



IMPROVING MATERNAL & ADOLESCENT NUTRITION IN TANZANIA

SITUATION ANALYSIS





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Executive Summary

Introduction

Tanzania has made good progress in improving the nutritional status of under-five children, and as a result, stunting was reduced by 15 per cent in 2015. These improvements contributed to lower the rates of infant and under-five mortality. However, despite these improvements, micronutrient deficiencies (hidden hunger) are still highly prevalent in Tanzania, with iron deficiency anaemia (IDA) being a leading cause of disability among adolescents and women of reproductive age (WRA). Nationally, the prevalence of anaemia among adolescent girls aged 15–19 years has remained virtually unchanged in the last decade, standing at over 40 per cent (Tanzania Demographic and Health Surveys (TDHS), 2004–2015).

To address these challenges, the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) launched the Improving Maternal and Adolescent Nutrition (IMAN) Project with the aim of introducing an integrated approach to improve maternal and adolescent nutrition in Tanzania. To inform the design and implementation of this project, this report combines three review packages — situational analysis, review of the enabling environment, and delivery platforms for maternal and adolescent nutrition. The information gathered here will be used to inform opportunities and challenges to be considered in scaling up evidence-based maternal and adolescent nutrition interventions through the IMAN project.

Methodology: This included three key analysis dimensions: 1) a situational analysis detailing the maternal and adolescent nutritional status

and the core maternal and adolescent health and nutrition interventions in Tanzania, 2) a review of the enabling environment exploring the policy environment, governance structure, coordination mechanisms and financial mechanism of nutrition programmes and activities for women and adolescents, and 3) a review of the core delivery platforms for maternal and adolescent health and nutrition in Tanzania. This report combines the findings from desktop literature and policy reviews, and findings from secondary data analysis of periodic national surveys including TDHS and Tanzania National Nutrition Surveys (TNNS).

Key findings

Situational analysis focuses on the status of maternal and adolescent nutrition and the coverage of interventions in Tanzania (Mbeya and the Southern Highlands) –

- » Maternal undernutrition has declined significantly in Tanzania, including Mbeya, but the proportion of women with obesity has been rapidly increasing; in Mbeya, 43 per cent of the WRA between 15–49 years were overweight in 2016.
- » In Tanzania, an estimated 58 per cent of in-school adolescents aged 10–19 years are affected by anaemia. Anaemia has declined in Mbeya (from 36.1 per cent in 2005 to 21.1 per cent in 2018). In 2015, the prevalence of anaemia was higher among adolescents aged 15–19 years and young women than among older women.
- » The prevalence of adolescent pregnancy has remained constant at 25 per cent nationally over the last decade. In the Mbeya region,

adolescent pregnancy is 33 per cent, which is much higher than the national estimate of 27 per cent in 2015/16.

Delivery platforms highlight key platforms for delivering maternal and adolescent nutrition services and commodities in Tanzania and in the Mbeya region –

- » Antenatal care (ANC) is the primary platform for the provision of maternal health and nutrition services and commodities in Tanzania. However, most of the women in Tanzania, Mbeya and the Southern Highlands make their first ANC visit at five months of pregnancy (median month of the first visit), causing delays in accessing health services and low adherence to services.
- » There has been persistently low adherence and utilization of iron and folic acid supplementation (IFAS) among pregnant women, which are driven by multiple factors including health system challenges, socioeconomic and cultural barriers, and product-related factors.
- » Community health workers (CHWs) play a key role in the implementation of maternal health and nutrition services at the community level, promoting the uptake of nutrition services and identifying and following women to be enrolled in nutrition programmes.
- » Schools are a key channel for the implementation of nutrition services and commodities to adolescents in Mbeya.

Enabling environment reviews and highlights policies, guidelines and strategies that discuss maternal and adolescent nutrition in Tanzania –

- » Policy documents feature several nutrition-specific-and-sensitive interventions such as nutritional assessments and counselling, micronutrient supplementation (IFAS/ weekly iron and folic acid supplementation (WIFAS), Vitamin A), annual deworming, sanitation and hygiene (WASH), sexual and reproductive health (SRH) education, family planning services, severe acute malnutrition (SAM), management of malnutrition (MAM), promotion of dietary diversity, food fortification and agriculture/livestock keeping activities.
- » The Government of Tanzania views nutrition as a key component in recent campaigns to address non-communicable diseases (NCDs), including the double burden of malnutrition in Tanzania.
- » National guidelines do not adequately address adolescents as a distinct demographic – few policies, guidelines and strategies focus on adolescents. Adolescent boys and all children aged 10–14 years are also under-represented in the policy context.
- » There were significant gaps in the funding for several key maternal and adolescent nutrition programmes, including the programme for the prevention and control of micronutrient deficiencies (e.g., anaemia) and the maternal, infant and young child nutrition (MIYCN) programme.



Abbreviations

ANC	antenatal care
BCC	behaviour change communication
BM	body mass index
CHMT	council health management team
CHW	community health worker
DFID	Department for International Development
DHIS	District Health Information System
ECD	Early Childhood Development
eIDSR	electronic Infectious Disease Surveillance and Response
eLMIS	electronic Logistic Management Information System
FGR	fetal growth retardation
IFAS	iron and folic acid supplementation
HMIS	health information management system
HSSPIV	Health Sector Strategic Plan 4
IDA	Iron Deficiency Anaemia
IEC	information, education and communication
IGPCA	Implementation Guidelines for the Prevention and Control of Anaemia
IHI	Ifakara Health Institute
IMAN	Improving Maternal and Adolescent Nutrition
IMCI	Integrated management of childhood Illness
iMES	Integrated Monitoring and Evaluation System
IPTp	Intermittent Preventive Therapy
IYCF	Infant and Young Child Feeding
JMNR	Joint Multisectoral Nutrition Review



QoC	Quality of Care
R&C MSCN	Regional and Council Multisectoral Steering Committees on Nutrition
RCHS	reproductive and child health services
RHMT	regional health management team
SAM	severe acute malnutrition
SBCC	social behaviour change communication
TAG	technical advisory group
TASAF	Tanzania Social Action Fund
TDHS	Tanzania Demographic Health Survey
TDHS-MIS	Tanzania Demographic Health Survey-Malaria Indicator Survey
TDV	Tanzania Development Vision
TFNC	Tanzania Food and Nutrition enter
TNNS	Tanzania National Nutrition Survey
TSPA	Tanzania Service Provision Assessment Survey
TWG	thematic working group
UCC	Universal Coverage Campaign
UIC	urinary iodine concentration
UNICEF	United Nations Children's Education Fund
USAID	United States Agency for International Development
WIFAS	Weekly iron and folic acid supplementation
WASH	Water, sanitation, and hygiene
WRA	Women of reproductive age





SECTION

1

Situation analysis of maternal and adolescent nutrition in Tanzania, Mbeya and the Southern Highlands



1.0 Introduction

Tanzania has seen significant improvements in maternal and child health (MCH) indicators, including a sustained reduction in both infant and under-five mortality. Tanzania has also had a reduction in under-five malnutrition, with childhood stunting decreasing from 44 per cent to 34 per cent between 2005 and 2015 (TDHS, 2005–2016). In 2015, the national prevalence of stunting was 34%. Despite these improvements, the most recent TDHS (2015) indicated that maternal mortality increased from 454 per 100,000 live births in 2010 to 556 per 100,000 live births in 2015. Additionally, the prevalence of maternal anaemia among WRA (15–49 years) increased from 40 per cent in 2010 to 45 per cent in 2018.^{1,2}

MATERNAL MORTALITY IN TANZANIA

2010

454 per
100,000



2015

556 per
100,000

PREVALENCE OF MATERNAL ANAEMIA AMONG WRA



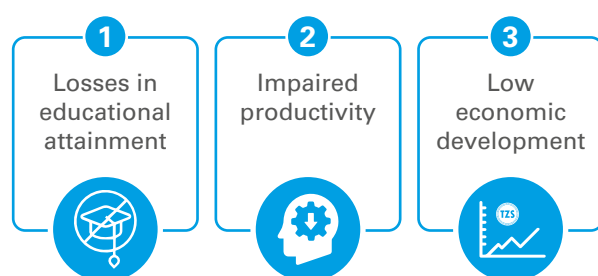
2010
40%

2018
45%

Maternal undernutrition is an important underlying cause of neonatal and under-five mortality. Prior research shows that more than 1 in 10 under-five deaths were caused by foetal growth retardation (FGR), which is associated with both maternal undernutrition and short stature. Further, it is estimated that 22 per cent of global neonatal deaths were attributable to low birthweight and prematurity, and those who survive suffer complications

and experience poor growth, cognitive function and developmental outcomes.^{4–6} In the long-term, the high prevalence of micronutrient deficiencies at childhood can translate into significant losses in educational attainment and can result in impaired productivity and low economic development.⁷

RESULT OF HIGH PREVALENCE OF MICRONUTRIENT DEFICIENCIES AT CHILDHOOD



Recently, national, and regional stakeholders in Tanzania initiated several discussions on the urgent need to strengthen the implementation of interventions that addressed maternal and adolescent nutrition in Tanzania. In 2019, the Government of Tanzania reviewed its National Multisectoral Nutrition Action Plan (NMNAP) 2016–2021, to emphasize the need to address maternal and adolescent malnutrition and the high burden of macro- and micronutrient deficiencies in Tanzania. However, the nutritional needs of adolescents were not fully reflected, and maternal health and nutrition objectives were largely framed as a vehicle to improve child health with lesser focus being placed on improving maternal health. The NMNAP also had few targets and indicators that focused on improving adolescent health and nutrition.

To reflect these priorities, the MoHCDGEC, in collaboration with national stakeholders and with financial support from the Bill and Melinda Gates Foundation (BMGF), Department of International Development (DFID) and UNICEF Tanzania, designed the IMAN project. The project employs

a holistic programmatic approach, combining the promotion of diversified diet, food fortification, micronutrient supplementation and health and nutrition education to improve maternal and adolescent nutritional outcomes in the Mbeya region. This analysis aims to describe the current situation of maternal, adolescent and child nutrition in Tanzania. The information gathered here will be used to inform opportunities and challenges to be considered in scaling up evidence-based maternal and adolescent interventions and commodities in Tanzania.

1.1 Methodology

Thorough desk review and analysis of existing secondary data were conducted, using (largely) publicly available data sources. Descriptive data were obtained from health and nutrition surveys, including TDHS, TNNs, facility-based surveys such as the Tanzania Service Provision Assessment (TSPA) and other existing studies.

THE ANALYSIS COVERED THE FOLLOWING ASPECTS OF MATERNAL AND ADOLESCENT NUTRITION

01

Maternal and adolescent health and nutrition (anthropometry, micronutrient deficiencies, morbidity, and mortality) using all available data sources in the country.

02

Coverage of maternal health and nutrition interventions (ANC, IFAS, haemoglobin testing, reduction of worm infection, intermittent preventive treatment of malaria in pregnancy, use of long-lasting insecticidal nets (LLINs), counselling on optimal diets and physical activity, use of fortified foods and iodized salt).

03

Identification of areas for which the information was missing, and/or additional information was needed at the national level and/or in the Mbeya region.



1.1.1 Selection criteria

The review included surveys and studies that focused on maternal and adolescent health and nutrition. Multiple surveys and studies were reviewed and assessed, and the results were summarized according to the predetermined objectives of the review. Consideration was only given to national and regional surveys and studies describing trends in the maternal and adolescent nutrition indicators. Additionally, open and publicly available data were included in the review.

Data extraction and synthesis was specifically done for the region of Southern Highlands, with more focus mainly on the Mbeya region. Only a few studies describing international trends in maternal and adolescent nutritional status were included in the synthesis. Survey and studies that did not describe aspects related to maternal or adolescent nutrition were excluded from this review.

1.1.2. Strengths and limitations

This analysis relied on routine national health and nutrition surveys conducted in Tanzania.

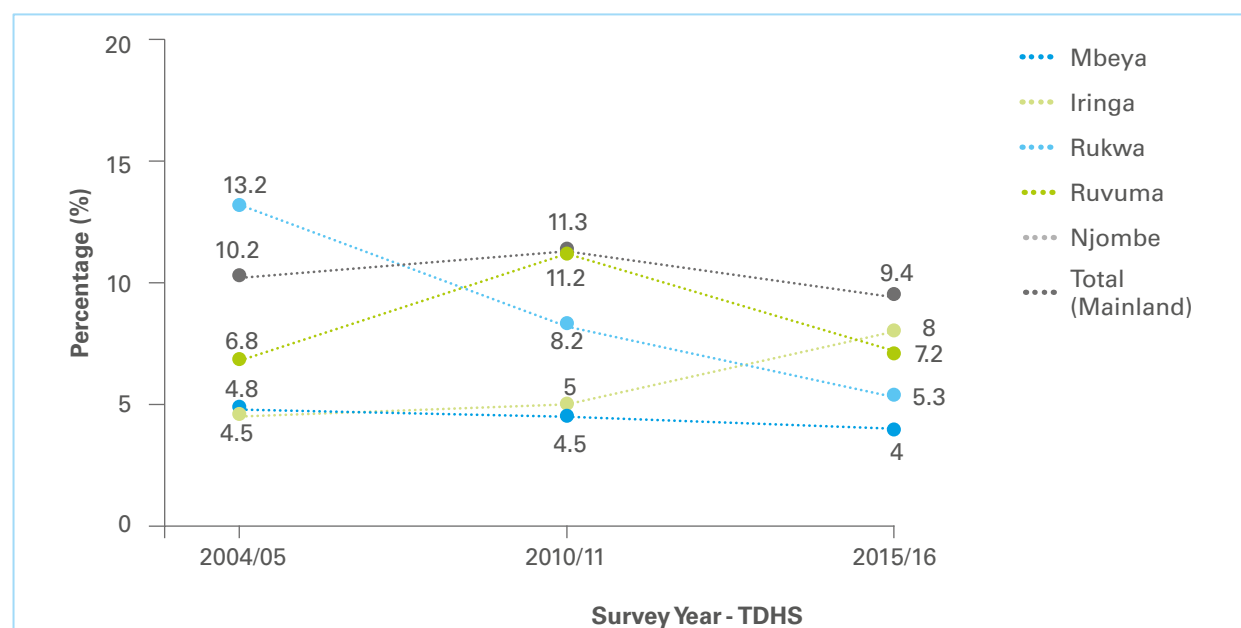
Surveys contain both national and regional-level estimates for maternal and adolescent nutrition indicators that are essential in making inferences about national and regional trends. However, our analysis was limited because some surveys (2005 and 2010 TDHS) were less comprehensive and lacked key nutrition indicators such as low mid upper arm circumference (MUAC) in pregnant women and deworming medication. Surveys were also completely lacking in adolescent health and nutritional indicators. Furthermore, some surveys did not contain extensive regional data. Although our focus is Mbeya, the team opted to focus on the region of Southern Highlands to allow comparison and depict key differences that might affect adolescent and maternal nutrition.

1.2 Nutritional status of women and adolescents

1.2.1 Body mass index (BMI)

The prevalence patterns of thinness and underweight (BMI<18.5) have been low nationwide and have not exceeded 15 per cent since 2005 (*see Figure 1*). The mean BMI

Figure 1: Percentage (%) of non-pregnant women age 15–49 with BMI<18.5 (total thin) in Tanzania from 2005–2016



among non-pregnant WRA (15–49 years) has remained relatively constant from 2004–2019, ranging from approximately 22–24 kg/m². In the Southern Highlands, Mbeya showed the lowest prevalence of thinness in each survey (2004–2016). Compared to other age groups, adolescents aged 15–19 years were more likely to be thin in each survey. Rural areas in Tanzania had a higher prevalence of thinness than urban regions.

