(2014 – 2019)

May 2014

List of Abbreviations and Acronyms

AIDS	-	Acquired Immunodeficiency Syndrome
ANC	-	Antenatal care
BCC	-	Behaviour Change Communication
BFCI	-	Baby-Friendly Community Initiative
BFHI	-	Baby-Friendly Hospital Initiative
CBO	-	Community-Based Organisation
CHW	-	Community Health Worker
CIYCF	-	Community-Based Infant and Young Child Feeding
CMAM	-	Community Management of Acute Malnutrition
CP	-	Community Pharmacist
CSO	-	Civil Society Organisation
DFID	-	UK Department for International Development
DPRS	-	Department of Planning, Research, and Statistics
DRNCD	-	Diet Related Noncommunicable Diseases
EBF	-	Exclusive Breastfeeding
FAO	-	Food and Agriculture Organisation of the United Nations
FBO	-	Faith-Based Organisation
FCT	-	Federal Capital Territory
FMOH	-	Federal Ministry of Health
GAIN	-	Global Alliance for Improved Nutrition
GDP	-	Gross Domestic Product
HIV	-	Human Immunodeficiency Virus
HKI	-	Helen Keller International
HMIS	-	Health Management Information System
ICT	-	Information and Communication Technology
IEC	-	Information, Education, and Communication
IFA	-	Iron and Folic Acid
IFAD	-	International Fund for Agricultural Development
IFPRI	-	International Food Policy Research Institute
IMCI	-	Integrated Management of Childhood Illnesses
IUGR	-	Intra-Uterine Growth Restriction
IYCF	-	Infant and Young Child Feeding
LBW	-	Low Birthweight
LGA	-	Local Government Authority
MDGs	-	Millennium Development Goals
M&E	-	Monitoring and Evaluation
MICS	-	Multiple Indicator Cluster Survey
MNCH	-	Maternal, Newborn, and Child Health
MNDC	-	Micronutrient Deficiency Control
MUAC	-	Mid-Upper Arm Circumference
NAFDAC	-	National Agency for Food and Drug Administration and Control
NCFN	-	National Committee on Food and Nutrition
NCLMS	-	Nutrition Commodities Logistics Management System
NDHS	-	Nigeria Demographic and Health Survey
NFNP	-	National Food and Nutrition Policy
NGN	-	Nigerian Naira
NGO	-	Non-Governmental Organisation
NIPD	-	National Immunisation Plus Day
NIS	-	Nutrition Information System
NPC	-	National Planning Commission
NPHCDA	-	National Primary Healthcare Development Agency
NSHDP	-	National Strategic Health Development Plan
NSPAN	-	National Strategic Plan of Action for Nutrition
NSS	-	Nutrition Surveillance System
OTP	-	Outpatient Therapeutic Programme
PHC	-	Primary Healthcare Centres

PLWHA	-	People Living with HIV/ AIDS
PLW	-	Pregnant and Lactating Women
PMTCT	-	Prevention of Mother-to-Child Transmission of HIV
PPMV	-	Proprietary Patent Medicine Vendor
PPP	-	Public-Private Partnership
RUTF	-	Ready-To-Use Therapeutic Food
SAM	-	Severe Acute Malnutrition
SGA	-	Small-For-Gestational Age
SLEAC	-	Simplified LQAS Evaluation of Access and Coverage
SMART	-	Standardized Monitoring and Assessment of Relief and Transition
SMOH	-	State Ministries of Health
SOML	-	Saving One Million Lives Initiative
SON	-	Standards Organisation of Nigeria
SQUEAC	-	Semi-Quantitative Evaluation of Access and Coverage
SUN	-	Scaling Up Nutrition
UN	-	United Nations
UNICEF	-	United Nations Children's Fund
VAD	-	Vitamin A Deficiency
WDC	-	Ward Development Committee
WFP	-	World Food Programme
WHO	-	World Health Organisation

Contents

Foreword

Malnutrition and nutrition related diseases continue to be problems of great public health importance in Nigeria.

Investment in nutrition programs in Nigeria has not been commensurate with its contribution to child mortality. It has to be recognized that the attainment of the Millennium Development Goals and meaningful economic development will not happen without an urgent improvement in nutrition. Nutrition interventions that have proven to be cost-effective, feasible and with high impact should be brought to scale. This Strategic Plan of Action recognizes that direct nutrition interventions need to be coordinated at all levels of government - Federal, State, and Local Government - with complementary actions to address the underlying determinants of good nutrition: food security, health services, a healthy environment, and adequate care for the nutritionally vulnerable.

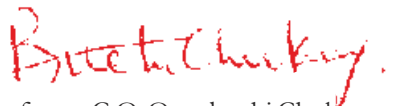
This strategy identifies a set of priority areas that are key to improving nutritional status in Nigeria namely: Maternal nutrition, Infant adf young child feeding, Management of severe acute malnutrition in children under five, Micronutrient deficiency control, Diet related non-communicable diseases and Nutrition information systems.

Six cross-cutting strategies have been identified to achieve high coverage and quality delivery of the priority areas of focus in nutrition, and thus achieve the objectives and targets of the plan. Activities in these strategic areas will be delivered through three main delivery platforms to ensure that maximum coverage is attained for the targeted populations: 1) Health facility; 2) Community structures; and 3) Campaigns/Outreach.

The first step in this direction is the formulation of this strategic plan of action for nutrition document, which provides guidance, and motivation to the different levels of government to develop more in-depth implementation plans for nutrition intervention in Nigeria. It represents the articulation of bold, new thinking on methods for fast-tracking comprehensive action to change the course of nutrition intervention in the country, and proposes a new way of thinking, resourcing and putting into action minimum range of evidence-based, high impact intervention that have been proven to work.

The strategic plan of action is costed to promote resource mobilization and resource allocation with the aim of promoting high impact intervention and leverage resources.

This health sector strategic plan of action for nutrition presents a decision plan for the country and for each state to spell out clearly the level of investment they are willing to commit to accelerate the achievement for the set target in this document for a period of four years. It also provides a commitment plan to guide development partners in their investment, across the five-priority area. The successful implementation of this strategy plan of action will depend on the sustained commitment of the different levels of government, the partners and private sector to invest in nutrition.



Professor C.O. Onyebuchi Chukwu
Honourable Minister of Health
May, 2014

Acknowledgements

The Federal Ministry of Health, Family Health Department wishes to express its gratitude to the numerous individuals and development partners who worked with the ministry to develop the National strategic plan of action for nutrition.

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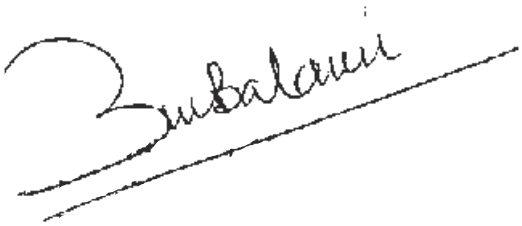
Our thanks also go to the stakeholders, academia and Nutrition Society of Nigeria, who contributed to the review of the document. We acknowledge the contribution of State Nutrition Officers (SNO), National Primary Health Care Development Agency (NPHCDA) and National Agency for Food & Drug Administration and Control (NAFDAC) for taking time to review the document.

The administrative and technical guidance of Dr. Chris Osa. Isokpunwu, Head, Nutrition Division of the Federal Ministry of Health and dedication of the entire members of staff of the Nutrition Division especially Nutrition information System branch is highly recognized.



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Executive Summary

Malnutrition and nutrition related diseases continue to be problems of great public health importance in Nigeria. Despite being a lower-middle-income country, Nigeria has the highest number of stunted children under age five in sub-Saharan Africa, and the second highest in the world, with 37% of all children under five classified as stunted and 19% as severely stunted. Additionally, micronutrient deficiencies, which may be hidden to the naked eye, are pervasive throughout Nigeria with vitamin A, zinc, iron, folic acid, and iodine being the most common. Also of public health importance is the rising prevalence of overweight and obesity, which is affecting more and more Nigerians. There are many causes of malnutrition in Nigeria, but the most obvious are poor infant and child feeding practices, lack of access to healthcare, water, and sanitation, and a high level of poverty.

As part of efforts to address the dire nutrition situation of Nigeria, a National Strategic Plan of Action for Nutrition has been devised that builds off other strategic documents such as Vision 20:2020 and the National Strategic Health Development Plan for 2009 to 2015. It is in view of comprehensively addressing these problems that this plan has been formulated as a guide for action for the Health Sector component of the National Food and Nutrition Policy.

This Strategic Plan of Action has been organised into sections as follows: Section 1 provides an introduction and rationale for why it is critical for Nigeria to tackle its malnutrition problem. Section 2 presents the nutrition situation both globally and in Nigeria, and looks at past and recent responses by the Government, the causes of malnutrition in the country, and the burden of malnutrition on the health and economic potential of the population. Section 3 presents the Strategic Plan of Action going into detail on the key priority areas and strategic directions envisaged to accomplish the plan and the monitoring and evaluation framework for tracking its progress. Additionally, the Strategic Plan of Action is costed and roles and responsibilities are delineated in this section. In Appendix 1 and 2, two frameworks are included that were used to guide the development of this plan. Appendices 3-8 provide logframes that outline the activities and delivery method by strategic direction. Appendix 9 explains the costs and assumptions used in the plan, while appendix 10 describes the framework for the nutrition commodities logistics management system.

The general objective of the Strategic Plan of Action is to build upon the framework outlined in the National Food and Nutrition Policy to improve the nutritional status throughout the lifecycle of Nigerian people, with a particular focus on vulnerable groups including women of reproductive age and children under five years of age. To achieve this goal, a number of specific objectives have been formulated, as follows:

- To promote the delivery of effective interventions that will ensure adequate nutrition to all Nigerians, especially vulnerable groups
- To enhance capacity to deliver effective and appropriate nutrition interventions
- To contribute to the control of diet related noncommunicable diseases
- To promote and strengthen research, monitoring and evaluation
- To promote and facilitate community participation for nutrition interventions
- To promote and strengthen nutrition coordination and collaboration

In Nigeria, the interventions needed to safeguard the nutrition of children and women are well known, and have been highlighted in The Lancet series on maternal and child nutrition. The challenge is to ensure that these nutrition interventions reach those most in need. This strategy identifies a set of priority areas that are

key to improving nutritional status in Nigeria:

- Maternal Nutrition
- Infant and Young Child Feeding
- Management of Severe Acute Malnutrition in Children under Five
- Micronutrient Deficiency Control
- Diet Related Noncommunicable Diseases
- Nutrition Information Systems

Six cross-cutting strategies have been identified to achieve high coverage and quality delivery of the priority areas of focus in nutrition, and thus achieve the objectives and targets of the plan. The strategic areas include the following:

- Behaviour Change Communication
- Service Delivery
- Capacity Building
- Advocacy and Resource Mobilisation
- Research, Monitoring and Evaluation
- Coordination and Multi-Sectoral Partnerships

Activities in these strategic areas will be delivered through the following three main delivery platforms to ensure that maximum coverage is attained for the target populations: 1) Health facility; 2) Community structures; and 3) Campaigns/Outreach. Underlying these priority areas, strategies, and delivery platforms is the development of a Nutritional Commodities Logistics Management System, which will be developed as part of the plan.

Investment in nutrition programmes in Nigeria has not been commensurate with its contribution to child mortality. It has to be recognised that the attainment of the Millennium Development Goals and meaningful economic development will not happen without an urgent improvement in nutrition. Nutrition interventions that have proven to be cost-effective, feasible and with high impact should be brought to scale. This Strategic Plan of Action recognises that direct nutrition interventions need to be coordinated at all levels of government – Federal, State, and Local Government – with complementary actions to address the underlying determinants of good nutrition: food security, health services, a healthy environment, and adequate care for the nutritionally vulnerable.

The total cost required to operationalise the Strategic Plan of Action for the five year period is: **NGN 425.6 billion (2.16 billion USD)** and the average annual cost is **NGN 85.1 billion (431 million USD)**.

INTRODUCTION

1. Introduction

Nutrition has a powerful influence on growth, development, and the productive life of every individual. Optimal nutrition at each stage of the lifecycle is therefore a fundamental human right with malnutrition being viewed as a denial of that right. Furthermore, nutrition is linked to most of, if not all, the Millennium Development Goals (MDGs) and the right to food, adequate nutrition, and healthcare are fundamental to achieving the MDGs.

As part of efforts to address the nutrition situation of Nigeria, a National Strategic Plan of Action for Nutrition (NSPAN) has been devised that builds on other strategic documents such as Vision 20:2020 and the National Strategic Health Development Plan (NSHDP) for 2009 to 2015. It is in view of comprehensively addressing these problems that the NSPAN has been formulated as a guide for action to implement the Health Sector component of the National Food and Nutrition Policy (NFNP).
The design of the NSPAN was guided by the following principles:

- Lifecycle approach to nutrition that recognises the multifaceted and often changing nature of nutrition problems
- Community ownership and participation
- Evidence-based and cost-effective interventions
- Effective partnership and collaboration between various stakeholders within and outside the Health Sector
- Commitment to global, regional, and national goals relating to food and nutrition such as MDGs, the Scaling Up Nutrition (SUN) initiative, and the African Regional Nutrition Strategy

1.1 Rationale

The implementation of sector strategies which contribute to improved nutrition of children and their families is increasingly seen as the primary means for addressing immediate and underlying causes of poor nutrition. Many different sectors contribute to achieving better nutritional outcomes and the following are particularly important: food security, social protection, education, public health, water and sanitation, national development, and poverty alleviation.

Nutrition related challenges result from either undernutrition or overnutrition. Undernutrition can result from inadequate dietary intake, where a person receives insufficient nutrients, which are then compounded by common infectious diseases, such as diarrhoea and pneumonia. Overnutrition, on the other hand, results from excess consumption of food and is associated with a number of diet related noncommunicable diseases (DRNCD) such as hypertension, diabetes, and cardiovascular disease. Nutrition is also essential for increasing the efficacy of medications, such as antiretroviral drugs and vaccines, and plays a critical role in the strategies for the prevention, treatment, and care of HIV/AIDS.
The high disease burden resulting from nutrition-related factors can manifest as:

- Intra-uterine growth restriction (IUGR) resulting in low birthweight (LBW) babies
- Underweight - a reflection of low weight-for-age
- Stunting - a chronic restriction of growth in height indicated by a low height-for-age
- Wasting - an acute weight loss indicated by a low weight-for-height

- Micronutrient deficiencies - often referred to as "hidden hunger"

In 2008 The Lancet series on nutrition featured systematic evidence of the impact of undernutrition on infant and child mortality and its largely irreversible long-term effects on health and on cognitive and physical development. It also demonstrated the availability of proven interventions that could address these problems and save millions of lives. The Lancet set of interventions focused on the "first 1,000 days" (from pregnancy to 24 months old) for high impact in reducing death and disease and avoiding irreversible harm. Other studies drawing on a similar set of interventions, have demonstrated very high cost-effectiveness, with high returns to cognitive development, individual earnings, and economic growth.

Investment in nutrition programmes in Nigeria has not been commensurate with its contribution to child mortality. It has to be recognised that the attainment of MDGs and meaningful economic development will not happen without an urgent improvement in nutrition. Nutrition interventions that have proven to be cost-effective, feasible and to have impact should be brought to scale. Therefore the NSPAN is a practical tool that presents an opportunity to accelerate action towards achieving MDGs and Vision 20:2020. The NSPAN will also be used as a resource mobilisation tool by nutrition stakeholders and a guide to investment in cost-effective nutrition interventions.

Building off the findings from The Lancet series[1] as well as the guidance provided by the SUN movement has helped to guide Nigeria's efforts to tackle the burden of malnutrition. Malnutrition is widely conceptualised as being a multi-sectoral problem; in Nigeria, the Federal Ministry of Health (FMOH) is playing a leadership role to scale up interventions that fall within the mandate of the Health Sector. It is also taking the lead to coordinate various efforts and partners, mobilise resources, and work across sectors to build a cohesive response to malnutrition.

[1]Bhutta, ZA., Ahmeed, T., Black, RE., Cousens, S., Dewey, K., Giugliani, E.,…Shekar, M. (2008). What works? Interventions for maternal and child undernutrition and survival. *The Lancet, 371*, 417-40.

BACKGROUND

2.1 Country Background

Nigeria is bordered by Niger and Chad to the north, Cameroon to the east, and Benin to the west, with approximately 850 kilometers of coastline on the Gulf of Guinea to the south. It is divided into 36 States, plus the Federal Capital Territory (FCT) of Abuja and further subdivided into 774 Local Government Areas (LGAs). The States are grouped into six distinct geopolitical zones— North Central, North East, North West, South East, South South, and South West. The total land area is 923,000 square kilometers.

Nigeria spans 10 degrees of latitude and zero to nearly 2,500 meters of altitude, resulting in a wide range of agro-ecological conditions from semiarid in the north to tropical and humid in the south. The topography of the country is characterised by high plateau in the north, which slopes to the lowlands of the Niger River Delta along the coast in the south. The Niger River, which is the largest in the West African region, drains a watershed of approximately 2 million square kilometers and is a defining geographic feature of Nigeria.

Nigeria is the most populous country in Africa and the seventh most populous in the world, with an estimated 170 million people in 2012. The population is continuing to grow at an annual rate of 2.6% as a result of a high fertility rate (5.38 children born per woman). Rising population pressure is leading to overcrowding with an estimated population density of 174 people per square kilometer in 2010. The scarcity of land and other resources in rural areas is causing rapid urban migration. Nigeria has one of the highest urban growth rates in the world at 4.1%.

The Nigerian population displays a high degree of ethnic diversity with more than 250 distinct ethnic groups. Among the most prominent groups are the Hausa/Fulani, Yoruba, and Igbo. Although the official language is English, more than 500 indigenous languages and dialects are spoken across the country. The most widely spoken indigenous languages are those of the prominent ethnic groups.

Nigeria is considered a lower-middle-income country with a national gross domestic product (GDP) of $235.9 billion, which translates to a national per capita GDP of $1,452.[2] The average GDP growth rate of 6.8% over the seven years from 2005 to 2011 was higher than both the global average of 4.9% and the African average of 5.5%. Between 2008 and 2011 the average annual inflation rate was 12.63%.

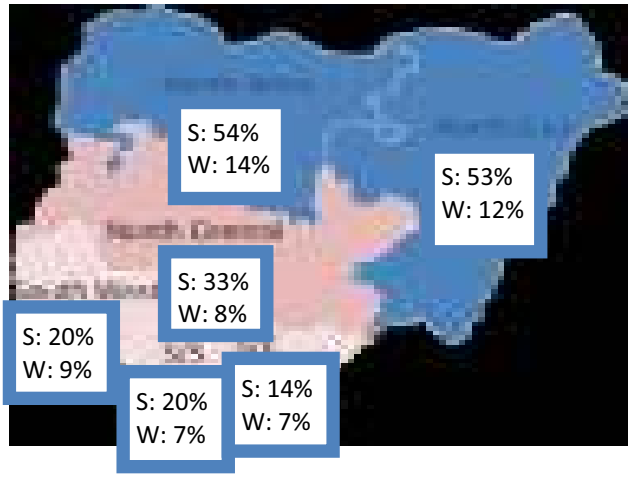
It is estimated that 61% of the population live on less than a dollar a day and 69% live below the relative poverty line, which is set slightly higher at 1.25 dollars per day (66,802 NGN per year). The proportion of Nigerians living below the relative poverty line has increased significantly from just 27% of the population in 1980. Poverty is not equally distributed, with the highest proportion of poor in the North East and North West zones. Poverty is also higher in rural areas than urban. The degree of inequity among the population, measured using the Gini coefficient, is also increasing. In 2010 the Gini coefficient was 0.447, which represents an increase of 4.1% in the degree of inequity from 2004 and is close to the sub-Saharan African regional average of 0.46.

[2]International Food Policy Research Institute (IFPRI)/World Food Program (WFP). (2013). Comprehensive Food Security and Vulnerability Analysis: Nigeria. IFPRI Discussion Paper 01275.

2.2 Malnutrition Globally in Nigeria

Globally, almost seven million children under the age of five die every year.[3] Undernutrition accounts for about 35% of all deaths among these children. Stunting, severe wasting, and IUGR are the major contributors to child mortality, accounting for about two million deaths of under-fives annually. Undernutrition is also the number one cause of morbidity for all age groups, accounting for 11% of the disease burden. With regard to maternal mortality, iron deficiency is the leading cause, contributing 20% of the estimated 536,000 deaths. About 43% of all deaths among under-fives occur in Africa.

Figure 1: Undernutrition in children under five in Nigeria



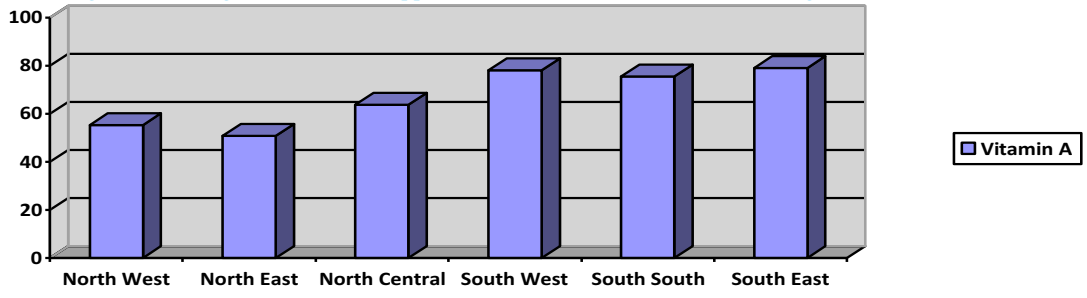
S = Stunting (<-2 SD); W = Wasting (<-2 SD)

Source: National Bureau of Statistics. (2011). Nigeria Multiple Indicator Cluster Survey (MICS) 2011: Main Report. Abuja, Nigeria.

