Final Evaluation of the Adolescent Iron and Folic Acid (IFA) Intervention in Mangochi, Salima and Dedza Districts of Malawi

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Summary of the Intervention

Intervention Name	Adolescent Iron and Folic Acid (IFA) Intervention in Malawi (LRPS-2021-9170281)
Donors	The Global Thematic Fund through the Netherlands grant
Implementer	Malawi Government with support from UNICEF
Key Partners	▪ Ministry of Health (Department of Nutrition, HIV and AIDS (DNHA), Reproductive Health Unit, Department of Community Nursing and District Health Offices) ▪ Ministry of Education (Department of School Health, Nutrition, HIV and AIDS) ▪ Ministry of Youth (MoY) ▪ Story Workshop Educational Trust (SWET)
Lifespan	3 years (2018-2021)
Targeted Districts	Mangochi, Salima and Dedza
Goal	To improve the nutritional status of adolescents, with a focus on school going and out-of-school adolescent girls aged 10-19 years in the three targeted districts of Malawi by 2021.
Specific Objectives	i) To promote consumption of diversified diets using the Malawi six food groups' approach among 70 per cent of adolescent boys and girls aged 10-19 years. ii) To standardize the integration of weekly IFA supplements in the Ministry of Health (MoH) supply chain. iii) To promote compliance with iron and folic acid supplements and deworming in 70 per cent of school going and 60 per cent of out-of-school adolescent girls. iv) To create an enabling environment for effective implementation of adolescent nutrition intervention.
Beneficiaries	35,000 adolescent girls aged 10-19 years (24,500 in school and 10, 500 out of school)
Key Activities	i) IFA supplementation to adolescent girls 10-19 years. ii) Deworming of adolescent girls 10-19 years with albendazole iii) Promotion of diversified diets guided by the Malawi six food groups through Social Behaviour Change and Communication (SBCC)

Acronyms

ABC	Actor Based Change
ADC	Area Development Committee
AEDC	Agriculture Extension Development Coordinator
AEDO	Agricultural Extension Development Officer
AEHO	Assistant Environment Health Officer
AIDS	Acquired Immunodeficiency Syndrome
ANCC	Area Nutrition Coordinating Committee
BMI	Body Mass Index
CHN	Community Health Nurse
CMAM	Community-based Management of Acute Malnutrition
CMSD	Central Medical Stores Department
CPD	Country Programme Document
CRC	Convention on the Rights of the Child
CSO	Civil Society Organization
DAC	Development Assistance Committee
DEM	District Education Manager
DFID	Department for International Development
DHIS	District Health Information System
DHO	District Health Office
DNCC	District Nutrition Coordinating Committees
DNHA	Department of Nutrition, HIV and AIDS
DNO	District Nutrition Officer
DP	Development Partners
ESAR	Eastern and Southern Africa Region
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FGD	Focus Group Discussion
FNO	Food and Nutrition Officer
FUM	Farmers Union of Malawi

GBV	Gender Based Violence
GFF	Global Financing Facility
GoM	Government of Malawi
GTF	Global Thematic Fund
GVH	Group Village Headman
HDDS	Household Dietary Diversity Score
HGSM	Home Grown School Meals
HIV	Human Immunodeficiency Virus
HSA	Health Surveillance Assistant
IDA	Iron Deficiency Anaemia
IEY	Investing in Early Years
IFA	Iron and Folic Acid
JPGE	UN Joint Programme on Girls Education
KAP	Knowledge, Attitude and Practice
KfW	Kreditanstalt für Wiederaufbau
KII	Key Informant Interview
MDHS	Malawi Demographic and Health Survey
MGDS	Malawi Growth and Development Strategy
MoE	Ministry of Education
MoH	Ministry of Health
MoY	Ministry of Youth
NAPE	Afikepo's Nutrition and Access to Primary Education
NECS	Nutrition Education and Communication Strategy
NMSNP	National Multi-Sector Nutrition Policy
NSO	National Statistical Office
ONSE	Organized Network of Services for Everyone's Health Project
ORT	Other Related Activities Transaction
PNHAO	Principal Nutrition, HIV and AIDS Officer
PRA	Participatory Rural Appraisal
PTA	Parents and Teachers' Association

RHU	Reproductive Health Unit
SBCC	Social Behaviour Change Communication
SDG	Sustainable Development Goals
SHN	School Health and Nutrition
SMART	Standardized Monitoring and Assessment of Relief and Transition
SUN	Scaling Up Nutrition
SWET	Story Workshop Educational Trust
TA	Traditional Authority
TDC	Teacher Development Centre
TFD	Theatre for Development
ToC	Theory of Change
UNEG	United Nations Evaluation Group
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHO	World Health Organization
WRA	Women of Reproductive Age

Acknowledgement

This report is for the final evaluation of the Adolescent Iron and Folic Acid (IFA) Intervention that the Government of Malawi with support from UNICEF implemented in Mangochi, Salima and Dedza districts as a proof of concept under the Global Thematic Funds between 2018 and 2021.

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Executive Summary

1. This report summarizes results of the final evaluation of a three-year (2018-2021) Adolescent Iron and Folic Acid (IFA) Intervention that UNICEF, the Ministry of Health's Department of Nutrition, HIV and AIDS (DNHA) and Reproductive Health Unit (RHU), Ministry of Education (MoE) and their partners implemented with US$250,000 support from the Global Thematic Funds through the Netherlands grant. This funding, when provided in 2018, targeted 12 per cent of adolescent girls 10-19 years in Salima, Dedza and Mangochi districts, which translated to 35,000 girls - 24,500 in school and 10,500 out of school. In line with Article 24 of the Convention of the Rights of the Child (CRC), the goal was to prove the concept of whether anaemia as high as 35.3 per cent in Malawian adolescent girls can be reduced by complementing diversified diets with IFA supplementation and deworming. Salima, Dedza and Mangochi were selected because they were the core of the problem and were part of the first six districts (others were Lilongwe, Machinga and Dowa), which piloted the IFA supplementation in 2019, with resources from the Department for International Development (DFID).

2. Key activities of the Netherlands-funded Adolescent IFA Intervention in Malawi were the provision of weekly IFA tablets to adolescent girls in and out of school, deworming with albendazole biannually and nutrition education with emphasis on the Malawi six food groups to improve diets and intake of iron. School Health and Nutrition (SHN) teachers and Health Surveillance Assistants (HSAs) were the ones administering tablets in schools and communities respectively.

3. The evaluation assessed the intervention using 18 key evaluation questions formulated based on the standard Development Assistance Committee (DAC) evaluation criteria of coherence, efficiency, effectiveness and sustainability. It integrated human rights, gender and equity under each evaluation criterion and question in the data collection tools. Field work took place between 11th and 24th February 2022 in all the three targeted districts.

4. Quantitative and qualitative data, both primary and secondary, came from:
   - A review of key documents, including the project proposal, situation analysis report, minutes of review meetings and various policies among others.
   - A survey of 662 adolescent girls in and out of school.
   - An anthropometric survey of 662 girls to assess their nutritional status.
   - A total of 14 focus group discussions (FGDs) across the districts.
   - 58 key informant interviews (KIIs) with Principal Nutrition, HIV and AIDS Officer (PNHAOs), District Nutrition Officers (DNOs), SHN coordinators and teachers, head teachers, district pharmacists, HSAs, community health nurses (CHN), and staff from UNICEF and its government partners.

5. A multi-stage cluster sampling, involving purposive, stratified and random sampling, was used to select 20 schools for the evaluation. The plan was to select and interview 4 girls in each of the eligible classes (standard 4-8), making a total of 20 per school. Girls out of school were stratified by age (corresponding to classes they would have

been in) and selected from each stratum using random sampling to participate in the study. Girls remaining in the strata participated in focus group discussions (FGDs) and other Participatory Rural Appraisal (PRA) sessions to triangulate the findings.

6. The intended users of the evaluation include the Government of Malawi (GoM), line Ministries of Health, Education and Youth, concerned district assemblies, country and regional offices of UNICEF, UN agencies implementing the JPGE programme (WFP and UNFPA), the Netherlands Government as the donor and non-governmental organizations (NGOs) involved in health and nutrition programming in the country.

7. Key findings from the evaluation are summarized below in accordance with the DAC criteria that was used.

8. **Evaluation criterion 1 – Coherence:** In Malawi, the Netherlands-supported IFA pilot intervention is the first of its kind. The intervention was implemented in districts where the need was greatest, evidenced by high rates of anaemia in women of reproductive age (WRA) 15-49 years.

9. **Evaluation Criterion 2 – Efficiency:** Efficiency of the Adolescent IFA Intervention was assessed to be highly satisfactory. Between 2018 and 2021, the intervention has invested US$ 59,332 to procure 182,000 blisters of Iron 60mg (as Ferrous Fumarate 185mg) and Folic Acid 400mcg Remodia-Chypre and provided 52 tablets per girl in a year. Every girl received 26 blisters in the whole year, each with 10 tablets and had to take 1 tablet per week. Compliance, defined as adhering to a weekly regimen, as reported by adolescent girls themselves, was high at 79 per cent because they were taking tablets in the presence of SHN teachers, HSAs and parents, if at home.

10. **Evaluation Criterion 3 – Effectiveness:** A study on anaemia is scheduled to be conducted later in 2022 by the Malawi Demographic and Health Survey (MDHS) commissioned by the National Statistical Office (NSO). However, trends from other countries that have implemented similar interventions show significant reductions of anaemia among adolescent girls only in 8 to 14 weeks of IFA supplementation for example, from 49 to 5 per cent in Tanzania, 20 to 5.7 per cent in Indonesia, 70.1 to 13.4 per cent in Nepal and 29.8 to 0 per cent in Thailand. The impact of the Adolescent IFA Intervention on reduction of anaemia in Malawi is therefore anticipated to be huge.

11. Descriptive analysis of anthropometric data shows that the prevalence of underweight (defined as Body Mass Index, BMI < 18.5 kg/m^2) in adolescent girls 10-19 years old has decreased from 12.9 per cent reported by the MDHS of 2015/2016 to 10.4 per cent in February 2022 when field work for this evaluation took place. In younger girls, 10-14 years, underweight prevalence has declined by 4.1 percentage points from 21 per cent to 16.9 per cent, as reported by MDHS. When compared to the prevalence reported by the situation analysis study that was conducted to establish baseline information for the six pilot districts, the decrease is much higher at 20.3 percentage points in Salima, Dedza and Mangochi from 30.7 per cent to 10.4 per cent on average.

12. Between 2010 and 2016, the prevalence of underweight and thinness deteriorated in Malawi, with underweight rising from 14 per cent to 21 per cent and thinness from 2 per cent to 8 per cent among adolescent girls aged 6-12 years old for which data is available. These figures mean that underweight prevalence increased by 50 per cent and thinness by 300 per cent. By implication, reductions observed in this evaluation represent the beginning of positive trends that need to be nurtured and scaled up.
13. Through community radios, community sensitization and door to door campaigns, available data by the Story Workshop Educational Trust (SWET) show that the project has managed to reach 54,826 adolescents (32, 354 girls and 22,472 boys) with messages of IFA supplementation and diets. Adolescents have also been receiving nutrition education, particularly on the Malawi six food groups from SHN teachers and HSAs in schools and communities.
14. More than half (51.4%) of the adolescent girls surveyed in this evaluation reported to have attended nutrition education classes. In-school girls were more likely to have attended a nutrition class (54.3%) compared to out-of-school girls (40.3%).
15. As a result of these efforts, adolescent girls and boys consistently demonstrated knowledge of the Malawi six food groups' model, including recognition of the individual groups, and the foods contained therein. Nearly two-thirds of them (65.5% - 67% in-school and 60% out-of-school) were able to name all six food groups in the model diagram when displayed in front of them during interviews.
16. In the 24-hour dietary diversity survey conducted, 68.4 per cent of the girls reported to have consumed various meat and meat products compared to 47 per cent reported by the situation analysis study three years ago. Consumption of dark green leafy vegetables, which are also a good source of iron, has increased as well from 89.5 per cent to almost 100 per cent (99.1%), legumes from 49 to 50.9 per cent and fats and oils from 70 per cent to 87.9 per cent. Vegetables were abundant during the time of the evaluation due to the rains and with the acquired nutrition knowledge adolescent girls consumed them regularly as part of their diet.
17. From 2018 to 2019, the intervention trained 1,810 government frontline workers (665 SHN and head teachers and 1,145 HSAs) in areas of supply, administration, management and IFA supplementation as reported by district staff. Teachers can now administer IFA tablets to pupils competently which will continue to reduce workload for HSAs and increase coverage of the intervention. Interviews conducted showed that HSAs and SHN teachers are able to order supplies from district pharmacy stores, manage them and provide reports for compliance with minimal supervision, which are all indicators of ownership necessary for long-term sustainability of the intervention.
18. Besides IFA supplementation, close to three quarters of all adolescent girls (65.2%) interviewed indicated to have received albendazole tablets within the last 12 months. A total of 98 per cent of these girls ingested the tablets, with the majority in Mangochi (36.7%) and girls in school at 81.4 per cent, taking them twice (mean=1.53) on average. Interviews with health workers in all the three districts revealed that the Adolescent IFA Intervention did not provide any albendazole to the schools and health centres to deworm girls. Albendazole was provided as part of the Bilharzia program by the district hospitals to deworm masses.