1.2.2 Short stature

The prevalence of short stature (height < 145 cm) has consistently remained low at the national level, fluctuating from 3–4 per cent since 2005 (TDHS 2005). The southern zone has had the highest prevalence of short stature compared to other zones in Tanzania. Adolescents (aged 15–19 years) had a higher prevalence of short stature than older WRA (40–49 years) in each survey.

1.2.3 MUAC among pregnant women

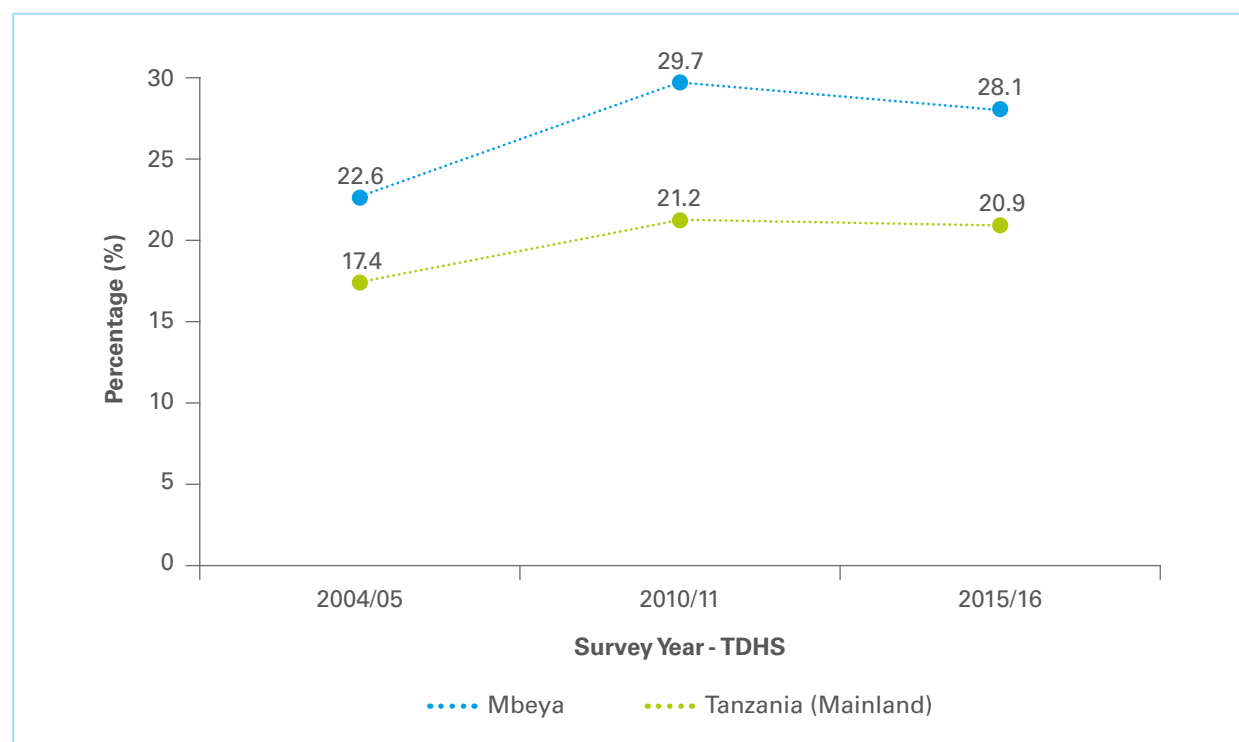
The TNNS 2018 presents data on low MUAC (<19 cm), a key indicator of malnutrition among

pregnant women and children. In Tanzania, the national prevalence of pregnant women (aged 15–49 years) with low MUAC in 2018 was 1.6 per cent. The prevalence was higher among pregnant adolescents aged 15–19 years at 3.4 per cent than among other age groups (ranged from 0–1.9 per cent).

1.2.4 Overweight and obesity among non-pregnant women

The prevalence of overweight or obese (BMI ≥ 25) non-pregnant WRA has been on the rise nationally over the last decade. In 2005, the national prevalence of overweight and obese women was 17.7 per cent, which rose to 28.1 per cent by 2015/16. Over the years, the Mbeya region has had a higher prevalence of overweight and obese women as compared with the national prevalence, and this figure has exceeded the national prevalence except in the 2015/16 TDHS ([see Figure 2](#)). In each survey, adolescents (aged 15–19 years) and younger women are less likely than older women to be

Figure 2: Percentage (%) of non-pregnant women age 15–49 with BMI ≥ 25 (overweight or obese) in Tanzania from 2005–2016



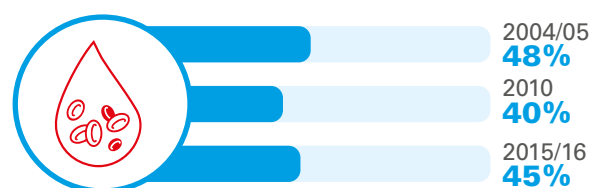
overweight or obese; for instance, in 2018, the proportion of women aged 15–19 years who were overweight or obese was 13 per cent, compared with 47 per cent of older women aged 45–49 years. Both overweight and obesity were more prevalent in urban areas than in rural areas.

1.2.5 Micronutrient deficiencies in women and adolescents

1.2.5.1 Anaemia among Women of Reproductive Age (WRA) and adolescents

Over the years, the prevalence of anaemia among WRA has gradually declined since 2005. In the 2004–05 TDHS, 48 per cent of WRA were anaemic, which declined to 40 per cent in 2010, and rose again slightly to 45 per cent in the 2015–16 Tanzania Demographic and Health Survey-Malaria Indicator Survey (w). In the Southern Highlands, regional trends indicate

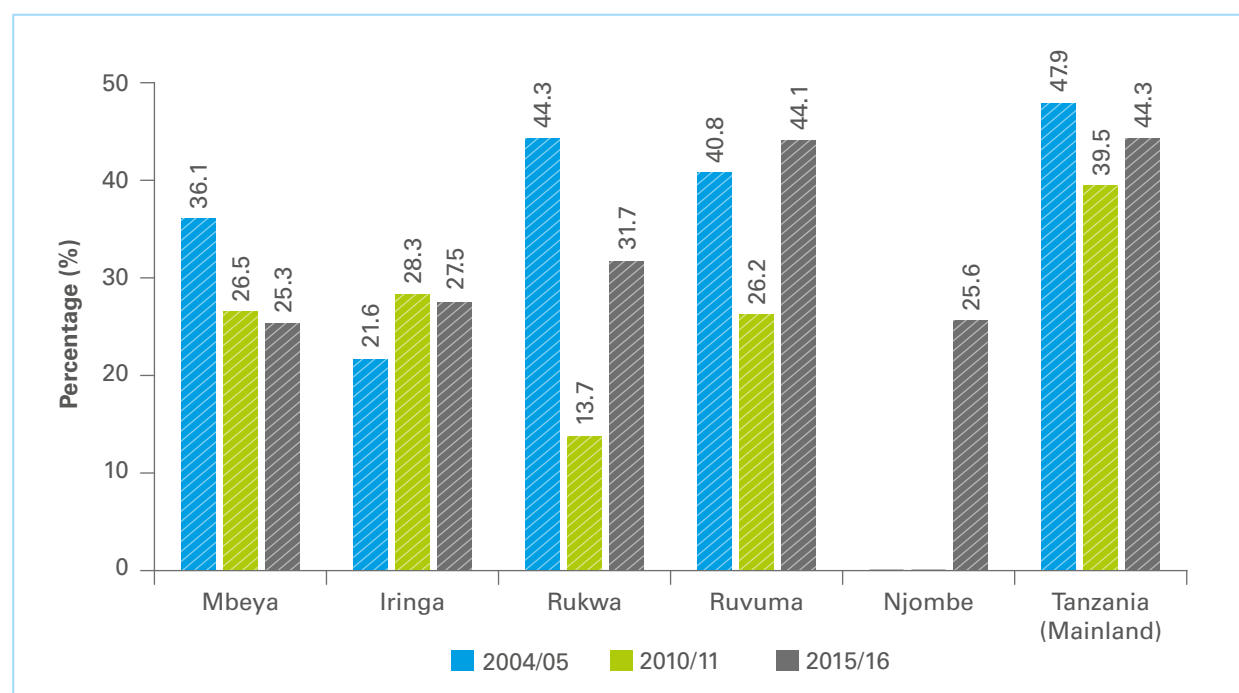
PREVALENCE OF ANAEMIA AMONG WRA



broad variations in prevalence, however, this figure was lower compared to the national prevalence. The prevalence of anaemia in the Mbeya region has been declining gradually each year since 2004/05, decreasing from 36.1 per cent to 25.3 percent by 2015/16 (TDHS), which was lower than the national prevalence average of 44.3 per cent in that year ([see Figure 3](#)).

The prevalence of anaemia was higher among adolescents aged 15–19 years and among young women than older women in the 2011–2015 TDHS. It is estimated that 58 per cent of the adolescents (aged 10–19 years) attending school in Tanzania were anaemic in 2020 (School Malaria and Nutrition Survey, 2020). The prevalence of anaemia was also higher among pregnant

Figure 3: Percentage (%) of women aged 15–49 with any anaemia (Hb<12.0) in five regions in Tanzania

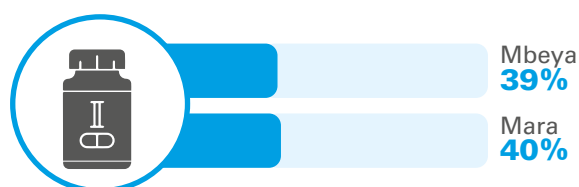


women than women who were breastfeeding, or neither pregnant nor breastfeeding; in 2015, the difference in anaemia prevalence was over 10 per cent between pregnant women and women who were neither pregnant nor breastfeeding. There was also a notable correlation between wealth and anaemia prevalence – in each survey (TDHS), prevalence of anaemia was lower among women in higher wealth quintiles as compared to women in the lower quintiles.

1.2.5.2 Iodine status among Women of Reproductive Age (WRA)

Optimal iodine intake is essential for preventing iodine deficiency and developmental disorders among neonates and infants. In the 2004/05 TDHS, the median urinary concentration for WRA between 15–49 years was 160 µg/L, which increased to 180 µg/L by 2015/16. In 2015/16, 23 per cent of the women tested had optimal urinary iodine concentration (UIC). Nationally, 36.3 per cent of the adolescents (aged 15–19 years) had high levels of iodine intake (>300 µg /L) while 23.3 per cent had an optimal UIC. Regional data shows that the percentage of women with optimal UIC varied widely. The Mbeya and Mara regions had the highest percentages of women with optimal UIC at 39 per cent and 40 per cent respectively.

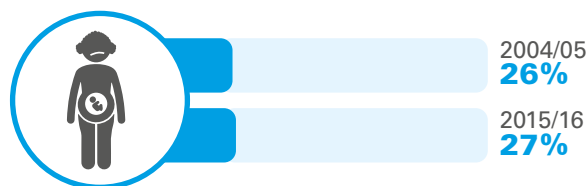
PERCENTAGES OF WOMEN WITHOUT OPTIMAL UIC



1.2.6 Adolescent pregnancy

The percentage of adolescents who had a child or who were pregnant was 26 per

PERCENTAGE OF ADOLESCENTS HAVING A CHILD OR WHO ARE PREGNANT

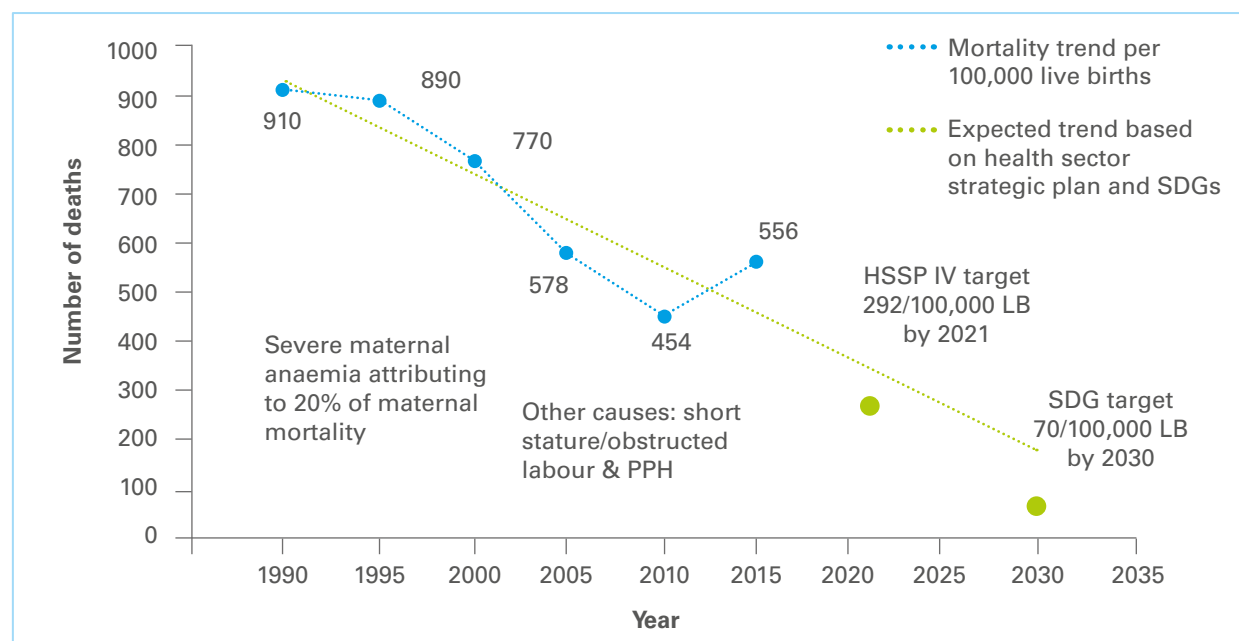


cent in 2004/05 and rose to 27 per cent in 2015/16. Adolescent pregnancies are much higher in Tanzania Mainland than in Zanzibar. In the Southern Highlands, the prevalence of adolescent pregnancy was high but comparable to national prevalence; in 2015, the prevalence of adolescent childbearing in Mbeya was 33 per cent. Adolescent childbearing decreases significantly with increasing education levels and income.

1.2.7 Maternal and child mortality in Tanzania

In Tanzania, the maternal mortality rate (MMR) had been declining rapidly since 1990 but has begun rising since 2010, reaching 556 per 100,000 live births in the most recent survey (2015). Over the years, the MMR has varied between different age groups. In 2015, adolescents aged 15–19 years had the lowest MMR as compared to older women aged 35–49 years. However, women in peak childbearing years (aged 20–29 years) had the highest percentage of maternal deaths than in any other age group (~30 per cent). It is important to note that the data for maternal mortality in Tanzania is limited. The data is based on less than 300 events in each survey since 2005 for all age groups, representing only 21 per cent of all female deaths; and a large proportion of mothers give birth at home, making it more complex to analyse the data on maternal and adolescent mortality.