Malnutrition and nutrition related diseases continue to be problems of public health importance in Nigeria with the under-five mortality rate unacceptably high at 158 per 1,000 live births.[4] Malnutrition is the underlying cause of 53% of these deaths.

In Nigeria, about 14 million people – 8.5% of the total population - are undernourished.[5] It is also home to the highest number of stunted children in the continent and ranks second globally with more than 10 million stunted children. The 2013 Nigeria Demographic and Health Survey (NDHS) reported 37% of children under five as being stunted, 29% as underweight, and 18% as wasted.[6] In addition to a lack of basic protein and energy, the immediate causes of undernutrition are a lack of micronutrients such as vitamin A, iodine, iron, and zinc. Almost 63% of women are anaemic and 31% are iodine deficient, while close to 30% of under-fives are vitamin A deficient (VAD) and 20% are zinc deficient.[7]

Figure 2: Coverage for vitamin A supplementation for children under five in Nigeria



Source: Nigeria MICS 2011.

[3]World Health Organisation (WHO). (September 2012). Children: reducing mortality (Fact sheet 178). Retrieved from http://www.who.int/mediacentre/factsheets/fs178/en/
[4]United Nations Children's Fund (UNICEF). (2011). At a glance: Nigeria. Retrieved from http://www.unicef.org/infobycountry/nigeria_statistics.html
[5]Food and Agriculture Organisation of the United Nations (FAO), WFP, and International Fund for Agricultural Development (IFAD). (2012). The State of Food Insecurity in the World 2012. Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition. Rome: FAO.
[6]National Population Commission [Nigeria] and ICF Macro. 2013. Nigeria Demographic and Health Survey (NDHS) 2013. Abuja, Nigeria: National Population Commission and ICF Macro.
[7]Micronutrient Initiative. (2013). Nigeria Country Profile. Retrieved from http://www.micronutrient.org/english/view.asp?x=596

Although undernutrition is a problem throughout the country, there are three zones in Nigeria that represent the majority of those affected – North West, North East, and North Central (including the capital Abuja). Rural areas are also disproportionately affected for many reasons, including distance from markets, limited health and education resources, as well as access to sanitary water and refuse disposal sites.

In addition to high rates of undernutrition, Nigeria is also witnessing an alarming rise in the incidence of DRNCD. The 2008 NDHS reported that 22% of women were overweight or obese, with the frequency increasing with age, education, and wealth.[8] Diabetes is predicted to cause 52% of mortality in Nigeria by 2015.[9] Globalisation, urbanisation, lifestyle transition, socio-cultural factors, and poor maternal, foetal and infant nutrition are all major causes of the increase in DRNCD.

Underlying these problems of malnutrition are a number of issues such as poor maternal nutrition, suboptimal infant and young child feeding (IYCF) practices, inadequate health services, and limited access to nutritious foods. According to the 2013 NDHS, breastfeeding is a common practice in Nigeria, yet 17% of children less than six months of age are exclusively breastfed (WHO recommendation). One survey conducted in the LGAs of Daura and Zango in 2010 found that no mothers of infants under six months were practising exclusive breastfeeding (EBF), and less than half gave their infants the breast within an hour after birth.[10] Additionally, infants should not be given water, juices, other milks, or complementary foods until six months of age, yet 87% of Nigerian infants less than six months of age receive complementary foods.

For those families that receive education surrounding appropriate IYCF, they lack access to affordable foods with sufficient quantities of micro- and macronutrients required for a growing infant. These nutrients are lacking not only for the child, but also for the mother during pregnancy and breastfeeding, who often shares food with the rest of the family. Foods currently on the market are too expensive for many of the poorest and most vulnerable, and do not reach rural areas where the majority of the population lives and the problem is most severe. Compounding these poor feeding practices is a high burden of disease with preventable or treatable infectious diseases such as malaria, pneumonia, diarrhoea, measles, and HIV/AIDS accounting for more than 70% of the estimated one million under-five deaths in Nigeria.

2.3 Causes of Undernutrition in Nigeria

It is widely accepted that malnutrition has many causes – from lack of food and improper feeding and caring practices to economic and political structures – and Nigeria suffers from all of these. Many nutritional problems in Nigeria are compounded by poor infant and child feeding practices. Babies are deprived of crucial immunisation against bacteria and various viruses when they are most vulnerable. The low status – and particularly the low level of education – of women is another key cause of malnutrition. A mother's malnutrition is closely linked to malnourishment in her newborn babies and children, so the fact that 18.4% of women of child-bearing age in Katsina State were found to be undernourished is a cause for concern.[11]

Another key cause of malnutrition is a lack of access to healthcare, water and sanitation. In Northern Nigeria, for example, one study in two LGAs revealed that only 0.9% of infants receive all basic vaccinations, 34% did

[8]National Population Commission [Nigeria] and ICF Macro. 2009. Nigeria Demographic and Health Survey 2008 (NDHS). Abuja, Nigeria: National Population Commission and ICF Macro.
[9]Ekpenyong, CE., Udokang, NE., Akpan, EE., Samson, TK. (2012). Double burden, non-communicable diseases and risk factors evaluation in sub-Saharan Africa: The Nigerian experience. European Journal of Sustainable Development, 1(2), 249-70.
[10]Save the Children UK. (2011). SMART Nutrition Survey, Daura and Zango LGAs, Katsina State, northern Nigeria.
[11]Nigeria Demographic Health Survey (NDHS) (2008).

not have safe drinking water, and 22% did not have a safe way of disposing of human waste.[12] The poor environmental sanitation, hygiene, and unsafe drinking water result in a high prevalence of infectious and parasitic diseases, particularly in infants and children, which further aggravates their already poor nutritional status.

Additionally, poverty plays a prominent role as a cause of malnutrition. Although Nigeria possesses great wealth in oil and has experienced recent economic growth, 68% of the population lives below the international poverty lines of US$1.25. The poorest 20% of children are three times more likely to be underweight than the richest 20%.[13]

2.4 Consequences and Impact of Malnutrition

2.4.1 Impact on Health and Education

There is growing evidence that maternal body size is strongly associated with the size of newborn children. Undernourished women tend to become shorter adults, and thus are more likely to have small children. Some studies have even shown that for every 100g increase in maternal birthweight, her child's birthweight increased by 10-20g (in developed countries) and by 29g (in low-income countries).[14] In low-income countries, the same studies also show that birth length can rise by as much as 0.2cm for every 1cm increase in a mother's birth length. In addition, maternal height is associated with birthweight of their grandchildren, confirming the long-term repercussions of maternal nutrition.

Undernutrition in pregnant women is also one of the causes of adverse pregnancy outcomes such as miscarriage, still birth, and IUGR. Children born with LBW are more susceptible to recurrent infections whose severity is also closely linked with child nutritional status. Emerging evidence points to the fact that children who are undernourished in the first two years of life and who put on weight rapidly later in childhood and in adolescence are at high risk of DRNCD such as diabetes, hypertension, arthritis, gout, certain types of cancers, and heart disease among others.

In one study carried out in Guatemala, expectant mothers were put on a nutritional supplementation trial. Children born to women who had received a protein-energy supplement were on average 0.8cm taller than were those whose mothers received a low energy supplement.[15] The importance of these findings is that good maternal nutrition is critical for the nutrition of future generations. These findings also point to the need for Nigeria to adopt a lifecycle approach to battling undernutrition. If Nigeria wants to improve the nutritional status of future generations, it should start with the present generation.

[12]Save the Children UK SMART nutrition survey, Daura and Zango LGAs, Katsina State, northern Nigeria (2010).
[13]Save The Children UK. (2012). Social protection and child malnutrition: Nigeria. Retrieved from http://www.savethechildren.org.uk/sites/default/files/docs/social-protection-Nigeria-briefing-BT.pdf
[14]Ramakrishnan, U., Martorell, R., Schroeder, DG., & Flores, R. (1999). Role of intergenerational effects on linear growth. J Nutr 129(2S Suppl), 544S-549S.
[15]Behrman, JR., Calderon, MC., Preston, SH., Hoddinott, J., Martorell, R., Stein, AD. (2009). Nutritional supplementation in girls influences the growth of their children: Prospective study in Guatemala. Am J Clin Nutr, 90(1), 1372-9.

Figure 3: Malnutrition's impact on productivity throughout the lifecycle, adapted from the Administrative Committee on Coordination/Subcommittee on Nutrition (United Nations), 2000

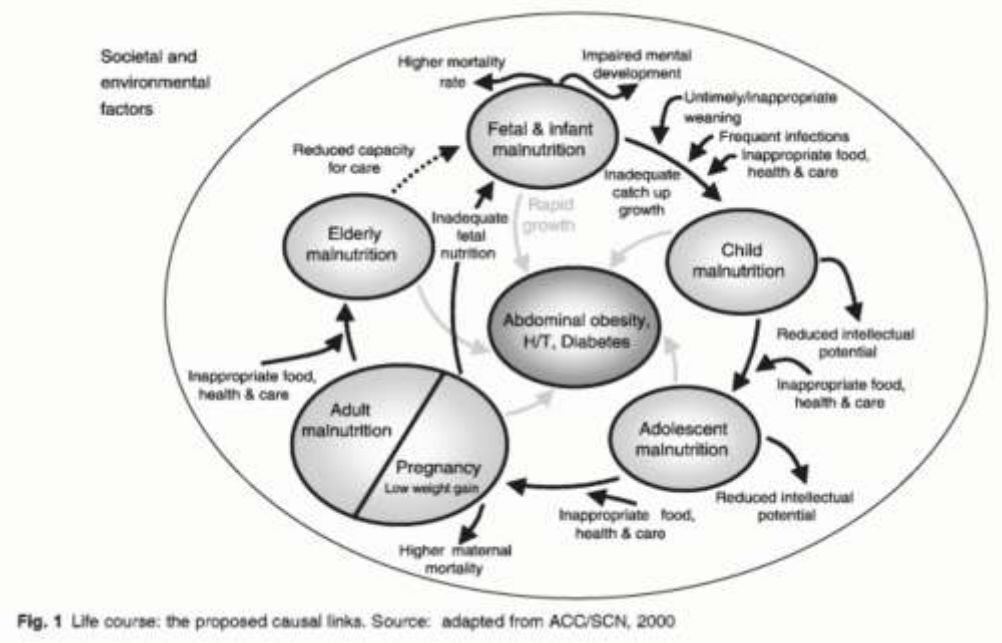


Fig. 1 Life course: the proposed causal links. Source: adapted from ACC/SCN, 2000

As shown in Figure 3, malnourished children suffer from irreparable intellectual impairment and stunted physical growth. Hungry children make poor students and are prone to drop out of the educational system. Hungry and malnourished adults are unable to be fully productive workers and are more likely to be ill, increasing the strain on often overburdened health systems. Malnourished women give birth to LBW babies, transferring the broad economic disadvantages of malnutrition in their own lives to the next generation.

Good nutrition is imperative for optimal mental and physical development, learning, and school performance. Undernutrition affects cognitive development by causing direct structural damage to the brain and by impairing infant motor development and exploratory behaviour.

Similarly, iron deficiency anaemia delays mental development in infants and is correlated with poorer performance on cognitive tests in older children. Children have considerably reduced learning abilities, school performance and retention rates are low, and hearing and speech are impaired with such children not being trainable. Vitamin A deficiency (VAD), on the other hand, lowers immunity, thus increasing the incidence and severity of illnesses which increase absenteeism and reduce concentration in school. In severe cases, night blindness and partial or total loss of sight may result from this deficiency.

In Zimbabwe, a difference of 3.4cm in height-for-age at 3 years was associated with almost an additional grade of achieved schooling,[16] whilst in Guatemala, food supplementation during early childhood improved schooling in women by 1-2 years, and test scores in men and women.[17] This evidence underlines why Nigeria cannot wait but intensify investment in child nutrition especially with a deliberate focus on the lifecycle of its citizens.

[16]Glewwe, P. & Jacoby, H. (1995). An economic analysis of delayed primary school enrollment and childhood malnutrition in a low income country. Rev Econ Stat, 77, 156-69.
[17]Behrman et al. (2009).

2.4.2 Impact on Economic Development

Although economic development does improve nutrition outcomes, it often does so at a very slow pace, and direct reductions in income poverty do not imply proportional reductions in undernutrition. Not only do reductions in income poverty not necessarily improve nutrition outcomes, but malnutrition can actually act as a brake on economic development. In effect, economic growth is retarded in countries where malnutrition is widespread. It follows that any government pursuing an efficient development strategy should include nutrition policy as an input that, along with sound fiscal, foreign investment, exchange rate, and sector-specific policies, is requisite to sustainable economic growth.

Economic analyses of the costs of malnutrition have examined specific micronutrient deficiencies as well as stunting. For example, an estimated 3.4% of global GDP is lost to the effects of anaemia on childhood cognitive development and educational attainment.[18] Iron deficiency in adults has been estimated to decrease national labour productivity by 5 to 17%.[19] And up to 10% in lost productivity and earnings has been attributed to stunting.[20] These figures are especially pertinent in terms of future development goals, since nearly one-third of all children in the developing world are currently underweight or stunted.[21]

There are massive economic and social consequences to the high rates of undernutrition in Nigeria. Billions in GDP are lost each year due to the pernicious cycle of undernutrition. Annually, Nigeria loses over US$1.5 billion in GDP to vitamin and mineral deficiencies.[22] Due to VAD alone, 25% of our children grow up with lowered immunity, which leads to frequent illness and poor health. Analysis by the Micronutrient Initiative shows that unless we take effective action to prevent and control VAD, over 80,000 Nigerian children will die annually. These estimates are corroborated by a recent study by the World Food Programme (WFP) and the Economic Commission for Latin America, which estimated the economic losses due to undernutrition in seven nations at a staggering 6% of annual GDP.[23]

2.5 Current Efforts to Address the Problem

2.5.1 National Efforts

Food and nutrition activities in Nigeria, prior to 1990, were carried out sectorally, thus giving rise to several policies addressing food and nutrition concerns in different development sectors. Addressing the problems went beyond health sector actions, in view of the causal analysis espoused by nutrition and development experts based on the UNICEF Conceptual Framework of the causes of malnutrition (Appendix 1). These activities were very limited in scope, uncoordinated, and largely ineffective in addressing nutritional problems comprehensively.

In 1990, the Federal Government of Nigeria established a National Committee on Food and Nutrition (NCFN) as an institutional arrangement to coordinate and provide leadership to articulate a comprehensive policy and actions that could effectively reduce malnutrition considerably or eliminate it in Nigeria. The NCFN at establishment was domiciled in the Federal Ministry of Science and Technology and later relocated to the FMOH in 1993. However, by 1994, the NCFN was further relocated to the National Planning

[18] Horton, S. (1999). Opportunities for investment in nutrition in low-income Asia. Asian Development Review 17, 246-273.
[19] Ibid.
[20] FAO. (2004). The State of Food Insecurity in the World 2004, FAO Document Repository.
[21] Shakir, M. (2006). Better Nutrition = Less Poverty. Washington D.C. International Bank for Reconstruction and Development/The World Bank.
[22] World Bank. (2009). World Development Indicators (Database).
[23] Martinez, R. & Fernandez, A. (2008). The cost of hunger: Social and economic impact of child undernutrition in Central America and the Dominican Republic. Santiago, Chile: United Nations.

Commission (NPC) with its emerging programmes and evolving nutrition policy. The decision to relocate the NCFN to the NPC was based on the unique position of the Commission under the Presidency as the Federal Government agency responsible for coordination and monitoring of all national policies and programmes, including budget, as well as bilateral/multilateral cooperation.

The NCFN formulated a National Food and Nutrition Policy (NFNP) in 1995, which the Federal Government approved in 1998 and launched in November 2002. The development and launching of the policy was a crucial step in addressing the malnutrition problem. This policy set specific targets, which included reduction of severe and moderate malnutrition among children under five by 30% by 2010, and reduction of micronutrient deficiencies (principally of vitamin A, iodine, and iron) by 50% by 2010.
This effort included the fortification of staple foods with vitamin A, so that children would naturally consume vitamin A in their food. This resulted in vitamin A fortification of 70% sugar, 100% wheat flour, and 55% vegetable oil sold on the market. Nigeria is also fortifying wheat flour with iron, thereby helping to protect children and mother's physical and mental health.

The Federal Government also launched the Home-Grown School Feeding and Health Programme in September 2005 under the coordination of the Federal Ministry of Education. The programme aimed to provide a nutritionally-adequate meal during the school day. In addition, Nigeria has recently embarked on management of severe acute malnutrition (SAM) and currently has over 495 community management of acute malnutrition (CMAM) sites across northern Nigeria.

Nigeria held its first Nutrition Summit to create a "Roadmap to Scaling up Nutrition in Nigeria" early in 2012. At the Summit, the following interventions were recommended to drive the scale up: promoting optimal infant feeding practices, controlling micronutrient deficiency and anaemia through vitamin and mineral supplementation, food fortification and dietary diversification, and eliminating iodine deficiency through a salt iodisation programme in Nigeria. Recognition was also given to the role that other sectors play in improving food security.

The Nutrition Division, located in the Department of Family Health in the FMOH, serves as the current convening Government body responsible for scaling up nutrition and is responsible for bringing together various government ministries and departments including the Ministries of Health, Education, Agriculture, Women Affairs, Finance, Information, Science and Technology, and Water Resources, and the Planning Commission. All relevant ministries are also engaged through the Nutrition Partners Forum, which meets at least four times annually with external partners including national and international non-governmental organisations (NGOs), UN agencies, donors, businesses and the media, to discuss strategy development and undertake decisions relating to funding and nutrition emergencies.

2.5.2 Nutrition Partner Landscape

Undernutrition is most severe in northern Nigeria and the majority of nutrition interventions take place in this region. Across the region of the Sahel belt, a third of children under five are underweight, half are stunted, and a fifth are wasted.[24] In the ten northernmost States, there are an estimated 3.9 million children under five who are stunted and 900,000 with SAM.[25]

[24]Calculated as a weighted average of the prevalence in the North East and North West zones, using Nigeria DHS 2008 and Census 2006 data.
[25]Estimated from NDHS 2008 and Nigeria Census 2006 data.

Current nutrition-specific programmes that focus on growth monitoring, fortification, management of acute malnutrition, and interventions to combat micronutrient deficiencies are administered during Maternal, Newborn, and Child Health (MNCH) weeks.

UNICEF and other civil society organisations (CSOs) participate in the Nutrition Partners Forum and contribute to nutrition activities through implementation of community-level nutrition programmes. CSOs working on nutrition include: Save the Children UK, Global Alliance for Improved Nutrition (GAIN), Helen Keller International (HKI), Micronutrient Initiative, MITOSATH, Action Against Hunger, Valid International, and Food Basket International.

UNICEF supports nutrition programmes across the 36 States plus FCT in Nigeria, and provides support for IYCF, micronutrient deficiency, and treatment of SAM. Interventions include technical assistance to the Federal and State Ministries of Health, support to primary healthcare (PHC) centres, and campaign-style Child Health Weeks (which include screening for undernutrition, de-worming and vitamin A supplementation).

Nigeria is a priority country for Save the Children's Global Child Survival Campaign, which has a strong nutrition component. Save the Children UK currently supports Katsina State Ministry of Health to implement a prevention, detection, and treatment programme for malnutrition which has treated 9,000 children for acute malnutrition in two LGAs in Katsina State and is expanding to two more LGAs. They are also part of the UK Department for International Development (DFID) funded PRRINN/MNCH (Routine Immunisation and Maternal Newborn and Child Health) programme which operates in four states.

GAIN is supporting the National Agency for Food and Drug Administration and Control (NAFDAC) to fortify wheat and maize flour with iron, vegetable oil with vitamins A and B, and sugar with vitamin A.
HKI has been working in Nigeria since 1999 and operates programmes focused on vitamin A supplementation, onchocerciasis control, and trachoma control. Since 2001, HKI has integrated vitamin A supplementation into community directed treatment with Ivermectin. The programme was initiated in Adamawa, Borno, and AkwaIbom States and has since expanded to cover seven additional States.

Micronutrient Initiative's work in Nigeria focuses on increasing coverage with vitamin A supplements via National Immunisation Plus Days (NIPDs), while supporting MNCH weeks as an alternative delivery mechanism. Additionally, Micronutrient Initiative supports efforts to improve vitamin A supply chain in Nigeria and contributes to sustained production and consumption of iodised salts as well as promotion of double fortification of salt with iodine and iron.