19. **Gender and Human Rights:** By implementing these activities, the Adolescent IFA Intervention in Malawi has upheld rights to health, nutrition and education, including

but not limited to those outlined in the CRC, not only for adolescent girls in and out of school, but also boys who are sometimes left out by humanitarian and development projects. The intervention made deliberate efforts to train both female and male frontline workers to ensure equity and inclusiveness in capacity building and service delivery, which has resulted in tangible results registered.

20. **Challenges faced:** Despite numerous successes registered, the Adolescent IFA Intervention faced many challenges during the three years of its implementation. The main challenge was addressing misconceptions as IFA tablets were perceived as either family planning pills to curtail population growth, COVID-19 vaccination or the medication for cancer in Salima. This is likely to continue if no mass awareness is conducted within communities, local leaders, parents and girls in the future. The other challenges were related to the COVID-19 pandemic (hence the misconception above) and frequent political violence during the disputed presidential elections in Malawi. Project officers worked remotely for a good part of 2020 in fear of the consequences. Activities that were intended to be implemented during this period were interrupted. The aforementioned delays affected the project's impact.

21. The following are the key recommendations for the Ministry of Health (DNHA and RHU), Ministry of Education (MoE), Ministry of Youth (MoY), UNICEF and the concerned districts - to be implemented by December 2023:
    1) UNICEF, as one of the agencies championing the sector, should leverage on the existing projects and scale up IFA supplementation to additional four of the remaining eight districts in the country (namely Ntchisi, Nkhotakota, Nkhata Bay, Mzimba, Karonga, Balaka and Mulanje) by the end of 2023.
    2) DNHA and RHU, MoE, MoY, UNICEF and concerned district councils should address the existing misconceptions surrounding IFA supplementation to increase acceptance and compliance.
    3) Train 4 SHN teachers at each school from standard 4 to 8 to reduce the access work load and interruption of classes during IFA days.
    4) Collaborate with the World Health Organization (WHO) and explore the possibility of leveraging resources and efforts around procurement and distribution of albendazole for the Adolescent IFA Intervention.
    5) Provide adequate fuel (at least 130 litres per quarter) to each district to allow district teams carry out joint monitoring and supervision of activities.
    6) Provide resources and introduce quarterly review meetings for the district teams to look at the district performance, identify bottlenecks on time, and plan for activities for the next quarter.
    7) Improve the collection of IFA compliance data. Train data entry clerks already available at district hospitals to enter the data into the District Health Information System (DHIS2).
    8) Provide clear roles to address current tensions between PNHAOs and DNOs.
    9) Integrate the IFA supplement supply chain within the Ministry of Health (MoH) and Central Medical Store Trust (CMST) system to strengthen capacity and sustainability. Table 17 at the end of this report provides a summary of specific recommendations, implementers and the timeframe required.

1.0 Introduction

1. In 2018, UNICEF Malawi Country Office received US$250,000 from the Global Thematic Funds (GTF) through the Netherlands grant to pilot a 3-year (2018-2021) programme as a proof of concept for the efficacy of iron and folic acid (IFA) supplementation in reducing anaemia and other forms of undernutrition in adolescent girls, 10-19 years of age. Despite a decrease among children under five, undernutrition remains high in Malawian adolescents. The Malawi Demographic and Health Survey (MDHS) of 2015/2016 reported that 12.9 per cent of adolescent girls 15-19 years of age are underweight, after registering a low BMI of <18.5 kg/m^2, compared to 5.7 per cent women of 20-49 years of age because nutrition interventions are not adequately accessible for adolescent girls.

2. The prevalence of anaemia among adolescent girls (15-19 years) in Malawi is at 35.3 per cent, overweight 7.1 per cent and obesity, which increases the risk of nutrition-related diseases (heart diseases, stroke, diabetes and cancer) is at 12 per cent, as reported by the MDHS of 2015/2016. Between 2004 and 2010 rates of anaemia dropped by 13 percentage points from 42.4 per cent to 28.6 per cent, but these gains were reversed, and the prevalence increased by 6 percentage points to 35.3 per cent in 2015/2016 (Figures 1 and 2).

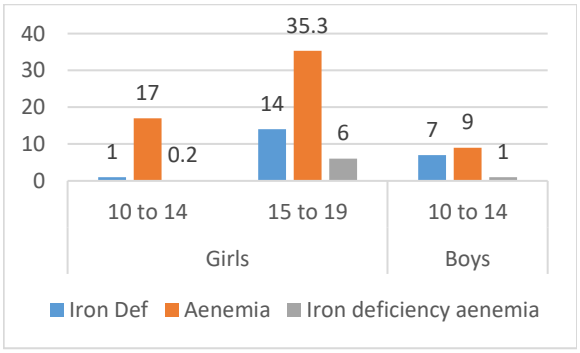


Figure 1: Prevalence of iron deficiency, anaemia & Iron deficiency anaemia

Source: Data for boys and girls 10 to 14 years (IFA Situation Analysis-2018. Data for girls 15 to 19 is from Malawi Adolescent Nutrition Documentation, Web version, UNICEF Malawi Office, June 2020

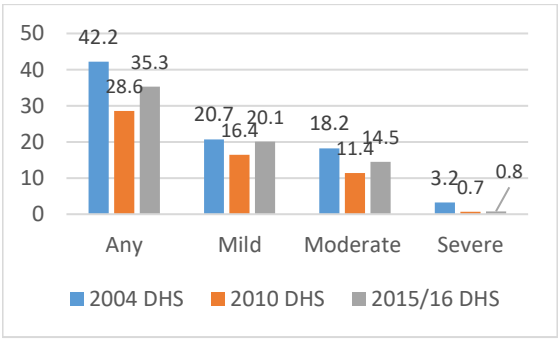
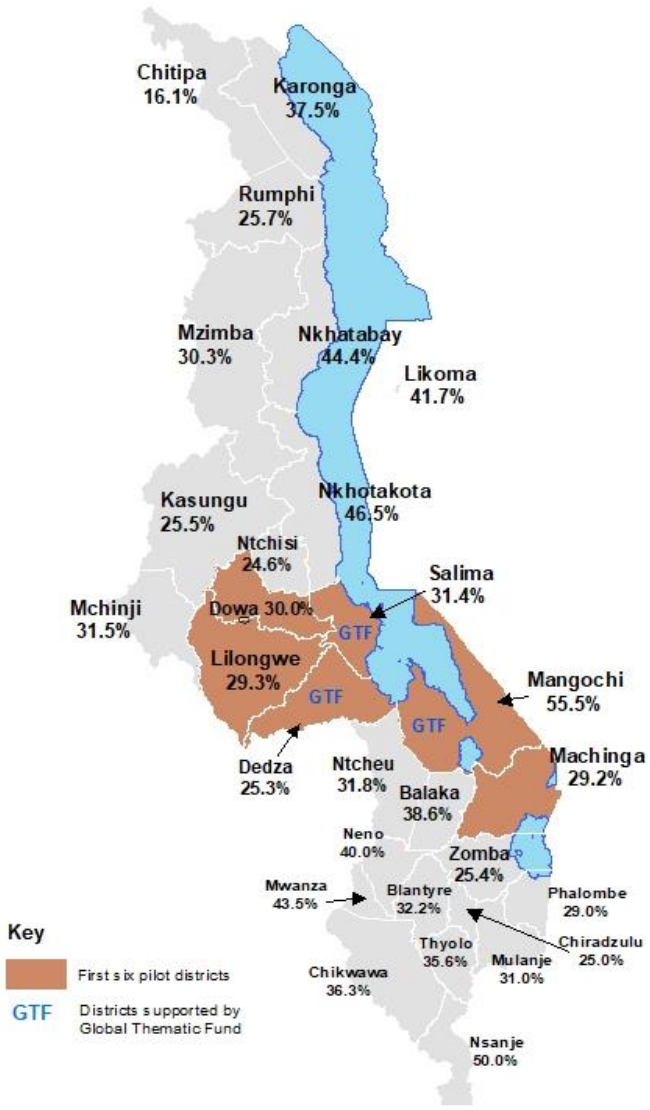


Figure 2: Anaemia prevalence trends between 2004 and 2016

Source: The Malawi Demographic and Health Survey of 2015/2016

3. Anaemia is a condition in which the number and size of red blood cells, or the haemoglobin concentration, falls below an established cut-off value, consequently impairing the capacity of the blood to transport oxygen around the body. Anaemia is an indicator of both poor nutrition and poor health. The most common cause of anaemia worldwide is iron deficiency, resulting from prolonged negative iron balance, caused by inadequate dietary iron intake or absorption, increased needs for iron



during pregnancy or growth periods, and increased iron losses as a result of menstruation and helminth (intestinal worms) infestation. In women, an estimated 50% of anaemia worldwide is due to iron deficiency.

4. Other important causes of anaemia include infections, other nutritional deficiencies (especially folate and vitamins B12, A and C) and genetic conditions, including sickle cell disease, thalassaemia - an inherited blood disorder- and chronic inflammation. Pregnant adolescents are particularly vulnerable to anaemia because they have dual iron requirements, for their own growth and the growth of the foetus, and are less likely to access antenatal care.

5. The map to the left shows anaemia rates in women of reproductive age, 15-49 years, in Malawi as reported by the MDHS of 2015/2016. It also illustrates the first six pilot districts and the three districts where UNICEF has pre-tested the IFA intervention as a proof of concept with support from the Global Thematic Funds (GTF).

1.1 Rationale for Adolescent Nutrition

6. Anaemia is of public health concern in Malawi. In women, especially during pregnancy, anaemia is associated with premature births, low birth weight babies, still births, miscarriages, death of the baby and/or the mother during or after delivery. In both adolescent boys and girls, anaemia limits concentration in daily tasks, may contribute to high school dropout, and reduces physical fitness and work productivity. Periodic blood loss through menstruation for the adolescent girl imposes additional need for iron and other essential nutrients, and can contribute to anaemia. Anaemic girls have lower pre-pregnancy iron stores, and the pregnancy period is too short to build iron stores for the growing foetus and mother.

7. Adolescence is an appropriate time for interventions to address anaemia as it is a time for rapid growth and development, and a critical time for laying the nutrition foundation for childbearing. Providing Iron and Folic Acid (IFA) supplements during adolescence, continuing into adulthood, improves iron status and reduces the risk of developing iron deficiency and anaemia.

8. In addition, adolescence is a critical stage when knowledge and attitudes about nutrition are still forming and as such behaviour changes may create a positive and long-lasting impact with respect to prevention of adult malnutrition and long-term communicable diseases. Improving nutrition during adolescence can also help individuals who have had a challenging childhood with respect to their physical growth and cognitive development. Interventions for adolescents will in this regard help ensure young women enter pregnancy with knowledge and nutrition support.

9. Global evidence shows that investing in adolescent nutrition yields four dividends: (1) it improves the present nutritional status of the adolescents, (2) it improves the well-being and productivity in their adult life, (3) it reduces nutrition and health risks of their children and (4) it breaks the vicious intergenerational cycle of malnutrition and the multiple problems associated with it.