Figure 4: Maternal Mortality, Tanzania 1990–2035 (projections)



1.3 Maternal and adolescent health and nutrition interventions in Tanzania

1.3.1. ANC components

Under Tanzania's focused ANC guidelines, pregnant women attend a minimum of four visits for low-risk pregnancies, with targeted interventions at each visit.^{8,9} Although a majority of the pregnant women in Tanzania (98 per cent) attended ANC at least once during pregnancy, only 24 per cent of the pregnant women started ANC in their first trimester in the 2015/16 TDHS-MIS. A higher proportion of women in the urban parts of Tanzania initiated ANC in their first trimester than women in the rural areas. The percentage of women who received the recommended number of four or more ANC visits increased from 43 per cent in the 2010 TDHS to 51 per cent in the 2015–16 TDHS-MIS (see Figure 5).

In the Mbeya region, 97.7 per cent of the women visited ANC at least once during pregnancy in 2015/16, an increase from 93 per cent in 2010.^{1,10} According to the TSPA (2015), the percentage of health facilities that offered ANC in Mbeya (94 per cent) was about the same as in Ruvuma, Njombe and Rukwa.

1.3.1.1 Iron and Folic Acid Supplementation (IFAS)

The proportion of pregnant women taking IFA supplements for 90+ days has increased over the last decade, from 9.8 per cent to 21.4 per cent in the 2015–16 TDHS, and 28.5 per cent in the 2018 TNNS survey. While antenatal coverage in Tanzania has remained high over the last decade, national coverage of IFAS among pregnant women has not exceeded 50 per cent in recent years since 2010 (see Figure 6). In the TDHS surveys from 2005 and 2010, Mbeya had the highest coverage IFAS – 14 per cent and 4.1 per cent respectively – compared with other regions in the Southern Highlands. In 2015, Mbeya had the highest coverage (31.5 per cent) of IFAS in the Southern Highlands. The coverage of IFAS increased with improvement in the levels of education and income for the pregnant women surveyed in Tanzania.

Figure 5: Percentage (%) of women who attended four or more ANC visits between 2005–2016

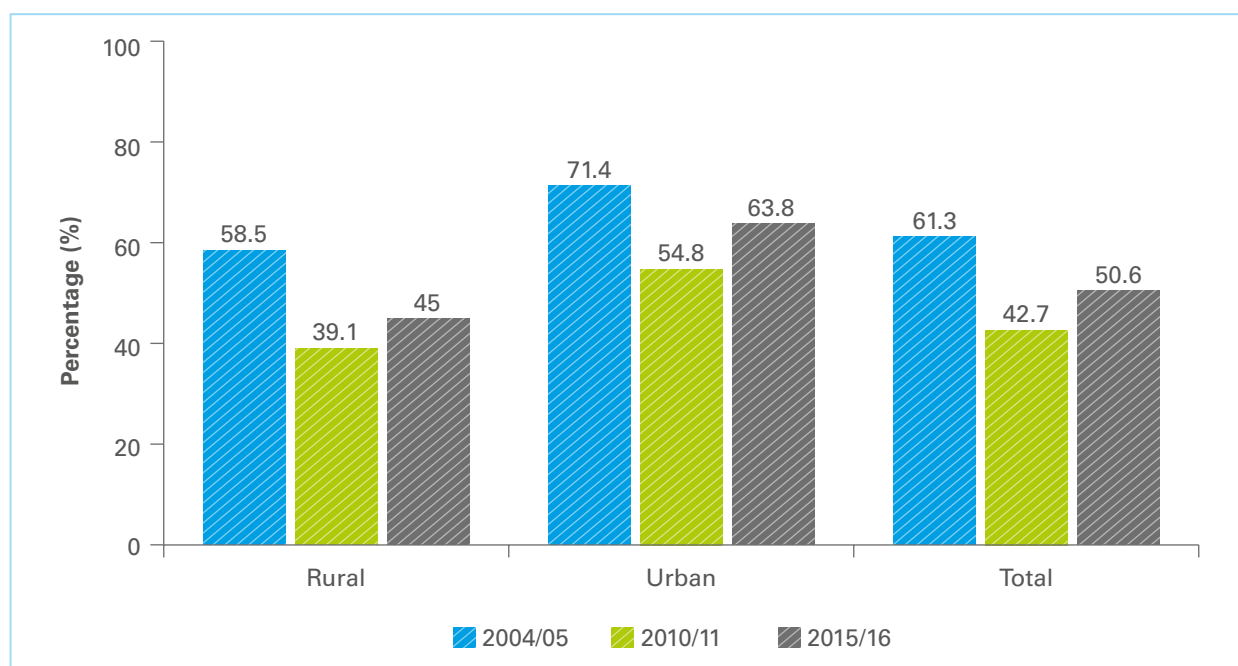
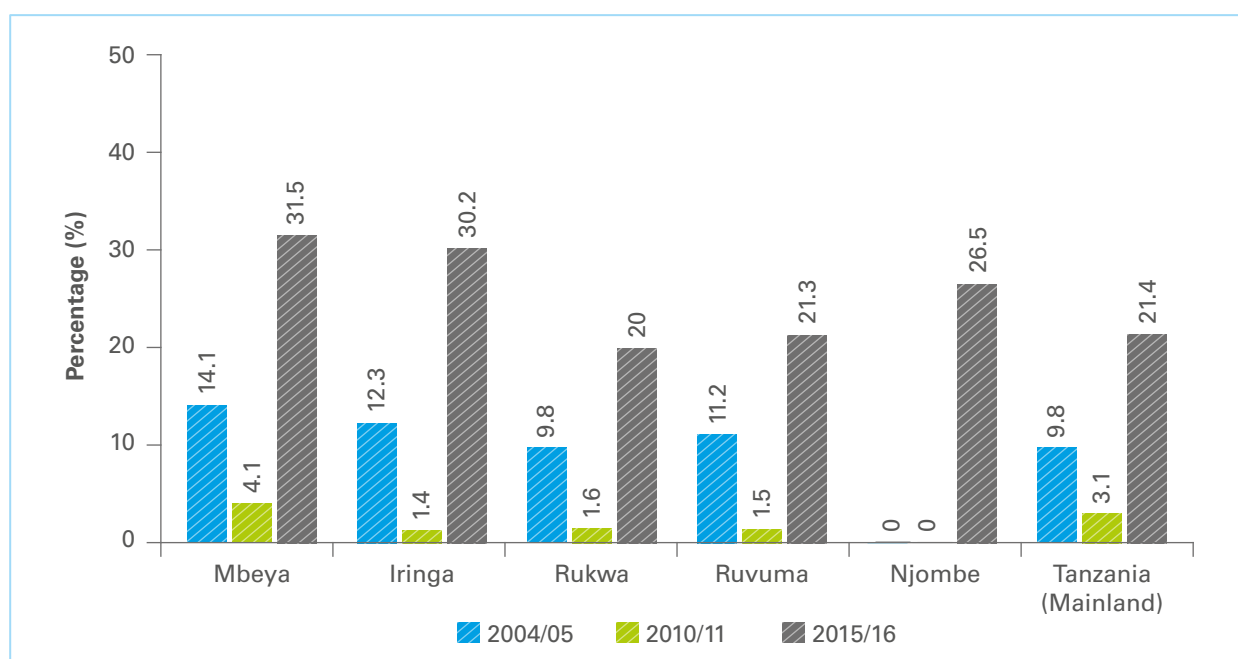


Figure 6: Percentage (%) of women taking iron tablets/syrup for 90+ days during pregnancy in five regions in Tanzania between 2005–2018

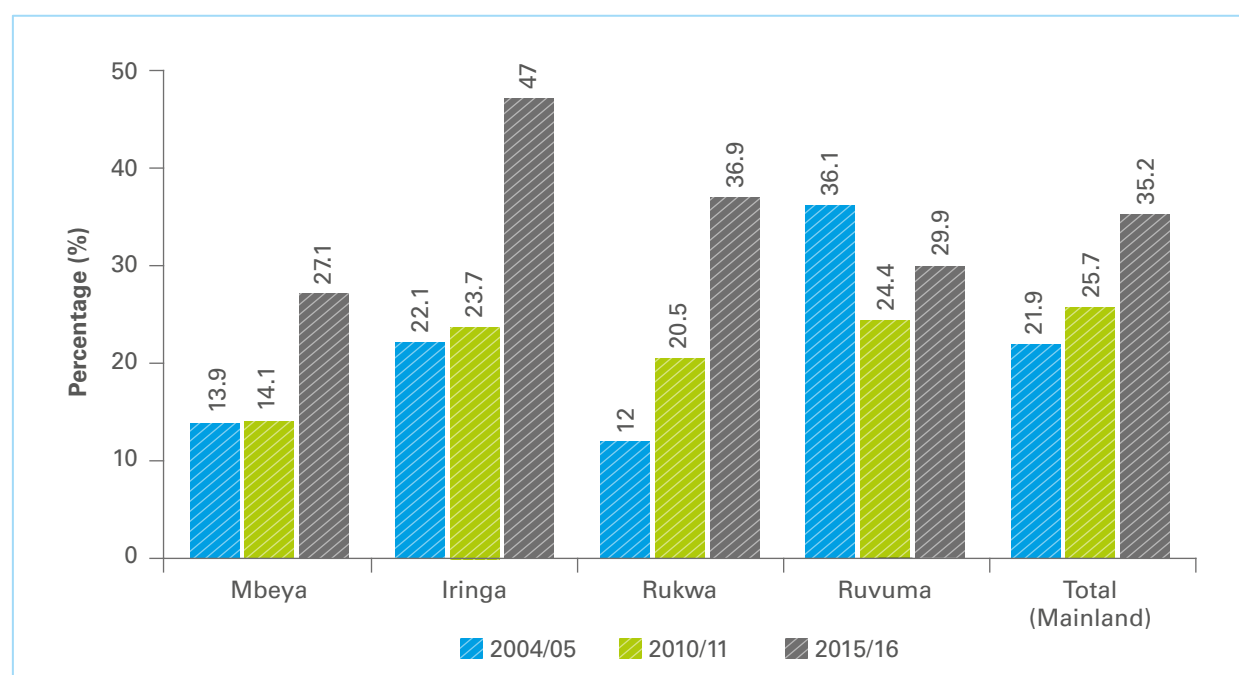


1.3.1.2 Intermittent Preventive Therapy (IPTp)/Fansidar (SP) and deworming tablets

Nationally, the percentage of women who received at least two doses of IPTp 2+ with

SP (with one dose provided during ANC) has steadily increased over the last decade, with a 14 per cent increase between the 2004 TDHS and the 2015/16 TDHS (*see Figure 7*). Among the regions in the Southern Highlands that were consistently surveyed since 2005,

Figure 7: Percentage (%) of women who received IPTp 2+/Fansidar during pregnancy in four regions in Tanzania from 2005–2016

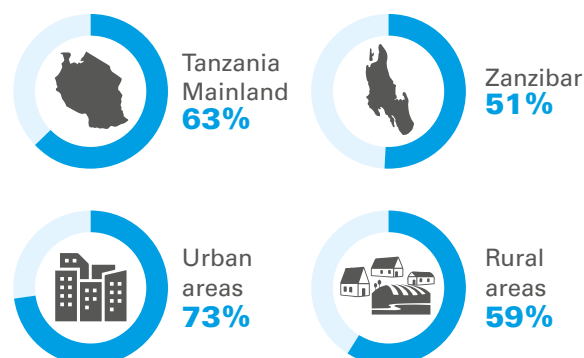


Mbeya had the lowest coverage of IPTp 2+. Ruvuma had the highest coverage of IPTp 2+ in each survey. Overall, despite the increase in IPTp use, the coverage is still low. In each survey, women with higher levels of education (above secondary level) were more likely to have received IPTp 2+/SP than those with no education or those who did not complete primary education. The percentage of women who received at least three doses of IPTp3+ with SP during pregnancy increased from 3 per cent in 2004/05 to 8 per cent in 2015/16, with some variations between those periods.

Deworming trends: In the 2015/16 TDHS-MIS survey, deworming tablet intake among pregnant women was higher in Tanzania Mainland (63 per cent) than in Zanzibar (51 per cent).¹ Regional coverage of deworming tablets showed that Mbeya and Rukwa (60 per cent) had the lowest percentage of deworming coverage in 2015. The use of deworming medication in pregnancy was higher among women living in urban areas (73 per cent) than those living in rural areas (59 per cent). Likewise, women in the highest wealth quintile were more

likely to take deworming medication than those in the lowest quintile.

DEWORMING TABLET INTAKE AMONG PREGNANT WOMEN



1.3.1.3 Use of long-lasting insecticide treated nets (LLINs)

LLINs and indoor residual spraying (IRS) are key methods to prevent mosquito bites and malaria transmission in endemic regions. In Tanzania, ownership of at least one insecticide-treated net (ITN) per household has increased from 23 per cent in the 2004/05 TDHS to 77 per cent

in the 2017 Malaria Indicator Survey (MIS).¹¹ (see Figure 8). Key distribution channels for the delivery of LLINs to pregnant women include facility-based distribution, through ANC visits and through universal coverage campaigns (UCCs). Along with household coverage of ITNs, the use of LLINs among pregnant women has increased since 2005; in the Southern Highlands, the percentage of the use of LLINs has increased from 8 per cent in 2004 to over 35 per cent by 2015.