STRATEGIC PLAN OF ACTION

3. Strategic Plan of Action

This Strategic Plan of Action provides an overview of the priority nutrition interventions and strategic directions for nutrition in the Health Sector for the period 2014 to 2018 in Nigeria. It consolidates and builds upon previous Health Sector strategies and efforts, such as the NSHDP 2010-2015, the Saving One Million Lives (SOML) Initiative, and the NFNP. Additionally, the SUN Movement has helped to guide Nigeria's nutrition efforts by providing a cohesive framework on which to target priorities and interventions.

The NSPAN recognises optimal nutrition at each stage in the lifecycle as a priority issue and fundamental to achieving the MDGs. The implementation of these sector strategies acknowledge the challenges resulting from undernutrition and overnutrition and the multifaceted and often changing nature of nutrition problems across vulnerable groups. However, this plan of action will focus substantial attention to improving nutrition during the "first 1,000" (from pregnancy to 24 months old) for high impact in reducing death and disease and avoiding irreversible harm.

3.1 Goal

The main objective of the NSPAN is to build upon the framework outlined in the NFNP to improve the nutritional status throughout the lifecycle of Nigerians, with a particular focus on vulnerable groups especially women of reproductive age and children under five years of age.

3.2 Strategic Objectives

To achieve the goal of improving the nutritional status of Nigerians, a number of specific objectives have been formulated, as follows:

1. To promote the delivery of effective interventions that will ensure adequate nutrition to all Nigerians, especially vulnerable groups
2. To enhance capacity to deliver effective and appropriate nutrition interventions
3. To contribute to the control of diet related noncommunicable diseases
4. To promote and strengthen research, monitoring and evaluation
5. To promote and facilitate community participation for nutrition interventions
6. To promote and strengthen nutrition coordination and collaboration

3.3 Targets

Targets for this plan have been guided by the NFNP. The specific targets to be achieved address each of the priority intervention areas for Nigeria:

1. To reduce the number of under-five children who are stunted by 20% by 2018
2. To reduce low birthweight by 15% by 2018
3. To ensure no increase in childhood overweight by 2018
4. To reduce and maintain childhood wasting to less than 10% by 2018
5. To reduce anaemia in women of reproductive age by 50% by 2018
6. To increase exclusive breastfeeding rates in the first six months to at least 50% by 2018

3.4 Priority Areas of Focus

The Lancet in its 2013 series on maternal and child nutrition developed a framework (Appendix 2) that, rather than focus on the determinants of undernutrition, looks at the means to achieving optimum foetal and child growth and development. This new framework shows the dietary, behavioural, and health determinants of optimum nutrition and development. It highlights how the determinants are affected by underlying food insecurity, caregiving resources, and environmental conditions, which are shaped by economic and social conditions, national and global contexts, resources, and governance. The challenge is to ensure that these nutrition interventions reach those most in need.

The NSPAN recognises that direct nutrition interventions need to be coordinated at all levels of government – Federal, State, and LGA – with actions to address the underlying determinants of good nutrition. With this in mind, six priority areas of focus have been selected:

1. Maternal Nutrition - the cycle of undernutrition begins with the nutritional status of women and mothers.
2. Infant and Young Child Feeding - the right nutrition during a child's first 1,000 days (from conception until a child turns two) can have a profound effect on the child's growth, development, and economic potential.
3. Management of Severe Acute Malnutrition in Children under Five - treatment for SAM can be efficiently managed at the community level in a cost-effective manner.
4. Micronutrient Deficiency Control - "Hidden hunger" is all too common in Nigeria meaning children are not receiving the proper nutrients to improve immunity and growth.
5. Diet Related Noncommunicable Diseases - poor nutrition and dietary practices are leading to a double burden of malnutrition in Nigeria.
6. Nutrition Information Systems - proper monitoring and evaluation controls are not in place for early detection of nutrition emergencies, growth monitoring of the population, and evaluation of nutrition programming.

The choice of these priority areas of interventions has also been informed by emerging evidence on nutrition interventions that can accelerate the reduction of maternal and child undernutrition in 36 high prevalence countries.[26] Nutrition during emergencies poses a significant problem for Nigeria and was felt to be covered adequately by the National Emergency Response Plan. The NSPAN instead focuses on management of SAM through community management as a key priority.

Of the estimated 834,000 under five deaths in Nigeria annually, an estimated 1,034,911 deaths can be averted over five years if key nutrition-specific interventions are available in Nigeria at 90% coverage.

Maternal Nutrition

The intergenerational transfer of undernutrition begins with the poor nutritional status of women, both before and during pregnancy. Women who are short, thin, and gain inadequate weight during pregnancy, and are deficient in micronutrients are more likely to give birth to LBW infants. They are also at increased risk of obstetric complications and of maternal death. Globally, 32 million babies are born small-for-gestational-age (SGA) annually – representing 27% of all births in lower-middle-income countries.[27] Foetal growth restriction

[26]Bhutta, ZA., Ahmed, T., Black, RE., Cousens, S., Dewey, K., Giugliani, E.,…Shekar, M. (2008). What works? Interventions for maternal and child undernutrition and survival. The Lancet, 371(9610), 417-440.
[27]Black, RE., Victora, CG., Walker, SP., Bhutta, ZA., Christian, P., de Onis, M.,…Uauy, R. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. The Lancet, 382(9890), 427-451.

causes more than 800,000 deaths each year in the first month of life – more than a quarter of all newborn deaths. This newer finding contradicts the widespread assumption that babies who are born SGA, by contrast with pre-term babies, are not at a substantially increased risk of mortality. Neonates with foetal growth restriction are also at substantially increased risk of being stunted at 24 months and of development of some types of noncommunicable diseases in adulthood.

Effective interventions to reduce maternal undernutrition, LBW, and associated morbidity and mortality include iron and folic acid (IFA) supplementation, increasing the age at first pregnancy, birth spacing, reduction of women's workload, additional rest during pregnancy and lactation, and nutrition education to improve dietary intake. Several of these actions relate to improved caring practices for women. Improving caring practices for women requires building the knowledge of not only the women themselves, but of those who influence their access to the resources they need for proper care, particularly their family members. It requires greater empowerment of women within households, society in general, and in decision making.

Table 1: Interventions focusing on Maternal Nutrition

Intervention	Description	Target Population	Potential Delivery Platforms
Iron-folic acid supplements for pregnant women	• Iron -folic acid supplements	Pregnant women	• Health facilities • Community structures • Campaigns/Outreach
Vitamin A supplementation for lactating mothers	• Vitamin A supplementation	Lactating women	• Health facilities • Community structures • Campaigns/Outreach
Promote women's nutritional status	• Promote women's nutritional status • Dietary counselling during pregnancy and lactation	Entire population	• Health facilities • Community structures • Campaigns/Outreach

Infant and Young Child Feeding

Infant and young child feeding (IYCF) encompasses the set of feeding practices needed to prevent malnutrition. These practices are essential for the nutrition, growth, development, and survival of infants and young children. Breastfeeding should be initiated within 30 minutes of delivery, and infants should be exclusively breastfed for the first six months of life, and thereafter breastfeeding should continue up to two years and beyond while safe complementary foods are introduced at six months after delivery.

Inappropriate breastfeeding practices are a major factor contributing to infant and child mortality. Children from 0-6 months who are not breastfed have five and seven times higher risk of dying from pneumonia and diarrhoea, respectively.[28] In addition, these children are at a higher risk of developing noncommunicable diseases in adulthood. Promotion of EBF for six months and continued breastfeeding, with adequate complementary foods, until 24 months and beyond constitutes the most effective preventive interventions for

[28] Arifeen, S., Black, RE., Antelman, G., Baqui, A., Caulfield, L., & Becker, S. (2001). Exclusive breastfeeding reduces acute respiratory infection and diarrhea deaths among infants in Dhaka slums. Pediatrics, 108(4): E67.

reducing child morbidity and mortality.

Stunting (height-for-age z-score <-2 SD) probably begins during pregnancy and continues during the first six months of life, but the prevalence of stunting increases during the 6-24 month window when breast milk is no longer sufficient to provide a growing infant the entire need of micro- and macronutrients. While the addition of appropriate complementary foods to breast milk prevents stunting from occurring and can reverse the early effects of stunting, if not addressed by age two, the impact of this chronic undernutrition on brain function becomes irreversible. A window of opportunity exists for the 0-24 month period to prevent stunting or achieve a catch-up through EBF and appropriate and adequate complementary feeding.

Skilled behaviour change counselling and support for infant and young child nutrition should be integrated into all points of contact between mothers and health service providers during pregnancy and the first two years of life of a child. Additionally, the Baby Friendly Hospital Initiative (BFHI) must be revitalised into all health facilities that have maternity services to improve breastfeeding promotion and support. The Baby Friendly Community Initiative (BFCI) will also be scaled up to ensure communities are supporting optimal breastfeeding and are not engaging in discouraging practices. Every health facility that provides maternity services should successfully and sustainably practise all the requirements of the IYCF guidelines. Community-based support networks are also needed to help support appropriate IYCF at that level.

Since most rural families lack year-round access to sufficiently nutritious foods, behaviour change counselling can only go so far in reducing undernutrition. The burden is felt not only for the child, but also the mother during breastfeeding and pregnancy, who often shares food with the rest of the family. Foods currently on the market are too expensive for many of the poorest and most vulnerable, and do not reach rural areas where the majority of the population lives and the problem is most severe. There is a great need for nutritious products for infants and pregnant and lactating women (PLW) that is produced locally, based primarily on local agricultural products, and aligned with local consumption habits. Additionally, such products should be fortified with the micro- and macronutrients required for children under five and PLW, and made widely available through the health system, communities and private sector delivery channels.

Feeding of children in difficult circumstances, such as LBW infants, infants born to HIV positive mothers, orphans and those in emergency situations deserve special considerations. Other conditions worthy of attention include sick infants with persistent diarrhoea, infants living with HIV/AIDS, infants of adolescent mothers and those with cleft-palate. Given a national HIV sero-prevalence of 3.6% among pregnant women attending antenatal clinic, with an estimated 6,332,000 babies born annually in Nigeria, with a mother-to-child transmission rate of 30%, about 90,000 newborn babies are at risk of HIV infection annually.[29]

The legislation needed to protect appropriate IYCF practices should be reviewed, implemented, monitored, and enforced. This includes the National Regulation for Marketing of Breast Milk Substitutes and Designated Products (1994), relevant Codex Alimentarius and national standards, and the Code of Hygienic Practice for Foods for Infants and Children to ensure that processed infant and complementary foods are safe and nutritionally adequate; and maternity leave legislation protects the breastfeeding rights of working women.

[29]UNICEF. (2012). Countdown to Zero: Nigeria. Retrieved from: http://www.unicef.org/aids/files/hiv_pmtctfactsheetNigeria.pdf

Table 2: Interventions focusing on Infant and Young Child Feeding

Intervention	Description	Target Population	Potential Delivery Platforms
Breastfeeding promotion and support, taking into account policies and recommendations of HIV and infant feeding	• Early initiation of breastfeeding within 30 minutes of delivery • EBF for six months and continued breastfeeding until two years of age and 12 months for HIV-exposed infants	Pregnant mothers and parents of infants under six months of age	• Health facilities • Community structures • Campaigns/Outreach
Complementary feeding promotion	• Behaviour change promotion to follow international best practices • Provision of CIYCF counselling • Provision of nutrient-dense complementary foods for children under two	Pregnant mothers and parents of infants and young children under two	• Health facilities • Community structures • Campaigns/Outreach
Strengthening of optimal feeding of a sick child during and after illness and exceptional circumstances	• Encouragement of breastfeeding • Increased frequency of eating during and after illness	Pregnant mothers and parents of infants and young children under five years of age	• Health facilities • Community structures • Campaigns/Outreach
Advocacy for monitoring and strengthening enforcement of the International Code of Marketing of Breast Milk Substitutes	• Advocate for increased monitoring and enforcement that supports breastfeeding promotion	Legislators	• Health facilities • Community structures • Campaigns/Outreach

Management of Severe Acute Malnutrition in Children Under Five

The capacity of the family, community, and health system to manage child undernutrition needs to be further developed. Caregivers, community health workers (CHWs), and health service providers who have contact with infants and young children should be oriented on the early signs and dangers of undernutrition. Community health workers and health service providers should also know how to identify the underlying causes of undernutrition; be able to recognise poor child caring practices and advise caregivers on corrective action; and be equipped with screening tools for acute undernutrition and appropriate information for referral and follow-up.

A system for active screening of acute undernutrition in children needs to be established both at the community and facility level, with referral for appropriate treatment. Mid-upper arm circumference (MUAC) measuring tape is ideal as an initial screening tool. It is simple to perform, rapid, and can be integrated into all contacts between children and health services (for example, immunisation, integrated management of childhood illnesses (IMCI), vitamin A supplementation and de-worming, preventing mother-to-child transmission of HIV (PMTCT), and paediatric care for HIV/AIDS), as well as other child survival outreach programmes such as MNCH weeks.

Children with acute malnutrition are at a higher risk of dying, particularly those with SAM, and require therapeutic feeding with appropriate treatment. Severely acute malnourished children with complications should be referred to an inpatient facility with trained staff for nutritional rehabilitation and treatment according to the National Guidelines. Those without complications, who are alert, have good appetite, and

are clinically well can be managed at home through CMAM. Health service providers will require guidelines and training in order to carry out their responsibilities as well as an uninterrupted supply of therapeutic feeds, supplements, and pharmaceuticals.

Table 3: Interventions focusing on Management of SAM

Intervention	Description	Target Population	Potential Delivery Platforms
Prevention and management of moderate undernutrition in children 0-23 months of age	• Identification of circumstances in which food supplementation is needed • Provision of adequate complementary food in these circumstances	Populations with high prevalence of children 0-23 months of age with weight-for-age z scores <-2	• Health facilities • Community structures • Campaigns/Outreach
Treatment of severe acute malnutrition	• Identification of SAM and subsequent treatment	Children 6-59 months of age with weight-to-height z scores <-3 (with or without oedema) or with MUAC <110mm	• Health facilities • Community structures • Campaigns/Outreach

Micronutrient Deficiency Control

Vitamin and mineral deficiencies contribute to morbidity and mortality among children by impairing immunity, impeding cognitive development and growth, and reducing physical capacity and work performance in adulthood. Micronutrient deficiencies of public health importance in Nigeria include vitamin A, zinc, iron, folic acid, and iodine. Multiple strategies are needed to prevent and control these deficiencies. They are all designed to increase the dietary intake of vitamins and minerals, and include supplementation, fortification, and dietary improvement. Groups at high risk of vitamin and mineral deficiencies need supplements to produce rapid improvements in their vitamin and mineral status. This is likely to remain the case until significant improvements are made in the diets of the entire population.

The strategy aims to ensure that the fortification agenda in Nigeria is advanced by ensuring that legislation, regulations, standards and guidelines are set for fortification of appropriate food vehicles with vitamins and minerals; establishing a quality assurance system at critical control points; and socially marketing fortified foods among consumers.

Table 4: Interventions focusing on Micronutrient Deficiency Control

Intervention	Description	Target Population	Potential Delivery Platforms
Vitamin A supplementation	• Bi-annual doses for children Used in the management of measles	Children 6-59 months of age	• Health facilities • Community structures • Campaigns/Outreach
Zinc supplementation	• As part of diarrhoea management	Children 6-59 months of age	• Health facilities • Community structures • Campaigns/Outreach
Multiple micronutrient powders	• Micronutrient powders for in-home fortification of complementary foods	Children 6-23 mon of age ths	• Health facilities • Community structures • Campaigns/Outreach
De-worming	• Two rounds of treatment per year	Children 12-59 months of age	• Health facilities • Community structures • Campaigns/Outreach
Nutrition education on bio-fortified foods	• Promote consumption of fortified foods	Parents, caregivers	• Health facilities • Community structures • Campaigns/Outreach

Diet Related Noncommunicable Diseases

Diet related noncommunicable diseases (DRNCD) such as obesity, diabetes mellitus, and cardiovascular diseases are increasing in public health importance in Nigeria. About 5 million Nigerians may die of noncommunicable diseases by the year 2015, and diabetes alone is projected to cause about 52% of the mortality by 2015.[30] At present, about 8 million Nigerians suffer from hypertension and 4 million have diabetes. Researchers have empirically identified the link between noncommunicable diseases and globalisation, urbanisation, demographics, lifestyle transition, socio-cultural factors, poverty, poor maternal, foetal and infant nutrition.

Table 5: Interventions focusing on DRNCD

Intervention	Description	Target Population	Potential Delivery Platforms
Awareness of DRNCD	• Identifying risk factors, providing education, and increasing services for DRNCD	General population	• Health facilities • Community structures • Campaigns/Outreach

Nutrition Information System

In order to better understand the scope of the problem of malnutrition throughout the country and to measure progress in addressing it, the nutritional status of the population must be monitored on a regular basis. This requires the routine collection of nutritional data, its analysis, and management.

A nutrition information system (NIS) comprises assessment, surveillance, surveys, and information management, and is often part of an early warning system. The aim of such a system is to monitor trends rather than absolute levels of malnutrition. This allows for the interpretation of prevalence rates in comparison to what is "normal" for the time of year. A comprehensive nutrition surveillance system (NSS) can also help assess whether the actions taken under the strategy are effective and whether modifications to the strategy are needed as nutritional challenges change through time. The strategy aims to develop a national food and nutrition information system in Nigeria so that timely and reliable nutrition information is generated. This surveillance system will be integrated with other information systems such as the Health Management Information System (HMIS) to be sustainable.

Nigeria has employed the use of Standardized Monitoring and Assessment of Relief and Transitions (SMART) surveys to assess the nutritional status of children under five in select states in the country. SMART is a useful surveillance tool to determine the needs of the population when it is used at equal time intervals. In order to have a more uniform and regular collection of nutrition data in Nigeria, SMART surveys should be expanded to cover all 36 States plus FCT and done on regular, frequent (every six months) intervals to get a clear picture of where resources and programming are most needed.

Nigeria should also look to expand the rapid SMS system to improve quality and support real time monitoring of key nutrition indicators, including stocks of essential medicines. Nutrition indicators should also be incorporated into national surveys such as the NDHS to monitor progress towards nutrition targets in national plans, such as the NSHDP.

[30]Ekpenyong, CE., Udokang, NE., Akpan, EE., Samson, TK. (2012). Double burden, non-communicable diseases and risk factors evaluation in sub-Saharan Africa: The Nigerian experience. European Journal of Sustainable Development, 1(2), 249-70.

3.5 Strategic Areas

Six cross-cutting strategic areas have been identified to achieve high coverage and quality delivery of the priority areas of focus in nutrition, and thus achieve the objectives of the plan. These strategic thrusts include the following:

1. Behaviour Change Communication
2. Service Delivery
3. Capacity Building
4. Advocacy and Resource Mobilisation
5. Research, Monitoring and Evaluation
6. Coordination and Multi-Sectoral Partnerships

These strategic areas are intended to form the basis of the detailed 5-year costed Plan of Action, which will stipulate the activities, a timeline for achievement, allocation of responsibilities for implementation, and measurable indicators for monitoring and evaluation.

Strategy 3.5.1: Behaviour Change Communication

Behaviour change communication (BCC) is an effective way of improving the nutritional status of a population by providing them with appropriate information about food and feeding practices that enhance positive outcomes. At the facility, household, and community level, improved knowledge on caring practices and health seeking behaviour for infants, young children, pregnant women, mothers and women of reproductive age is a necessary component of sustainable efforts to reduce malnutrition.

Strategy 3.5.2: Service Delivery

Nutrition interventions must be delivered at scale and with high coverage if they are to have an impact on the prevalence of undernutrition at the population level. A focus of this plan will be on delivering a package of high-impact nutrition interventions extending the reach of services so that vulnerable populations are not missed. Additionally, support and collaboration between the FMOH and State Ministries of Health (SMOH) will be enhanced in order for States to be able to address the unique nutritional issues they face and ensure all the required components for service delivery are put in place at the facility and community levels.

Strategy 3.5.3: Capacity Building

Evidence from the WHO-led Landscape Analysis Country Assessments carried out in many low- and middle-income countries over the last five years, indicates that the capacity to act in nutrition is very often quite limited, both at national and state levels. Before trying to strengthen nutrition capacity in Nigeria, there is a need to have an understanding of the sort of capacities needed, what already exists, what must be developed, as well as what are the challenges, the limitations, and the opportunities for doing this.

With support from partners, capacity building will be undertaken to increase the ability of service providers - at all levels - to provide core nutrition services and counselling. Additionally, efforts will focus on improving the ability of State and LGA nutrition officers to coordinate and budget for nutrition activities.

Strategy 3.5.4: Advocacy and Resource Mobilisation

Advocacy will be intensified to raise the visibility and profile of nutrition at all levels, and increase the commitment and resources for nutrition programming. The budget gap in nutrition needs to be reduced by mobilising adequate and sustainable financial resources and improving the efficiency in the use of these resources for nutrition. Until now, although a budget line has been created for nutrition in the FMOH and SMOH, these funds remain to be released. It is hoped that the situation will change in order to complement

the efforts of donor agencies.