10. As per the WHO threshold for nutritional deficiencies, intermittent iron and folic acid supplementation is recommended if anaemia prevalence is 20 per cent or higher among non-pregnant women of reproductive age (15-49 years). Under this context, the Government of Malawi has prioritized implementation of multi-sectoral interventions to address the nutritional needs of adolescent girls 10-19 years of age, including the use of IFA supplementation to address the problem of anaemia.

1.2 Adolescent IFA Intervention in Malawi

11. In 2018, UNICEF Malawi became the first country in the Eastern and Southern Africa Region (ESAR) to support the government to pilot IFA supplementation and prevent anaemia among adolescent girls. UNICEF Malawi Country Office championed resource mobilization and received US$250,000 from the Global Thematic Funds (GTF) through the Netherlands government, which was used to fund the intervention. This funding targeted adolescent girls and boys in where the Government of Malawi was already implementing the UN Joint Programme on Girls Education (JPGE II). The efforts were consolidated with technical support from UNICEF and its partners, World Food Programme (WFP) and United Nations Population Fund (UNFPA). The IFA intervention was implemented in the existing schools and health facilities across three districts - Mangochi, Salima and Dedza. These districts were part of the first six districts (Mangochi, Salima, Dedza, Lilongwe, Machinga and Dowa) that piloted the adolescent IFA supplementation in 2019 with funding from the Department for International Development (DFID).

12. **Overall goal of the Adolescent IFA Intervention:** To improve nutritional status of adolescents, with a focus on school going and out-of-school adolescent girls aged 10-19 years in Mangochi, Salima and Dedza districts, by 2021.

13. **Specific objectives to achieve the goal were:**
    i) To promote consumption of diversified diets using the Malawi six food groups approach among 70 per cent of adolescent boys and girls aged 10-19 years.
    ii) To standardise integration of weekly IFA supplements in the Ministry of Health supply chain.
    iii) To promote compliance of IFA supplements and deworming tablets in 70 per cent of school going and 60 per cent out-of-school adolescent girls.
    iv) To create an enabling environment for effective implementation of adolescent nutrition intervention in Malawi.

14. **Population Coverage:** The intervention targeted 35,000 adolescent girls (24,500 in school and 10,500 out-of-school) and 34,462 boys aged 10-19 years. These figures represent 12 per cent of adolescent girls and boys in the districts. Administratively, every district in Malawi is divided into Traditional Authorities (TAs), which are sub-divided into Group Village Headman (GVH) areas and then villages as the smallest administrative units. The intervention was implemented in 764 schools, 99 communities and 32 TAs (Table 1) as reported by District Nutrition Officers (DNOs) and Principal Nutrition, HIV and AIDS Officers (PNHAOs).

Table 1: Schools and health facilities in which the project was implemented

District	TAs	School Zones	Number of Schools	Number of Facilities
Salima	11	14	164	21
Dedza	8	19	297	34
Mangochi	13	22	303	44
Total	32	55	764*	99

*JPGE III is in 169 of these schools

1.3 Activities of the Adolescent IFA Intervention

a) Weekly IFA supplementation for adolescent girls

15. Adolescent girls registered in this intervention received tablets containing 60mg elemental iron and 400ug folic acid weekly, on Wednesdays. Adolescent girls absent from school on these days were given their weekly tablets on the next day that they attended classes. Stocks were kept in the head teachers' offices. School Health and Nutrition (SHN) teachers administered tablets to girls at schools and recorded it in compliance cards immediately. SHN teachers gave girls a complete set of IFA tablet blisters to take at home during holidays under direct supervision of their parents. Girls

living close to health facilities received their tablets from HSAs or community health nurses (CHN) during holidays along with girls out of school.

Photo: An example of a blister of iron and folic acid tablets used in the project

b) Deworming among girls

16. Another activity of the Adolescent IFA Intervention was deworming of the girls by providing them with 400mg of albendazole. Deworming reduces blood loss and prevents anaemia. Periodic mass deworming protects communities by removing or reducing the worm burden and decreasing the risk of new individuals becoming infected. In Malawi, deworming is carried out with albendazole tablets supplied by the World Health Organization (WHO) biannually.

c) Nutrition Education

17. The intervention also offered nutrition education to both girls and boys to increase consumption of diversified diets, rich in iron and other micronutrients, based on the Malawi six food groups.

1.4 Partnerships in the Adolescent IFA Intervention

18. Key stakeholders were the Department of Nutrition, HIV and AIDS (DNHA), which was responsible for coordinating activities of the intervention across the three districts, and the Reproductive Health Unit (RHU). The RHU was facilitating integration of IFA into the medical supply system by the Ministry of Health (MoH).

19. Additional partners included the Department of School Health, Nutrition, HIV and AIDS in the Ministry of Education, the Department of Community Nursing and District Health Offices (DHOs) in the Ministry of Health and Ministry of Youth. These ministries provided key frontline workers to conduct various project activities. UNICEF also had an NGO implementing partner, the Story Workshop Educational Trust (SWET), which promoted Social Behaviour Change and Communication (SBCC). Figure 3 presents relationships among these partners. Annex 1 provides further details about their roles.

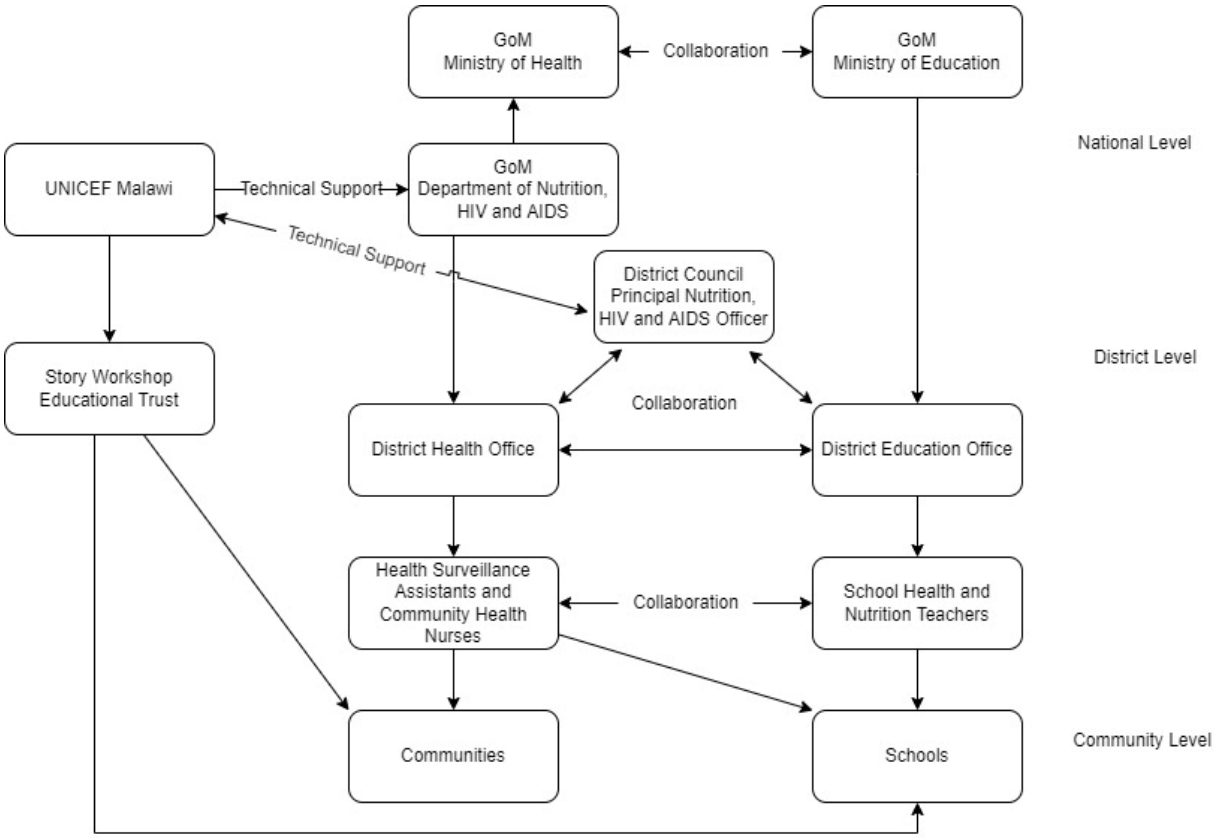


Figure 3: Stakeholder mapping and relationships in the intervention

1.5 Reporting Channels

20. Reporting lines were clear and followed the opposite channel for the supply of IFA tablets. School Health and Nutrition (SHN) teachers prepared monthly reports and submitted them to health facilities when they collected tablets for their schools. Health facilities in turn sent the reports together with theirs to the district hospital. The Assistant Environment Health Officer (AEHO) validated the reports before sharing them with the DNO for compilation and submission to DNHA.

Box 1: Reporting tools used by the schools and health facilities

Reporting tools at school level for the SHN teacher
Registration book (IFA Supplementation and Weekly Registers)
Self-compliance card for each registered girl
Monthly IFA supplementation school report
At community level
Monthly community platform register
Compliance cards
Monthly community platform report
At facility (district level)
Monthly health facility report that included data for schools and communities

21. The requirement was that schools should submit reports to health facilities on the 5th of every month. District hospitals expected to receive the reports from health facilities for compilation on the 10th and PNHAOs were supposed to send them to DNHA on the 15th.

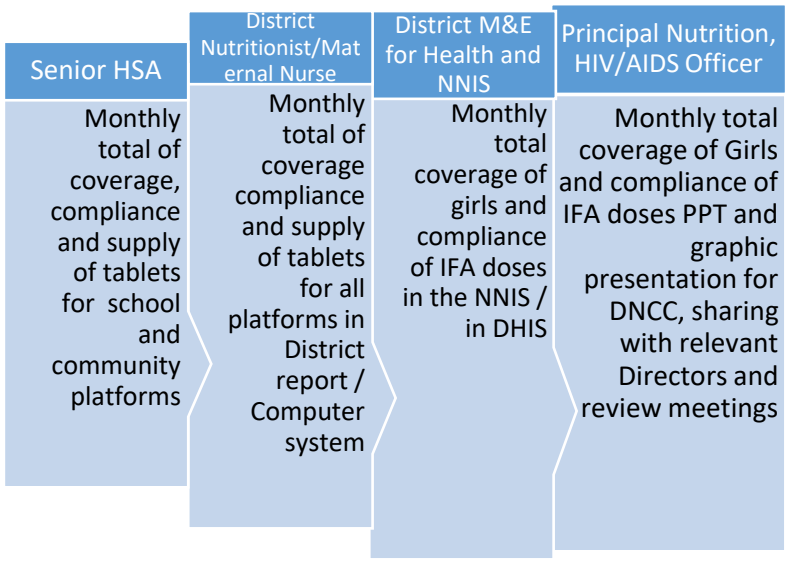


Figure 4: Activities and reporting channels in the project (Source: Minutes by UNICEF)

2.0 Evaluation Type, Purpose and Specific Objectives

22. This was an end of project evaluation to assess coherence, efficiency, effectiveness and sustainability of the Adolescent IFA Intervention after three years of its implementation. Key questions included: 1) has the Netherlands-funded Adolescent IFA Intervention succeeded in achieving its desired results? and 2) whether the intervention was able to improve nutritional status of adolescents, with a focus on school going and out-of-school adolescent girls aged 10-19 years in the three pilot districts by 2021.

2.1 Specific objectives (SO) of the evaluation

23. The specific objectives of the evaluation are as follows:
    i) Assess the extent to which context factors were considered in the design of the intervention and if they were coherent with policies and programmes of other partners operating in the same districts.
    ii) Evaluate the extent to which the intervention was implemented in the cost-efficient manner in the targeted schools and communities.
    iii) Propose a Theory of Change (ToC) in consultation with all key stakeholders.
    iv) Evaluate effectiveness of the intervention in producing expected results for adolescent girls and boys, service providers, parents and community leaders.
    v) Evaluate outcomes and the extent to which the intervention has contributed to improving compliance with IFA intake.
    vi) Evaluate the extent to which the intervention promoted social behavioural change towards intake of diversified foods, including iron rich foods among adolescents.
    vii) Document lessons, key challenges, gaps, strengths and good practices.