1.3.1.4 Haemoglobin (Hb) testing

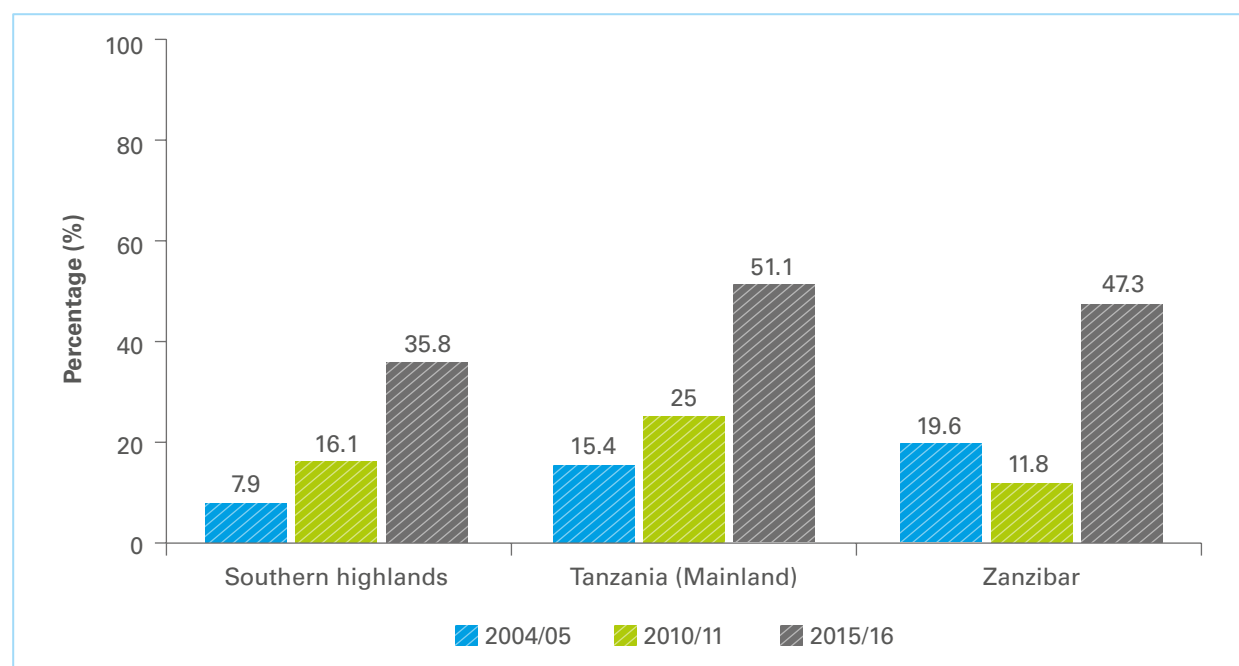
The 2014/15 TSPA survey showed that 50 per cent of the pregnant women were tested for haemoglobin (Hb or haematocrit) during their first ANC visit.¹² This was similar to the 2006 TSPA survey, where 41 per cent of all observed ANC clients were tested for Hb, and 50 per cent of first-visit ANC clients were tested.¹³ Regional data showed that in 2015, ANC client consultations that included Hb tests were only at 17 per cent in Mbeya (2014/15 TSPA).¹² In 2006, only 15 per cent of the health facilities in the Southern Highlands (including hospitals, health

centres and dispensaries) had the capacity to conduct an anaemia test.¹³ Only 16 per cent of the facilities surveyed that offered ANC services in Mbeya had the capacity to conduct Hb tests, a lower percentage than in Rukwa and Ruvuma at 28 per cent and 27 per cent respectively (2014/15 TSPA).¹²

1.3.1.5 Household use of iodized salt

Tanzania has adopted universal salt iodization (fortification) as a preventive measure against iron deficiencies. In the 2004/05 TDHS, 44 per cent of the households in Tanzania Mainland used salt containing an adequate concentration of iodine (15+ppm); this increased to 61 per cent in both the 2015/16 TDHS and the 2018 TNNS. In 2018, regions with the highest coverage of adequately iodized salt included Arusha (97 per cent), Dar es Salaam (95%), Mbeya (93 per cent) and Songwe (93.8 per cent).² Iodine coverage among mothers has also increased over the years. In the Southern Highlands, Mbeya had higher coverage of iodine among recent mothers, and Ruvuma showed the lowest coverage when

Figure 8: Percentage (%) of pregnant women (15–49) who slept in an LLIN the previous night in Tanzania and Zanzibar from 2005–2016



compared with the national level (see Figure 9). Njombe lacked data from previous surveys. In each survey, there were positive correlations between income (wealth quintile), education level and the percentage of women (mothers) living in households containing iodized salt.

1.3.1.6 Counselling on diet and nutrition – ANC

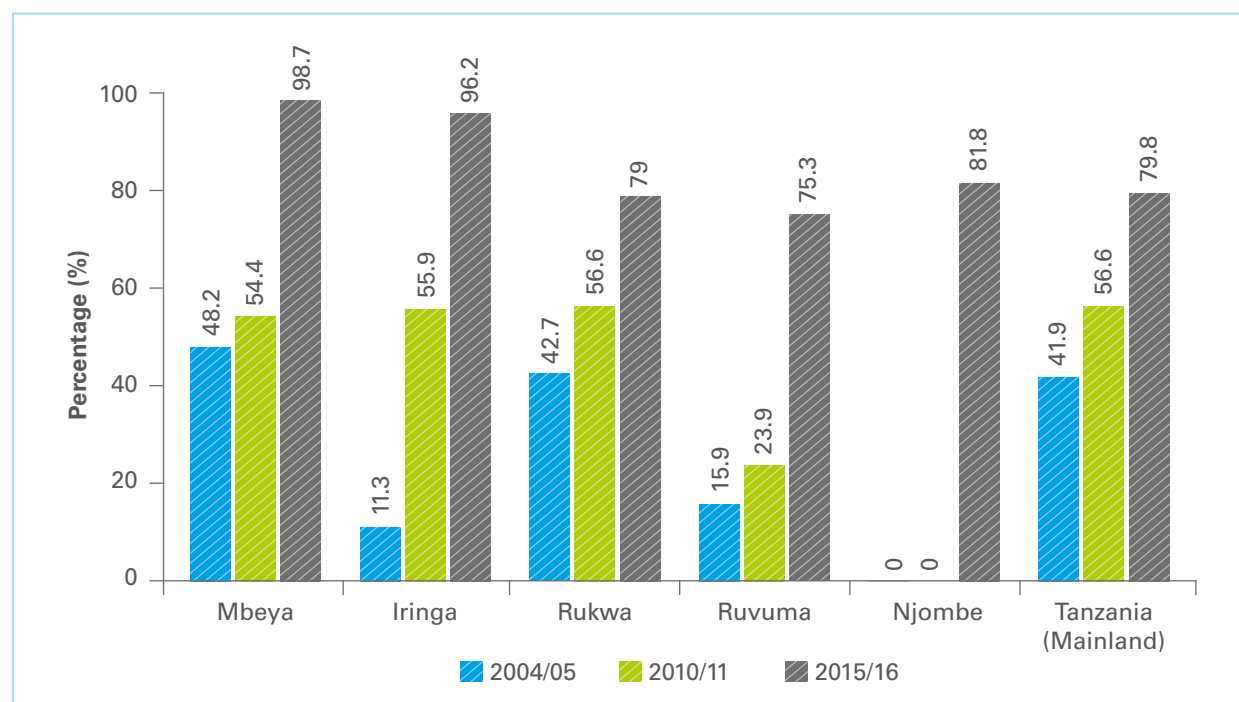
In the 2006 TPSA, only 18 per cent of the surveyed first-visit ANC clients and 21 per cent of the follow-up visit clients were counselled on nutrition, and 20 per cent of all observed ANC clients received nutrition counselling.¹³ In the 2014/15 TSPA, the percentage of women who were counselled on nutrition during pregnancy

increased to 33 per cent nationally.¹² At the regional level, regions/zones with the lowest percentage of ANC clients observed receiving counselling on topics related to nutrition, including the southern zone (12 per cent), Southern Highlands (14 per cent) and the lake zone (13 per cent).¹³ More ANC clients in urban areas were counselled on nutrition than those in rural settings. Furthermore, clients were more frequently counselled on nutrition during the first-visit ANC, than those who attended follow-up ANC visits. At the regional level, coverage of nutrition counselling in the Southern Highlands (Mbeya, Ruvuma and Rukwa) was lower than the national average, ranging from 21 to 32 per cent.¹²

ANC CLIENTS WHO RECEIVED NUTRITION COUNSELLING IN 2006



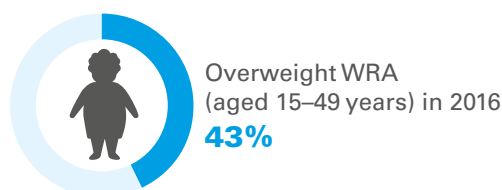
Figure 9: Percentage (%) of mothers living in households in Tanzania with adequately iodized salt (≥ 15 ppm)



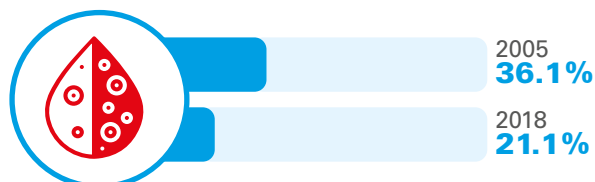
1.4 Key findings

- » Maternal undernutrition has declined significantly in Tanzania, including Mbeya, but the proportion of women with obesity has been rapidly increasing. While thinness (BMI<18.5), short stature and MUAC have remained low, the prevalence of overweight and obese WRA has been rising nationally. In the Mbeya region, 43 per cent of WRA between 15–49 years were overweight in 2015/16.
- » Prevalence of anaemia has declined in Mbeya from 36.1 per cent in 2005 to 21.1 per cent in 2018. In 2015, the prevalence was higher in adolescents aged 15–19 years and young

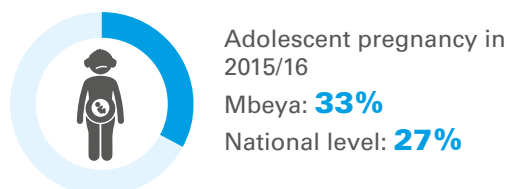
NUTRITIONAL STATUS IN THE MBEYA REGION



Decline in prevalence of anaemia



Highest percentage of women aged 15–49 years showing **optimal UIC** 150–300 (µg/L) in Southern Highlands



Increase in ITN coverage among pregnant women is due to facility-based distribution programmes for women attending ANC



women than in older women. It is estimated that 58 per cent of in-school adolescents aged 10–19 years presently have anaemia. The interpretation of results needs care due to variability in the method used, the timing of data collection between the surveys, sample size selected, and the Hb screening teams and tools used.

- » Iodine status has also shown positive growth trends, though sample sizes vary widely between surveys. Mbeya had the highest percentage of women aged 15–49 years showing optimal UIC 150–300 (µg/L) in the Southern Highlands.
- » The prevalence of adolescent pregnancy has remained constant at 27 per cent in 2015/16 nationally over the last five years. In the Mbeya region, adolescent pregnancy was 33 per cent in 2015/16, which was much higher than the national estimates (27 per cent).
- » More pregnant women are receiving and sleeping under ITNs in Tanzania. The increase in ITN coverage among pregnant women can be attributed to facility-based distribution programmes which targeted the women attending ANC.

1.5 Gaps and recommendations – maternal health and nutrition interventions

1.5.1 Gaps

- » Most of the women in Tanzania, Mbeya and the Southern Highlands make their first ANC at five months of pregnancy (median month of the first visit), causing delays in accessing health services and low adherence to services. A low percentage attend ANC in

their first trimester; nationally, only 25 per cent of the women attended ANC in their first trimester in 2015.

- » Health-care providers do not always provide nutrition counselling to pregnant women and lactating mothers. The Southern Highlands region has the lowest percentage of ANC clients receiving counselling on nutrition, ranging from 21 to 32 per cent between DHS 2005/06 and TNNS 2014.
- » The use of IFAS for 90+ days during pregnancy is improving (35 per cent in Mbeya) but it is still too low to combat the burden of anaemia. In the Southern Highlands, Mbeya had the highest coverage of IFAS in 2015.
- » There has been low coverage of IPTp 2+ among pregnant women nationally, and Mbeya has had the lowest coverage in the Southern Highlands since 2010.
- » In 2014, nationally, only 50 per cent of the pregnant women received Hb testing during the first ANC visit. Regional data (2014/15 TSPA) showed that Mbeya had the lowest percentage of women whose ANC visit included Hb testing in 2015.
- » The coverage of counselling on diet and nutrition has been low nationally, reaching 33 per cent in 2014/15. At the regional level, regions/zones with the lowest percentage of ANC clients observed receiving counselling on topics related to nutrition, including the southern zone (12 per cent).

1.5.2 Recommendations

- » The IMAN project needs to have specific strategies to ensure early and timely ANC visits to improve coverage and adherence of ANC services (IFAS, IPTp, deworming, LLIN etc).

- » There is an urgent need to design interventions to address adolescent nutrition and pregnancy, and the burden of anaemia.
- » Mothers need more focused education and counselling on dietary diversity and the consequences of stunting and other nutritional deficiencies to reduce the burden of stunting and micronutrient deficiencies.
- » Health providers need to use a standardized, integrated package of guidelines/standards of procedure (SOPs) with simplified information covering all key nutrition interventions. There are many existing packages which content are not harmonized and not well structured, making them hard to be used as quick references. Due to the existing workload, health workers need a single reference package of social and behaviour change communication (SBCC) material for nutrition counselling which covers life cycle interventions.
- » The IMAN project also requires a comprehensive integrated community package to be used by CHWs. The package should include interventions covering pregnant women, lactating mothers and adolescents. The focus should be on nutrition-specific-and-sensitive interventions.

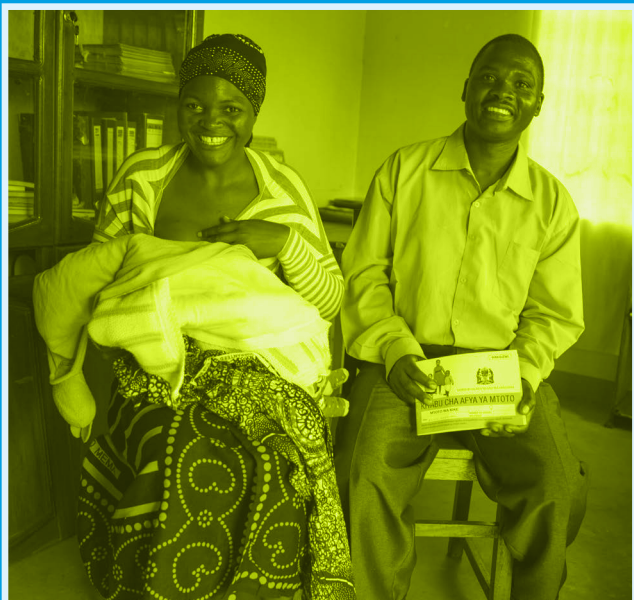




SECTION

2

An analysis of delivery platforms for maternal and adolescent nutrition in Tanzania



2.0 Introduction

The introduction of multiple micronutrient supplementation (MMS) and other IMAN packages requires a clear understanding of the delivery platforms and the available human resources. This evidence will inform the design and implementation of the IMAN demonstration project, which is aimed at addressing the high burden of malnutrition in Tanzania (Mbeya region) through a holistic approach combining the promotion of diversified diet, food fortification and micronutrient supplementation. This chapter will review the existing literature and assess the delivery platforms and related human resources for maternal and adolescent nutrition in Tanzania.

2.1 Methodology

The extensive desktop search was conducted using Google, BMC Nutrition, PubMed and Google Scholar, and information pulled from references listed in articles and manuscripts, along with articles accessed from consultations with colleagues at the Ifakara Health Institute (IHI) and UNICEF. Published and grey literature focused on the delivery of maternal and adolescent nutrition services and commodities. Keywords used in searching are illustrated in Table 1. A total of 40 documents were gathered, including peer-reviewed papers, non-governmental organization (NGO) briefs/reports, and government reports. Of those, 35 met the criteria and were used in this review. Literature gathered through the desktop exercise was annotated and summarized in an excel matrix ([see Annex 1.](#)).

Table 1: Key terms used in searching

Search keywords	
Tanzania/rural + urban region + district + clinic (catchment areas)	iron, folic acid, FEFO, micronutrient, supplementation, multiple micronutrients, supplements, tablets, pregnancy, pregnant women, adolescents, women of reproductive age, antenatal care, antenatal clinic, ANC, clinic, anaemia, diet, deficiency, malaria, intermittent preventive therapy, deworming, fortification, fortified, nutrition education, counselling distribution channel, antenatal clinic, community-based, health system, supply, demand, health facility, services, screening, facility readiness, human resources, health providers, community health workers, nurses, financing, planning

2.1.1 Inclusion and exclusion criteria

While the literature on maternal antenatal supplementation including IFAS was widely available, the search was narrowed further by focusing on materials specific to Tanzania. All studies conducted or describing aspects on the delivery of maternal and adolescent nutrition services and commodities were considered, including health facility readiness; ANC; supplementation of micronutrients and fortification with micronutrients; community-based delivery platforms and health facility delivery platforms; and human resources for nutrition interventions. Literature that only pertained to child nutrition services or supplementation was excluded.