Strategy 3.5.5: Research, Monitoring and Evaluation

Research, monitoring and evaluation (M&E) are essential for evidence-based decision making and enhancing public accountability. Monitoring is continuous and aims to provide the management and other stakeholders with early indications of progress in the achievement of goals, objectives, and results. Evaluation is a periodic exercise that attempts to systematically and objectively assess progress towards and the achievement of a programme's objectives or goals. Research tests specific interventions and approaches for the betterment of nutritional status, and provides further evidence for policy and programming.

Strategy 3.5.6: Coordination and Multi-Sectoral Partnerships

Due to the existence of multiple causes of malnutrition, action is needed across a range of sectors including health, food and agriculture, water supply and sanitation, education and others. A coordinated response maximises the use of available technical and financial resources and can create greater synergy of efforts. Public-private partnerships (PPP) and collaboration with NGOs can increase the opportunities for delivering and scaling up nutrition services. The FMOH will collaborate with the private sector to scale up the availability and increase the affordability of pre-packaged complementary foods which will reach the most vulnerable groups where the burden of malnutrition is highest. This will ensure that children six months and above access highly nutritious foods to prevent and reverse the effect of stunting.

Delivery Platforms

It is vital that these interventions and strategies are delivered in an effective and efficient manner to achieve maximum impact. Three delivery platforms will be the primary means of delivering the strategies to the population:

1. Through the health system;
2. Through community structures; and
3. Through national campaigns and outreach activities.

In choosing these platforms, it is necessary that they have maximum reach, are able to target and provide services to the most vulnerable groups in the population, and are cost-effective in delivering these strategies and interventions. A huge focus will be placed on strengthening the primary healthcare service delivery points to provide the basic prevention and curative nutrition interventions as they are closest to the people. Communities will be empowered to proactively work towards reducing malnutrition and its effects in order to improve the health outcomes, while highly successful campaigns and outreach programmes such as the MNCH weeks will be leveraged further to increase reach, especially in the areas of micronutrient deficiency control, as they provide a huge opportunity to cover indigent groups who can ordinarily not afford healthcare services through the facilities.

Activities will be grouped to ensure that a comprehensive suite of interventions, which cover all of the priority areas, are provided through each of these platforms and targeted at the right groups.

Nutrition Commodities Logistics Management System

In order to scale up interventions effectively, there must be many elements in place - updated protocols and guidelines, trained staff, campaigns to generate demand for services, and nutrition commodities to be distributed. It is well understood that the success of the NSPAN is reliant on having a system that ensures reliable and timely delivery of nutrition commodities throughout the country, especially reaching vulnerable populations. As part of this plan, a Nutrition Commodities Logistics Management System (NCLMS) will be

developed and implemented, identifying routine schedules for key nutritional commodities and efficient delivery mechanisms that limit stockouts at all health facilities and community distribution points. The process of developing NCLMS must first understand the barriers that exist, the risks inherent in delivering commodities efficiently, and the opportunities for leveraging existing structures and systems. The main objective of such an exercise will be to develop a system that is able to forecast, finance, procure, and deliver quality commodities throughout the country.

The NSPAN relies on various points at the facility and community level to deliver interventions and services and will need to develop operating procedures that work in these different contexts. The community level delivery of services is one area in particular where many potential challenges exist due to resource constraints and varied levels of engagement and organisation. The NCLMS will need to take these into consideration in the development of tools and processes in order for the system to achieve desired outcomes. The following are important considerations in the design of the NCLMS:

- Transportation efficiency - what is the ideal size and frequency dictated by the transportation system.
- Safety stocks - what balance must be achieved to ensure there are no stockouts.
- Storage location and capacity - where are the strategic locations in the country and what are their storage capacities.
- Information flow - how can information flow be built into the system to be responsive and provide timely feedback on performance and other process indicators.
- Private sector involvement - how can the private sector be involved to streamline operations.

3.6 Monitoring and Evaluation

To better understand the scope of the problem of malnutrition throughout the country and to measure progress in addressing it, the nutritional status of the population must be monitored on a regular basis. This requires the collection and collation of nutritional data, its analysis, and management. A robust results framework and M&E system will be put in place for implementation and results to be reported in a timely and efficient manner. In addition, transparent feedback loops will be established with implementing agencies, stakeholders, and the public.

Monitoring and evaluation will help extract relevant information from past and ongoing activities that can be used as the basis for programmatic fine-tuning, reorientation, and future planning. Without effective planning for M&E, it would be impossible to evaluate if activities are going as planned, whether progress and success can be claimed, and how future efforts might be improved. Programmes and projects with strong M&E components tend to stay on track. Additionally, problems are often detected earlier, which reduces the likelihood of having major cost overruns or time delays later.

The role of M&E will be to provide a strategic link with the NFNP, and ensure that strategies are dynamic and more effective in responding to the nutrition challenges in the country. The following will be generated:

- Overall performance of the NSPAN;
- Coverage of nutrition interventions and services to groups that are at risk such as women and children;
- Maternal and child epidemiology related to nutrition; and
- Effects of nutrition policies, strategies, and inputs on nutrition outcomes, which will inform the process of redesigning health sector policies and strategies as they relate to nutrition.

3.6.1 Overview

Monitoring is a continuous function that uses systematic collection of data on specified indicators to provide

management and stakeholders of an ongoing intervention with indications of the extent of progress, achievement of objectives, and use of allocated funds. Monitoring of the activities in the action plan will be done through routine collection, collation, analyzing, interpretation and dissemination of data using standardised tools. The frequency of monitoring will be as applicable.

Evaluation is a selective exercise that attempts to systematically and objectively assess progress towards the achievement of an outcome. Evaluation will be done at formative stage, mid-term and end of project, and will include assessments and surveys.

Inputs are those resources that go into the programme at the start-up phase or during the implementation to help the programme achieve its objectives. The inputs (i.e. the number and qualifications of personnel, the financial resources, the institutional set-up, timing, etc.) must be such that they meet the requirements to achieve the objective. The inputs should be distributed to meet all targeted groups and be accessible financially, socially, and technically. If this does not happen, the outputs may not be met.

Outputs are all the goods and services delivered to the target population by the programme. Programme inputs have to be transformed into outputs. The quantity and quality of the outputs is very important. For instance, if one programme input were the training of nutrition service providers, an output would be the number of trained nutrition service providers. The quality of the training should also be "adequate," otherwise just training them would not help in effectively meeting the needs of the community. It should also be understood that having very well-trained staff or people does not necessarily generate programme delivery nor impact. Success and impact are created by making sure that the trained personnel are enabled to do the work that they were trained for.

Outcomes are changes in behaviours/practices as a result of programme activities. The outputs, if of the right quantity and quality, should produce an outcome. The skills of the nutrition service providers should change, and if they do their tasks well, the detrimental behaviour/practices of the mothers should change in order to improve their children's health. The change in skills of the nutrition service providers and/or the change in behaviour/practices of the mothers is the outcome of the programme. The outcome is expected to influence the problem, as defined initially.

Impacts are the effect of the programme on the beneficiaries. The change in the problem is the impact of the programme on the beneficiaries.

Assumptions are the external factors, influences, situations or conditions which are necessary for project success. They are important for the success of the programme but are largely or completely beyond the control of programme management. For example, in nutrition education, we may assume that community workers who are trained will understand the training and be motivated to do what they have been trained to do. However, we cannot be sure that this actually will happen. Accordingly, it is necessary to make assumptions explicit and list them in the framework as elements to be monitored or evaluated.

3.6.2 Information Requirements

Among the key outcomes to be monitored will include malnutrition among children under-five years and women of reproductive age, as well as effectiveness of nutrition programmes such as service delivery, nutrition education campaigns, and extent of the use of fortified foods by households.

A set of key performance indicators has been identified, and will form the basis of the information

management system for the NSPAN. Indicators will comprise a mix of outcome and output indicators. The programme will minimise the use of inputs indicators to monitor progress. The selection of indicators to be tracked will be based on what is practical, what is results-oriented, and what helps to build programmes stronger.

Monitoring and evaluation will be done at three levels:

1. Community-level monitoring (routine) to improve service delivery;
2. Facility-based monitoring coverage to strengthen health systems; and
3. Real time M&E of impact.

3.6.3 Mid-Term Review / Impact Assessment

An efficient and constant feedback loop is critical to ensuring that the strategic plan of action is being followed. In order to make timely decisions on what is working, what is not, and what needs to change, a mid-term review of the Strategic Plan of Action will be undertaken in 2016 to monitor and track progress towards meeting targets.

A report will be produced which will provide an update to all stakeholders as to the progress of the plan, disseminating lessons learned, and opportunities for moving forward.

3.6.4 Monitoring and Evaluation Framework

NSPAN Targets	Expected Outcomes	Indicators	Timeframe					Source of Data
			Y1	Y2	Y3	Y4	Y5	
1	Prevalence of stunting in children under five decreases	% of children under five who are stunted (<-2 SD)	36	34.5	32.7	30.9	28	NIS, HMIS, NDHS, MICS
2	Prevalence of infants born low birthweight decreases	% of infants born low birthweight (<2500 g)						NIS, HMIS
3	Prevalence of overweight in children under five decreases	% of children under five who are overweight						NIS, HMIS, NDHS, MICS
4	Prevalence of wasting in children under five decreases	% of children under five who are wasted (<-2 SD)	10	9	8	7	5	NIS, HMIS, NDHS, MICS
5	Prevalence of anaemia among women of reproductive age decreases	% of women of reproductive age with anaemia						NIS, HMIS, NDHS
6	Women and caregivers practising EBF for first six months of child's life	% of children exclusively breastfed for first six months	15	20	30	40	50	NIS, HMIS, NDHS, MICS

Priority Areas	Expected Outcomes	Indicators	Timeframe					Source of Data
			Y1	Y2	Y3	Y4	Y5	
Maternal Nutrition	Pregnant women will receive iron and folic acid supplementation	% of pregnant women receiving iron and folic acid supplementation	*					NIS, HMIS
	Lactating women will receive vitamin A supplementation after delivery	% of post-natal women that receive vitamin A supplementation within 8 weeks after delivery	*					NIS, HMIS
Infant & Young Child Feeding	Infants are initiated on breastfeeding within first half hour	% of infants initiated on breastfeeding within half hour of birth	*					NIS, HMIS, NDHS, MICS
	Women and caregivers practising appropriate complementary feeding of infants and toddlers	% of children aged 6-59 months who received 5 or more feeds in the last 24 hours	24	27	32	34	35	NIS, HMIS, NDHS, MICS
	All health facilities are certified as BFHI	% of health facilities that are certified BFHI	*					NIS, HMIS, Special Surveys
	Frontline health workers including CHWs are trained on optimal IYCF	% of trained facility and community-based health workers sensitising women on optimal IYCF	*					NIS, HMIS, Special Surveys
Management of SAM	Children under five are screened for malnutrition at the community level	% of children under five that are screened at the community level and referred for nutrition management	*					NIS, HMIS
	Children discharged from stabilization centres fully recover from SAM	% of discharges of stabilization centres that recover from SAM	*				90	NIS, HMIS
	CMAM sites have regular inventory of key nutrition commodities	% of CMAM sites that experience stockouts of key nutrition commodities	*					NIS, HMIS
Micronutrient Deficiency Control	Vitamin A supplementation made available to all children aged 6-59 months	% of children aged 6-59 months who received vitamin A supplement within the last 6 months	65	70	75	80	95	NIS, HMIS, NDHS, MICS
	De-worming medication made available to all children aged 12-59 months	% of children aged 12-59 months who received de-worming in the last six months	25	40	70	80	95	NIS, HMIS, NDHS, MICS
	Availability of essential equipment and supplies for nutrition is guaranteed at all health facilities	Availability of essential equipment and supplies for nutrition	*					HMIS Annual Report
Diet Related Noncommunicable Diseases	Population has increased awareness of DRNCD	% of health facilities that have screening and referral services related to DRNCD	*					NIS, HMIS
Nutrition Information System	Functional NIS data portal is created	NIS data portal exists						FMOH special report
	M&E framework and research plan developed Increased resources are mobilised for nutrition at the Federal, State, and LGA levels	Availability of M&E framework and research plan Available Government budget for nutrition						Monitoring and evaluation Framework; Research plan FMOH budget

*Baseline needs to be conducted

3.7 Costing and Financing

The main objective of this section is to provide cost estimates for the five-year period of the NSPAN so that stakeholders know the cost required to operationalise the policy and plan. Appendix 9 elaborates in greater detail the assumptions driving the costs and the breakdowns by year. A more detailed costing of scaling up Nutrition is available in a World Bank Report 2014.

The "program experience" methodology employed in World Bank (2010a is used for calculating the cost of scaling up in Nigeria. The "program experience" approach generates unit cost data that capture all aspects of service delivery (e.g. costs of commodities, transportation and storage, personnel, training, supervision, monitoring and evaluation, relevant overhead, wastage etc.) for each intervention from actual programs that are in operation in Nigeria and considers the context in which they are delivered.

The total cost required to operationalise the Strategic Plan of Action for the five year period is estimated at NGN 144.1 billion (912 million USD) . A fiscal space analysis estimates a potential increase in funding of approximately $126 million between 2014 and 2017. Considering the estimated total costs of three scenarios over five years, of between $476 and $912 million, the estimated financing gap ranges between $352 and $786 million over this time period, even after accounting for the planned $126 million in increased investments and the $49 million in sustaining costs for maintaining current coverage.

Table 6: Cost breakdown by scenario and year (in millions)

Scenario	Year 1	Year 2	Year 3	Year 4	Year 5	Total Financing required
a	$38.64	$113.88	$185.78	$251	$322.9	**$912.2**
b	$20.02	$59.26	$96.84	$131.1	$168.68	**$475.89**
c	$35.61	$105.82	$173.21	$234.94	$302.32	**$851.9**

Unit Costs

The unit costs below were used to determine the costs involved in delivering the activities outlined in the NSPAN.

Table 7: Unit Costs and Delivery Platforms Used in the Calculations for Nutrition-specific Interventions

Intervention	Unit Cost (US$ per beneficiary per year)	Costed Delivery Platform
1. Community nutrition programs for behavior change communication and growth promotion**	$5.00	Community nutrition programs
2. Vitamin A supplementation*	$0.44	MNCH weeks
3. Therapeutic zinc supplements with ORS*	$0.86	MNCH weeks
4. Multiple micronutrient powders**	$3.60	Community nutrition programs
5. Deworming*	$0.44	MNCH weeks
6. Iron-folic acid supplementation of pregnant women*	$1.70 (MNCH weeks) $2.00 (CNPs)	40% via MNCH weeks 60% via Community nutrition programs
7. Iron fortification of staple foods**	$0.20	Market-based delivery system
8. Salt iodization**	$0.05	Market-based delivery system
9. Complementary food for prevention or treatment of moderate malnutrition**	$51.10	Community nutrition programs
10. Treatment of severe acute malnutrition (SAM) using a Community-based Management of Acute Malnutrition (CMAM) approach*	$80	Primary health care and Community Nutrition programs

Overview of Assumptions

The costed scale up plan presents estimated costs and benefits for the set of 10 nutrition-specific interventions that were included in World Bank 2010 and are primarily delivered through the health sector. These interventions and the associated target population and current coverage for each intervention are specified in Table 1. The nutrition-specific interventions considered are a modified package of the interventions included in the 2008 and 2013 Lancet series on Maternal and Child Undernutrition. These ten interventions are based on current scientific evidence and there is general consensus from the global community around the impact of these interventions. Some interventions, such as deworming and iron-fortification of staple foods that were included in the 2008 Lancet series but no longer listed in the 2013 Lancet series are included here as they remain relevant. Others, such as calcium supplements for women, or prophylactic zinc supplements are excluded because delivery mechanisms are not available in client countries and/or there are no clear WHO protocols or guidelines for large scale programming. In other cases, there are limited capacities for scaling up the interventions. Only those nutrition-specific interventions that have strong evidence of effectiveness, have a WHO protocol, and a feasible delivery mechanism for scale-up are included in the proposed scale-up package below.

Table 8. Nutrition-Specific Interventions Delivered Primarily Through Health Sector

Intervention	Description	Target Population	Current coverage
1. Community nutrition programs for behavior change communication and growth promotion	Behavior change communication focusing on optimal breastfeeding and complementary feeding practices, proper hand-washing, sanitation and good nutrition practices	Children 0-24 months of age	Negligible
2. Vitamin A supplementation	Semi-annual doses	Children 6-59 months of age	67.2% (MICS 2011)
3. Therapeutic zinc supplements with ORS	As part of diarrhea management with ORS	Children 6-59 months of age	Negligible
4. Multiple micronutrient powders	For in-home fortification of complementary food (60 sachets between 6-11 months of age, 60 sachets between 12-17 months of age, and 60 sachets between 18-23 months of age).	Children 6-23 months of age not receiving fortified complementary food*	Negligible
5. Deworming	Two rounds of treatment per year	Children 12-59 months of age	28.4% (FMOH)
6. Iron-folic acid supplementation	Iron-folic acid supplements during pregnancy	Pregnant women	28.5% (MICS 2011)
7. Iron fortification of staple foods	Fortification of wheat flour with iron	General population	Negligible
8. Salt iodization	Iodization of centrally-processed salt	General population	77.5% (MICS 2011)
9. Complementary food for prevention or treatment of moderate malnutrition	Provision of a small amount (~250 kcals per day) of nutrient-dense complementary food for the prevention of moderate malnutrition (moderate acute malnutrition and/or moderate stunting)	Twice the prevalence of underweight (WAZ < -2) among children 6-23 months of age*	Negligible
10. Treatment of severe acute malnutrition (SAM) using a Community-based Management of Acute Malnutrition (CMAM) approach	Includes the identification of severe acute malnutrition, community or clinic-based treatment (depending on the presence of complications), and therapeutic feeding using ready-to-use therapeutic food	Incidence (estimated as twice the prevalence) of severe wasting (WHZ <-3) among children 6-59 months of age	34.5% (data from 11 states provided by UNICEF)

Target population estimates are based primarily on demographic data obtained from the Federal Ministry of Health and UNICEF Nigeria and are provided in Appendix 5. UNICEF Nigeria projected the sizes of the various subgroups at the state level in 2013 using data from Nigeria's National Population Commission. The prevalence of child stunting (height-for-age Z-score <-2), underweight (weight-for-age Z-score <-2), and severe wasting (weight-for-height Z-score <-3) among children under 5 years of age in each state were obtained from the 2013 Nigeria MICS survey data.

Data on current coverage levels for interventions was obtained from various sources. Current coverage levels

for community nutrition programs for behavior change communication, zinc supplementation, multiple micronutrient powders for home fortification, iron fortification of staple foods, and provision of complementary food for the prevention of moderate malnutrition were set to 0% either because the intervention was not being implemented and coverage was very minimal or because current reliable data were not available. Coverage data for vitamin A supplementation were obtained from the 2011 Nigeria MICS report. Data on deworming coverage were from programmatic data from the first round of MNCH weeks in 2012 as reported by the Federal Ministry of Health (FMOH). For coverage of iron folic acid supplements for pregnant women, MNCH programmatic data from the FMOH were used for all states. The 2011 Nigeria MICS survey data were used to estimate the proportion of households consuming adequately iodized salt in each state. Finally, UNICEF provided data on the number of children treated for severe acute malnutrition in the 11 states where programs for Community Management of Acute Malnutrition (CMAM) supported by the Children Investment Fund Foundation (CIFF) are in operation. Data from the more recent semi-annual SMART surveys were explored, but were considered unsuitable for these purposes because of concerns about validity.[31] Preliminary results from the Nigeria DHS 2013 provided estimates of the current incidence of severe acute malnutrition and moderately acute malnutrition. We also used the DHS 2013 to classify the states according to levels of stunting.

Whenever possible, the unit costs of the nutrition-specific interventions were estimated using programmatic data that were provided by local implementing partners, the Federal Ministry of Health, and state governments based on program experience. The estimated unit costs and the delivery platforms are listed in Table 1. In cases where the intervention was not yet being implemented or local data were not available, the global unit cost estimate from the World Bank (2010a) was used.

The "program experience" methodology employed in World Bank (2010a is used for calculating the cost of scaling up in Nigeria. The "program experience" approach generates unit cost data that capture all aspects of service delivery (e.g. costs of commodities, transportation and storage, personnel, training, supervision, monitoring and evaluation, relevant overhead, wastage etc.) for each intervention from actual programs that are in operation in Nigeria and considers the context in which they are delivered. Another commonly used method is the "ingredients approach" in which selected activities are bundled into appropriate delivery packages (for example, number of visits to a health center) (e.g. in Bhutta et al. 2013). Although the "program experience" approach tends to yield cost estimates that are higher than the "ingredients approach," the estimates more accurately reflect real programmatic experience, including inefficiencies in service delivery. It should, however, be noted that the calculated costs are reported in financial or budgetary terms. They do not capture the full social resource requirements, which account for the opportunity costs of the time committed by beneficiaries accessing the services.

Results - Total Cost, Expected Benefits and Cost Effectiveness

The NSPAN is a 5-year strategic plan and takes a realistic approach to scale up. While a full coverage scenario is preferred, it is clearly understood, that given the huge amount of work and investments required, full coverage may not be feasible in the timeline. Therefore, based on the National Food and Nutrition policy, specific targets were set for the various interventions, and assume a linear scale up in coverage over the years. These partial program coverage targets were agreed upon at a meeting between donors and the FMOH in

[31]For example, the state-levels estimates of stunting (a long-term measure of malnutrition) varied tremendously from one semi-annual survey to the next. Even with changes to the growth reference used, erratic patterns remained and could not be reconciled.