2.2 Scope of Work

24. The evaluation covered the whole period of the intervention from 2018 to December 2021 and was conducted in all the three targeted districts. It interviewed and measured adolescent girls 10-19 years of age as primary beneficiaries. Boys received nutrition education in the project and participated in focus group discussion (FGDs). Schools, communities, key persons and various groups of people were consulted as well to obtain first-hand information and perceptions regarding the intervention.

25. **Areas not covered:** The evaluation did not include the relevance criterion because anaemia rates in non-pregnant women of reproductive age (15-49 years) are above 20 per cent in almost every district as reported by the MDHS of 2015/2016, therefore intermittent IFA supplementation is needed. In addition, the evaluation did not assess rates of anaemia as this is already scheduled to be conducted by the forthcoming MDHS of 2022/23 by the National Statistical Office (NSO).

2.3 Main users of the evaluation

26. Primary users of the evaluation are the Government of Malawi (GoM), country and regional offices of UNICEF and the targeted schools and communities. Line Ministries of Health, Education and Youth, and UNICEF can use the findings to understand the extent to which the intervention has (a) proved that IFA supplementation can work in Malawi and (b) generated useful lessons to guide future programming. UN agencies implementing the JPGE programme (WFP and UNFPA) that have been providing support throughout and UNICEF as a recipient of the grant are particularly interested in the overall performance, efficiency and effectiveness of such an intervention in the local context of Malawi and sharing of the results with the regional office (ESAR) and other UN agencies to enhance learning.

27. District assemblies and Civil Society Organisations (CSOs) working on nutrition are interested in the impact and benefits of the intervention to adolescent girls with respect to improving nutritional status.

28. On the other hand, the current and prospective donors - the GTF, Netherlands government and World Bank, have a key interest regarding the accountability, value for money and worth of continuing to provide funding for adolescent nutrition in the country.

3.0 Evaluation Criteria and Key Evaluation Questions

29. The Organisation for Economic Cooperation and Development's DAC (Development Assistance Committee) criteria of efficiency, effectiveness and sustainability (OECD/DAC, 2019) were used to assess the intervention. Another criterion assessed in the evaluation was gender equality and human and child rights, specifically the right to the highest attainable standard of health (article 24 of the CRC) as defined in Table 2.

30. The ToRs listed the main questions to be considered under each evaluation criterion. The evaluation team reviewed these questions during the inception phase and developed a matrix for the evaluation. The matrix (Annex 2) presents the evaluation criteria, definitions of each criterion, questions asked, tasks performed to respond to each question, main sources of information as well as data collection methods and data availability. The main evaluation questions were accepted as proposed in the Terms of Reference (Annex 3), with a few questions added by the evaluation team.

Table 2: Definitions for the evaluation criteria

Criteria	Definition
Coherence How well does the intervention fit?	The compatibility of the intervention with other interventions in a country, sector or institutions
Effectiveness Is the intervention achieving its objectives?	The extent to which implementation strategies were effective and successful in achieving planned outcomes and results for school going and out-of-school adolescents across all socio-cultural groups, including the vulnerable in the targeted communities
Efficiency How well are resources used?	The extent to which outputs of the intervention have been achieved, in terms of quality and quantity, with the allocated resources and inputs (such as funds, time and procedures)
Sustainability Will the benefits last?	The extent to which various stakeholders, including service providers, community leaders, parents and households are likely to sustain behaviour changes related to the goals of the project after it has ended.
Gender and Human Rights	Defined in accordance with "Integrating Human Rights and Gender Equality in Evaluation Towards UNEG Guidance, 2011" (page 30, table 2.4) as 1) the extent to which the intervention has contributed to human and child rights and gender equality in Malawi and 2) the extent to which stakeholders regardless of sex, geographical location, disabilities and age have benefited from it

31. The evaluation matrix guided the development of data collection tools (Annex 4), key persons and groups to be interviewed. The evaluation team referred to the matrix throughout the process to ensure that answers were adequately provided to the questions developed under each evaluation criterion.

32. **Key Evaluation Questions**
(Questions added by the evaluation team are in italics)

Coherence

1.1 To what extent were contextual factors considered in the design and delivery of the intervention?

1.2 How did various components of the same intervention and other interventions by UNICEF operate together to achieve its objectives?

1.3 To what extent was the Adolescent IFA Intervention by the GoM and UNICEF coherent with policies and programmes of other partners operating in the same districts?

Efficiency

2.1 How well have UNICEF's resources, both human and financial, been managed to ensure timely, cost-effective and efficient attainment of the results?

2.2 How efficient was the collaboration and coordination at national, zone, district and community levels?

2.3 What factors affected the efficiency of the project?

Effectiveness

3.1 To what extent has the Netherlands-funded adolescent nutrition programme on IFA provision and capacity building of service providers been successful in achieving its objectives?

3.2 What were the major factors influencing the achievement or non-achievement of the project objectives?

3.3 To what extent has the implementation of strategies and project approaches, such as intake of weekly IFA supplements worked as intended?

3.4 How effectively did UNICEF engage with the government to strengthen coordination and how far did government leadership and political will influence achievement of the results and vice versa?

3.5 How successful was UNICEF in reaching the most vulnerable groups in the target districts?

3.6 What other changes (positive, negative, direct, indirect, intended or unintended) occurred as a result of the project's interventions?

Sustainability

4.1 To what extent has the programme contributed to the strengthened capacity of duty bearers/service providers in nutrition, health, and other relevant sectors?

4.2 What evidence exists to inform the view that particular activities in the project are being replicated beyond the initially intended reach of the project (for example, outside of geographic areas or target groups)?

4.3 What internal/external factors and drivers have contributed to or constrained sustainability of the programme?

4.4 *To what extent are various stakeholders, including service providers, community leaders, parents and households likely to sustain behavioural changes related to the goals of the project after it has ended?*

Gender and human rights

5.1 To what extent has the intervention been aligned with UNICEF's equity agenda in addressing the needs of the target groups (i.e.to what extent has the initiative reached different groups, including the most marginalized and people living with disabilities)?

5.2 Has the intervention contributed to equitable participation/reach and benefits to various groups (boys, girls and people with disabilities)?

4.0 Methodological Design and Approach

33. A mixed methods and participatory approach to collecting quantitative and qualitative data was used to ensure that voices of all stakeholders were taken into account and findings were verified. The evaluation findings, conclusions and recommendations were formulated with the aim of guiding future policy and programming by the Government of Malawi (GoM), in particular Ministry of Health (DNHA and RHU), Ministry of Education, Ministry of Youth, UNICEF and other key partners.

34. Prior to data collection, the evaluators and UNICEF held a number of virtual meetings to streamline the design and activities for the intervention, beneficiary targeting, scope of work, data needs and sampling issues. The design of the evaluation incorporated several elements agreed during these meetings and followed guidelines, norms and standards of the United Nations Evaluation Group (UNEG).

35. Data for the evaluation was obtained from the following sources:
    i. A review of the key documents such as the project proposal, situation analysis report, minutes of review meetings and various policies
    ii. A survey of 662 adolescent girls in and out of school
    iii. An anthropometric survey of 662 girls to assess nutritional status
    iv. A total of 14 FGDs with groups of interest (see annex 5)
    v. 58 key informant interviews (KIIs) with PNHAOs, DNOs, SHN coordinators and teachers, head teachers, district pharmacists, HSAs, community health nurses (CHN), and staff from UNICEF, SWET and government partners (Annex 5).

36. In the adolescent girls' survey, the evaluation adapted the English questionnaire used by the situation analysis study to make comparisons easy and uploaded it into ODK to minimize errors and ensure quality of the final dataset. The questionnaire was translated and back translated into vernacular Chichewa to avoid misunderstanding and misinterpretation of the questions by enumerators and respondents. It included

questions on IFA supplementation, deworming with albendazole, nutrition education, access to diversified diets based on the Malawi six food groups, knowledge, attitude and consumption of iron rich foods and an anthropometric form.

37. **Disability Inclusion**: In-line with international best practice, the adolescent survey included the Washington Group Questions Short Set[1] to determine the disability status of individual respondents. Research assistants were provided training for administering the questions in accordance with guidelines provided by the Washington Group therefore, the findings have been disaggregated by disability status to provide further insight into reach and benefits experienced by adolescent girls with disabilities.

4.1 Recruitment and Training of Research Assistants

38. A total of 10 enumerators were recruited and trained for 4 days from 7th-9th February, 2022 at the Ministry of Gender's Adult Literacy and Education Centre in Lilongwe to ensure they understood the questionnaire and could administer it uniformly. They included three interns from UNICEF as part of capacity building.

39. The training was based on the following components:
    i. Going through the paper version of the survey tool question wise, to ensure that the enumerators were well-acquainted with it.
    ii. Role plays by research assistants depicting the actual interview scenario with adolescent girls.
    iii. Training on ODK version of the survey questionnaire.
    iv. Orientation on the evaluation methodology, roles of the evaluation team members, work performance expected, ethics in data collection and the field protocol – how to sample schools and health facilities and get consent from gate keepers, like teachers and parents, and girls sampled as respondents.

40. On the 4th day of the training (10th February, 2022), the evaluation team pre-tested the methodology and tools in TAs Maganga and Kambwiri of Salima. Each enumerator completed at least two surveys. This exercise helped them (a) get familiarized with the electronic questionnaire, (b) practice the methodology and (c) identify glitches, lack of clarity, and misleading/difficult-to-comprehend questions. The survey team held a de-briefing session after the pre-testing exercise and addressed minor problems faced with the methodology and the use of ODK questionnaires. The pre-test sample was not included in the actual sample for the survey because it was for learning purposes.

41. UNICEF staff provided backstopping services throughout the training. They oriented the evaluation team on the child safeguarding and protection policy. Towards the end of the orientation, the whole team signed a copy of the policy to show their commitment to abide by it.

[1] See https://www.cdc.gov/nchs/washington_group/wg_questions.htm

4.2 Sample Size Determination

42. A rapid formative Knowledge, Attitudes, Behaviour and Practices situation analysis that served as the baseline for this project sampled a total of 513 adolescent girls in the 6 pilot districts. For this evaluation, the sample size of adolescent girls was increased to 840 to easily disaggregate and generalize the results by district, category of girls (in and out of school) and age group (10-14 and 15-19 years old).

43. The sample size was calculated using the USAID's FANTA sampling guidelines by Robert Magnani (1997) for cross sectional studies and was based on 95 per cent confidence level, 80 per cent power level and a design effect (D) of 2 (Annex 6).

44. A three-stage stratified sampling technique was used to select adolescent girls for interviews and anthropometric measurements. Stage 1 involved random selection of two or three Teacher Development Centres (TDC) in each district depending on the number of schools sampled. In stage II, the evaluation team selected one primary school and one group village headman (GVH) area at random from the catchment areas of the selected TDCs. Stage III involved stratification of girls (standard 4-8) and random sampling for interviews. Districts with larger numbers of adolescents participating in the IFA intervention contributed to larger sample sizes than their counterparts. Four girls were selected for interviews from each class, making a total of 20 per school.

45. **Out-of-school adolescents** - In consultation with Community Health Nurses (CHN) and HSAs, the evaluation team mobilized adolescent girls out of school who were receiving IFA supplementation from health facilities. These girls were stratified by age (corresponding to the classes they would have been in) and selected from each stratum using random sampling to participate in the study. Girls remaining in the strata participated in FGDs and other Participatory Rural Appraisal (PRA) sessions to triangulate the findings.

46. Field work was carried out from the 11th till the 24th of February 2022 in Salima. By the end of the field work, a total of 662 interviews with adolescent girls were completed. Table 3 summaries the numbers of interviews completed in the three districts.

Table 3: Interviews completed and response rates

District	In school			Out of school			Total		
	Planned	Done	RR*	Planned	Done	RR	Planned	Done	RR
Dedza	202	166	82.2%	87	62	71.3%	289	228	78.9%
Mangochi	252	228	90.5%	108	21	19.4%	360	249	69.2%
Salima	134	124	92.5%	57	61	107.0%	191	185	96.9%
Total	588	518	88.1%	252	144	57.1%	840	662	78.8%

*RR stands for response rate

47. UNICEF provided a list of all the schools and health facilities that the evaluation used as a sampling frame. Upon getting to the districts, the evaluation team first met with the PNHAO and SHN coordinators to discuss and finalize the sampling plan and make bookings. This process helped to ensure that schools and health facilities visited included those in remote areas and their counterparts closer to the roads and trading centres. This also helped in ensuring that schools that were close to each other were not selected to ensure heterogeneity of responses. SHN teachers were asked to provide a list of girls who were present on that day from which the team selected some for interviews.