2.2 Distribution channels for the delivery of maternal health and nutrition services in Tanzania

2.2.1 Facility-based channels for maternal nutrition services

Tanzania delivers nutrition services and commodities to pregnant women largely as

integrated components of care embedded within the national health projects such as reproductive and child health services (RCHS), prevention of mother-to-child transmission (PMTCT) and Integrated Management of Childhood Illness (ICMI).¹⁴ Over the years, routine focused antenatal care (ANC) has become a central facility-based platform for the delivery of integrated maternal health and nutrition services implemented at various levels of the health system, from dispensaries and health centers to tertiary hospitals.¹⁵ Under this model, pregnant women attend a minimum of four ANC visits and receive a package of multiple health and nutrition-specific interventions at each visit. The evidence-based and high-impact nutrition interventions delivered to women through the ANC platform are highlighted in [Table 2](#).

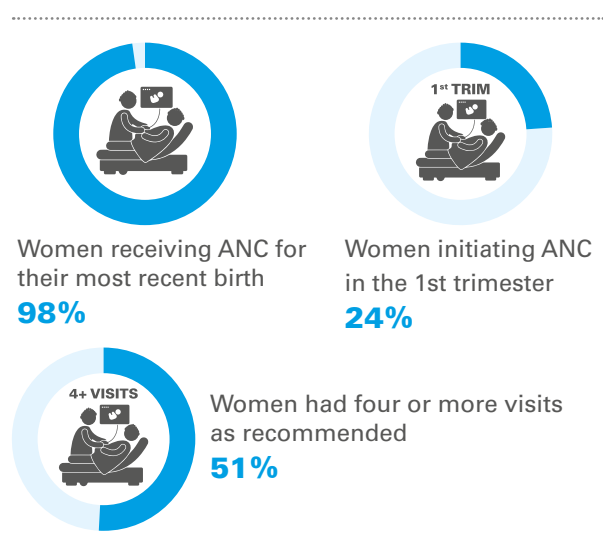
2.2.2 Bottlenecks in the delivery of maternal nutrition services and commodities

Studies in Tanzania have widely described ANC as a key bottleneck in the delivery of high-impact reproductive and nutrition interventions for pregnant women and adolescents. The 2015/16 Tanzania District Health Information System (DHIS)/MIS survey shows that while coverage of ANC was high, with 98 per cent of women receiving ANC for their most recent birth, only 24 per cent initiated ANC in the first trimester and 51 per cent had four or more visits



Table 2: Focused ANC nutrition-specific services

Tanzania's focused antenatal care – nutrition-specific interventions	» Nutritional assessment and management of SAM/MAM » Micronutrient supplementation with IFA and MMS » Deworming tablets (Mebendazole/Albendazole) » Malaria interventions e.g., intermittent preventive treatment (IPTp) and LLINs » Individual or group counselling on an optimal diet during pregnancy, micronutrients and physical exercise¹⁶
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as recommended.¹⁷ Late initiation to ANC can prevent women from receiving interventions in their appropriate period (trimesters) and dosage(s). Barriers and bottlenecks to ANC utilization in Tanzania have constituted individual, socioeconomic/cultural and health system factors, as outlined in [Table 3](#).

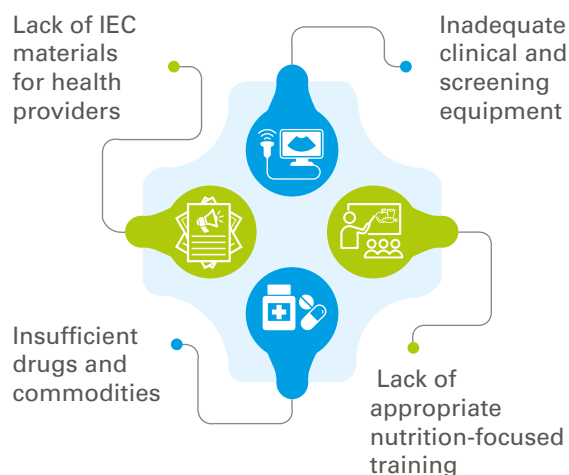
2.2.3 Quality of Care (QoC)

A growing body of evidence from Tanzania has also highlighted challenges in the availability, effectiveness and QoC in the delivery of nutrition interventions as recommended under current

Table 3: Bottlenecks in the delivery of maternal nutrition services and commodities

Bottleneck	Literature review (findings)
Health system factors	» Frequent stock outs and low availability of IFAS – especially in low-level facilities¹⁸ » Insufficient health provider knowledge and training about ANC and anaemia guidelines, including the importance of providing IFAS during pregnancy » Inadequate client counselling on the benefits of taking tablets daily and lack of proper monitoring or follow-ups on client adherence^{9,19-21}
Socioeconomic determinants	» Financial costs such as transportation costs, and other associated costs prevented pregnant women from making frequent visits to the clinic²¹ » Studies found positive associations between higher income, age, education level and adherence to IFAS^{22,23}
Sociocultural factors	» Cultural beliefs led women to 'hide' their pregnancy in its early stages and attend clinics later in the pregnancy²¹ » Misconceptions about iron supplements (such as prolonged pregnancy due to the use of supplements) contributed to lower adherence²¹ » Recommendations of spousal/partner attendance and HIV testing during the first ANC visit led women to initiate ANC late because they lacked partner support¹⁹ » Lack of spousal support for first-visit ANC and lack of family support for attending subsequent visits
Individual factors	» Forgetfulness in taking a daily dose of IFAS and side effects reported by women e.g., black stool and unpleasant taste » Lack of knowledge about the benefits of IFAS and the adverse effects of anaemia during pregnancy²³

GAPS IN THE PROVISION OF NUTRITION SERVICES AT PRIMARY HEALTH FACILITIES



ANC guidelines.^{14,24–26} Studies have found several gaps in the provision of nutrition services at primary health facilities – characterized by the lack of adequate clinical and screening equipment, appropriate nutrition-focused training, adequate drugs and commodities, and information, education and communication (IEC) materials for health providers.^{16,25} A recent United States Agency for International Development (USAID) (2018) report on facility readiness for the provision of maternal and child nutrition found that, while IFA supplements were readily available in primary health facilities (both rural and urban assessed) in Tanzania, providers did not adequately prescribe them to women attending ANC.²⁶ Another study on the availability and readiness of malaria services showed that the lack of in-service training about the provision of IPTp led to fewer ANC clients receiving the recommended dosage from private and public health facilities in Tanzania.²⁷

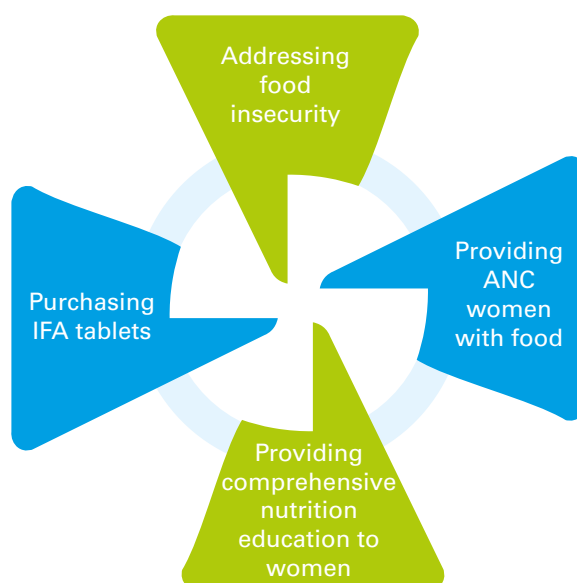
2.2.4 Community-based channels for the delivery of maternal nutrition services and commodities

Community-based maternal and nutrition interventions have constituted linkages to the facility-based services by CHWs, along with

the implementation of SBCC, sensitization and education on nutrition-sensitive approaches. The Tanzania Food and Nutrition Center (TFNC) landscape analysis on nutrition highlighted community-based interventions implemented at the district level across four regions in Tanzania. These interventions included nutrition- activities such as purchasing IFA tablets, providing ANC women with food and addressing food insecurity, and providing comprehensive nutrition education to women.^{14,16}

CHWs have been described as a key resource for bridging the gaps in ANC and nutrition care by supporting the continuum of nutrition services through community-based services and interventions or by linking clients to facility-based nutrition services.^{21,28–30} CHWs play a key role in empowering communities to have improved health and nutrition standards and connect health facilities with communities by visiting households to offer primary health care (preventative) and health information. Benefits of community-based distribution of FEFO supplements were outlined in a review exploring this distribution channel in several developing countries, including Tanzania³¹. The review found

COMMUNITY-BASED NUTRITION INTERVENTIONS AT DISTRICT LEVEL



that community-based distribution increased the knowledge of anaemia and of the benefits of IFAS and encouraged early ANC attendance; distribution through the CHWs and women's social groups was found to reach a greater proportion of women than the ANC.

2.3 Distribution channels for the delivery of adolescent health and nutrition services in the Mbeya region

The IMAN project conducted a regional assessment of delivery platforms for adolescent nutrition in Mbeya. The assessment was conducted by UNICEF Tanzania in collaboration with key regional and district-level focal persons, including RCHS coordinators, education officers, nutrition officers, and primary/secondary school

teachers in Mbeya. The assessment aimed to map the existing nutrition interventions for in-school adolescents and provided recommendations for integrating the core nutrition interventions within the context of the IMAN project. Stakeholders provided an overview of the existing services and delivery platforms and suggested approaches for strengthening the provision of key nutrition interventions for this group. A summary of the findings follows.

2.3.1 School-based distribution of nutrition services and commodities

Primary and secondary schools in Tanzania are the key channels for the delivery of nutrition-specific and sensitive services to adolescents and WRA. In Mbeya, school-based delivery platforms provide a stable entry-point for the provision of core nutrition interventions targeting both adolescent girls and boys, which have included (see Table 4) WIFAS; the promotion of dietary diversity; consumption of fortified

Table 4: Adolescent nutrition delivery platforms and entry points in the Mbeya region – IMAN activities to be mainstreamed

No.	Platforms and target groups	Existing interventions	New project activities to be mainstreamed
1	Primary schools: School children, aged 10–14 years	Mchakamchaka – routine school-wide running or jogging in the morning School sports days, School clubs UMITASHUMTA – annual primary school sports and talent games in Tanzania School-based assessments (e.g., report cards) Mashamba darasa ya lishe – School-farms or gardens (for nutrition education)	Physical activity Nutrition education, WASH interventions Promotion of dietary diversity/ consumption of fortified foods WIFAS distribution (where possible) Prevention of early or teenage pregnancies
2	Secondary schools: School children and adolescents, aged 15–19 years	UMISETA – annual secondary school sports and games in Tanzania School clubs and student organizations Sexual education and pregnancy testing for secondary school girls	Physical activity Preventing teenage pregnancies WASH Promotion of dietary diversity and consumption of fortified foods

foods; physical activity; prevention of teenage pregnancies; WASH; agriculture and livestock keeping; and nutritional assessments. School-based channels provide a safe, supportive and reliable setting for adolescents to receive nutrition services and commodities, and they can strengthen the capacity of the health systems by reaching the most vulnerable adolescents with essential health services.

2.3.2 Facility-based services and programmes

In addition to school-based platforms, the assessment also highlighted adolescent-specific and friendly interventions implemented at the health facilities in Mbeya. Health facilities are an essential platform for the delivery of several nutrition-specific-and-sensitive interventions; services are often integrated into SRH programmes and other facility-based services which are tailored towards adolescents and youth. The assessment outlined key existing interventions and offered recommendations for IMAN project activities to be mainstreamed

within the health systems. A summary of facility-based platforms is outlined in [Table 5](#).

2.3.3 Community-based distribution of health services and commodities

Community-level entry points provide an accessible channel for out-of-school adolescents and youth who are not reached through school-based and health facility platforms. The assessment noted that Mbeya hosts several community-wide initiatives that promote adolescent and youth participation in health and nutrition projects. These include community groups/organizations; agricultural projects for farmers and community members; and adolescent-specific projects. The assessment highlighted several youth-led programmes and initiatives in Mbeya where IMAN project initiatives could be mainstreamed to improve adolescent health and nutrition in the region. A summary of community-based platforms is outlined in [Table 6](#).

Table 5: Adolescent nutrition delivery platforms and entry points in the Mbeya region – IMAN activities to be mainstreamed

No.	Platforms and target groups	Existing interventions	New project activities to be mainstreamed
1	Health facilities: Adolescents, youth and WRA	Uzazi wa Mpango – Family planning and contraception Nutrition assessments Management of malnutrition and anaemia Youth SRH education HIV testing and counselling Adolescent-friendly youth centre Teen clubs – community sensitization (secondary schools and universities)	Preventing teenage pregnancies Nutrition assessment and referral WIFAS distribution Promotion of dietary diversity and WASH IFAS (for pregnant adolescents and WRA)



Table 6: Adolescent nutrition delivery platforms and entry points in the Mbeya region – IMAN activities to be mainstreamed

No.	Platforms and target groups	Existing interventions	New project activities to be mainstreamed
1	Community groups and organizations Adolescents, youth and WRA	Community-based SRH education <i>MTAKUWA</i> – Preventing violence against women and children <i>(Familia za kuaminika)</i> Fit Family initiatives Tanzania Social Action Fund (TASAF) (cash plus) <i>(vikundi vya makuzi na malezi)</i> Community groups for youth and child welfare	Promotion of dietary diversity Consumption of fortified foods Physical activity Prevention of teenage pregnancies WASH, agriculture and livestock keeping Nutrition assessment and referral
2	Agricultural programmes Adolescents, youth and WRA	Farmers groups – growing diversified foods (e.g., maize, beans, pumpkin, millet) Agricultural education for farmers <i>Bustani kiroba</i> – Vegetable farming <i>Nane Nane/Saba Saba</i> – Annual farmer's day and labourers' day events	Agriculture and livestock keeping Promotion of dietary diversity, WASH Consumption of fortified foods Prevention of teenage pregnancies Physical activity
3	Adolescent and youth programmes Adolescents, youth and WRA	<i>Mabaraza ya watoto</i> (JCURT) – Children Unions in Tanzania AfriYAN – Youth-led organizations based in Mbeya Youth community Centres U-Report	Promotion of dietary diversity/physical activity Consumption of fortified foods Prevention of teenage pregnancies WASH/Agriculture and livestock keeping

2.4 Key findings – delivery platforms for maternal and adolescent nutrition

- » ANC is the primary platform for the provision of maternal nutrition services and commodities in Tanzania. While many women are able to access ANC, there is low adherence to the recommended number of visits.
- » Despite the national expansion of supplementation programmes, particularly IFAS, there is still low adherence and utilization

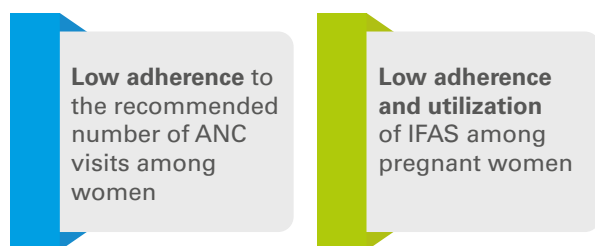
of IFAS among pregnant women resulting from multiple factors including health system challenges, socioeconomic and cultural barriers and product-related factors.