February, 2014.[32]

Table 9. Full and Partial Program Coverage Targets

Intervention	Percent of target population covered by Year 5	
	Full Coverage	Partial Coverage
Community programs for growth promotion	100	50
Vitamin A Supplementation	100	90
Therapeutic zinc Supplements with ORS	100	80
Micronutrient powders	100	90
Deworming	100	90
IFA Supplementation for Pregnant women	100	90
Iron Fortification of Staples	100	100
Salt Iodization	100	100
Complementary Food for Prevention of MAM	80	35
CMAM for Severe Malnutrition	80	35

Table 10. Scale up Scenarios

Scenario	Annual Public Investment (US$ million)	Annual Benefits		
		DALYs Saved*	Lives Saved*	Cases of Stunting Averted*
a. All interventions in all states at "partial" coverage rates	$371.3	7,892,586	123,379	889,657
b. Micronutrients and deworming interventions at "partial" coverage rates in all states and CMAM and CNP at "partial" coverage rates in Step 1 states[33]	$183.7	4,598,018	61,080	405,926
c. Micronutrients and deworming interventions at "partial" coverage rates in all states and CMAM and CNP at "full" coverage rates in Step 1 states	$327.8	7,705,748	109,867	712,736

[32]The interventions are expected to reach the following share of targeted coverage: 10% in year 1, 32.5% in year 2, 55% in year 3, 77.5% in year 4 and 100% by year 5. Capacity building is assumed to be 9% of total costs, and within that, 79% is for capacity building and training 13% is for resource mobilization and advocacy and 8% is for coordination. Capacity building will be distributed across the five years as follows: 20% in year 1, 30% in years 3 and 4, 10% in year 4 and the final 10% in year 5. Finally, monitoring and evaluation is estimated to be 2% of intervention costs.

[33]Step 1 states are 13 states with a stunting prevalence above 35%. Eleven of the 13 states are in North-Western and North-Eastern regions, and one (Plateau) is in the North-Central region. Nasarawa is included as the thirteenth state because of the presence of the WB RBF program in the state.

The first scenario (Scenario a) would scale up all 10 interventions to the partial coverage levels and would require total annual public investment of US$353.0 million. This includes the total cost of scaling up the 10 interventions of US$371.3 plus $US33.5 for capacity development and $7.5 for monitoring and evaluation, operations support and technical support. We also assume households above the poverty line can contribute $59.3 million towards the costs of some interventions, yielding the net total of US$353.0.

This scenario would save 7.9 million DALYs, 123,379 lives and avert 889,657 cases of stunting among children under 5 years of age. Cost per DALY saved is $44.7, cost per life saved is $2,860.9 and cost per case of stunting averted is $417.4 (Appendix 8 provides the estimates of cost and benefits by state). Additionally, this scenario would provide the following program benefits:

- 7.4 million additional children 6-59 months receive twice-yearly doses of life-saving vitamin A supplements;
- 7.0 million families with children 0-23 months reached by community programs for behavior change;
- 25.1 million children 6-59 months receive zinc supplements as part of diarrhea management;
- 4.9 million children 6-23 months receive vitamins and minerals through multiple micronutrient powders;
- 34.3 million children 12-59 months receive deworming medication;
- 5.4 million additional pregnant women receive iron-folic acid tablets as part of their antenatal care;
- 174.4 million more people able to consume staple foods fortified with iron;
- 38.8 million more people gain access to iodized salt;
- 1.4 million more children 6-59 months treated for severe acute malnutrition using community-based management practices;
- 2.4 million children aged 6-23 months receive a small amount of nutrient-dense complementary food (~250 kcals/day) for the prevention or treatment of moderate malnutrition.

Another scenario (Scenario b) would scale up interventions that require less capacity and lower dependence on strong health systems and are relatively low-cost (such as micronutrient and deworming interventions[34]) in all 36 states. It would also provide CNP and CMAM at "partial" coverage in the 13 states with the highest prevalence of stunting (Step 1 states). Scenario 5b would require an annual public investment of $183.7 million, and would save 4.6 million DALYs, 61,080 lives and avert 405,926 cases of stunting among children under 5 years of age. This option would provide the following program benefits:

- 7.4 million additional children 6-59 months receive twice-yearly doses of life-saving vitamin A supplements;
- 2.6 million families with children 0-23 months reached by community programs for behavior change;
- 25.1 million children 6-59 months receive zinc supplements as part of diarrhea management;
- 4.9 million children 6-23 months receive vitamins and minerals through multiple micronutrient powders;
- 34.3 million children 12-59 months receive deworming medication;
- 5.4 million additional pregnant women receive iron-folic acid tablets as part of their antenatal care;
- 174.4 million more people able to consume staple foods fortified with iron;
- 38.8 million more people gain access to iodized salt;
- 0.9 million more children 6-59 months treated for severe acute malnutrition using community-based

[34]This include deworming, vitamin A supplementation, zinc supplementation, multi micronutrient powders, iron fortification of staple foods and salt iodization

management practices;

The last scenario, Scenario c is similar to Scenario b, except that it would scale up CNP and CMAM in the 13 states with the highest prevalence of stunting (Step 1 states) to "full coverage" (100% and 80% for CNP and CMAM, respectively). Scenario 5c would require an annual public investment of $327.8 million, and would save 7.8 million DALYs, 109,867 lives and avert 712,736 cases of stunting among children under 5 years of age. Additionally, this option would provide the following program benefits:

- 7.4 million additional children 6-59 months receive twice-yearly doses of life-saving vitamin A supplements;
- 5.2 million families with children 0-23 months reached by community programs for behavior change;
- 25.1 million children 6-59 months receive zinc supplements as part of diarrhea management;
- 4.9 million children 6-23 months receive vitamins and minerals through multiple micronutrient powders;
- 34.3 million children 12-59 months receive deworming medication;
- 5.4 million additional pregnant women receive iron-folic acid tablets as part of their antenatal care;
- 174.4 million more people able to consume staple foods fortified with iron;
- 38.8 million more people gain access to iodized salt;
- 2.3 million more children 6-59 months treated for severe acute malnutrition using community-based management practices;

Cost Effectiveness of NSPAN

When considered in terms of resource requirements and cost-effectiveness (cost per DALY/life saved), table 5 below shows the results, with senarios b and c being more cost-effective than scenario a.

Table 10. Costs and Cost-Effectiveness ratios of the different Scenarios

Recommended Scenarios	Annual Public Investment (US$ million)	Annual Benefits			Cost per Benefit Unit		
		DALYs Saved***	Lives Saved**	Cases of Stunting Averted*	DALY Saved***	Life Saved**	Case of Stunting Averted*
Scenario a	$371.3	7,892,586	123,379	889,657	$44.7	$2,861	$417
Scenario b	$183.7	4,598,018	61,080	405,926	$39.3	$3,006	$453
Scenario c	$327.8	7,705,748	109,867	712,736	$42.5	$2,983	$460

** Total cost for scaling up 10 interventions divided by DALYs saved attributable to the 7 interventions for which DALY data is available.*

*** Total cost for scaling up 10 interventions divided by lives saved saved attributable to the 6 interventions for which lives saved data is available.*

**** Total cost for scaling up 3 interventions divided by cases of stunting averted attributable to the 3 interventions for which stunting reduction data is available.*

Total 5-year costs

Recognizing the difficulty of scaling to full coverage in one year, and following the five-year time frame of the National Strategic Plan of Action for Nutrition, we consider the costs over five years for the three Scenarios. Interventions are assumed to scale from current coverage as follows: 20% of scale up in year 1, 40% in year 2, 60% in year 3, 80% in year 4 and 100% in year 5. For these calculations, we consider the expenditures on capacity development and system strengthening required to scale to full coverage to be a fixed cost, with

some additional funds allocated to refresher training and rehiring in the years after scale has been reached. Thus, the average annual amount spent on capacity development is allocated across the five years, rather than increasing in proportion to coverage as is the case with the other costs.

Table11. Scale Up of Scenarios in US$ Millions

Scenario	Year 1	Year 2	Year 3	Year 4	Year 5	Total Financing required
a	$38.64	$113.88	$185.78	$251	$322.9	**$912.2**
b	$20.02	$59.26	$96.84	$131.1	$168.68	**$475.89**
c	$35.61	$105.82	$173.21	$234.94	$302.32	**$851.9**

The costs relate to the scale up from current coverage and do not take into account the financing necessary to maintain existing coverage levels, which is estimated at approximately US$48.9 million annually (Table 7). In order to estimate the cost of financing nutrition interventions at their current scale, this report uses a recent fiscal space analysis for nutrition in Nigeria conducted by R4D (2014). This analysis attempts to identify funding for nutrition by source, which we consider to be a proxy for the resources required to fund existing interventions. However, because this analysis accounts for total funding, it is not possible to separate financing for program costs from overhead costs. Therefore, it is likely that these financing numbers overestimate the "sustaining costs" required for baseline intervention coverage.

The R4D analysis has also identified several sources of "planned" investments in nutrition (Table 8) estimated at about $175.0 million over the next 4 years. This represents a potential increase in funding of approximately $126 million between 2014 and 2017. Considering the estimated total costs of the three scenarios over five years, of between $476 and $912 million, the estimated financing gap ranges between $352 and $786 million over this time period, even after accounting for the planned $126 million in increased investments and the $49 million in sustaining costs for maintaining current coverage. Therefore, there is clearly a need to leverage additional financing for scaling-up nutrition interventions, while also prioritizing these interventions based on both need and cost-effectiveness.

Table 12. Fiscal Space Analysis for Current National Nutrition Expenditures (2013)

Donor	Estimated 2013 Expenditure on Nutrition (US$ mn)
DFID*	$17.71
Micronutrient Initiative	$1.03
EU	$0.925
ECHO	$5.47
CIDA	$1.25
CIFF	$10.62
UNICEF (non-grant)	$1.94
Federal Government	$10.00
GAIN	TBC
TOTAL	**$48.90**

*includes DFID Working to Improve Nutrition in Northern Nigeria program as well as contributions channeled through UNICEF.
Source: R4D 2014

Table 13. Projected Funding Available for Nutrition 2014-2017

Donor	Projected Funding for Nutrition 2014-2017 (US$ mn)
UNICEF -IYCF	$6.4
UNICEF - CMAM	$59.84
UNICEF - Policy Support	$3.2
UNICEF - Micronutrients	$10.56
DFID WINNN	$55.00
Federal Government	$40.00
Total Available Financing	**$175.00**

Source: R4D 2014

3.8 Roles and Responsibilities

Nutrition is a multi-disciplinary issue best addressed through well-coordinated and multi-sectoral approaches. The lack of an institutionalised coordination mechanism for nutrition in Nigeria has been one of the main contributors to the limited effectiveness of past interventions. Inadequate coordination of the planning and implementation of nutrition programmes and projects often resulted in undue duplication of services and programmes without proper equitable distribution and convergence of resources. Nutrition interventions have been implemented mostly as vertical projects with little investment in human capacity and technical skills development in the public sector.

The implementation of this strategy requires the participation and involvement of stakeholders at all levels from the community through the States to the Federal level, including the public sector (sectoral Ministries and institutions, regional Secretariats and LGAs), research institutes, professional bodies, private sector, development partners, media, and the community. All concerned parties share responsibility for the successful implementation of the strategy and should acknowledge and embrace its responsibilities. The roles and responsibilities of all stakeholders are identified below to ensure that their collective action contributes to the full attainment of the strategy's goals and objectives.
The Government of Nigeria has committed itself to the SUN movement in the country. To enhance fulfillment of this commitment, the Government will work with partners to strengthen existing Health Sector partnership for nutrition to intensify action to prevent malnutrition and reduce nutrition related diseases, thus contributing to achievement of the Vision 20:2020 and the MDGs.

1. Public Sector

1.1 National Planning Commission (NPC)

The sectoral Ministries and institutions represented within the NPC are responsible for ensuring that nutrition is adequately reflected in sector policies, strategic plans, legislation, regulations, and guidelines that lie within their mandate and jurisdiction. They are also responsible for identifying and allocating human, financial, and organisational resources for implementation of the strategy, donor coordination, and quality assurance for nutrition at all levels.
The principal functions of the NPC will include the following:

- Support sustained advocacy for nutrition issues
- Support FMOH to advocate for adequate financial provisions in the Medium-Term Expenditure Framework, and national annual budget for implementation of the Health Sector component of the NFNP and programmes
- Actively support FMOH in coordination of Health Sector nutrition related activities
- Facilitate dissemination of nutrition data

1.2 Federal Ministry of Health (FMOH)

Coordination

The FMOH shall strengthen existing Health Sector nutrition coordination mechanisms such as the Technical Advisory Committee. The Nutrition Division of the Department of Family Health, FMOH shall be the Secretariat. The Committee shall comprise representatives of relevant departments of FMOH, its agencies, professional organisations, academia, development partners, and other stakeholders. It shall be responsible for ensuring the implementation of this plan, submission of periodic reports on national nutrition status, and

advice to the Honourable Minister of Health on nutrition matters.

Training/Capacity Building

The FMOH shall establish guidelines for planning, organising, conducting, and supervising training of all nutrition personnel at all levels. It will provide appropriate technical support for curriculum development, training, and continuing education. These will focus on both pre-service and in-service trainings including those that support the creation of friendly and enabling environments for client-focused service delivery such as interpersonal communication and counselling.

Services

- Regularly conduct a situation analysis of the country's nutrition profile
- Define standards with respect to the delivery of holistic nutrition services
- Issue guidelines to assist the State and LGA Councils with planning, implementing, monitoring and evaluating nutrition programmes
- Develop and facilitate the integration of nutrition into existing initiatives and promote implementation of appropriate strategies such as those on education and promote positive nutrition action and healthy lifestyle
- Provision of adequate budgetary allocation for the implementation of all nutrition interventions

Research

- Initiate and support research activities relevant to nutrition in collaboration with training and research institutions, NGOs, and professional associations

Communication and Advocacy

- Conduct high level advocacy to mobilise support and commitment for implementation of this plan
- Develop and support the adaptation of communication and advocacy strategies by States
- Disseminate information to States, LGAs, and other stakeholders
- Develop BCC materials and job aids for effective coverage of nutrition programmes in collaboration with Federal Ministry of Information, NGOs, and other stakeholders

M&E

- Define core nutrition indicators for inclusion in national statistic documents
- In collaboration with other stakeholders, strengthen and sustain the nutrition information and surveillance system to provide adequate information on progress made in reducing nutrition related morbidity and mortality
- Supervise M&E of nutrition programmes nationwide
- Provide efficient feedback mechanisms of information and data to States and LGAs

1.3 National Primary Health Care Development Agency (NPHCDA)

- Provide support for implementation of all plans developed to achieve set targets of this plan at the primary health care level
- Conduct advocacy and social mobilisation of State and LGA policy makers to solicit their support for the implementation of strategies within this plan
- Build State and LGA level capacity for training community-level care providers on the implementation of relevant aspects of the NSPAN
- Provide technical support to States and LGAs for effective implementation of programmes and activities aimed at improving the nutrition status of Nigerians
- Supervise, monitor, and evaluate PHC activities relating to this plan

1.4 State Planning Commission/Budget and Economic Planning

- Support sustained advocacy for nutrition issues
- Support SMOH to advocate for adequate financial provisions in the State Rolling Plan, and State annual budget for implementation of the Health Sector State Food and Nutrition Policy and programmes
- Actively support SMOH in coordination of Health Sector nutrition related activities
- Facilitate dissemination of nutrition data

1.5 State Ministries of Health (SMOH)

Coordination

- Coordinate all Health Sector nutrition activities in the State
- Liaise with the State Committee on Food and Nutrition to ensure optimal implementation of the policy at State and LGA levels
- Constitute a State Technical Committee on Nutrition at the SMOH to coordinate Health Sector nutrition interventions within the State
- Support the National Committee on Food and Nutrition to effectively carry out its mandate
- Report the Health Sector nutrition activities to the State Committee on Food and Nutrition

Services

- Adopt and ensure effective implementation of the NSPAN with the involvement of professional organisations
- Advocate for recruitment of appropriately qualified and adequately skilled nutrition personnel in all health facilities in the State
- Initiate and maintain a multi-sectoral and multi-disciplinary approach to nutrition, involving relevant line Ministries and organisations such as Ministries of Agriculture, Water Resources, Education, Information, Women Affairs, Justice, Environment, Finance and Budget Office, professional associations, NGOs, faith-based organisations (FBOs), relevant Tertiary institutions, and development partners
- Collaborate with LGAs and communities to identify priority programmes related to nutrition
- Establish and strengthen existing community-based outreach nutrition services

Training

- Build capacity of nutrition personnel through updating of knowledge and skills on a continuous basis to perform relevant functions
- Ensure that healthcare providers are trained in methods, skills, and processes that help mobilise communities around positive nutrition practices, promote community ownership, and sustainability

M&E

- Facilitate data collection, processing, and dissemination of information on health and nutrition interventions
- Ensure the timely transmission of the data to the national database

BCC

In collaboration with LGAs:

- Promote systematic and sustained community health education through health personnel, mass media, print, NGOs, community-based organisations (CBOs), community leaders, families, and

individuals
- Facilitate the training of health providers of both public and private institutions in interpersonal communication and counselling

Media
- Create a sustained platform for public debate in support of the promotion and implementation of the NSPAN
- Create and maintain awareness on issues concerning nutrition
- Include nutrition issues in their publications and programmes and community engagement interventions
- Provide focused and strategic media coverage of nutrition interventions

1.6 LGA Councils

Services
- Collaborate with the SMOH to identify and implement priority programmes related to nutrition and ensure effective implementation
- Establish and strengthen existing community-based outreach nutrition services
- Collaborate with Ward and Village Health Committees to support nutrition services

Mobilisation
- Mobilise the community to participate in planning, implementation, and monitoring of nutrition programmes through involvement of traditional chiefs, religious leaders, other influential persons and groups
- Motivate communities through community action cycle processes to undertake, own, and sustain nutrition programmes
- Advocacy and social mobilisation
- Create awareness on nutrition activities in the LGA
- Create a platform for advocacy on nutrition activities to policy makers and relevant stakeholders (FBOs, NGOs, CBOs, etc.)
- Serve as a link with the media to propagate issues concerning nutrition
- Develop, distribute, and disseminate information, education, and communication (IEC) materials
- Create platform for community dialogue, focused group discussion to promote nutrition issues

Training
- Organise regular trainings and refresher courses to update knowledge and skills of LGA nutrition/health personnel on issues identified in the NSPAN

1.7 Ward and Village Health Committees
- Determine how best to provide the essential elements of nutrition programmes
- Assign roles and responsibilities in the communities for health and nutrition services and in other sectors so as to involve individuals and families in the implementation of nutrition priority programmes
- Periodically provide health and nutrition information to the community in order to promote ownership and improve the nutrition status of the community
- Harness resources to support nutrition programmes, involving co-opting voluntary workers and practitioners of traditional methods to achieve nutrition goals
- Ascertain the availability and maintenance of basic health infrastructure

- Collate relevant data about resources available for nutrition

1.8 Finance

- Ministry of Finance/Budget at all levels to ensure prompt release of funds for the implementation of nutrition programmes, support research, and maintain LGA healthcare facilities
- Explore appropriate and efficient mechanisms for mobilising and allocating resources for nutrition programmes

1.9 National Agency for Food and Drug Administration and Control (NAFDAC)

- Monitor compliance of the set fortification standards at distribution and retail level
- Monitor and enforce compliance with provision of the Code of Marketing of Breast Milk Substitutes
- Regulate production, distribution, and marketing of processed foods and related products
- Monitor compliance to nutrition information on labels

1.10 Standards Organisation of Nigeria (SON)

- Establish standards of food fortification
- Regularly review standards based on research and clinical findings
- Monitor compliance at industry level

2. Partners

2.1 Non-Governmental Organisations (NGOs)

NGOs shall in collaboration with the Federal, State and LGAs:

- Identify nutrition needs of communities through studies and research
- Initiate pilot schemes that have the potential to be further scaled up such as establishing cottage industries for complementary food
- Support the training of community resource persons and other voluntary village health workers in the delivery of nutrition services
- Assist in M&E of nutrition programmes
- Mobilise the community to embark on awareness campaigns to eradicate harmful traditional nutritional practices
- Support Government and community to establish community-based nutrition centres which will be affordable, accessible, acceptable, and sustainable
- Document success stories and lessons learned on community engagement in nutrition

2.2 Professional Associations

- Advocacy to all levels of Government and private sector
- Dissemination of documents on nutrition education
- Participation, research, training, and conduct of nutrition surveys
- Awareness creation through seminars, conferences, and public lectures

2.3 Educational Institutions

- Provision of professionally competent and versatile practitioners who are capable of providing high quality nutrition and healthcare to children and expectant mothers in homes, communities, clinics, health centres, and hospitals nationwide

2.4 Research Institutions

Research institutes shall be responsible for conducting relevant research on:

- Food-based nutrition interventions for the management of identified health conditions such as SAM, micronutrient deficiencies, HIV/AIDS, etc.
- Developing local process capacity for the production of nutritious food products for infants and PLWs
- Partner with the SON to conduct operational research on current/ongoing food fortification programmes
- Generate nutrition data on composition of Nigerian local foods

2.5 Development Partners Group

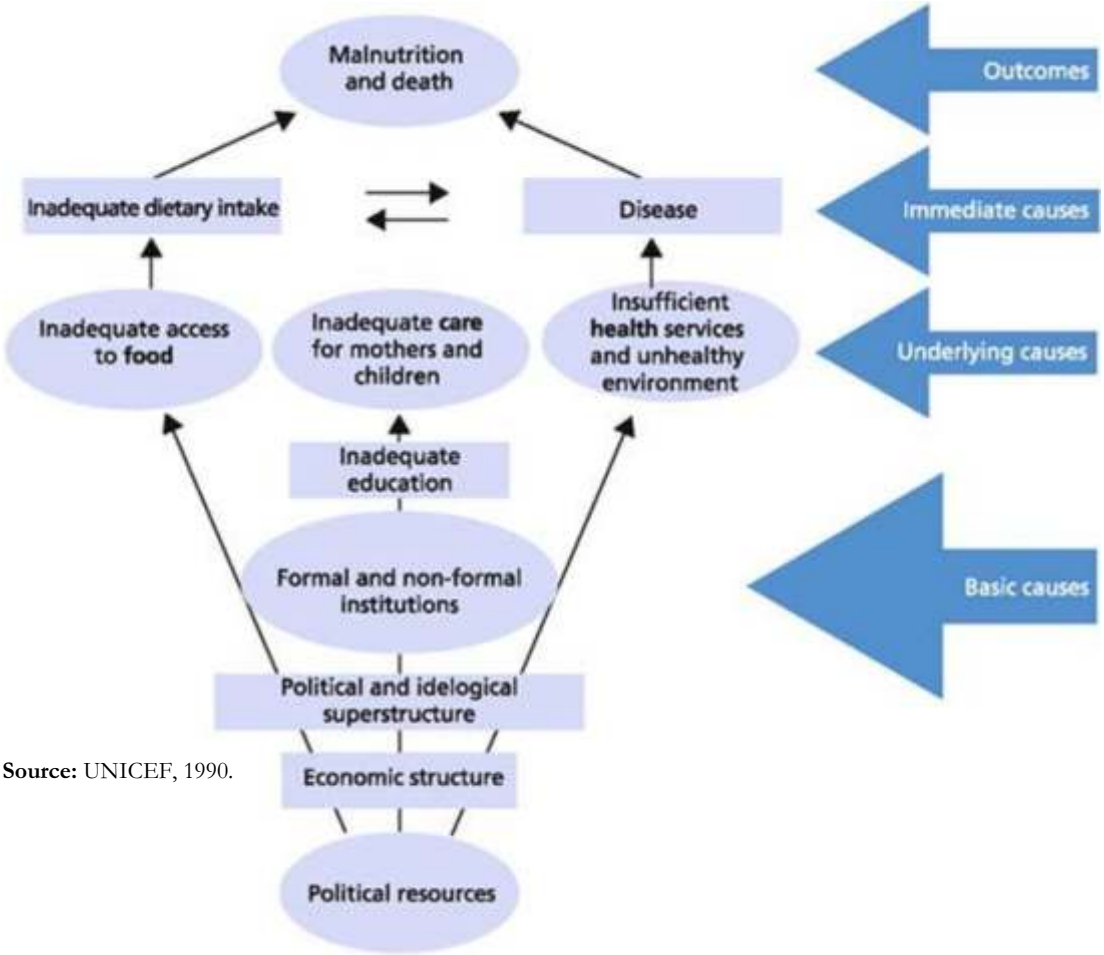
- Support NSPAN from planning to implementation and monitoring, collaborating with government at all levels in line with the Paris-Accra Principles of Aid Effectiveness

3. Private Sector

- Support policy implementation through the development of low cost, nutritious complementary foods, fortification of staple foods, awareness creation, fund mobilisation, and research

APPENDICES

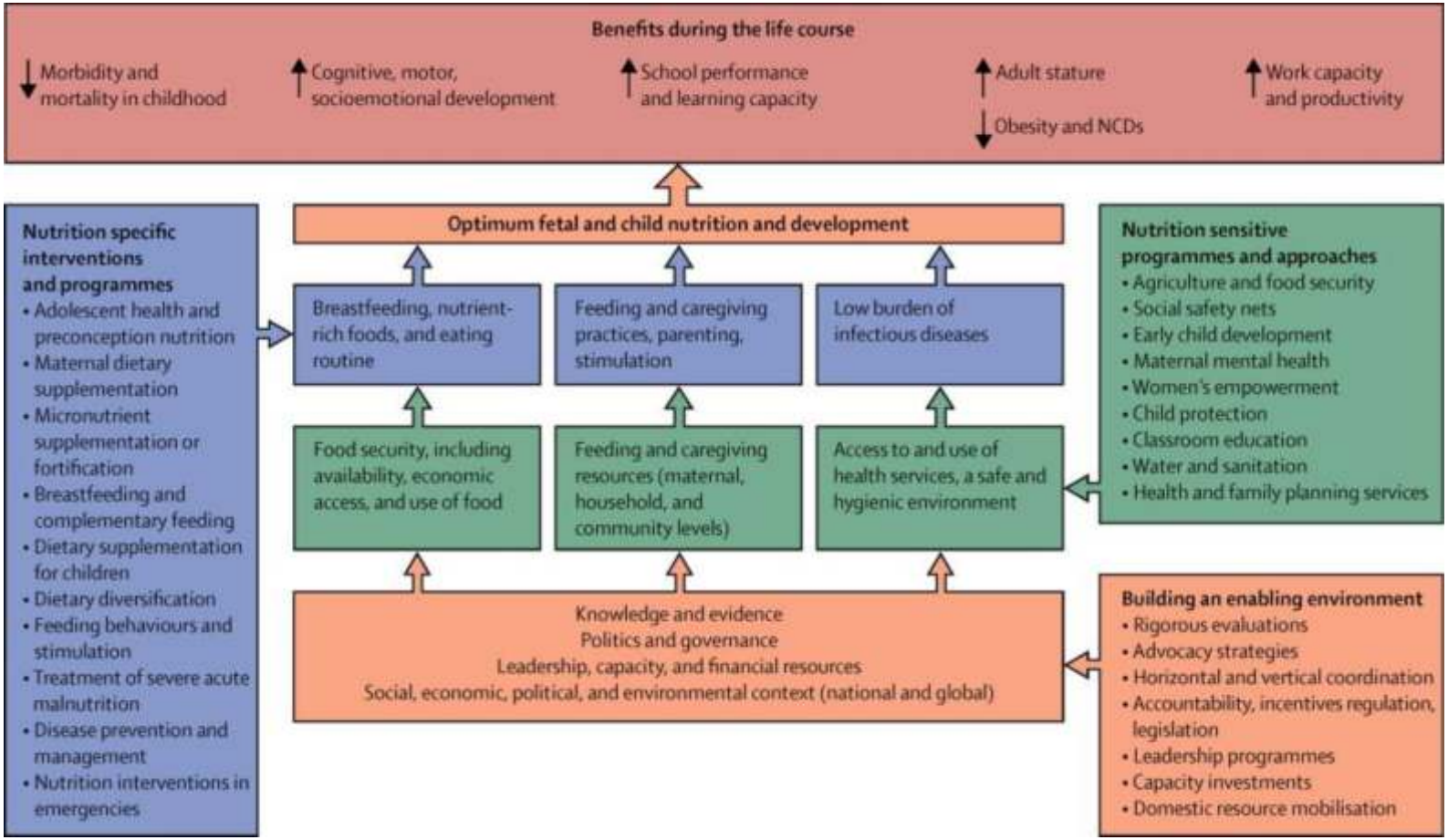
Appendix 1:
Conceptual framework for the causes of malnutrition



Source: UNICEF, 1990.

Source: UNICEF, 1990.

Appendix 2:
Framework to achieve optimum foetal and child nutrition and development[35]



[35]Black, RE., Victora, CG., Walker, SP., Bhutta, ZA., Christian, P., De Onis, M.,… Uauy, R. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. The Lancet, 382(9890), 427-451.

Appendix 3:
Maternal Nutrition Interventions

Strategies	Health System	Community Structures	Campaigns/Outreach
BCC	1.) Promote maternal nutrition at all health facilities (PHC centres, ANC clinics, OTP and CMAM sites, and child welfare clinics) 2.) Promote proper food handling and preparation methods, and importance of dietary diversity at ANC clinics, OTP sites, and PHC centres	1.) Promote maternal nutrition to women of reproductive age through community structures 2.) Orientation of communities on appropriate health seeking behaviours (utilisation of health services), especially during pregnancy (through community structures)	1.) Conduct national and sub-national campaigns annually to disseminate key messages promoting dietary practices that support maternal nutrition 2.) Promote maternal nutrition through MNCH weeks, World Breastfeeding Week, National Nutrition Day 3.) Mass media (special regular nutrition programmes on radio and TV) and information and communication technology (ICT) platforms to provide general information on maternal nutrition
Service Delivery	1.) Engage public and private sector service providers to improve nutrition information and counselling in order to support maternal nutrition 2.) Procure and distribute essential nutrition commodities (vitamin A, iron-folate) to all health facilities 3.) Procure and distribute complementary and nutritious foods for PLW (including subsidised nutritious foods), which will be mainstreamed into ANC service provision 4.) Conduct food demonstrations that include proper food handling, preparation methods, and importance of dietary diversity at ANC clinics, OTP sites, and PHC centres	1.) Establish and strengthen existing support groups to promote maternal nutrition 2.) Procure and distribute essential nutrition commodities (vitamin A, iron-folate) through community structures 3.) Distribute complementary and nutritious foods for PLW (including subsidized nutritious foods) through community structures 4.) Promote appropriate health seeking behaviours	1.) Distribute iron-folate supplements (3 months) to pregnant women through MNCH weeks

Strategies	Health System	Community Structures	Campaigns/Outreach
Capacity Building	1.) Procure and distribute essential nutrition equipment (adult weight scales, adult MUAC tapes, heightometer, haemocue for anaemia, food demonstration equipment) to all health facilities 2.) Work with States to incorporate in-service training schemes for healthcare workers at all levels on maternal nutrition 3.) Update/develop, print, and disseminate guidelines, standards, protocols, job aids, and other technical tools for maternal nutrition to States and LGAs 4.) Train all frontline health workers on nutrition counselling 5.) Recruit at least one nutritionist per LGA to lead nutrition programmes 6.) Work with Tertiary institutions and professional bodies to strengthen pre-service curricula at institutions of learning such as Universities, Medical schools, Schools of Nursing, Midwifery, Health technology, Polytechnics, etc. 7.) Train frontline healthcare workers on stock management for nutrition supplies 8.) Strengthen the capacity of Nutrition officers at all levels on adequate costing, budgeting, and tracking for nutrition interventions and lobbying	1.) Procure and distribute essential nutrition equipment (adult weight scales, adult MUAC tapes, heightometer, haemocue for anaemia) to appropriate community structures 2.) Update/develop, print, and disseminate training materials for CHWs and community peer counsellors on maternal nutrition 3.) Train community resource persons and volunteers on nutrition counselling 4.) Train patent and proprietary medicine vendors (PPMVs) and community pharmacists (CPs) on maternal nutrition	1.) Build the capacity of media personnel on maternal nutrition issues
Advocacy & Resource Mobilisation	1.) Support States to adopt the Strategic Plan of Action 2.) Work with States to develop budgets for nutrition activities 3.) Implement an advocacy strategy for the creation of a dedicated budget line to nutrition at the Federal, State, and LGA levels 4.) Implement advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for maternal nutrition 5.) Support advocacy for the formation of the National Nutrition Council under the Presidency 6.) Conduct advocacy visits on nutrition programmes to key policy makers and decision makers at all levels 7.) Increase advocacy to State governments to fund State Committees on Food and Nutrition	1.) Conduct advocacy visits on nutrition programmes to key decision makers, opinion leaders, and traditional leaders in the community to generate demand for nutrition services 2.) Mobilise and sensitise community leaders on maternal nutrition 3.) Seek support from community structures to support maternal nutrition	1.) Create and institutionalise a National Nutrition Day

Strategies	Health System	Community Structures	Campaigns/Outreach
Research, M&E	1.) Develop an M&E plan for maternal nutrition interventions 2.) Develop a research plan for maternal nutrition 3.) Develop a nutrition commodities logistics management system 4.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 5.) Develop and tailor BCC strategies and dissemination methods 6.) Develop advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for maternal nutrition 7.) Conduct bottleneck analysis of barriers to effective coverage of maternal nutrition interventions at the PHC, Secondary, and Tertiary levels 8.) Conduct a research needs assessment to identify priority areas for maternal nutrition 9.) Work with local manufacturers to develop locally sourced, pre-packaged nutritious foods for PLW available at affordable market prices 10.) Design a feasible financing and distribution mechanism for complementary and nutritious foods 11.) Develop local recipes that can be produced at home to nutritionally enhance complementary foods based on the seven recommended groups and locally available foods 12.) Use ICT-based platforms to disseminate widely, nutrition information, the results of surveys etc. which should be used for programming purposes at all levels 13.) Regular and periodic maternal nutrition programme monitoring 14.) Conduct mid-term and final evaluation of maternal nutrition programmes	1.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 2.) Develop and tailor BCC strategies and dissemination methods 3.) Strengthen regulatory frameworks for PPMVs and CPs to ensure provision of high-quality services for maternal nutrition in the community 4.) Assess the practice of dietary diversification and food fortification in the community 5.) Conduct bottleneck analysis of barriers to effective coverage of maternal nutrition interventions at the community level 6.) Schedule and implement supportive supervision and monitoring visits on community nutrition programmes 7.) Assess knowledge, attitudes, and practice on proper food handling and preparation 8.) Develop data tools for maternal nutrition at the community level 9.) Develop a Community Information Board to monitor nutrition interventions at the community level	1.) Engage the media to conduct regular opinion polls on maternal nutrition during national and global moments

Strategies	Health System	Community Structures	Campaigns/Outreach
Coordination and Multi-sectoral Partnerships	1.) Strengthen intra- and intersectoral collaboration to address immediate and underlying causes of maternal malnutrition in a comprehensive manner 2.) Improve active participation of the Health Sector in State Committees on Food and Nutrition 3.) Create a nutrition portal within the FMOH domain to provide information on nutrition activities and results 4.) Track the implementation of costed work plans developed at the Federal, State, and LGA levels 5.) Financial tracking for nutrition interventions at the Federal, State, and LGA levels 6.) Establish an accountability structure framework for the FMOH, SMOH, LGAs, and partners 7.) Develop, maintain, and update partner mapping of past, current, and future nutrition programmes and projects (should be at all levels) 8.) Organise semi-annual partner meetings to review on-going projects and report on progress at the Federal and State levels	1.) Work with agriculture to promote home gardening/consumption of micronutrient rich foods 2.) Work with agriculture to promote the consumption and planting of bio-fortified foods among local farmers	
Commodities and Equipment Needed	1.) Nutrition commodities (vitamin A, iron-folate) 2.) Complementary and nutritious food for PLW 3.) Nutrition equipment (weight scales, adult MUAC tapes, heightometers, haemocue, food demonstration equipment) 4.) Guidelines, standards, protocols, job aids, and other technical tools 5.) Data monitoring tools 6.) IEC materials	1.) Nutrition commodities (vitamin A, iron-folate) 2.) Complementary and nutritious food for PLW 3.) Nutrition equipment (weight scales, adult MUAC tapes, heightometers, haemocue, food demonstration equipment) 4.) Guidelines, standards, protocols, job aids, and other technical tools 5.) Data monitoring tools 6.) IEC materials	1.) Nutrition commodities (vitamin A, iron-folate) 2.) IEC materials

Appendix 4:
IYCF Interventions

Strategies	Health System	Community Structures	Campaigns/Outreach
BCC	1.) Promote awareness on IYCF at all health facilities (PHC centres, ANC clinics, OTP and CMAM sites, and child welfare clinics) 2.) Promote proper food handling and preparation methods, and importance of dietary diversity at ANC clinics, OTP sites, and PHC centres	1.) Promote awareness on CIYCF through community structures 2.) Sensitise mothers/caregivers within the communities on adequate nutrition for infants and young children 3.) Orientation of communities on appropriate health seeking behaviour (utilisation of health services) especially for infants and young children (through community structures)	1.) Conduct national and sub-national campaigns annually to disseminate key messages promoting dietary practices that support optimal IYCF 2.) Promote IYCF during MNCH weeks, World Breastfeeding Week, Safe Motherhood Day, Immunisation Plus Days, and National Nutrition Day 3.) Mass media (special regular nutrition programmes on radio and TV) and ICT platforms to provide general information on IYCF
Service Delivery	1.) Using the IYCF counselling package, provide counselling services to mothers and caregivers focusing on optimal IYCF practices through PHC centres, ANC clinics, OTP and CMAM sites, and child welfare clinics 2.) Procure and distribute essential nutrition commodities (vitamin A, de-worming, zinc/ORS, micronutrients) to all health facilities 3.) Procure and distribute low-cost pre-packaged complementary foods for children under two through health facilities 4.) Strengthen components of the BFHI in health facilities 5.) Conduct food demonstrations that include proper food handling, preparation methods, and importance of dietary diversity at ANC clinics, OTP sites, and PHC centres 6.) Integrate IYCF counselling into SAM management	1.) Establish and strengthen community structures to deliver CIYCF services (by States/LGAs/communities) 2.) Using the CIYCF counselling package, provide counselling services to mothers and caregivers focusing on optimal IYCF practices 3.) Procure and distribute essential nutrition commodities (vitamin A, de-worming, zinc/ORS, micronutrients) to all health facilities 4.) Procure and distribute low-cost pre-packaged complementary foods for children under two through health facilities 5.) Support PPMVs and CPs to provide appropriate nutrition information for IYCF 6.) Conduct active community screening of children for signs of undernutrition	

Strategies	Health System	Community Structures	Campaigns/Outreach
Capacity Building	1.) Procure and distribute essential nutrition equipment (weight scales, MUAC tapes, heightometer, child cards, registers, food demonstration equipment) to all health facilities 2.) Work with States to incorporate in-service training schemes for all healthcare workers at all levels on IYCF information, counselling, and growth monitoring 3.) Update/develop, print, and disseminate guidelines, standards, protocols, job aids, and other technical tools for IYCF to States and LGAs 4.) Train all frontline health workers on nutrition counselling 5.) Recruit at least one nutritionist per LGA to lead nutrition programmes 6.) Work with Tertiary institutions and professional bodies to strengthen pre-service curricula at institutions of learning such as Universities, Medical schools, Schools of Nursing, Midwifery, Health technology, Polytechnics, etc. 7.) Train frontline healthcare workers on stock management for nutrition supplies 8.) Strengthen the capacity of Nutrition officers at all levels on adequate costing, budgeting, and tracking for nutrition interventions and lobbying 9.) Build capacity of health workers on BFHI	1.) Procure and distribute essential nutrition equipment (weight scales, MUAC tapes, heightometer, child cards, registers, food demonstration equipment) to appropriate community structures 2.) Update/develop, print, and disseminate CIYCF package for CHWs and community peer counsellors on EBF and optimal IYCF practices 3.) Train community resource persons and volunteers on CIYCF package including nutrition counselling services, referrals, growth monitoring and promotion 4.) Train PPMVs and CPs on CIYCF 5.) Build capacity of the community to provide BFCI	1.) Build the capacity of media personnel on IYCF
Advocacy & Resource Mobilization	1.) Support States to adopt the Strategic Plan of Action 2.) Work with States to develop budgets for nutrition activities 3.) Implement an advocacy strategy for the creation of a dedicated budget line to nutrition at the Federal, State, and LGA levels 4.) Implement advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for IYCF 5.) Support advocacy for the formation of the National Nutrition Council under the Presidency 6.) Conduct advocacy visits on nutrition programmes to key policy makers and decision makers at all levels 7.) Increase advocacy to State governments to fund State Committees on Food and Nutrition	1.) Conduct advocacy visits on nutrition programmes to key decision makers, opinion leaders, and traditional leaders in the community to generate demand for nutrition services 2.) Mobilise and sensitise community leaders on CIYCF 3.) Seek support from community structures to support CIYCF	1.) Create and institutionalise a National Nutrition Day