48. **An anthropometric survey** of the sampled adolescent girls took place at the schools and communities. Two teams of trained enumerators took the measurements. Each team comprised of 5 people, 1 person for registering the girls, 2 people for taking height measurements, and 2 for weight and mid-upper arm circumference (MUAC).

49. At each school and health facility, the teams started with measurements before interviewing the girls. Each enumerator had samples of IFA and albendazole tablets to show to the girls and help them remember. The enumerators also displayed copies of the Malawi six food group guide and seasonal food calendars during interviews to ensure credibility and validity of the data collected.

4.3 Qualitative Data Collection

a) Key Informant Interviews (KIIs)

50. The evaluation team conducted Key Informant Interviews (KIIs) at national, district and community levels to triangulate information from the adolescent survey. Participants were adolescent girls and key persons who took part in the project from its inception till completion (Table 4). These interviews were useful in collating stakeholders' viewpoints on various issues concerning the IFA intervention, particularly those that were difficult to derive from the adolescent girls who participated in the survey.

Table 4: A list of key persons interviewed in the evaluation

Key persons	Dedza	Mangochi	Salima	National Level	Total
Health Surveillance Assistance (HSAs)	2	2	4	N/A	8
SHN teachers	1	10	3	N/A	14
SHN coordinators	1	1	1	N/A	3
Head Teachers	6	5	2	N/A	13
District Nutrition Officer (DNO)	1	1	1	N/A	3
Principal Nutrition and HIV/AIDS Officers	1	0	1	N/A	2
SWET	0	0	0	4	4
District Pharmacist	1	0	1	0	2
Food and Nutrition Officer (FNO)	0	0	1	0	1
UNICEF Staff	0	0	1	7	8
Total	**13**	**19**	**15**	**11**	**58**

b) Focus Group Discussions (FGDs)

51. The evaluation conducted a total of 14 FGDs with groups of 6-10 people selected purposively from all the three pilot districts for first-hand information (Table 5). Discussions centred on selected topics with planned questions using the PRA methodology, while allowing for interesting, new or unplanned follow up questions. The emphasis was on examining adolescent girls' knowledge, attitudes, practices and behaviours in relation to nutrition, gender equality and human rights. Semi-structured questionnaires with open ended questions and PRA guidelines were used to guide the discussions. An anonymous voting game was used with girls and mothers to elicit unbiased responses towards IFA compliance. Girls and mothers were asked:
    1) When the IFA supplements were available, how frequently were you/your daughter given a tablet?
    2) When the IFA supplements were given to you, how frequently did you/your daughter take the tablet?

52. Respondents were then invited to anonymously place a stone in a covered cup (so that other respondents could not see) to vote for one of the following four options:
    1) Every week without fail
    2) Sometimes it was given/taken, sometimes it wasn't given/taken
    3) Never
    4) I don't know

53. The groups then witnessed the counting of the stones and were invited to discuss the total votes. At no point were the respondents asked to reveal their answers and their reasons.

Table 5: Focus group discussion conducted in the three districts

Group	**Mangochi**	**Salima**	**Dedza**	**Total**
Girls (in and out of school)	2	3	2	7
Boys (in and out of school)	1	2	1	4
Mothers	0	2	1	3
Total	**3**	**7**	**4**	**14**

54. **Supervision:** Evaluators were present in the field with the teams to supervise and continue mentoring them. Supervision involved ensuring that the survey methodology was followed closely, confirming that enumerators were asking questions and recording answers as agreed, checking how enumerators were completing questionnaires and taking anthropometric measurements daily and organising evening wrap-up sessions with all of them together to discuss any problems encountered and addressing them.

4.4 Data Analysis

55. Electronic data from the adolescent girls' survey were exported, cleaned and analysed in SPSS computer package (Version 21, IBM Corp. IBM SPSS Statistics for Windows, Armonk, NY: IBM Corp. Released 2016). Descriptive statistics, such as frequencies and means, were generated and used to describe the findings in line with the intervention's results framework. Cross tabulations were used to disaggregate the findings by district, category of girls and age (10-14 vs 15-19 years).

56. Qualitative data from FGDs, KIIs and simple observations were analysed by field teams at the end of each day and upon completion of data collection in a particular area. Analysis of this data involved verifying the information collected, compiling and summarising it and identifying key findings in order to contextualize quantitative findings.

4.5 Ethical Consideration

57. The evaluation followed UNICEF's procedure of Ethics in Evidence Generation and all its guidelines on the ethical participation of human participants, including children, and conformed to the 2020 United Nations Evaluation Group's (UNEG) Ethical Guidelines as well.

58. After a briefing that UNICEF made during the training, each one of the evaluation team members signed the policy to show commitment to uphold UNICEF's values and observe the do no-harm principle. This entailed treating all people (women, men, girls, boys, children, the elderly and chronically ill people) with respect and dignity and challenging any form of harassment, discrimination, intimidation and exploitation.

59. Every team member agreed to promote human and child rights and oppose criminal and unethical behaviours. All interviews were preceded by a brief introduction about the purpose of the evaluation and seeking consent from the respondents. All the research tools underwent a rigorous ethical review by UNICEF and were approved (annex 7). All parents, guardians and teachers signed consent and assent forms to give permission for the team to administer questionnaires with adolescents (annex 8), capture photos if deemed relevant and take anthropometric measurements.

60. Enumerators informed teachers, parents and girls that participation was voluntary, highlighting on people's rights to refuse participation, skip questions they did not want to answer, and to stop interviews at any time they wanted. They were informed that there would be no implications for exercising these rights. The evaluation team abided by their professional ethical conduct, such as guaranteeing confidentiality, neutrality and respect for respondent's dignity and culture.

4.6 Limitations of the Evaluation

61. **Resistance by parents to provide consent** – Parents in some communities, especially in Mangochi, were reluctant to provide consent for their children to participate in the study due to misconceptions that surround the IFA supplementation. Adolescent girls were discouraged to come to the health facilities where they were receiving IFA tablets for anthropometric measurements and interviews in this regard. The survey team made prior appointments and efforts to engage parents through HSAs, but low numbers turned up for interviews in many communities.

62. **A mixture of in and out of school adolescents receiving IFA supplementation at health centres** – Following the closure of schools in March 2020, some adolescent girls continued to receive IFA supplementation from health facilities even after opening of schools. When HSAs mobilized adolescent girls, who were receiving IFA supplementation at health facilities, the evaluation team discovered that the majority of them were those in school. Lower numbers of out-of-school adolescent girls were interviewed than planned in this regard.

Box 2: Misconceptions and perceived side effects caused by IFA tablets

i. IFA tablets are intended for pregnant women, meaning that adolescent girls who are not pregnant should not take them.
ii. IFA tablets are contraceptives. District staff suggested that the misconception may relate to the appearance of the IFA tablets and the blister pack they are provided in, which resembles contraceptive tablets. For this reason, communities and parents were frightening girls in some areas that those who will take the tablets will not conceive in future. Conversely, in other communities in Salima and Mangochi there were reports that some girls had become pregnant as a result of engaging in sexually risky behaviours due to the belief that they had taken contraceptives. In future, during the orientation of district staff, frontline workers and communities the two types of tablets need to be displayed. The project should make some women, like those in care and mother groups, champions of change to continue reaching out to communities and girls in youth clubs that JPGE has already established with correct messages to foster behavioural change and compliance.
iii. IFA tablets are distributed to reduce the population. Significantly, this was related by community and district level stakeholders to a population report that was published by the Government of Malawi around the time that the IFA intervention commenced, which stated that Malawi is over-populated and that efforts should be made to reduce the population.
iv. IFA tablets were wrongly seen as COVID-19 tablets for vaccination, particularly in Mangochi
v. Girls in some areas said they do not like the smell of IFA tablets, reporting “They smell bad”.
vi. Other girls in Salima and Mangochi said that IFA tablets have side effects of vomiting and triggering menstruation.
vii. IFA tablets would prevent cervical cancer. The fear was that taking such medication when one does not have cancer may lead to the development of the disease.

63. **Unavailability of key persons and focus group discussion participants at national and district levels** – Critical key informants that could otherwise have provided strategic information with regards to the design, implementation and effectiveness of the approaches were not always available for interviews. This delayed the evaluation process as they kept postponing the interviews to an extent that some could not be interviewed during the time of the evaluation. Likewise, though the consultants worked collaboratively with District Coordinators and frontline workers, they were unable to identify members of youth clubs and care groups targeted by the IFA Intervention to participate in the FGDs. In Salima, the PNHAO indicated that youth clubs born out of the IFA Intervention in collaboration with Afikepo's Nutrition and Access to Primary Education (NAPE) project had just been formulated and no activities had commenced yet.

64. **Lack of routine monitoring data from the District Nutrition Offices (DNOs).** Another challenge was DNOs failure to share electronic data from schools and health facilities as most of it remained in hard copy formats. It was therefore difficult to quantify achievements and impact of the project in some areas.

65. **Expectation of allowances by key persons** – There were high expectations of allowances from key informants in schools and health facilities, particularly in Mangochi. The evaluation did not budget for any allowances as guided by ethical requirements, which discourage making payments of any kind to study respondents. In some cases, such key persons declined to help in mobilizing adolescents in their schools and catchment areas. To mitigate the problem, the consultants made lunch compensations of four thousand Kwacha to maintain good relationships.

66. **Social desirability bias** – A key theme emerging from the qualitative data was the reference to 'others' in the reporting of 'socially undesirable behaviours' as perceived by respondents, namely non-compliance with the IFA supplements. Where respondents discussed this, they commonly noted that 'other girls did not take the tablets, but we did', or 'other girls engaged in risky sexual behaviour because they thought they had taken contraceptives, but we did not'. This may indicate that respondents were biasing their responses to conform to what they perceived to be the socially accepted response in the context of being interviewed. This is a common phenomenon in interviews or FGDs. Findings should be read in the knowledge that they may reflect a more positive picture than reality.

5.0 Evaluation Results

67. UNICEF and its partners from the Government of Malawi have pre-tested iron and folic acid supplementation among girls (10-19 years) for the first time and succeeded. Over a relatively short period of time (2018-2021), the intervention accomplished most of what it set out to do, reaching or exceeding many of its most important targets.

Systems have been put in place to set a foundation for other interventions, capacities of government frontline workers while service providers have been strengthened and promising practices have been tested for wider application. These approaches will benefit not only the communities, schools and adolescents in the impact districts, but also others in Malawi and elsewhere. The results under each criterion assessed in the evaluation were found to be satisfactory and in a number of cases, highly satisfactory.

Specific Objective (SO) 1: Assess the extent to which context factors were considered in the design of the intervention and how it was coherent with policies and programmes of other partners operating in the same districts

Evaluation Criterion 1: Coherence

Question 1.1: To what extent were contextual factors considered in the design and delivery of the intervention?

68. The Adolescent IFA Intervention was found to fit the health and nutritional needs of adolescent girls in the targeted districts quite well. Mangochi, Salima and Dedza had one of the highest rates of anaemia in women of reproductive age ranging from 59 per cent in Dedza, 69.7 per cent in Mangochi and 72 per cent for Salima according to the Malawi Demographic and Health Survey (MDHS) of 2015/2016.

69. Adolescents' diets were poor; solely composed of stiff maize porridge and vegetables as relish, as reported by the situation analysis study conducted from November to December, 2018. Consumption of meats, poultry, eggs, milk and milk products was very low. Production of small livestock, for instance goats and chickens, was low and a majority of the households could not afford to buy these food commodities from the market. Local foods that are good sources of iron, such as caterpillars, ants and indigenous vegetables were despised and not eaten in adequate amounts that could result in substantial intake of iron. The situation analysis study reported that more than half of the girls and their households lacked knowledge about iron deficiency, anaemia, foods that can help prevent the disease and how to prepare them. Therefore, UNICEF and its partners designed and implemented the IFA Intervention to address these problems and prevent the situation from deteriorating.