- » CHWs play a key role in the implementation of maternal health and nutrition services at the community level, promote the uptake of nutrition services and reach a broader group of women.
- » Schools are a key channel for the implementation of nutrition services and commodities to adolescents in Mbeya wherein a variety of interventions are distributed and promoted, including WIFAS, physical activity, nutritional counselling and

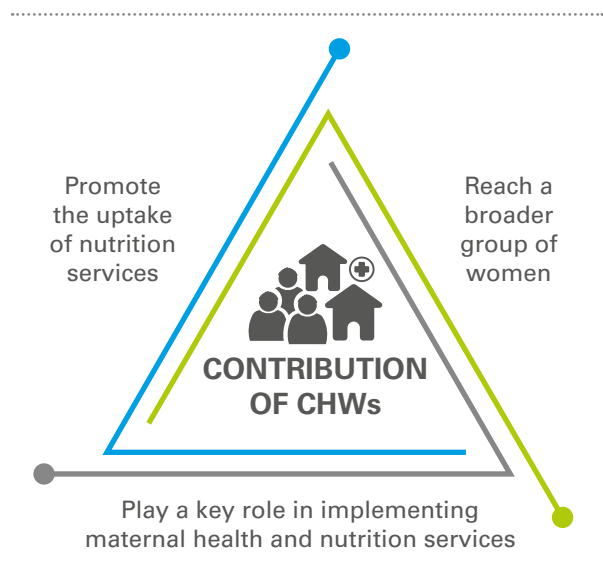
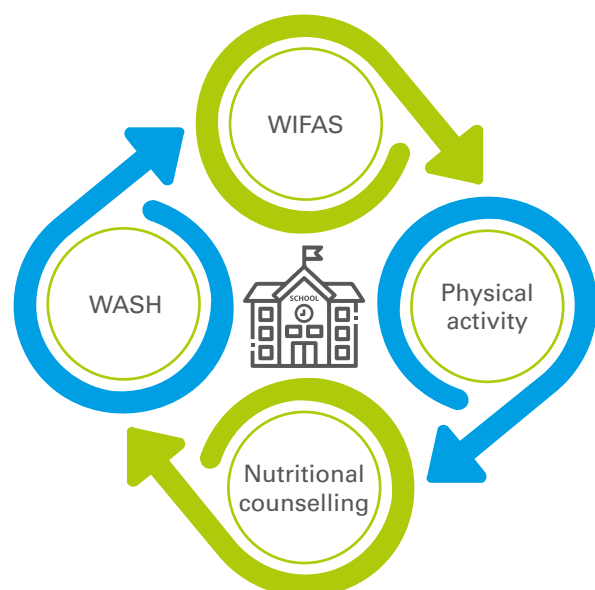
WASH. Nutrition services for adolescents are frequently integrated into other core health packages and routine services such as SRH and HIV testing/counselling.

- » Compared to school-based platforms, there were fewer facility-based interventions for adolescents. However, community-based programmes were widely available for adolescents and constituted several initiatives including adolescent-led youth programmes, community groups and agricultural programmes. These programmes catered to out-of-school adolescents and groups not adequately reached through school-based platforms.

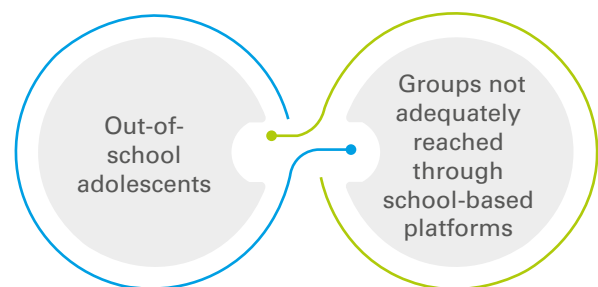
HEALTH-SEEKING BEHAVIOURS AMONG WOMEN IN TANZANIA



SCHOOLS AS KEY CHANNEL FOR NUTRITION INTERVENTIONS



TARGETS OF COMMUNITY-BASED ADOLESCENT PROGRAMMES



2.5 Key gaps and recommendations

2.5.1 Gaps

- » More evidence is needed to understand the factors driving low health system readiness in delivering nutrition services and commodities in Tanzania; research is needed to evaluate approaches to strengthen the health systems into delivering maternal and adolescent nutrition services.
- » A key gap in knowledge is the inability to identify the supply and demand factors that lead to faltering on IFAS. More information is needed on national and subnational coverage of IFA and on factors related to the low coverage of IFAS in health facilities.²⁶

- » Little is known on the most effective delivery of nutrition-sensitive interventions to improve maternal and adolescent nutrition, such as homestead production of diverse and nutrient-rich foods coupled with behaviour change communication (BCC).
- » While community-based interventions have been proposed to increase the uptake of essential maternal and adolescent nutrition services and commodities, there is limited evidence on the best practices/benefits of these approaches in Tanzania.
- » There is a lack of research on MMS coverage and compliance, delivery or distribution channels, and human resources. Most studies are centred on the distribution of FEFO supplementation through ANC.
- » Increase the distribution of IEC materials focusing on nutrition for pregnant women to create awareness on various nutrition issues and to foster dietary diversification. These materials should target the identified barriers and should be designed to change behaviours and not to impact knowledge alone.³²
- » Provide and strengthen training for CHWs on the importance of nutrition services for pregnant women, including IFAS and maternal anaemia, and enhance their capacity to promote comprehensive BCC through counselling at the health facilities and schools and in the communities.
- » Strengthen the delivery of comprehensive adolescent health and nutrition services through school-based and community-based channels. Most adolescents in Tanzania use these channels to access key services, and nutritional interventions must be integrated with other interventions. Nutrition must also be integrated with other routine health services e.g., SRH, immunization and HIV testing/counselling.

2.5.2 Recommendations

- » Expand the in-service training of health-service providers on both maternal and adolescent nutrition.³² Ensure the availability of updated guidelines, training materials and job aids for the adequate provision of nutrition services, particularly in low-level facilities.



SECTION 3

Enabling environment for maternal health and nutrition programmes in Tanzania



3.0 Introduction

This analysis aims to describe the landscape and the enabling environment for maternal, adolescent and child nutrition in Tanzania. The evidence gathered here will be used to inform potential challenges and opportunities to be considered in scaling up evidence-based maternal and adolescent nutrition interventions in Tanzania.

3.1 Methodology

Policies, guidelines, and strategies that addressed nutrition-sensitive approaches for women, adolescents and children were gathered and analysed. These documents were searched through ministry and agency websites and search engines including Google and Google Scholar. To expand our search, we also pulled information from references listed in report, guidelines and strategies. To get relevant documents, different keywords ([see Table 7](#)) were used during searching. Searching was limited to strategies/guidelines prepared since 2010.

Table 7: Keywords used in the search

Search keywords	
Tanzania/ monitoring/ evaluation/ health, nutrition	policies, strategies, action plans, framework, health, nutrition, water, hygiene, sanitation, adolescent, children, supplementation, vitamin A, food security, ANC, micronutrients, MMS

A total of 39 documents were obtained from the search. The documents were rapidly reviewed by skimming their table of contents to determine whether components of maternal and adolescent health and nutrition were included. A total of 27 documents were selected for in-depth review, these documents included eight national guidelines, two World Health Organization (WHO) guidelines, UN Sustainable Development

Goals (SDGs) 2030, 10 national health strategies, one monitoring and evaluation (M&E) plan, two programmes reports and four scientific papers. This review asked the following key questions – a) what are the current policies and strategies addressing maternal and adolescent health and nutrition? and b) how are the maternal and adolescent interventions coordinated, monitored and evaluated?

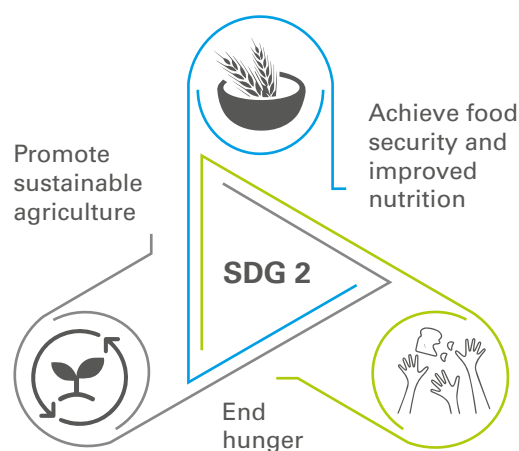
All reports, policies, strategies, national guidelines, and action plans that addressed maternal and adolescent health and nutrition were included in the assessment. Only those reports, policies, strategies, national guidelines, and action plans formulated or produced from 2010 to 2019 (and beyond) were included. Policies, strategies, and guidelines that did not include components from either maternal or adolescent health and nutrition, and those that were produced or formulated before 2010, were excluded. In cases where a document had different versions, the older one was excluded.

3.2 The policy landscape for maternal and adolescent nutrition in Tanzania

These findings summarize a key set of policies, guidelines, recommendations, and strategies – from the global level to the national level – that make up the enabling environment for maternal and adolescent nutrition in Tanzania. Furthermore, we explore the broader political context, including governance and coordination mechanisms, monitoring platforms, financing and information systems that oversee, capacitate, and support maternal and adolescent nutrition.

3.2.1 UN Sustainable Development Goals (SDGs) 2030

The UN SDGs 2030 outline a global commitment to address maternal and adolescent health and nutrition. SDG 2, “End hunger, achieve food security and improved nutrition and promote sustainable agriculture,” calls on the world and all countries to commit to end all forms of malnutrition by 2030, including achieving (by 2025) the internationally-agreed targets on stunting and wasting in under-five children, and addressing the nutritional needs of adolescent girls; pregnant and lactating women; and older persons. Several national policies and strategies aim to contribute to the SDGs – the NMNAP (2016 to 2021) features objectives that are aligned with SDG 2 (“end hunger”), with several actions that aim to contribute to the SDGs.



3.2.2 World Health Organization (WHO) guidelines and recommendations for maternal and adolescent nutrition

In 2016, WHO published updated recommendations and guidelines on ANC for

pregnant women globally. In these guidelines, WHO underscores the importance of ANC as an essential platform for maternal health and nutrition combining health assessment; diagnosis and treatment; disease prevention; and health promotion. The recommendations outlined a core package of evidence-based interventions to ensure positive experience and health outcomes during pregnancy, focusing primarily on 1) recommendations for the preconception period (adolescence), and 2) recommendations for pregnant and lactating women (*see Table 8*). These recommendations consistently inform Tanzania's national guidelines and action plans that address maternal and adolescent health and nutrition, including the National Antenatal Care Guidelines (2018) and the National Guidelines for the Prevention and Control of Micronutrient Deficiencies (2018).

3.2.3 Tanzania flagship policies, guidelines and strategies addressing maternal and adolescent health and nutrition

At the national level, several policies, guidelines and strategies address maternal and adolescent health and nutrition in Tanzania. These flagship documents promote a variety of evidence-based interventions that focus on addressing both the immediate and the underlying causes of malnutrition (*see Table 9*). Approaches, activities, and interventions are framed as policy statements, strategic objectives or key result areas (KRAs) that would be implemented to ensure that certain health or nutritional outcomes are achieved. Furthermore, for strategies and action plans, key targets and indicators were used to track progress on various indicators.

Table 8: WHO nutrition-specific recommendations for pregnancy and the peri-conceptual period

Target population	WHO nutrition-specific recommendations
Adolescents	» Intermittent oral IFAS with 120 mg of elemental iron and 2800 µ (2.8 mg) of folic acid once weekly
WRA (aged 15–49 years)	» Intermittent oral IFAS with 120 mg of elemental iron and 2800 µ (2.8 mg) of folic acid once weekly » Counselling about healthy eating and keeping physically active during pregnancy for pregnant women to stay healthy » Daily oral IFAS with 30 mg to 60 mg of elemental iron and 400 µ (0.4 mg) of folic acid to prevent maternal anaemia, puerperal sepsis, low birthweight, and preterm birth
Pregnant and lactating women	» Counselling about healthy eating and keeping physically active during pregnancy for pregnant women to stay healthy » Daily oral IFAS with 30 mg to 60 mg of elemental iron and 400 µ (0.4 mg) of folic acid to prevent maternal anaemia, puerperal sepsis, low birthweight, and preterm birth » Balanced energy and protein dietary supplementation for pregnant women in the undernourished populations to reduce the risk of stillbirths and small-for-gestational-age neonates » Daily calcium supplements (1.5–2.0 g oral elemental calcium) in populations with low dietary calcium intake to reduce the risk of pre-eclampsia » Vitamin A supplementation for pregnant women in populations where vitamin A deficiency is the public health to prevent night blindness » Zinc supplementation for pregnant women is only recommended in the context of rigorous research

Table 9: Flagship policies, guidelines, and strategies for maternal and adolescent nutrition in Tanzania

Document title (year)	Nutritional components
National policies	
1	National Health Policy (NHP) (2003) The NHP 2003 aimed to provide direction towards the improvement and sustainability of the health status of all people, with core objectives that included the provision of adequate and equitable maternal and child health services, and the promotion of adequate nutrition. The policy outlined objectives to address several nutritional challenges such as iron deficiency anaemia in pregnant women, vitamin A deficiency and protein energy malnutrition (PEM) among children. The policy committed to implement the following key actions: » Developing strategies for the control of micronutrient deficiencies, including the consumption of iodized salt » Supplementation and food-based approaches » Promoting appropriate child-feeding practices, including optimal breastfeeding and adequate complementation.
2	NHP (2017) This second NHP (2017) arose from the need to accommodate several socioeconomic and institutional changes and challenges that emerged during the 10 years of the implementation of the previous NHP (2007). The new policy contained an objective to reduce malnutrition in the country, with accompanying policy statements that included managing acute malnutrition, promoting dietary intervention for the control of micronutrient deficiencies, and promoting appropriate maternal, infant, and young child feeding practices.
National guidelines	
3	National Guidelines on the Prevention and Control of Micronutrient Deficiencies (2018) The development of these guidelines aimed to sharpen the country's focus and momentum towards improving the nutritional status of women, children, and adolescents in Tanzania. Chapter 4 promotes key interventions addressing micronutrient deficiencies among women (including pregnant women) and adolescents, including micronutrient supplementation (IFAS and MMS) for pregnant and postpartum women during ANC, dietary diversification (e.g., home gardening/livestock keeping), food fortification (industrial/home-based methods), agricultural interventions, and SBCC.
4	Implementation Guidelines for the Prevention and Control of Anaemia (2019) These guidelines prioritize anaemia as an urgent and pressing public health challenge, calling for multisectoral actions towards tackling it. The guidelines proposed several key actions to address anaemia among adolescents, such as health education to focus on nutrition and WASH; WIFAS for boys and girls; annual deworming; SRH education; and family planning services. In addition to facility-based services, these guidelines recognized the importance of schools as primary channels for delivering nutrition interventions. These guidelines also outlined the following M&E indicators for adolescent health and nutrition: the (percentage) of adolescent boys receiving WIFAS and the (percentage) of adolescent girls receiving WIFAS. They also outlined key targets to be achieved by 2022 (e.g., 30 per cent of adolescent boys and girl receiving WIFAS).
5	National Antenatal Care Guidelines (2018) These guidelines draw extensively from WHO ANC guidelines (2016) and focus primarily on facility-based interventions and clinical standards of care for women during pregnancy, during delivery and the postpartum period. Nutrition recommendations include daily IFAS and calcium supplementation, counselling on healthy eating during pregnancy, nutrition counselling/support for PMTCT and physical activity.
National strategies/action plans	
6	NMNAP (2016–2021) The NMNAP is a community-centred multisectoral nutrition system that combines several simultaneous activities to address the immediate and underlying causes of malnutrition. The NMNAP has prioritized seven KRAs and developed action plans and activities for each; action plans include, but are not limited to, (i) scaling up the maternal, infant, young child, and adolescent health (MIYCAN), (ii) scaling up the prevention and control of micronutrient deficiencies, and (iii) scaling up the integrated management of acute malnutrition.