Strategies	Health System	Community Structures	Campaigns/Outreach
Research, M&E	1.) Develop an M&E plan for IYCF interventions 2.) Develop a research plan for IYCF 3.) Develop a nutrition commodities logistics management system 4.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 5.) Develop and tailor BCC strategies and dissemination methods 6.) Develop advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for IYCF 7.) Conduct bottleneck analysis of barriers to effective coverage of IYCF interventions at the PHC, Secondary, and Tertiary levels 8.) Conduct a research needs assessment to identify priority areas for IYCF 9.) Work with local manufacturers to develop locally sourced, pre-packaged nutritious complementary foods available at affordable market prices 10.) Design a feasible financing and distribution mechanism for complementary and nutritious foods 11.) Develop local recipes that can be produced at home to nutritionally enhance complementary foods based on the seven recommended groups and locally available foods 12.) Ensure NAFDAC enforces the Code on Marketing of Breast Milk Substitutes 13.) Use ICT-based platforms to disseminate widely, nutrition information, the results of surveys etc. which should be used for programming purposes at all levels 14.) Regular and periodic IYCF programme monitoring 15.) Conduct mid-term and final evaluation of IYCF programmes	1.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 2.) Develop and tailor BCC strategies and dissemination methods 3.) Strengthen regulatory frameworks for PPMVs and CPs to ensure provision of high-quality services for IYCF in the community 4.) Assess the practice of dietary diversification and food fortification in the community 5.) Conduct bottleneck analysis of barriers to effective coverage of IYCF interventions at the community level 6.) Schedule and implement supportive supervision and monitoring visits on community nutrition programmes 7.) Assess knowledge, attitudes, and practice on proper food handling and preparation 8.) Develop a Community Information Board to monitor nutrition interventions at the community level	1.) Engage the media to conduct regular opinion polls on IYCF during national and global moments

Strategies	Health System	Community Structures	Campaigns/Outreach
Coordination and Multi-sectoral Partnerships	1.) Strengthen intra- and intersectoral collaboration to address immediate and underlying causes of poor IYCF practices in a comprehensive manner 2.) Improve active participation of the Health Sector in State Committees on Food and Nutrition 3.) Create a nutrition portal within the FMOH domain to provide information on nutrition activities and results 4.) Track the implementation of costed work plans developed at the Federal, State, and LGA levels 5.) Financial tracking for nutrition interventions at the Federal, State, and LGA levels 6.) Establish an accountability structure framework for the FMOH, SMOH, LGAs, and partners 7.) Develop, maintain, and update partner mapping of past, current, and future nutrition programmes and projects (should be at all levels) 8.) Organise semi-annual partner meetings to review on-going projects and report on progress at the Federal and State levels	1.) Work with agriculture to promote home gardening/consumption of micronutrient rich foods 2.) Work with agriculture to promote the consumption and planting of bio-fortified foods among local farmers	
Commodities and Equipment Needed	1.) Nutrition commodities (vitamin A, de-worming, zinc/ORS, micronutrients) 2.) Complementary and nutritious food for children under two 3.) Nutrition equipment (weight scales, MUAC tapes, heightometers, child cards, registers, food demonstration equipment) 4.) IYCF guidelines, standards, protocols, job aids, and other technical tools 5.) Data monitoring tools 6.) IEC materials	1.) Nutrition commodities (vitamin A, de-worming, zinc/ORS, micronutrients) 2.) Complementary and nutritious food for PLW 3.) Nutrition equipment (weight scales, adult MUAC tapes, heightometers, child cards, registers, food demonstration equipment) 4.) CIYCF guidelines, standards, protocols, job aids, and other technical tools 5.) Data monitoring tools 6.) IEC materials	1.) Nutrition commodities (vitamin A, de-worming) 2.) IEC materials

Appendix 5:
Management of SAM Interventions

Strategies	Health System	Community Structures	Campaigns/Outreach
BCC	1.) Promote management of SAM at all health facilities (PHC centres, ANC clinics, OTP and CMAM sites, and child welfare clinics)	1.) Promote awareness of SAM through community structures 2.) Sensitise mothers/caregivers within communities on adequate nutrition for infants and young children 3.) Sensitise and mobilise communities to support CMAM and health seeking behaviours 4.) Orientation of communities on appropriate health seeking behaviour for treatment of SAM (through community structures)	1.) Conduct national and sub-national campaigns annually to disseminate key messages promoting dietary practices that support awareness of SAM 2.) Promote proper management of SAM during MNCH weeks, World Breastfeeding Week, Safe Motherhood Day, Immunisation Plus Days, and National Nutrition Day 3.) Mass media (special regular nutrition programmes on radio and TV) and ICT platforms to provide general information on SAM
Service Delivery	1.) Engage public and private sector service providers to improve nutrition information and counselling to support management of SAM 2.) Procure and distribute essential nutrition commodities (RUTF, F75, F100, ReSoMal) to all health facilities 3.) Expand CMAM services to all appropriate primary facilities in States with existing programmes 4.) Establish CMAM sites to increase access to CMAM services across other States 5.) Strengthen linkage between community volunteers and health service providers on CMAM 6.) Promote local production of RUTF to increase affordability and availability 7.) Integrate IYCF counselling into SAM management	1.) Support community volunteers to carry out follow-up activities for CMAM services 2.) Procure and distribute essential nutrition commodities for CMAM (RUTF) through community structures 3.) Conduct active community screening of children for signs of undernutrition	

Strategies	Health System	Community Structures	Campaigns/Outreach
Capacity Building	1.) Procure and distribute essential equipment (MUAC tapes, weight scales, heightometers, child cards, registers, calculators, thermometers, rapid SMS, innovative ICT tools) to all health facilities 2.) Work with States to incorporate in-service training schemes for healthcare workers at all levels on management of SAM 3.) Update/develop, print, and disseminate guidelines, standards, protocols, job aids, and other technical tools for nutrition to States and LGAs 4.) Engage public and private sector service providers to train health workers in facilities on CMAM 5.) Recruit at least one nutritionist per LGA to lead nutrition programmes 6.) Work with Tertiary institutions and professional bodies to strengthen pre-service curricula at institutions of learning such as Universities, Medical schools, Schools of Nursing, Midwifery, Health technology, Polytechnics, etc. 7.) Train frontline healthcare workers on stock management for nutrition supplies 8.) Strengthen the capacity of Nutrition officers at all levels on adequate costing, budgeting, and tracking for nutrition interventions and lobbying	1.) Procure and distribute essential nutrition equipment for active case detection of SAM (weight scales, MUAC tapes, registers, referral slips, Rapid SMS, innovative ICT tools) to appropriate community structures 2.) Update/develop, print, and disseminate training materials for CHWs, and community peer counsellors on management of SAM 3.) Train community resource persons and volunteers on active case finding for SAM 4.) Train PPMVs and CPs on active case finding for management of SAM	1.) Provide essential tools for active case finding of SAM through MNCH weeks and other national campaigns (MUAC tapes, registers, referral slips) 2.) Build the capacity of media personnel on SAM management
Advocacy & Resource Mobilisation	1.) Support States to adopt the Strategic Plan of Action 2.) Work with States to develop budgets for nutrition activities 3.) Implement an advocacy strategy for the creation of a dedicated budget line to nutrition at the Federal, State, and LGA levels 4.) Implement advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for SAM management 5.) Support advocacy for the formation of the National Nutrition Council under the Presidency 6.) Conduct advocacy visits on nutrition programmes to key policy makers and decision makers at all levels 7.) Increase advocacy to State governments to fund State Committees on Food and Nutrition	1.) Conduct advocacy visits on nutrition programmes to key decision makers, opinion leaders, and traditional leaders in the community to generate demand for nutrition services 2.) Mobilise and sensitise community leaders on CMAM 3.) Seek support from community structures to support CMAM	1.) Create and institutionalise a National Nutrition Day

Strategies	Health System	Community Structures	Campaigns/Outreach
Research, M&E	1.) Develop an M&E plan for SAM management interventions 2.) Develop a research plan for SAM management 3.) Develop a nutrition commodities logistics management system 4.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 5.) Develop and tailor BCC strategies and dissemination methods 6.) Develop advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for SAM management 7.) Conduct bottleneck analysis of barriers to effective coverage of SAM management interventions at the PHC, Secondary, and Tertiary levels 8.) Conduct a research needs assessment to identify priority areas for SAM management 9.) Work with local manufacturers to develop locally sourced, pre-packaged nutritious complementary foods available at affordable market prices 10.) Design a feasible financing and distribution mechanism for complementary and nutritious foods 11.) Develop local recipes that can be produced at home to nutritionally enhance complementary foods based on the seven recommended groups and locally available foods 12.) Promote research on local production of essential nutrition commodities for SAM management (e.g. RUTF) 13.) Scale up real time data collection on SAM through the use of rapid SMS and other innovative ICT tools, simplified LQAS evaluation of access and coverage (SLEAC), and semi-quantitative evaluation of access and coverage (SQUEAC) 14.) Conduct mid-term and final evaluation of CMAM programmes 15.) Use ICT-based platforms to disseminate widely, nutrition information, the results of surveys etc. which should be used for programming purposes at all levels	1.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 2.) Develop and tailor BCC strategies and dissemination methods 3.) Strengthen regulatory frameworks for PPMVs and CPs to ensure provision of high-quality services for CMAM in the community 4.) Assess the practice of dietary diversification and food fortification in the community 5.) Conduct bottleneck analysis of barriers to effective coverage of CMAM interventions at the community level 6.) Schedule and implement supportive supervision and monitoring visits on community nutrition programmes 7.) Assess knowledge, attitudes, and practice on proper food handling and preparation 8.) Develop a Community Information Board to monitor nutrition interventions at the community level	1.) Engage the media to conduct regular opinion polls on SAM during national and global moments

Strategies	Health System	Community Structures	Campaigns/Outreach
Coordination and Multi-sectoral Partnerships	1.) Strengthen intra- and intersectoral collaboration to address immediate and underlying causes of SAM in a comprehensive manner 2.) Improve active participation of the Health Sector in State Committees on Food and Nutrition 3.) Create a nutrition portal within the FMOH domain to provide information on nutrition activities and results 4.) Track the implementation of costed work plans developed at the Federal, State, and LGA levels 5.) Financial tracking for nutrition interventions at the Federal, State, and LGA levels 6.) Establish an accountability structure framework for the FMOH, SMOH, LGAs, and partners 7.) Develop, maintain, and update partner mapping of past, current, and future nutrition programmes and projects (should be at all levels) 8.) Organise semi-annual partner meetings to review on-going projects and report on progress at the Federal and State levels	1.) Work with agriculture to promote home gardening/consumption of micronutrient rich foods 2.) Work with agriculture to promote the consumption and planting of bio-fortified foods among local farmers	
Commodities and Equipment Needed	1.) Nutrition commodities (RUTF, F75, F100, ReSoMal) 2.) Routine drugs 3.) Nutrition equipment (weight scales, heightometers, MUAC tapes, thermometers, child cards, registers, calculators, referral slips) 4.) SAM/CMAM guidelines, standards, protocols, job aids, and other technical tools 5.) Data monitoring tools 6.) IEC materials	1.) Nutrition commodities (RUTF, F75, F100, ReSoMal) 2.) Nutrition equipment (weight scales, heightometers, MUAC tapes, thermometers, child cards, registers, calculators, referral slips) 3.) CMAM guidelines, standards, protocols, job aids, and other technical tools 4.) Data monitoring tools 5.) IEC materials	1.) Nutrition commodities (RUTF, F75, F100, ReSoMal) 2.) IEC materials

Appendix 6:
Micronutrient Deficiency Control Interventions

Strategies	Health System	Community Structures	Campaigns/Outreach
BCC	1.) Promote awareness of MNDC at all health facilities (PHC centres, ANC clinics, OTP and CMAM sites, and child welfare clinics) 2.) Promote proper food handling and preparation methods, and importance of dietary diversity at ANC clinics, OTP sites, and PHC centres	1.) Promote awareness on MNDC through community structures 2.) Sensitise mothers/caregivers within the communities on essential micronutrients 3.) Orientation of communities on appropriate health seeking behaviours (utilisation of health services) especially for infants and young children (through community structures)	1.) Conduct national and sub-national campaigns annually to disseminate key messages on supplementation, food fortification, and dietary diversification 2.) Promote MNDC awareness during MNCH weeks, World Breastfeeding Week, Safe Motherhood Day, Immunisation Plus Days, and National Nutrition Day 3.) Mass media (special regular nutrition programmes on radio and TV) and ICT platforms to provide general information on MNDC 4.) Social marketing of fortified food products
Service Delivery	1.) Engage public and private sector service providers to improve nutrition information and counselling 2.) Procure and distribute essential micronutrients (vitamin A, de-worming, zinc/ORS, micronutrient powders) to ensure availability at all health facilities 3.) Ensure all primary facilities provide appropriate micronutrient supplements to specific target groups 4.) Conduct food demonstrations that include proper food handling, preparation methods, and importance of dietary diversity at ANC clinics, OTP sites, and PHC centres	1.) Establish and strengthen existing support groups to promote MNDC awareness 2.) Procure and distribute essential micronutrients (vitamin A, de-worming, zinc/ORS, micronutrient powders) through community structures	1.) Distribute vitamin A and de-worming through MNCH weeks

Strategies	Health System	Community Structures	Campaigns/Outreach
Capacity Building	1.) Procure and distribute essential nutrition equipment (icheck, rapid test kits) to all health facilities 2.) Work with States to incorporate in-service training schemes for healthcare workers at all levels on awareness of MNDC 3.) Update/develop, print, and disseminate guidelines, standards, protocols, job aids, and other technical tools for nutrition to States and LGAs 4.) Engage public and private sector service providers to train health workers in facilities on MNDC 5.) Recruit at least one nutritionist per LGA to lead nutrition programmes 6.) Work with Tertiary institutions and professional bodies to strengthen pre-service curricula at institutions of learning such as Universities, Medical schools, Schools of Nursing, Midwifery, Health technology, Polytechnics, etc. 7.) Train frontline healthcare workers on stock management for nutrition supplies 8.) Strengthen the capacity of Nutrition officers at all levels on adequate costing, budgeting, and tracking for nutrition interventions and lobbying	1.) Update/develop, print, and disseminate training materials for CHWs, and community peer counsellors on MNDC 2.) Train community resource persons and volunteers on MNDC 3.) Train PPMVs and CPs on MNDC	1.) Build the capacity of media personnel on MNDC
Advocacy & Resource Mobilisation	1.) Support States to adopt the Strategic Plan of Action 2.) Work with States to develop budgets for nutrition activities 3.) Implement an advocacy strategy for the creation of a dedicated budget line to nutrition at the Federal, State, and LGA levels 4.) Implement advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for MNDC 5.) Support advocacy for the formation of the National Nutrition Council under the Presidency 6.) Conduct advocacy visits on nutrition programmes to key policy makers and decision makers at all levels 7.) Increase advocacy to State governments to fund State Committees on Food and Nutrition	1.) Conduct advocacy visits on nutrition programmes to key decision makers, opinion leaders, and traditional leaders in the community to generate demand for nutrition services 2.) Mobilise and sensitise community leaders on MNDC 3.) Seek support from community structures to support MNDC	1.) Create and institutionalise a National Nutrition Day

Strategies	Health System	Community Structures	Campaigns/Outreach
Research, M&E	1.) Develop an M&E plan for MNDC interventions 2.) Develop a research plan for MNDC 3.) Develop a nutrition commodities logistics management system 4.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 5.) Develop and tailor BCC strategies and dissemination methods 6.) Develop advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for MNDC 7.) Conduct bottleneck analysis of barriers to effective coverage of MNDC interventions at the PHC, Secondary, and Tertiary levels 8.) Conduct a research needs assessment to identify priority areas for MNDC 9.) Work with local manufacturers to develop locally sourced, pre-packaged nutritious complementary foods available at affordable market prices 10.) Design a feasible financing and distribution mechanism for complementary and nutritious foods 11.) Develop local recipes that can be produced at home to nutritionally enhance complementary foods based on the seven recommended groups and locally available foods 12.) Use ICT-based platforms to disseminate widely, nutrition information, the results of surveys etc. which should be used for programming purposes at all levels 13.) Regular and periodic MNDC programme monitoring 14.) Conduct mid-term and final evaluation of MNDC programmes 15.) Partner with local universities, research institutes and private sector in efficacy trials of bio-fortified foods	1.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 2.) Develop and tailor BCC strategies and dissemination methods 3.) Strengthen regulatory frameworks for PPMVs and CPs to ensure provision of high-quality services for MNDC in the community 4.) Assess the practice of dietary diversification and food fortification in the community 5.) Conduct bottleneck analysis of barriers to effective coverage of MNDC interventions at the community level 6.) Schedule and implement supportive supervision and monitoring visits on community nutrition programmes 7.) Assess knowledge, attitudes, and practice on proper food handling and preparation 8.) Develop a Community Information Board to monitor nutrition interventions at the community level	1.) Engage the media to conduct regular opinion polls on MNDC during national and global moments

Strategies	Health System	Community Structures	Campaigns/Outreach
Coordination and Multi-sectoral Partnerships	1.) Strengthen intra- and intersectoral collaboration to address immediate and underlying causes of MNDC in a comprehensive manner 2.) Improve active participation of the Health Sector in State Committees on Food and Nutrition 3.) Create a nutrition portal within the FMOH domain to provide information on nutrition activities and results 4.) Track the implementation of costed work plans developed at the Federal, State, and LGA levels 5.) Financial tracking for nutrition interventions at the Federal, State, and LGA levels 6.) Establish an accountability structure framework for the FMOH, SMOH, LGAs, and partners 7.) Develop, maintain, and update partner mapping of past, current, and future nutrition programmes and projects (should be at all levels) 8.) Organise semi-annual partner meetings to review on-going projects and report on progress at the Federal and State levels	1.) Work with agriculture to promote home gardening/consumption of micronutrient rich foods 2.) Work with agriculture to promote the consumption and planting of bio-fortified foods among local farmers	1.) Partner with private sector to socially market fortified foods
Commodities and Equipment Needed	1.) Nutrition commodities (vitamin A, de-worming, zinc/ORS, micronutrients) 2.) Nutrition equipment (icheck, rapid test kits) 3.) MNDC guidelines, standards, protocols, job aids, and other technical tools 4.) Data monitoring tools 5.) IEC materials	1.) Nutrition commodities (vitamin A, de-worming, zinc/ORS, micronutrient powders) 2.) Nutrition equipment (icheck, rapid test kits) 3.) MNDC guidelines, standards, protocols, job aids, and other technical tools 4.) Data monitoring tools 5.) IEC materials	1.) Nutrition commodities (vitamin A, de-worming, zinc/ORS, micronutrient powders) 2.) IEC materials

Appendix 7:
Diet Related Noncommunicable Diseases Interventions

Strategies	Health System	Community Structures	Campaigns/Outreach
BCC	1.) Promote awareness of DRNCD and healthy lifestyles at all health facilities (PHC centres, ANC clinics, OTP and CMAM sites, and child welfare clinics) 2.) Promote proper food handling and preparation methods, and importance of dietary diversity at ANC clinics, OTP sites, and PHC centres	1.) Promote awareness of DRNCD and health lifestyles through community structures	1.) Conduct national and sub-national campaigns annually to disseminate key messages promoting healthy lifestyles and awareness of DRNCD 2.) Promote healthy lifestyles during MNCH weeks, World Breastfeeding Week, Safe Motherhood Day, Immunisation Plus Days, and National Nutrition Day 3.) Mass media (special regular nutrition programmes on radio and TV) and ICT platforms to provide general information on DRNCD
Service Delivery	1.) Engage public and private sector service providers to improve nutrition information and counselling related to DRNCD 2.) Provide assessment, referral, and counselling services related to DRNCD 3.) Promote healthy lifestyles at all health facilities	1.) Establish and strengthen existing support groups to promote DRNCD awareness and healthy lifestyles 2.) Provide assessment, referral, and counselling related to DRNCD through community structures	
Capacity Building	1.) Procure and distribute essential equipment (glucometers, weight scales, heightometers, blood pressure monitors, sphygmomanometers, anthropometers, skinfold calipers) to all health facilities 2.) Work with States to incorporate in-service training schemes for healthcare workers at all levels on awareness of DRNCD and promotion of healthy lifestyles 3.) Update/develop, print, and disseminate guidelines, standards, protocols, job aids, and other technical tools for nutrition to States and LGAs 4.) Provide training for frontline public and private healthcare workers on assessment, referral, and counselling as part of DRNCD management 5.) Improve the capacity of healthcare workers at the PHC level to diagnose and treat DRNCD 6.) Recruit at least one nutritionist per LGA to lead nutrition programmes 7.) Work with Tertiary institutions and professional bodies to strengthen pre-service curricula at institutions of learning such as Universities, Medical schools, Schools of Nursing, Midwifery, Health technology, Polytechnics, etc. 8.) Train frontline healthcare workers on stock management for nutrition supplies 9.) Strengthen the capacity of Nutrition officers at all levels on adequate costing, budgeting, and tracking for nutrition interventions and lobbying	1.) Update/develop, print, and disseminate training materials for CHWs, and community peer counsellors on DRNCD 2.) Train community resource persons and volunteers on DRNCD and healthy lifestyle choices 3.) Train PPMVs and CPs on DRNCD	1.) Build the capacity of media personnel on the causes of DRNCD and consequences of unhealthy and sedentary lifestyles