70. Interviews with adolescent girls in and out of school showed that many of them feel that their situation has changed as a result of the intervention. One girl from TA Kalonga in Salima attested that, "I did not know that a variety of foods found locally in our communities, such as wild fruits, vegetables and animals, which we do not like eating much thinking they are traditional for girls like us, are very good sources of iron, but are lacking in our bodies. The project has taught us about the Malawi six food groups and to eat them (local foods) regularly in our diet." Similar sentiments were echoed in other communities in the three districts as well.

Question 1.2: How did various components of the same intervention and other interventions by UNICEF operate together to achieve its objectives?

71. Weekly IFA supplementation, deworming, nutrition education for social behaviour change and dietary diversity as well as capacity building and involvement of frontline workers, including teachers and HSAs, have shown to synchronize well and be an effective model of reaching out to adolescent girls and boys in and out of school.

72. UNICEF and its partners did well to pre-test the IFA supplementation and deworming in the same three districts, targeted by the UN Joint Programme on Girls Education (JPGE) II. The programme was implemented by the Government of Malawi from 2018 to 2020 with technical support from three United Nations agencies (UNFPA, UNICEF and WFP) and financial support of the Royal Norwegian Government. A new four-year phase was approved in December 2020 and is currently ongoing (2021-2024). JPGE III is implemented in 169 primary schools in these districts and targeting the same girls from standard 5-8 because it is within this age when girls in Malawi tend to drop out of school due to numerous socio-economic and cultural reasons. JPGE III is also focusing on out-of-school adolescent girls targeted by the IFA Intervention, ensuring that they receive basic life skills that they currently need and would require during their adult life.

73. The impact has been huge because of this co-existence, and sound collaboration and coordination. Government frontline workers, parents and communities corroborated that the two programmes together have upheld girls' rights to education, health and nutrition in addition to avoiding duplication of efforts that would result in wastage of resources if each one of them was working separately.

74. As an example, in Salima JPGE introduced school health clubs in 6 of the targeted 11 TAs and promoted backyard gardens and orchards to support the dietary diversity component of the IFA Intervention. JPGE has trained food committees, mother groups and SHN teachers on cooking demonstrations and nutrition education as mentors for the school clubs formed. The IFA Intervention used these clubs to implement activities on nutrition and diets to increase iron intake. According to the PNHAO and DNO for the district, JPGE also purchased and supplied additional reporting tools for supply to various schools and health facilities after they finished in the final year of the IFA Intervention. Traditional Authorities (TAs) where JPGE and IFA Interventions worked together in the district are Kambalame, Ndindi, Kambwiri, Pemba, Maganga and Kaulunda. The impact registered is huge and needs to be scaled up to other TAs.

Question 1.3: To what extent was UNICEF's Adolescent IFA Intervention by the GoM and UNICEF coherent with policies and programmes of other partners operating within the same context?

75. The Adolescent IFA Intervention was a multi-sectoral project that integrated health and nutrition actions to address the problem of iron deficiency and anaemia in line with priorities and commitments of the government of Malawi, UNICEF and other External Development Partners (EDPs), in particular the donor, the Netherlands Government.

76. The intervention was aligned to the Multi-Sectoral Adolescent Nutrition Strategy of 2019-2023, and the National Multi-sectoral Nutrition Policy (NMNP) and its Strategic Plan of 2018-2022 as the main policy documents guiding the programming of nutrition as a human and child rights issue in the country. As an example, the intervention has achieved three of the nine activities outlined under strategy 2 of objective 1 of the NMNP and its Strategic Plan, namely: 1) provide iron-folate supplementation to pregnant and all women 15-49 years of age, 2) conduct nutrition education and counselling for adolescent girls and women at facility and community levels, and 3) procure and distribute the following to all facilities: iron, folic acid, vitamin A and de-worming tablets for women 15-49 years (including pregnant women).

77. Additionally, the Adolescent IFA Intervention by UNICEF and GoM provided synergy and complementarities to other policies like the Malawi Growth and Development Strategy III (MGDS III) (2017-2022), the National Agriculture Policy (NAP) (2016-2021) and National Resilience Strategy (2018-2030), which seek to address micronutrient deficiencies, through other means, such as biofortification and fortification of major staple foods.

78. From a global perspective, the IFA Intervention has contributed to achieving agenda 2030, especially indicator 2.2.3 for target 2.2 of SDG 2 that aims to "end hunger, achieve food security, improve nutrition and promote sustainable agriculture. Target 2.2 of this goal states that "By 2030, end all forms of malnutrition, including achieving the internationally agreed-upon targets on stunting and wasting in children under 5 years of age, by 2025, and address nutritional needs of adolescent girls, pregnant and lactating women and older persons. Indicator 2.2.3 is about reducing the prevalence of anaemia in women of 15-49 years of age. This indicator is based on the goals outlined by the 65th World Health Assembly (WHA) that took place in May 2012 for fighting all forms of malnutrition globally.

79. The Adolescent IFA Intervention partnered well with other programmes throughout its period of implementation.
    1) **Afikepo Nutrition and Access to Primary Education (NAPE) project** funded by the European Union (EU) and the Government of Germany with support from GIZ.

NAPE (2017 to April 2022) trained school club patrons, matrons and community members on how to establish school gardens and grow indigenous and nutritious crops and vegetables. NAPE focused on Home-Grown School Meals (HGSM) to enrich school meals with indigenous vegetables and legumes that are highly nutritious. NAPE has established adolescent clubs in schools receiving IFA supplementation in Salima to leverage efforts by UNICEF and DNHA.

2) **CARE Malawi** provided fuel to distribute IFA reporting tools in schools and health centres.
3) **WFP** provided vehicles for district teams to carry out monitoring activities for the Adolescent IFA Intervention.
4) **Organized Network of Services for Everyone's (ONSE) Health project** funded by USAID supported nutrition activities, particularly in Salima.

SO 2: Evaluate the extent to which project activities were implemented in a cost-efficient manner in the targeted communities.

Evaluation Criteria 2 – Efficiency

80. The evaluation team analysed efficiency of the IFA Intervention in the targeted districts to be very satisfactory based on three questions outlined in the ToRs.

Question 2.1: How well have UNICEF's resources, both human and financial, been managed to ensure timely, cost-effective and efficient attainment of the results?

81. According to individual interviews with project managers and staff in the districts, funding for the IFA project was disbursed as planned. Since the funding came in the form of a grant, the project was designed in accordance with the financial envelope made available to UNICEF by the donor.

82. The total budget that UNICEF Malawi country office received from the Netherlands' government is US$250,000. Table 6 shows that different categories of activities were fully funded as planned. In terms of expenditure by category, Table 6 shows that the purchase and replenishment of IFA tablets accounted for 30 per cent of the total budget, 23.7 per cent was allocated for actual purchasing of the IFA tablets, and 3.6 per cent went to freight costs and local distribution to the schools and health facilities. Monitoring and evaluation spent 30 per cent through costs for the baseline and endline studies, monitoring support to the districts and integration of IFA indicators in the national M&E system. The project spent 17.2 per cent of the budget on social behaviour change communication (SBBC), which included planning and facilitation of community engagements, mass media engagement and mobilization, and the identification, engagement and empowerment of adolescent nutrition champions. Capacity development had a cumulative expenditure of 13.4 per cent, emanating from learning and development sessions, printing of compliance cards for 35,000 adolescent girls and demonstrations of diversified diets using locally available foods.

83. Other budget categories represent smaller shares of the total project cost. These include expenditures on visibility at US$14,000, representing 5.6 per cent of the budget, and cross sectoral support at US$9,616 (4%) as illustrated in Table 6.

84. In summary, operational costs related to the provision of IFA supplements and associated activities accounted for almost 100 per cent of the total expenditures incurred. No investment was made on equipment, vehicles and furniture. Moreover, the budget did not include administrative costs like salaries and remuneration of staff. The presence of in-country experts at UNICEF and partner organizations helped the project to save time and resources that would have otherwise been spent on additional recruitment processes or hiring consultants to do certain tasks. The use of the national supply chain from district hospitals to communities also enabled the project to make financial savings in terms of staff salaries, logistics, and monitoring and supervision costs, thereby making it possible to reach a larger number of beneficiaries at a lower cost, as desired.

85. A large portion of the budget was disbursed in the first year (US$109,740 – 43.9%). This is because large components of M&E and SBCC, and 50 per cent of expenditures for the IFA tablets were planned to be spent in the year (Table 6). With respect to cost-effectiveness, the evaluation found an average cost of US$2.38 per beneficiary girl registered in the project per year; disaggregated as follows: US$3.13, US$2.07 and US$1.94 for years 1 to 3 respectively (a total of US$7.14 in three years) as illustrated in Table 7. This level of efficiency compares favourably well with similar interventions implemented elsewhere. For example, the cost of the IFA programs per adolescent girl per year in Sri Lanka, for which data is available, is estimated at US$2.27[2] and in India US$0.58[3] for projects that have taken place most recently in the past five years. Data from other countries in Asia, such as Cambodia, the Lao People's Democratic Republic, the Philippines and Vietnam, show that in previous efficacy studies, the cost varied from US$0.12 to $3.64 for an annual supply of 52 IFA supplements to adolescent girls[4].

Table 6: Expenditure by category of the IFA Intervention, year 1 to 3

Project Activity	**Year 1** (USD)	**Year 2** (USD)	**Year 3** (USD)	**Total** (USD)	**%**
Capacity Development in Weekly Folic Acid roll out					
Learning and development sessions- 1 per district			5,000	5,000	2.0
Printing of compliance cards for 35,000 adolescent girls in Salima, Mangochi and Dedza districts at USD 0.29 per card		10,000	10,000	20,000	8.0
Feeding demonstration for diversified meals using locally available foods among adolescent girls (Cost of conducting cooking demonstrations in 150 platforms in the district)			8,522	8,522	3.4
Sub Total	-	10,000	23,522	33,522	13.4

[2] https://www.nutritionintl.org/wp-content/uploads/2020/11/MMS-policy-brief-sri-lanka-2020-05-07-web.pdf

[3] ttps://apps.who.int/iris/bitstream/handle/10665/148556/WHO_NMH_NHD_14.4_eng.pdf?sequence=1&isAllowed=y

[4] https://iris.wpro.who.int/bitstream/handle/10665.1/5518/9789290615231_eng.pdf

Social Behavioural Change Communication (SBCC)					
Planning and facilitation of community engagement and empowerment with traditional and religious leaders (30 forums/dialogues etc.) to support positive social norms and practices on adolescent nutrition	10,000	10,000	7,807	27,807	11.1
Mass media engagement and mobilization (5 radio programmes on IFA, 10 articles on IFA project on web-based platforms, 10 jingles on IFA project, 5 documentaries developed and aired)	10,000			10,000	4.0
Identification, engagement and empowerment of Adolescent Nutrition Champions (Community drama sessions, community dialogues, food festivals)			5,000	50,000	20.0
Sub Total	20,000	10,000	12,807	42,807	17.1
Monitoring and Evaluation					-
Baseline and endline survey and documentation for 3 districts	30,000		24,000	54,000	21.6
Monitoring support to districts education department/school health and nutrition program for Iron Folic Acid Supplementation roll out (development and printing of tools, orientation of focal persons and supportive supervision	10,000		5,000	20,000	8.0
Integration of IFA indicators in the National M & E system	1,000			1,000	0.4
Sub Total	41,000	5,000	29,000	75,000	30.0
Procurement and Replenishment of Iron Folic Acid and Albendazole Tablets					-
Iron 60mg+Folic Acid 40mgcg/PAC-10x10 blisters 35000 Adolescent girls-1-year course -1 tab per week for every adolescent girl (10-19 years) 52 tablets per adolescent	29,666	29,666		59,332	23.7
Freight cost for the iron folic acid, and albendazole	4,450	4,450		8,900	3.6
Sub Total	34,116	34,116		68,232	27.3
Supplies Integration Support to CMST to Deliver to Last Mile					-
District level IFA distribution cost to Health facilities in 3 districts from Central Warehouse-health facility	3,412	3,412		6,824	2.7
Visibility					-
Provide visibility for the 'second opportunity' adolescent nutrition programme and the Netherlands support through branding of the project sites, supplies and donor field visits	7,000	7,000		14,000	5.6
Sub Total	10,412	10,412	-	20,824	8.3
Cross Sectorial Cost (4%)	4,221	2,781	2,613	9,615	3.9
Sub Total	4,221	2,781	2,613	9,615	3.9
Total Programmable Costs	109,749	72,309	67,942	250,000	100
Percentage	43.9	28.9	27.2	100	

Table 7: Cost per beneficiary (adolescent girl 10-19 years) registered in the project

	Year 1 (USD)	**Year 2** (USD)	**Year 3** (USD)	**Total** (USD)
Yearly expenditure	109,749	72,309	67,942	250,000
Beneficiaries reached	35,000	35,000	35,000	35,000
Cost per beneficiary	3.14	2.07	1.94	7.14

Question 2.2 How efficient was the collaboration and coordination at the national, zone, district and community levels?