Document title (year)	Nutritional components
	Key targets include: Reduced proportion of women aged 15–49 years with anaemia from 44.7 per cent in 2015 (2015 TDHS) to 33 per cent by 2021; increased proportion of pregnant women taking IFA for 90+ days during pregnancy from 9 per cent in 2014 to 20 per cent by 2021; increased access to food fortification (home and mass) for children aged 6–23 months, for pregnant women and women of childbearing age by 2021.
7 National Road Map and Strategic Plan to Improve Reproductive, Maternal, Newborn and Adolescent Health in Tanzania (One Plan II) (2016–2021)	The strategy focuses on reducing mononuclear nonadherent cells (MNAC) morbidity and mortality by providing quality health services offered by skilled attendants in an enabling environment and integrated manner along the continuum of care (from community to facility). KRAs and targets for maternal and adolescent nutrition focus on improving SRH outcomes among adolescents, improving and/or increasing reproductive and child health (RCH) facilities providing youth-friendly services, promoting awareness on one or more modern contraceptive methods and encouraging the use of condoms during sexual intercourse among adolescent girls and boys (aged 15–19 years). The strategy includes nutrition targets and indicators covering IYCF and vitamin A supplementation for children but few targets for adolescents and women – e.g., reducing anaemia in pregnancy from 53 per cent to 37 per cent.
8 National Accelerated Investment Agenda for Adolescent Health and Wellbeing (NAIA_AHW) (2019–2022)	The agenda recognizes that the adolescents have not been prioritized as a unique segment of the population, with minimal attention given to their health and well-being in the country's current health policy and strategy landscape. The NAIA_AHW is anchored on six pillars – the fourth pillar focuses on improving nutrition and prioritizes scaling up of WIFAS among adolescent girls aged 10–19 years, nutrition education, counselling, and health promotion at the individual, household and community levels. It promotes interventions that target both in-school and out-of-school adolescents, and acknowledges the supportive role of the CHWs, teachers and community members. Indicators (outcome): (a) the number of adolescent girls aged 10–19 years who have received at least 24 IFA pills in the past 12 months, and (b) the percentage of individuals who have received nutrition education and counselling in the past 12 months.
9 National Nutrition Strategy (NNS) (2011/12–2015/16)	The NNS affirms a renewed commitment towards addressing critical issues which are basic to improving nutritional status in Tanzania. The strategy identifies eight priority areas including vitamin and mineral deficiencies, and maternal and child nutrition. Some key health and nutrition interventions outlined as strategic objectives include the assessment of nutritional status; promoting and supporting infant and young child-feeding practices; counselling on dietary improvement; provision of micronutrient supplements; management of malnutrition; nutrition support for PLHIV; and treatment of underlying infectious diseases. Targets and indicators include increasing the proportion of mothers who take IFAS for 90+ days during pregnancy and the postpartum period from 10 per cent to 30 per cent, and the proportion of health facilities providing the minimum package of nutrition services.
10 National Five-Year Development Plan (2016–2020)	The plan aims to enhance the pace of progress towards the Tanzania Development Vision (TDV) 2025. One of the health-centred objectives is to improve the quality of life and human well-being, and the strategy adopts several priority areas and interventions aligned with the TDV 2025. The strategy promotes several packages of interventions to improve health and nutrition, with activities that include: i) promotion of MIYCF and nutrition-related WASH; including activities aimed at addressing the poor quality of health care, nutrition and protection for young children, and ii) interventions that improve vitamin and mineral intake; including activities that address the low adherence to IFAS among women and the high levels of anaemia among WRA. Targets and indicators for proposed health and nutrition interventions include access to safe water and sanitation in urban/rural areas (percentage of total), and prevalence of anaemia among WRA (haemoglobin concentration <11g/dl).

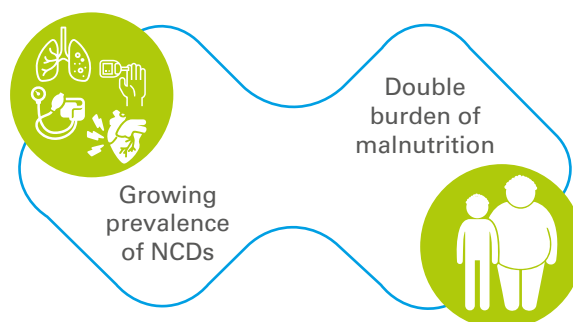
3.2.4 Political will

Tanzania is committed to nutrition issues at all levels of governance. In recent times, high-level political leaders have shown significant support and buy-in for improving maternal and adolescent nutrition, by championing evidence-based approaches and interventions through nutrition meetings or forums, and by sharing their opinions and becoming front liners in the design and coordination of nutrition activities.

In 2018, the Annual Joint Multisectoral Nutrition Review (JMNR) featured opening remarks from the Honourable Prime Minister Majaliwa Kassim Majaliwa as well as his full participation during the launch of “Lishe Nukuu”, a national programme to address the growing prevalence of NCDs, and the double burden of malnutrition in Tanzania. Members of parliament who were nutrition champions, along with other stakeholders in health and nutrition, attended the meeting. The Prime Minister urged the political leaders at the top to ensure strong coordination and accountability mechanisms, along with the allocation of budgeted funds to drive the implementation of programmes that will strengthen maternal, child and adolescent health and nutrition.



GAPS IN THE PROVISION OF NUTRITION SERVICES AT PRIMARY HEALTH FACILITIES



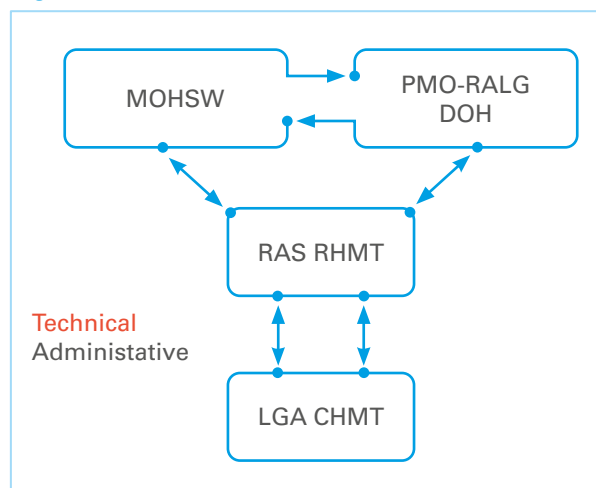
3.3 Coordination mechanisms for maternal, child and adolescent health and nutrition

3.3.1 Public-sector governance structure for nutrition in Tanzania

The public-sector governance structure for maternal and adolescent nutrition in Tanzania relies on the coordination of national, regional, and local authorities, and stakeholders. This ensures that the decision-making and the implementation of programmes/interventions are efficient, which trickles down from policymakers, regional administration, local authorities and implementers that are closest to the target populations. **Figure 10** illustrates the technical and administrative governance of health and nutrition programmes in Tanzania.

The MoHCDGEC (formerly MoHSW) works in tandem with the PO-RALG (Department of Health) to oversee the technical and administrative aspects of maternal, child and adolescent health (MCAH) and nutrition. The

Figure 10: Governance of maternal and adolescent



PO-RALG focuses largely on the administrative implementation of the policies, strategies, guidelines and programme/projects at the regional and local levels, while the MoHCDGEC formulates policies and provides technical oversight to various activities conducted by regional and local government authorities. These two bodies have activities that are both inter-dependent, and cross-cutting, to ensure that the policies and interventions are effectively delivered both nationally and locally. Specific activities and functions are as follows:

- » The MoHCDGEC carries the overall responsibility for the health and social welfare services and defines priorities for health and nutrition services.
- » PO-RALG supervises the planning, reporting and financial accounting of nutrition activities at the district and lower levels.
- » Both the MoHCDGEC and PO-RALG collaborate with several national and regional-level stakeholders to deliver high-impact interventions. One key agency under the MoHCDGEC that provides technical oversight of all aspects related to maternal, child and adolescent nutrition is the TFNC.
- » The regional health management teams (RHMTs) work under the Regional Administration and under PO-RALG to implement health and nutrition programmes/projects at the regional level.

- » The council health management teams (CHMTs) manage health care and social welfare services at the council level.
- » Regional and council management teams also collaborate with ward and village authorities, civil society institutions and community groups to implement initiatives at the grass roots/local levels.

3.3.2 Nutritional steering committees

The cross-cutting nature of maternal and adolescent nutrition challenges calls for the coordination of multisectoral institutions and actors. Steering committees ensure the effective coordination of activities and interventions undertaken across various sectors and institutions.

- » The Regional and Council Multisectoral Steering Committees on Nutrition (R&C MSCN) were formed to facilitate multisectoral coordination and participation of all key stakeholders at those levels.
- » The IMAN project Technical Advisory Group (TAG) was established as a sub-group of the NMNAP thematic working group (TWG) with the main objective of providing guidance on the design, implementation and monitoring of evidence-based approaches towards improving maternal and adolescent nutrition.

3.4 Monitoring and evaluation (M&E) for maternal and adolescent nutrition in Tanzania

M&E mechanisms are a core part of ensuring the effective implementation of programmes/projects and interventions for improving maternal and adolescent health and nutrition in

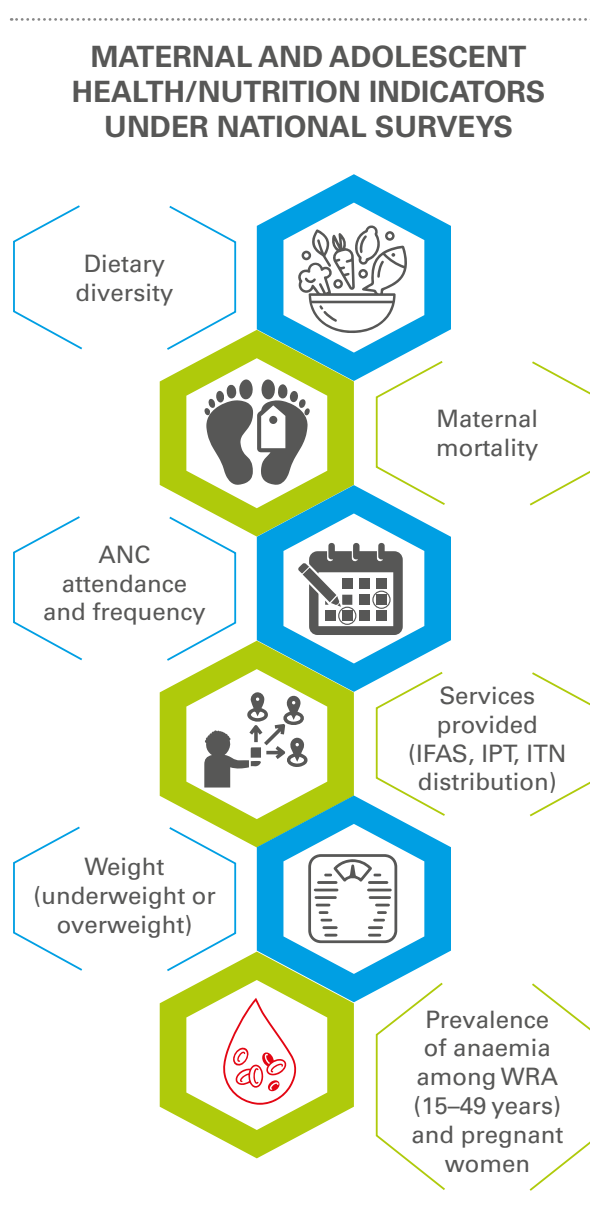
Tanzania. The MoHCDGEC has monitoring and evaluation units (sections), committees and working groups that oversee the implementation of health programmes and activities. Agencies such as TFNC and National Institute for Medical Research (NIMR) are well-equipped to monitor and evaluate interventions, and often work closely with government agencies, employing well-trained human resources, tools and approaches.

3.4.1 Information management systems

The availability of comprehensive and reliable data for maternal and adolescent nutrition highly relies on the MoHCDGEC's and PoRALG robust and effective data-management systems. Each health facility has patients register for maternal health and nutrition services delivered through ANC (e.g., IFAS, MAM/SAM, nutritional counselling). In recent years, various electronic health information management systems (HMISs) have been rolled out – such as electronic Infectious Disease Surveillance and Response (eIDSR), electronic Logistic Management Information System (eLMIS), AfyaCare, MedPro, National Sanitation Management Information System (NSMIS) – for tracking patient data and health/nutrition indicators. All these systems are directed in the centrally managed DHIS2, which contains routinely updated data from health facilities and various national projects and delivery platforms. PoRALG also rolled out the Integrated Monitoring and Evaluation System (IMES) to track data at subnational levels.

3.4.2 National surveys

Tanzania periodically conducts routine national surveys that collect data on several nutrition and health indicators for mothers, adolescents



and children. For example, the TDHS-MICS is conducted every five years and the TNNS is conducted every four years. These periodic national surveys gather data for several maternal and adolescent health/nutrition indicators that include dietary diversity; maternal mortality; ANC attendance and frequency; services provided such as IFAS, IPT, distribution of insecticide-treated nets; weight (underweight or overweight), and the prevalence of anaemia among WRA (15–49 years) and pregnant women.