Strategies	Health System	Community Structures	Campaigns/Outreach
Advocacy & Resource Mobilisation	1.) Support States to adopt the Strategic Plan of Action 2.) Work with States to develop budgets for nutrition activities 3.) Implement an advocacy strategy for the creation of a dedicated budget line to nutrition at the Federal, State, and LGA levels 4.) Implement advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for DRNCD 5.) Support advocacy for the formation of the National Nutrition Council under the Presidency 6.) Conduct advocacy visits on nutrition programmes to key policy makers and decision makers at all levels 7.) Increase advocacy to State governments to fund State Committees on Food and Nutrition	1.) Conduct advocacy visits on nutrition programmes to key decision makers, opinion leaders, and traditional leaders in the community to generate demand for nutrition services 2.) Mobilise and sensitise community leaders on DRNCD 3.) Seek support from community structures to support DRNCD	1.) Create and institutionalise a National Nutrition Day
Research, M&E	1.) Develop an M&E plan for DRNCD interventions 2.) Develop a research plan for DRNCD 3.) Develop a nutrition commodities logistics management system 4.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 5.) Develop and tailor BCC strategies and dissemination methods 6.) Develop advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels for DRNCD 7.) Conduct bottleneck analysis of barriers to effective coverage of DRNCD interventions at the PHC, Secondary, and Tertiary levels 8.) Conduct a research needs assessment to identify priority areas for DRNCD 9.) Work with local manufacturers to develop locally sourced, pre-packaged nutritious complementary foods available at affordable market prices 10.) Design a feasible financing and distribution mechanism for complementary and nutritious foods 11.) Develop local recipes that can be produced at home to nutritionally enhance complementary foods based on the seven recommended groups and locally available foods 12.) Use ICT-based platforms to disseminate widely, nutrition information, the results of surveys etc.which should be used for programming purposes at all levels 13.) Conduct prevalence studies on DRNCD 14.) Regular and periodic DRNCD programme monitoring 15.) Conduct mid-term and final evaluation of DRNCD programmes 16.) Review and update dietary and lifestyle guidelines	1.) Conduct formative assessments to determine best practices, lessons learned, and potential strategies for BCC in Nigeria 2.) Develop and tailor BCC strategies and dissemination methods 3.) Assess the practice of dietary diversification and food fortification in the community 4.) Conduct bottleneck analysis of barriers to effective coverage of DRNCD interventions at the community level 5.) Schedule and implement supportive supervision and monitoring visits on community nutrition programmes 6.) Assess knowledge, attitudes, and practice on proper food handling and preparation 7.) Develop a Community Information Board to monitor nutrition interventions at the community level	1.) Engage the media to conduct regular opinion polls on DRNCD during national and global moments

Strategies	Health System	Community Structures	Campaigns/Outreach
Coordination and Multi-sectoral Partnerships	1.) Strengthen intra- and intersectoral collaboration to address immediate and underlying causes of DRNCD in a comprehensive manner 2.) Improve active participation of the Health Sector in State Committees on Food and Nutrition 3.) Create a nutrition portal within the FMOH domain to provide information on nutrition activities and results 4.) Track the implementation of costed work plans developed at the Federal, State, and LGA levels 5.) Financial tracking for nutrition interventions at the Federal, State, and LGA levels 6.) Establish an accountability structure framework for the FMOH, SMOH, LGAs, and partners 7.) Develop, maintain, and update partner mapping of past, current, and future nutrition programmes and projects (should be at all levels) 8.) Organise semi-annual partner meetings to review on-going projects and report on progress at the Federal and State levels 9.) Strengthen the partnership for NCD to include DRNCD	1.) Work with agriculture to promote home gardening/consumption of micronutrient rich foods 2.) Work with agriculture to promote the consumption and planting of bio-fortified foods among local farmers	
Commodities and Equipment Needed	1.) Nutrition equipment (glucometers, weight scales, heightometers, blood pressure monitors, sphygmomanometers, anthropometers, skinfold calipers) 2.) DRNCD guidelines, standards, protocols, job aids, and other technical tools 3.) Data monitoring tools 4.) IEC materials	1.) Nutrition equipment (glucometers, weight scales, heightometers, blood pressure monitors, sphygmomanometers, anthropometers, skinfold calipers) 2.) DRNCD guidelines, standards, protocols, job aids, and other technical tools 3.) Data monitoring tools 4.) IEC materials	1.) IEC materials

Appendix 8:
Nutrition Information Systems Interventions

Strategies	Health System	Community Structures	Campaigns/Outreach
BCC	1.) Appropriate use of information generated for decision making and feedback 2.) Promote confidentiality	1.) Sensitise communities on the importance of data management through community structures	1.) Mass media and ICT platforms to promote information on data management
Service Delivery	1.) Expand the rapid SMS system to cover all primary health facilities to improve quality and support real time monitoring of key nutrition indicators, including stock of essential supplies 2.) Provide adequate record-keeping tools for nutrition interventions to all facilities 3.) Integrate key nutrition data into NHMIS 4.) Review, update, and scale up nutrition information and surveillance systems 5.) Create a Health Sector national nutrition database 6.) Ensure data flow into national nutrition database	1.) Support community volunteers and resource persons to collect community-level data and transmit appropriately 2.) Provide community volunteers and resources persons with appropriate tools (electronic and paper-based) to improve efficiency of data collection and transmission	1.) Provide appropriate data tools for use during campaigns 2.) Analyse data collected during national campaigns such as MNCH weeks, BF weeks, Immunisation days and upload on national database
Capacity Building	1.) Update/develop, print, and disseminate guidelines, standards, protocols, job aids, and other technical tools for nutrition information system to States and LGAs 2.) Train all frontline health workers on routine nutrition data collection, analysis and management including taking appropriate actions 3.) Train all LGA and State M&E staff on collation, analysis, interpretation and usage/feedback of nutrition data 4.) Train Federal, State, and LGA nutrition staff on management of the nutrition database	1.) Train community volunteers on community nutrition data collection, collation, and transmission	

Strategies	Health System	Community Structures	Campaigns/Outreach
Advocacy & Resource Mobilisation	1.) Support States to adopt the Strategic Plan of Action 2.) Work with States to develop budgets for nutrition activities 3.) Implement an advocacy strategy for the creation of a dedicated budget line to nutrition at the Federal, State, and LGA levels 4.) Implement advocacy and communication strategies targeted at various audiences of the Federal, State, and LGA levels to provide infrastructure for NIS 5.) Support advocacy for the formation of the National Nutrition Council under the Presidency 6.) Conduct advocacy visits on nutrition programmes to key policy makers and decision makers at all levels 7.) Utilise programme and survey data for evidence-based advocacy and programme planning 8.) Increase advocacy to State governments to fund State Committees on Food and Nutrition	1.) Seek support from community structures to support infrastructure for NIS	1.) Create and institutionalise a National Nutrition Day
Research, M&E	1.) Develop an M&E plan 2.) Develop a research plan 3.) Develop a nutrition commodities logistics management system 4.) Conduct SMART surveys in all 36 States and FCT every six months 5.) Develop an online nutrition database for real-time access to National and State nutrition data 6.) Undertake a cost-benefit analysis study to generate evidence on cost-savings and impact on economic development associated with improved nutritional status of the general population 7.) Implement research to provide necessary additional information for nutrition planning and disseminate research findings 8.) Develop a harmonised data collection tool in an electronic format for key nutrition indicators to be used at all levels for routine monitoring 9.) Create a nutrition scorecard for each of the States to monitor progress on nutrition interventions 10.) Conduct regular assessments across the country to ensure complete delivery of on-going projects and measure impact (across all levels) 11.) Schedule and carry out supportive supervision and monitoring visits to health facilities on nutrition programmes 12.) Conduct routine sentinel surveillance 13.) Conduct mid-term and final programme evaluations	1.) Conduct SLEAC and SQUEAC surveys for mid-term review and final review of the NSPAN 2.) Conduct national food consumption and nutrition survey (at least one per 5 years) 3.) Conduct compliance studies on micronutrient-fortified foods	

Strategies	Health System	Community Structures	Campaigns/Outreach
Coordination and Multi-sectoral Partnerships	1.) Ensure programme data by Government and donor/implementing partners are shared and available for programming and planning 2.) Ensure the production of quarterly nutrition status reports and disseminate appropriately (e.g. through partner coordination meetings, NCFN, electronic means, etc.) 3.) Improve active participation in National, State, and LGA Committees on Food and Nutrition 4.) Institutionalise annual review of nutrition programmes at Federal, State, and LGA levels	1.) Develop innovative means of comparing wards 2.) Create an interface in every ward where community leaders and CHWs can report on various nutrition issues 3.) Establish/strengthen WDCs in all wards	
Commodities and Equipment Needed	1.) NIS guidelines, standards, protocols, job aids, and other technical tools 2.) Data monitoring tools 3.) IEC materials	1.) NIS guidelines, standards, protocols, job aids, and other technical tools 2.) Data monitoring tools 3.) IEC materials	

Appendix 9:
Costing breakdown by state

Region	State	Community Nutrition Program for Behavioral Change Communication	Vitamin A Supplementation	Therapeutic Zinc Supp	Multiple Micronutrient Powders	Deworming	Iron Folic-Acid Supplements for Pregnant Women	Iron Fortification of Staples	Salt Iodization
North-Central	FCT Abuja	$523,733	$16,799	$324,295	$380,783	$154,857	$125,434	$523,733	$12,439
North-Central	Benue	$1,037,828	$166,447	$642,623	$780,787	$650,261	$0	$1,037,828	$44,108
North-Central	Kogi	$806,425	$79,836	$499,338	$554,962	$232,767	$235,629	$806,425	$44,757
North-Central	Kwara	$583,228	$14,088	$361,135	$410,434	$369,533	$251,430	$583,228	$25,662
North-Central	Nassarawa	$458,319	$56,445	$283,791	$259,273	$161,328	$197,581	$458,319	$27,270
North-Central	Niger	$998,385	$116,236	$618,200	$465,807	$231,945	$9,565	$998,385	$126,545
North-Central	Plateau	$766,080	$81,909	$474,357	$448,267	$393,704	$311,910	$766,080	$39,453
North Central Subtotal		**$5,173,998**	**$531,761**	**$3,203,739**	**$3,300,313**	**$2,194,395**	**$1,131,548**	**$5,173,998**	**$320,233**
North-Eastern	Adamawa	$773,992	$68,043	$479,256	$404,748	$381,423	$248,397	$773,992	$45,279
North-Eastern	Bauchi	$1,181,929	$207,343	$731,851	$215,981	$58,245	$356,671	$1,181,929	$93,372
North-Eastern	Borno	$1,049,172	$235,988	$649,647	$544,571	$184,654	$437,221	$1,049,172	$25,705
North-Eastern	Gombe	$586,911	$47,878	$363,415	$205,372	$359,471	$230,527	$586,911	$59,571
North-Eastern	Taraba	$557,140	$88,913	$344,981	$276,186	$302,015	$240,183	$557,140	$68,110
North-Eastern	Yobe	$590,742	$91,468	$365,788	$153,886	$220,834	$178,268	$590,742	$29,389
North Eastern Subtotal		**$4,739,887**	**$739,634**	**$2,934,938**	**$1,800,743**	**$1,506,642**	**$1,691,268**	**$4,739,887**	**$321,427**
North-Western	Jigawa	$1,062,410	$106,861	$657,844	$121,854	$245,323	$0	$1,062,410	$112,350
North-Western	Kaduna	$1,492,221	$141,821	$923,983	$0	$619,809	$85,773	$1,492,221	$93,264
North-Western	Kano	$2,355,622	$411,376	$1,458,601	$0	$945,264	$1,015,508	$2,355,622	$159,593
North-Western	Katsina	$1,424,828	$102,126	$882,254	$110,795	$802,463	$184,273	$1,424,828	$113,274
North-Western	Kebbi	$802,051	$68,604	$496,630	$171,510	$508,179	$345,764	$802,051	$83,614
North-Western	Sokoto	$909,368	$221,107	$563,081	$217,441	$185,657	$0	$909,368	$150,046
North-Western	Zamfara	$812,802	$155,141	$503,287	$205,411	$17,166	$66,186	$812,802	$113,386
North Western Subtotal		**$8,859,302**	**$1,207,037**	**$5,485,680**	**$827,012**	**$3,323,861**	**$1,697,505**	**$8,859,302**	**$825,526**
South-Eastern	Abia	$683,003	$25,424	$422,916	$509,859	$336,584	$202,838	$683,003	$21,856
South-Eastern	Anambra	$1,014,774	$39,783	$628,348	$708,206	$628,673	$320,811	$1,014,774	$19,534
South-Eastern	Ebonyi	$527,402	$46,365	$326,567	$385,501	$256,191	$191,995	$527,402	$15,427
South-Eastern	Enugu	$801,213	$19,354	$496,111	$668,193	$451,243	$303,187	$801,213	$25,238
South-Eastern	Imo	$981,119	$42,738	$607,509	$732,401	$600,915	$413,561	$981,119	$20,603
South Eastern Subtotal		**$4,007,510**	**$173,664**	**$2,481,450**	**$3,004,160**	**$2,273,606**	**$1,432,392**	**$4,007,510**	**$102,659**
South-South	Akwa-Ibom	$990,793	$16,871	$613,499	$672,209	$418,511	$151,869	$990,793	$15,853
South-South	Bayelsa	$416,144	$29,828	$257,676	$312,268	$254,880	$179,400	$416,144	$21,848
South-South	Cross-River	$705,797	$41,365	$437,030	$482,969	-$49,688	$169,038	$705,797	$19,409
South-South	Delta	$1,021,883	$114,116	$632,750	$687,343	$553,942	$391,586	$1,021,883	$42,919
South-South	Edo	$775,629	$54,365	$480,269	$639,317	$453,215	$315,797	$775,629	$21,330
South-South	Rivers	$1,310,557	$37,367	$811,497	$983,421	$793,464	$451,985	$1,310,557	$25,884
South South Subtotal		**$5,220,804**	**$293,912**	**$3,232,722**	**$3,777,527**	**$2,424,324**	**$1,659,675**	**$5,220,804**	**$147,242**
South-Western	Ekiti	$590,453	$3,273	$365,609	$454,545	$266,035	$107,474	$590,453	$18,747
South-Western	Lagos	$2,247,413	$111,247	$1,391,598	$1,620,889	$1,265,743	$915,034	$2,247,413	$61,804
South-Western	Ogun	$935,879	$83,016	$579,496	$576,733	$566,618	$398,974	$935,879	$58,258
South-Western	Ondo	$846,405	$28,155	$524,094	$602,221	$434,985	$340,560	$846,405	$11,426
South-Western	Osun	$853,616	$0	$528,559	$638,881	$432,681	$367,994	$853,616	$22,834
South-Western	Oyo	$1,413,218	$90,661	$875,064	$887,376	$407,911	$385,851	$1,413,218	$47,696
South Western Subtotal		**$6,886,984**	**$312,296**	**$4,264,421**	**$4,780,644**	**$3,373,973**	**$2,515,887**	**$6,886,984**	**$220,766**
GRAND TOTAL		**$34,888,484**	**$3,258,303**	**$21,602,950**	**$17,490,399**	**$15,096,802**	**$10,128,275**	**$34,888,484**	**$1,937,853**

INTERVENTION COST

Region	State	CMAM for Severe Acute Malnutrition	Comp. Food for Prevention of Moderate Malnutrition	Total cost of all 10 interventions	Capacity development (9% of total cost of interventions)	M&E and Operations Research (2% of total cost of interventions)	GRAND TOTAL (including CD and M&E)	HOUSEHOLD CONTRIBUTIONS
North-Central	FCT Abuja	$1,319,806	$1,416,284	$4,798,162	$431,835	$95,963	$5,325,960	$1,271,615
North-Central	Benue	$732,291	$1,258,473	$6,350,644	$571,558	$127,013	$7,049,215	$823,995
North-Central	Kogi	$1,138,027	$1,263,447	$5,661,614	$509,545	$113,232	$6,284,391	$870,287
North-Central	Kwara	$411,526	$863,690	$3,873,954	$348,656	$77,479	$4,300,089	$525,361
North-Central	Nasarawa	$808,474	$1,027,907	$3,738,706	$336,484	$74,774	$4,149,964	$382,918
North-Central	Niger	$4,025,490	$5,571,111	$13,161,669	$1,184,550	$263,233	$14,609,453	$3,509,306
North-Central	Plateau	$1,698,860	$3,271,881	$8,252,502	$742,725	$165,050	$9,160,277	$1,249,088
North Central Subtotal		**$10,134,474**	**$14,672,793**	**$45,837,252**	**$4,125,353**	**$916,745**	**$50,879,349**	**$8,632,570**
North-Eastern	Adamawa	$1,266,159	$3,837,239	$8,278,529	$745,068	$165,571	$9,189,167	$1,123,599
North-Eastern	Bauchi	$4,089,594	$5,149,413	$13,266,328	$1,193,970	$265,327	$14,725,625	$1,062,511
North-Eastern	Borno	$6,675,050	$2,623,269	$13,474,450	$1,212,700	$269,489	$14,956,639	$1,671,630
North-Eastern	Gombe	$581,078	$2,015,404	$5,036,537	$453,288	$100,731	$5,590,556	$527,576
North-Eastern	Taraba	$673,917	$1,464,774	$4,573,359	$411,602	$91,467	$5,076,429	$750,089
North-Eastern	Yobe	$2,679,785	$4,640,336	$9,541,239	$858,711	$190,825	$10,590,775	$990,827
North Eastern Subtotal		**$15,965,582**	**$19,730,435**	**$54,170,442**	**$4,875,340**	**$1,083,409**	**$60,129,191**	**$6,126,232**
North-Western	Jigawa	$1,455,825	$10,055,432	$14,880,309	$1,339,228	$297,606	$16,517,143	$1,305,485
North-Western	Kaduna	$20,757,394	$8,006,513	$33,612,999	$3,025,170	$672,260	$37,310,429	$3,453,119
North-Western	Kano	$24,463,075	$12,639,088	$45,803,749	$4,122,337	$916,075	$50,842,162	$4,485,674
North-Western	Katsina	$6,371,920	$7,033,322	$18,450,082	$1,660,507	$369,002	$20,479,591	$1,944,817
North-Western	Kebbi	$2,219,794	$3,356,654	$8,854,850	$796,937	$177,097	$9,828,884	$1,213,803
North-Western	Sokoto	$92,191	$7,357,859	$10,606,119	$954,551	$212,122	$11,772,792	$1,200,225
North-Western	Zamfara	$1,137,920	$6,454,415	$10,278,518	$925,067	$205,570	$11,409,155	$2,465,455
North Western Subtotal		**$56,498,119**	**$54,903,282**	**$142,486,626**	**$12,823,796**	**$2,849,733**	**$158,160,155**	**$16,068,578**
South-Eastern	Abia	$1,652,322	$1,700,400	$6,238,205	$561,438	$124,764	$6,924,408	$1,451,729
South-Eastern	Anambra	$4,705,302	$1,535,424	$10,615,629	$955,407	$212,313	$11,783,348	$1,517,686
South-Eastern	Ebonyi	$850,594	$701,784	$3,829,227	$344,630	$76,585	$4,250,442	$278,749
South-Eastern	Enugu	$807,623	$610,445	$4,983,821	$448,544	$99,676	$5,532,041	$829,405
South-Eastern	Imo	$1,730,693	$1,221,292	$7,331,950	$659,875	$146,639	$8,138,464	$1,790,982
South Eastern Subtotal		**$9,746,533**	**$5,769,346**	**$32,998,831**	**$2,969,895**	**$659,977**	**$36,628,703**	**$5,868,551**
South-South	Akwa-Ibom	$1,348,271	$3,210,924	$8,429,593	$758,663	$168,592	$9,356,848	$2,395,992
South-South	Bayelsa	$272,657	$509,083	$2,669,927	$240,293	$53,399	$2,963,619	$705,232
South-South	Cross-River	$1,102,738	$1,120,939	$4,735,395	$426,186	$94,708	$5,256,289	$922,329
South-South	Delta	$3,708,210	$1,688,738	$9,863,370	$887,703	$197,267	$10,948,341	$1,589,688
South-South	Edo	$1,407,301	$632,569	$5,555,421	$499,988	$111,108	$6,166,518	$742,715
South-South	Rivers	$1,849,459	$3,206,499	$10,780,689	$970,262	$215,614	$11,966,565	$2,917,919
South South Subtotal		**$9,688,636**	**$10,368,751**	**$42,034,395**	**$3,783,096**	**$840,688**	**$46,658,179**	**$9,273,874**
South-Western	Ekiti	$684,453	$1,317,920	$4,398,963	$395,907	$87,979	$4,882,849	$1,050,314
South-Western	Lagos	$4,304,246	$3,111,092	$17,276,481	$1,554,883	$345,530	$19,176,894	$4,203,595
South-Western	Ogun	$2,169,741	$1,837,853	$8,142,449	$732,820	$162,849	$9,038,118	$1,445,299
South-Western	Ondo	$725,200	$1,217,092	$5,576,542	$501,889	$111,531	$6,189,961	$1,132,432
South-Western	Osun	$1,419,734	$1,053,418	$6,167,277	$555,055	$123,346	$6,845,678	$1,605,468
South-Western	Oyo	$1,353,297	$5,368,494	$12,242,785	$1,101,851	$244,856	$13,589,492	$3,796,658
South Western Subtotal		**$10,656,672**	**$13,905,869**	**$53,804,497**	**$4,842,405**	**$1,076,090**	**$59,722,991**	**$13,233,766**
GRAND TOTAL		**$112,690,016**	**$119,350,475**	**$371,332,043**	**$33,419,884**	**$7,426,641**	**$412,178,568**	**$59,203,570**

Appendix 10:
Nutrition Commodities Logistics Management System