86. Collaboration and coordination of IFA activities were assessed to be good and expected to be scaled up. At the national level, DNHA was responsible for the overall coordination and management of project activities. When IFA tablets were procured, Pharmacy Departments at district hospitals received and stored them before supplying them to PNHAO offices. From these offices, supplies were delivered to health centres

by drivers. District Nutritionist, members of District Nutrition Coordinating Committees (DNCC) like Youth Officers, SHN coordinators and the PNHAO monitored the whole process to ensure consignments were delivered as dispatched. SHN coordinators were the ones instructing the SHN teachers to collect supplies from the health centres and to store them in the head teachers' offices for weekly distribution.

Question 2.3 What factors affected the efficiency of the project?

87. Despite the availability of funding and its disbursement as planned, a number of factors affected efficiency of the intervention. The main factor was the expiration and stock out of IFA tablets before the project came to an end. Procurement of IFA tablets and supply to health centres and schools was carried out immediately in the first months of 2019 to save freight and distribution costs. Being on a pilot basis, the project only budgeted and procured IFA tablets for years I and 2; 52 doses per year for each of the 35,000 girls registered in the project. IFA supplementation therefore did not take place after expiration of the consignments that were delivered. During field work for this evaluation, no school had supplies and supplementation had since stopped.

88. **At the district level:** District pharmacy managers, in-charges of health centres and DNOs complained that they were not involved in the targeting of beneficiaries (girls), ordering of the tablets and planning of delivery to schools and health facilities. All these activities were said to be unilaterally managed by UNICEF and DNHA parallel to the national supply chain system followed by the district hospitals.

89. **At the school and health centre level:** The main problem was low storage capacity. Schools, as reported by the SHN Teachers and Head Teachers, in particular, had limited space to keep huge quantities of IFA tablets.

90. **At the community level:** Efficiency of the project was affected by misconceptions regarding the IFA tablets that reduced compliance by the girls.

SO 3: Propose a Theory of Change in consultation with all key stakeholders.

91. The Theory of Change (ToC), detailed in Annex 9, draws from multiple sources including:
    - The 'Framework of interventions and determinants of adolescent nutrition' provided in the Multi-Sectoral Adolescent Nutrition Strategy of 2019-2023[5].
    - The 'Socio-Ecological Model' provided in the Multi-Sector Nutrition Education and Communication Strategy (NECS) II, 2019-2023[6].
    - Data collected through this evaluation.

[5] Multi-Sectoral Adolescent Nutrition Strategy, 2019-2023, Government of Malawi, Ministry of Health, page 10

[6] Multi-Sectoral Nutrition Education and Communication Strategy (NECS) II, 2019-2023, Government of Malawi Department of Nutrition, HIV and AIDS, pp 9

92. These data sources are reviewed through an Actor Based Change (ABC) framework lens[7]. Given the IFA Intervention's objectives, the Theory of Change identifies two key actors, and two target behaviours that it seeks to address, as shown in Figure 5.

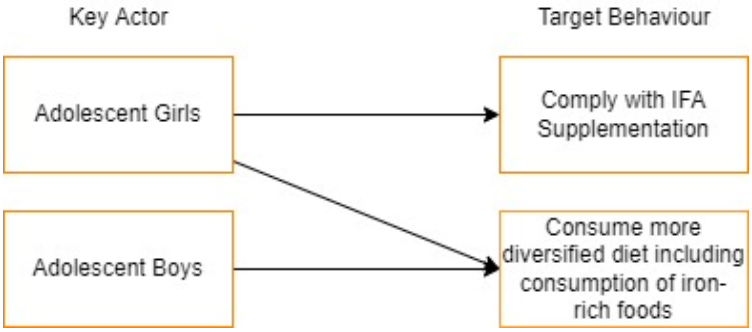


Figure 5: Key Actors and Target Behaviours

93. As outlined further in Annex 9, a socio-ecological model, and behavioural analyses of the two target behaviours are presented. These analyses form the basis of two proposed Theories of Action, which outline the pathways of change from intervention toward changes in the targeted behaviours. The two Theories of Action, are then presented jointly in a Theory of Change (Figure 6), which shows how changes in the target behaviours, if sustained over time and adequately resourced, will contribute toward the proposed outcomes in adolescent health and nutrition, as outlined in the '*Framework of interventions and determinants of adolescent nutrition*' provided in the Multi-Sectoral Adolescent Nutrition Strategy 2019-2023.

94. The IFA Intervention is in line with the Multi-Sectoral Adolescent Nutrition Strategy of 2019-2023 whose goal is to have well-nourished adolescents who can contribute to economic growth and development of the country. The Theory of Change (ToC) adopts and feeds into the conceptual model presented in this Strategy. The Theory of Change (Figure 6) developed through a rigorous analysis of the final evaluation primary data, desk review of the national nutrition policy and its accompanying strategy papers, envisages that supplementation of iron through IFA tablets coupled with positive practices on diversified diets as guided by Malawi's six food groups in an enabling environment will lead to significant improvement in adolescent nutrition. A key component of the Adolescent IFA Intervention is the financial support from UNICEF and technical support from the DNHA, Ministries of Health and Education as agents of delivery of the program support to the adolescents.

[7] Koleros, A., Mulkerne, S., Oldenbeuving, M., Stein, D. (2018) *The Actor-Based Change Framework: A Pragmatic Approach to Developing Program Theory for Interventions in Complex Systems*, American Journal of Evaluation, Vol. 41 (1) 34-53, pp 34

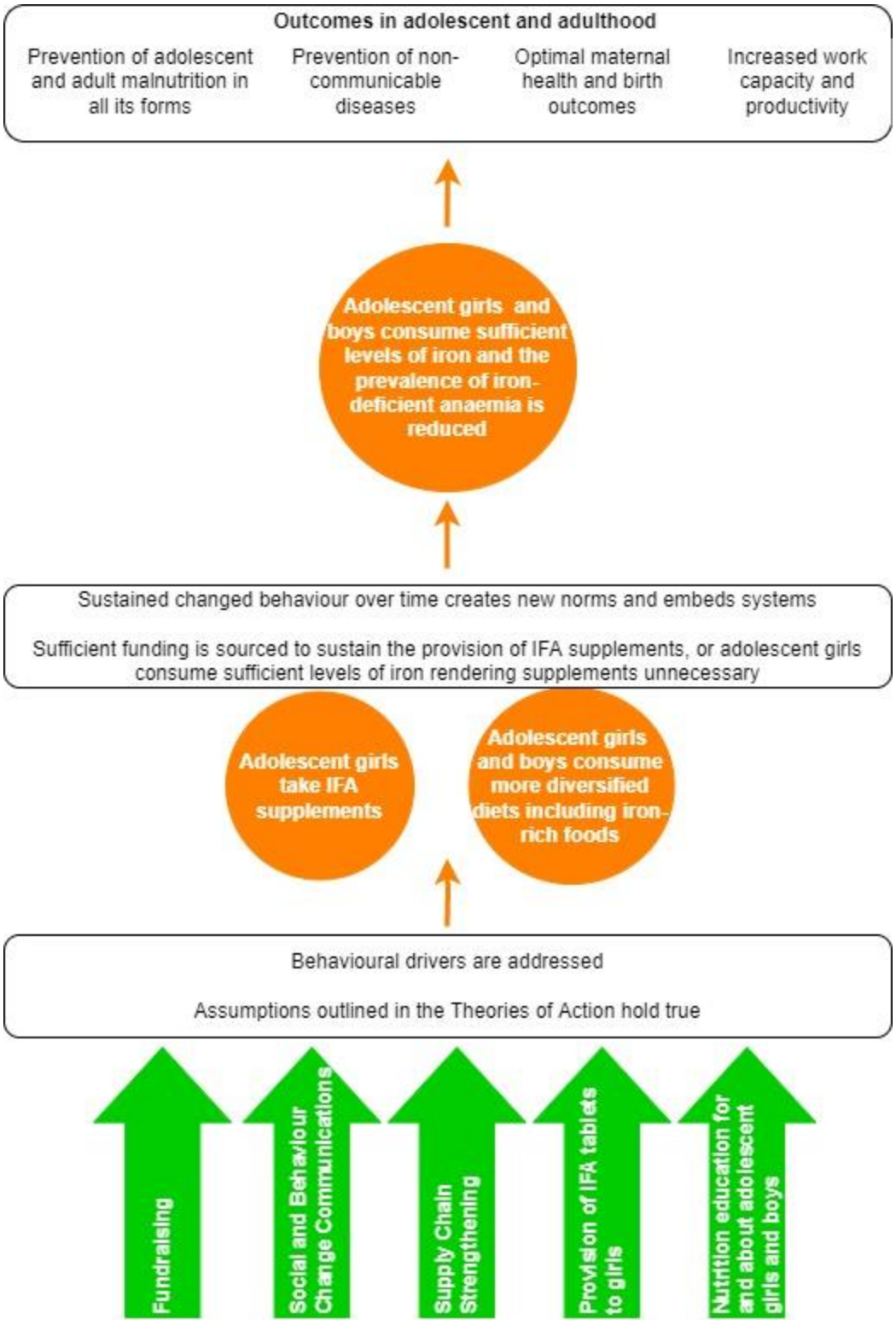


Figure 6: Theory of Change

95. A few components have been added to the Conceptual Framework presented in the Multi-Sectoral Adolescent Nutrition Strategy. The additions made and their justifications are as follows:

96. **Inputs**

i. ***Funding*** – Currently, UNICEF is one of the main development partners supporting IFA supplementation in Malawi. Funding is a crucial component as the intervention cannot sustain itself until the Government of Malawi (GoM) is able to self-finance it.

ii. ***Human Resource (roles of government implementing agencies)*** – The roles of the Ministry of Health through the DNHA, RHU and DHOs are key components of the intervention since IFA supplementation is also partly a health issue. Conversely, the ToC highlights the role of the Ministry of Education which is significant to the implementation. The intervention targets 70 per cent of in school adolescents and should continue in that manner when it is scaled up.

iii. ***Stakeholders*** - Religious and traditional leaders determine the achievement of the IFA Intervention as they are culturally more empowered to determine behavioural change in a society (hence should be considered an important stakeholder to ensure success).

97. **Interventions**

i. ***Promotion of behavioural change through Social and Behavioural Change Communications (SBCC) approach*** is a key intervention outlined in the ToC (Theory of Change) to increase intake of iron rich foods, diversified diets and IFA supplementation among adolescents.

ii. ***Provide targeted supplementation for adolescent girls 10-19 years*****:** the main activity for the IFA Intervention for adolescents aimed at eradicating iron deficiency among adolescent girls 10-19 years. This needs to be reflected in the ToC to guide implementation.

iii. ***Include nutritional education intervention*** through the Life Skills course, health talks and Care Groups as part of the ToC.

iv. ***Build capacity of frontline workers in IFA provision, data management and reporting*****:** The evaluation found that there are capacity gaps in the provision, data management and reporting by frontline workers such as SHN teachers and HSAs. In this ToC, the project should enhance training and incorporate on-going training of staff in schools and health facilities.

v. ***Promoting coordination among facility, district and national level partners in IFA supplementation*** should be considered as one of the elements for the ToC for this project. Coordination gaps especially at district level compromised achievement of the results and contributed to poor distribution and management of IFA stocks. It is important that UNICEF facilitates engagement with key stakeholders at national and district levels to ensure the coordination structure is

owned by all stakeholders, with roles and responsibilities specified. These include the Ministry of Health, Ministry of Education, DNHA, District Health Officers, Districts Nutrition Officers and Principal Nutrition, HIV and AIDS Officers.