3.5 Budgeting and financing mechanisms for maternal health and nutrition in Tanzania

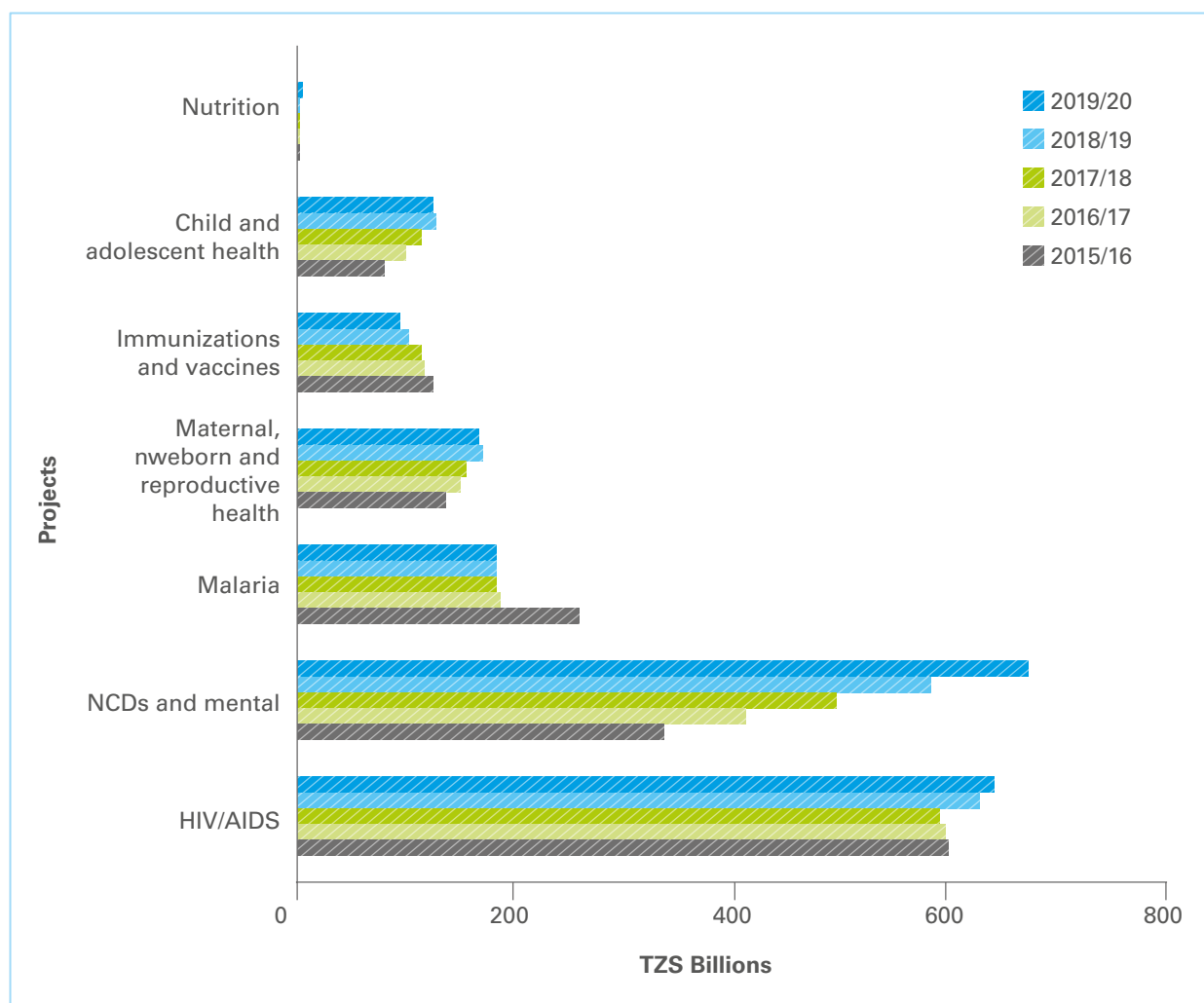
3.5.1 The Health Sector Strategic Plan IV (HSSPIV)

The HSSPIV (2015–2020) provided a road map for the health sector's contribution to Tanzania's development in the last five years. This strategy was developed to guide the continued transformation of the health sector, with a focus

on the QoC in health institutions from primary care to the tertiary care and national levels. The annual budgetary allocations by the HSSPIV (2015–2020) covered various national-level programmes in areas that included nutrition, child and adolescent health, maternal, newborn and child health (MNCH), malaria, HIV/AIDS and NCDs.

Approximately half of the HSSPIV (2015–2020) financing requirement is related to health services, and another half relates to health system costs. The budget trends for some of the interventions in each financial year are shown in **Figure 11**. The highest budget is allocated for HIV/AIDS programmes, followed by NCDs and mental health programmes. The maternal, newborn and reproductive health was

Figure 11: HSSP IV (2015–2022) Annual Budgetary



the fourth among the programmes allocated high budget. However, only 25 billion TZS (0.11 per cent) of the HSSPIV budget was allocated for nutrition programmes for all five years from 2015/16–2019/2020. This starkly reflects the low prioritization of nutrition in health sector objectives, targets and activities in Tanzania; greater investment in nutrition services and systems is needed to achieve national and SDG targets for maternal and adolescent nutrition.

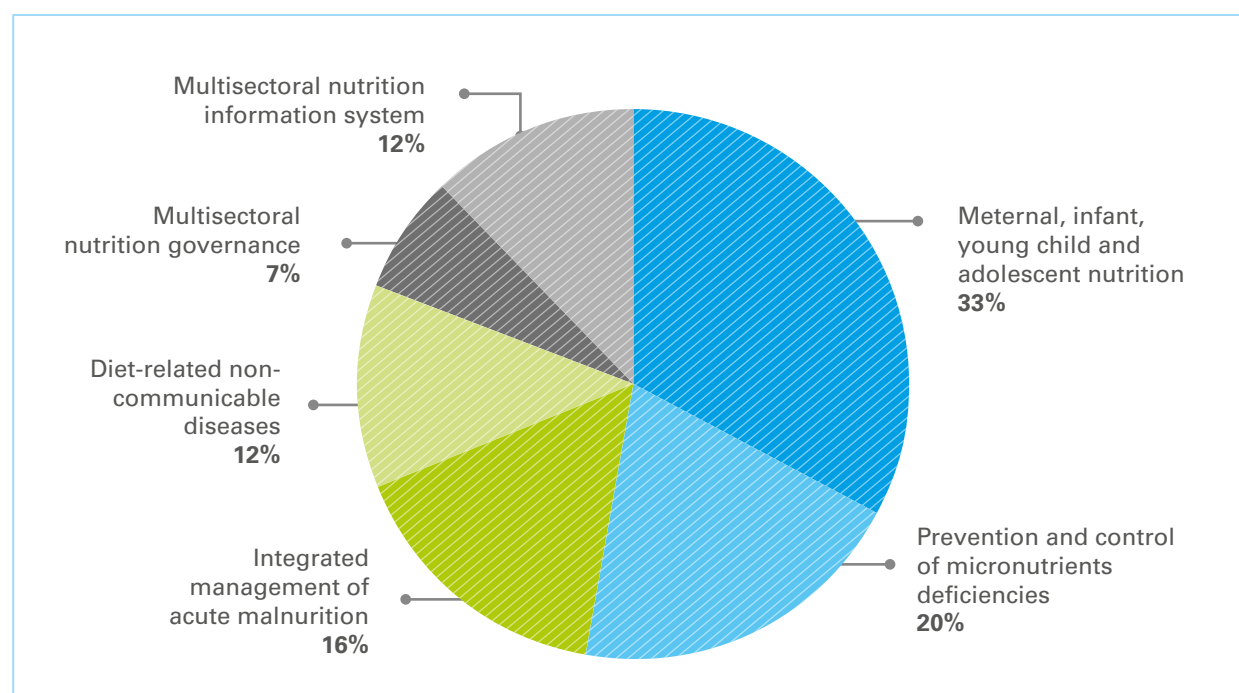
3.5.2 The NMNAP (2016–2021) – major funding gaps

Another key and flagship national strategy for maternal and adolescent nutrition is the NMNAP (2016–2021), a multisectoral nutrition system that explicitly embraces simultaneous activities to address the immediate and underlying causes of malnutrition. The strategies cut across multiple sectors and feature several activities, including Infant and Young Child Feeding (IYCF), nutrition-sensitive interventions, micronutrients, diet-related NCDs and the integrated management of acute malnutrition (see Figure

12). Total resources available for these activities is TZS 155.18 billion, against a planned budget of TZS 590 billion; therefore, only 26 per cent of the NMNAP total planned budget has been funded. This leaves a significant funding gap with over 65 per cent of the budget remaining unfunded.

Figure 12 shows budget distributions for thematic KRAs highlighting allocations for major activities. The largest allocations are for MIYCN (33 per cent) and the prevention and control of micronutrient deficiencies (20 per cent). However, these two KRAs also have the largest funding deficiencies, which can limit the provision of key maternal and adolescent nutrition interventions. The micronutrient KRA allocates over 71 per cent of its budget towards food fortification which is a key population-level intervention, however, only 9 per cent of its budget distribution is directed towards anaemia prevention. These budgetary discrepancies and gaps can result in fewer activities and interventions that address pertinent health and nutrition challenges e.g., adolescent anaemia, childhood stunting and maternal mortality.

Figure 12: NMNAP (2016–2021) budget distributions for key results areas and activities

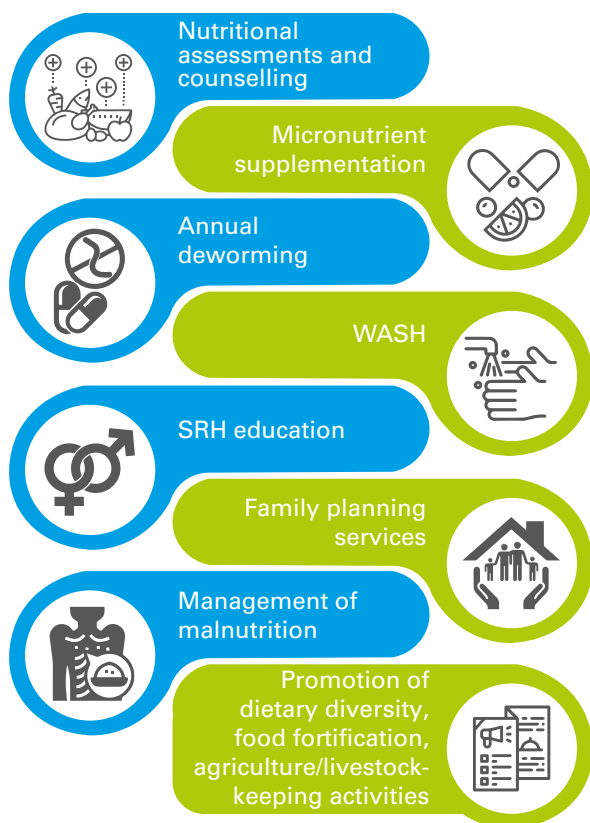


3.6 Findings, gaps, and recommendations

3.6.1 Findings

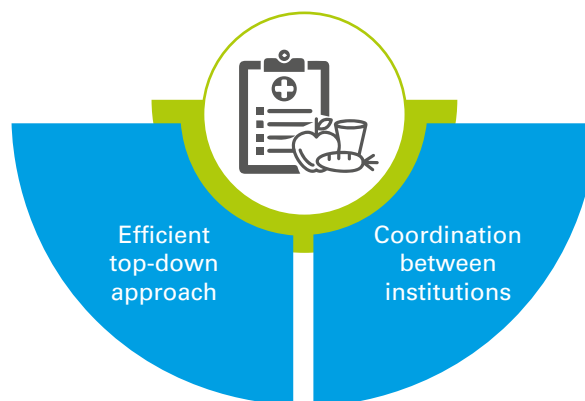
- » Global priorities and recommendations, including the UN SDGs 2030 and WHO recommendations for maternal/adolescent nutrition, inform several national policies and guidelines in Tanzania.

NUTRITION-SPECIFIC-AND-SENSITIVE INTERVENTIONS



Political will displayed by the government to improve maternal and adolescent nutrition in Tanzania

GOVERNANCE STRUCTURE FOR NUTRITION



Centralized monitoring of nutrition programmes and activities through **national data-management systems and platforms**

NUTRITION PROGRAMMES IN 2015–2020



0.1% of total budget
(Lowest budget allocation)

- » There are several national policies, guidelines and strategies that address and promote maternal and adolescent nutrition. Policy documents feature several nutrition-specific-and-sensitive interventions, namely, nutritional assessments and counselling, micronutrient supplementation (IFAS/ WIFAS, vitamin A), annual deworming, WASH, SRH education, family planning services, management of malnutrition (SAM/ MAM), promotion of dietary diversity, food fortification and agriculture/livestock keeping activities.

- » The government has displayed political will by supporting several initiatives and programmes focused on improving maternal and adolescent nutrition in Tanzania. The government views nutrition as a key component in recent campaigns (on national platforms), addressing NCDs and the double burden of malnutrition in Tanzania.
- » The governance structure for nutrition in Tanzania ensures top/down efficiency and requires coordination between several institutions to ensure activities reach the target populations. The MoHCDGEC, TFNC and PO-RALG oversee several technical and administrative functions.
- » Monitoring of nutrition programmes and activities nationally has been centralized through several national data-management systems and platforms, including the DHIS2 and the HMIS. These platforms routinely gather data for several key maternal and adolescent nutrition indicators e.g., stunting, IFAS and nutritional counselling. National surveys also capture periodic data on key nutrition-specific indicators such as thinness or being overweight, and the prevalence of anaemia among WRA (15–49 years).
- » The HSSPIV outlines budgetary allocations for several national level programmes and interventions including malaria, NCDs and nutrition. Between 2015–2020, nutrition programmes had the lowest budget allocation, accounting for only 0.1 per cent of the total budget. The NMNAP provides a comprehensive package of MIYCN programmes and includes a broader budget for various nutrition-specific-and-sensitive interventions albeit with significant funding gaps for many activities, including the control of micronutrient deficiencies.

3.6.2 Gaps

- » National guidelines do not adequately address adolescents as a distinct demographic; few policies, guidelines and strategies focus on adolescents, but a majority include them only in the context of reproductive, maternal and child health. Furthermore, guidelines and strategies that mention or prioritize adolescents do not contain specific targets, activities or indicators to ensure that nutritional outcomes are met.
- » Nutrition-sensitive interventions were not widely discussed in national policies, strategies and guidelines, except for the NMNAP (2016–2021) – these include household/industry food fortification, agriculture and livestock keeping (e.g., homestead farming), school feeding programmes and social safety-net programmes. Further, the current national guidelines and strategies do not promote MMS for pregnant women in Tanzania.
- » National surveys and monitoring mechanisms have few databases that focus specifically on adolescents. Periodic surveys highlight indicators for adolescent girls aged 15–19 years, but younger adolescents are not represented. Indicators for WIFAS, nutrition counselling, and adolescent anaemia (for 10–19-year-olds) are missing in the current surveys.
- » Adolescent boys are frequently under-represented in the policy landscape (policies, guidelines, strategies). Most of the documents do not prioritize adolescent boys and lack the specific objectives, indicators and activities that focus on this group.
- » Budget allocation for nutrition programmes in Tanzania's HSSPIV (2015–2020) was accounting for only 0.1 per cent of the total



budget, which reflects the low prioritization of these activities. There were significant funding gaps for several key maternal and adolescent nutrition programmes, including the prevention and control of micronutrient deficiencies (e.g., anaemia) and MIYCN.

3.6.3 Recommendations

- » National policies, guidelines and strategies should be updated to acknowledge adolescents as a unique demographic with challenges that must be comprehensively addressed. Globally, adolescents and youth are viewed as a key vulnerable group with both SDGs and WHO guidelines recognizing their health and nutritional needs. National policy documents must also reflect these global priorities and goals.
- » High-impact nutrition-sensitive interventions need to be promoted and mainstreamed in national policies and guidelines. Currently, there is little attention placed on population-level interventions including industrial/household food fortification, agricultural interventions, and school-based nutrition programmes.
- » MMS needs to be mainstreamed in the policy landscape – currently only Micronutrients powders (MNPs) and other commodities to address SAM/MAM are featuring.
- » Adolescent boys must be included in the policy landscape – their invisibility can lead to insufficient programmes and interventions tailored towards them. New surveys (e.g., School Health and Nutrition Survey, 2019) find that anaemia is becoming increasingly prevalent among in-school adolescent boys than in girls.
- » Periodic national surveys must include specific indicators for adolescent nutrition, particularly for under-represented groups such as younger adolescents (aged 10–14 years) and adolescent boys. Routine and periodic surveys focusing solely on adolescent health and nutrition are needed, both for in-school and out-of-school adolescent groups.
- » Health sector budgets must allocate more funding and resources towards nutrition – subsequent health sector strategic plans (HSSPs) should include a higher percentage of the planned budget. Funding should also be increased for various components of the NMNAP, including MIYCN and the prevention and control of micronutrient deficiencies.

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