SO 4: Evaluate effectiveness of the Adolescent IFA Intervention in producing the expected results for adolescent boys and girls, service providers, parents and community leaders in the targeted communities.

Evaluation Criterion 3: Effectiveness

Question 3.1: To what extent has the Netherlands-funded adolescent nutrition programme on IFA provision and capacity building of service providers been successful in achieving its objectives?

98. The Adolescent IFA Intervention had four primary objectives:
    (i) To promote consumption of diversified diets using the Malawi six food groups approach among 70 per cent of adolescent boys and girls aged 10-19 years.
    (ii) To standardize integration of weekly iron and folic acid (IFA) supplements in the Ministry of Health's (MoH) supply chain.
    (iii) To promote compliance of IFA supplements and deworming in 70 per cent of school going and 60 per cent of out-of-school adolescent girls.
    (iv) To create an enabling environment for effective implementation of adolescent nutrition in Malawi.

Objective 1 of the Project: To promote consumption of diversified diets using the Malawi six food groups among 70 per cent of adolescent girls and boys aged 10-19 years.

99. Through community radios, community sensitization and door to door campaigns, available data by the Story Workshop Educational Trust (SWET) show that the project managed to reach 54,826 adolescents (32,354 girls and 22,472 boys) with messages of IFA supplementation and diets, as of 2020. This figure represents an achievement of 78.9 per cent, which is higher by 28.9 percentage points since the project planned to have 50 per cent of the 69,462 adolescent boys and girls reached in the pilot districts.

100. Descriptive analysis of data from the 24-hour dietary diversity score based on the Malawi six food group guide shows that the project has achieved tangible results by the end of three years. Figure 7 shows an increase in the consumption of iron-rich foods. More than two thirds of the girls interviewed (68.4%) reported to have consumed various forms of meat and meat products, including those that are locally available, compared to 47 per cent found by the situation analysis study in

2018. Consumption of dark green leafy vegetables, which are also a good source of iron, has increased too from 89.5 per cent to almost 100 per cent (99.1%), legumes from 49 per cent to 50.9 per cent and fats and oils from 70 per cent to 87.9 per cent as illustrated in Figure 7. Vegetables were plentiful during the time of the evaluation due to rains and with nutrition knowledge acquired adolescent girls consumed them regularly as part of their diet. Conversely, the evaluation found a decline in the consumption of fruits by 18.1 percentage points from 63 per cent reported three years ago to 44.9 per cent. Focus group discussion (FGDs) revealed that indigenous fruits like mangoes and guavas were out of season and those that household grow in their fields, such as watermelons and cucumbers, had not yet matured in February when the evaluation took place. Adolescent girls and their families lacked money to buy and eat fruits that were available at the market (e.g. bananas and apples) regularly as required in this regard.

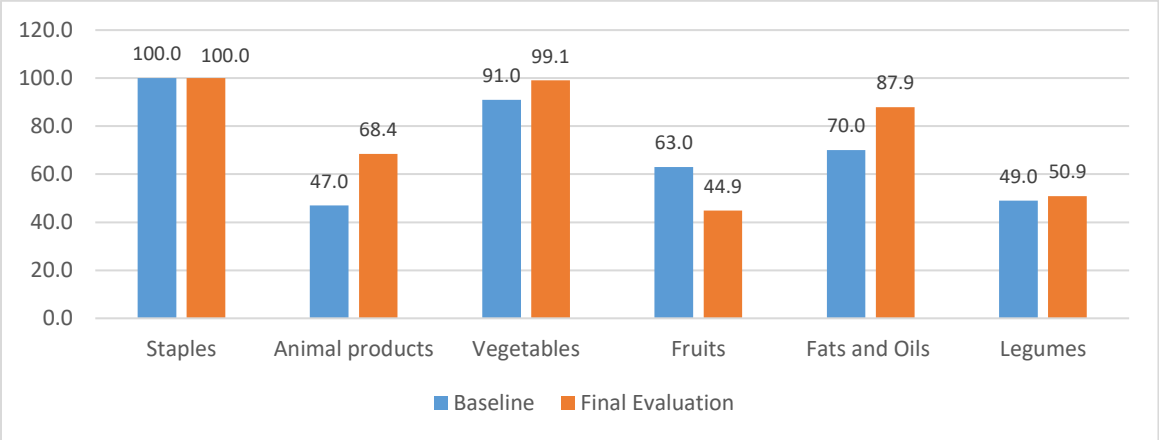


Figure 7: Food consumption at baseline (2018) and final evaluation (2022)

101. Table 8 shows that more than half (58.6%) of the girls had high dietary diversity as they consumed five or all the six food groups a day before the survey. More than one third of them (35.6%) consumed 3-4 groups (medium diversity) and only 5.8 per cent were in the low diversity category because they ate 1-2 food groups. These results, while not entirely due to this project since the presence of other interventions in the same districts, suggest a positive contribution of the project through nutrition education and promotion of iron rich foods. Trends were similar across the districts, with Mangochi reporting the highest diversity (Table 8).

Table 8: Dietary diversity by adolescent girls in the three pilot districts

Dietary Diversity	Dedza		Mangochi		Salima		Total	
	Baseline	EOT	Baseline	EOT	Baseline	EOT	Baseline	EOT
Low (1-2)	8.9	12.7	7.6	0.8	25.3	3.5	13.9	5.8
Medium (3-4)	12.7	36.8	7.6	31.7	13.3	39.6	11.2	35.6
High (5-6)	78.5	50.4	84.8	67.5	61.4	57.0	74.9	58.6

102. A further assessment was carried out to understand the type of foods among the six food groups that were available and constituted diets of the adolescent girls in the targeted districts. Girls in Mangochi reported the highest consumption of animal food products (81.9%) a day before the survey followed by Salima (61.6%) and Dedza (59.3%) as shown in Figure 8.

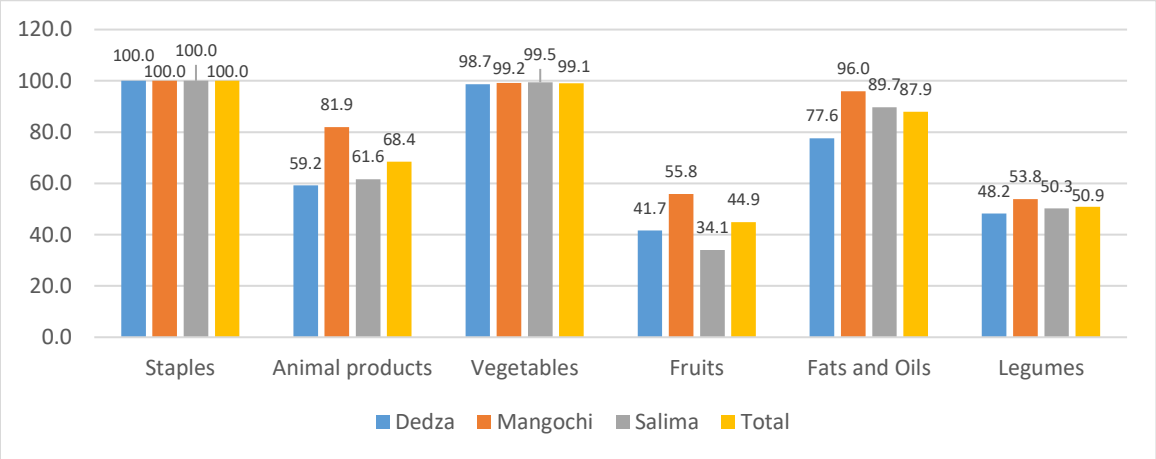


Figure 8: Consumption of six food groups by district

103. Organ meats, while are a very rich source of iron, were rarely accessed and consumed by adolescents as already indicated above. Only 5.1 per cent of the girls had consumed this essential source of iron in the 24 hours prior to the study. They confirmed that organ meat and meat in general are expensive and eaten occasionally in most households. *"Our parents cannot afford to buy meat regularly, although it is readily available at the market,"* a girl reported at Kankhombe primary school in Salima. Fish is the most common source of iron, especially in Salima and Mangochi because they are close to the lake. Caterpillars, insects and ants remain largely unpopular and seasonal. More efforts are needed to increase consumption of these local foods and make them reliable sources of iron in the districts.

104. Table 9 shows that households from which adolescent girls reside are now eating one more food group with an average dietary diversity score of 4.6 compared to 4.1 recorded by the situational analysis study of 2018.

105. SHN teachers explained that at times IFA supplementation sessions were preceded by health talks, which included guidance on the Malawi six food groups and foods that are rich in iron to complement the tablets. Adolescent girls reported to have received information from other sources about nutrition and diets including wrappers worn by women (zitenje in Chichewa) that Feed the Children provided through Tiwalere project, radios and parents at home.

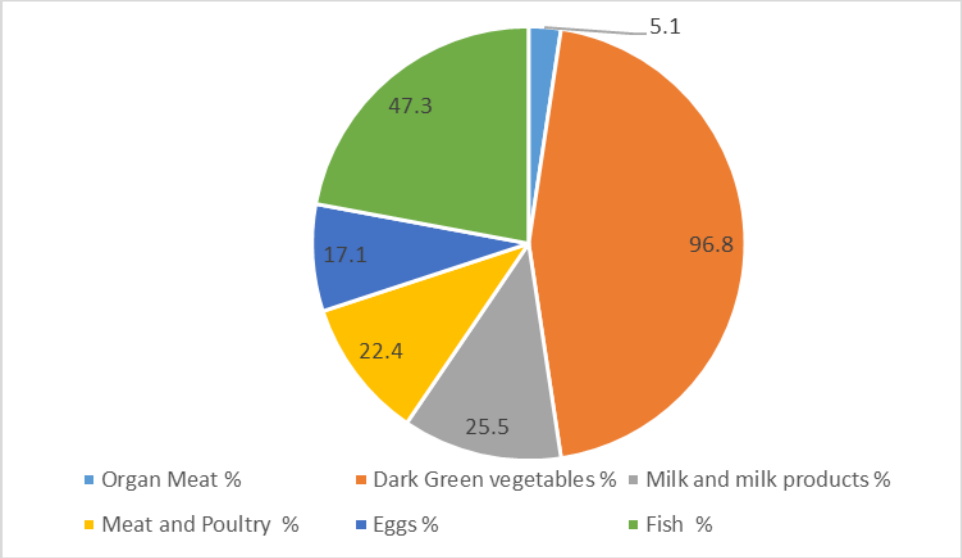


Figure 9: Common sources of iron consumed by adolescent girls

Table 9: Average household diversity by district

District	Baseline	Final Evaluation
Dedza	4.4	4.3
Mangochi	4.0	4.9
Salima	3.9	4.7
Total	4.1	4.6

106. Further engagements with SHN teachers revealed that they have not received any standard guidelines to use in nutrition education of adolescent girls to promote consumption of iron foods. Most of the teachers explained that their weekly roles were therefore limited to the distribution of IFA tablets and keeping records on compliance, but little on nutrition education. “We give nutrition education because we see that it is necessary, but it is not a major component of this program. We have no topics and reference guidelines to use. We only talk about the Malawi six food groups and we cannot be delivering the same topic every week,” said one of the SHN teachers in Mangochi. Similar sentiments were expressed by teachers in most schools of Salima and Dedza.

Objective 2 of the Project: To standardize integration of weekly iron and folic acid supplements in the Ministry of Health (MoH) supply chain

107. Over the past 3 years, from 2018 to 2021, the project invested US$59,332 to procure IFA tablets for 35,000 girls and ensured that each one of them had 52 tablets in a year to allow weekly intake. In the initial phase (2019), the project used the Ministry of Health (MoH) and Central Medical Stores Trust (CMST) supply chain system to procure tablets, as confirmed by district and community staff -

SHN teachers and HSAs. In subsequent consignments of November 2021 and March 2022 (Figure 10), the project changed and set up a parallel structure and the reasons for doing this remain unknown.

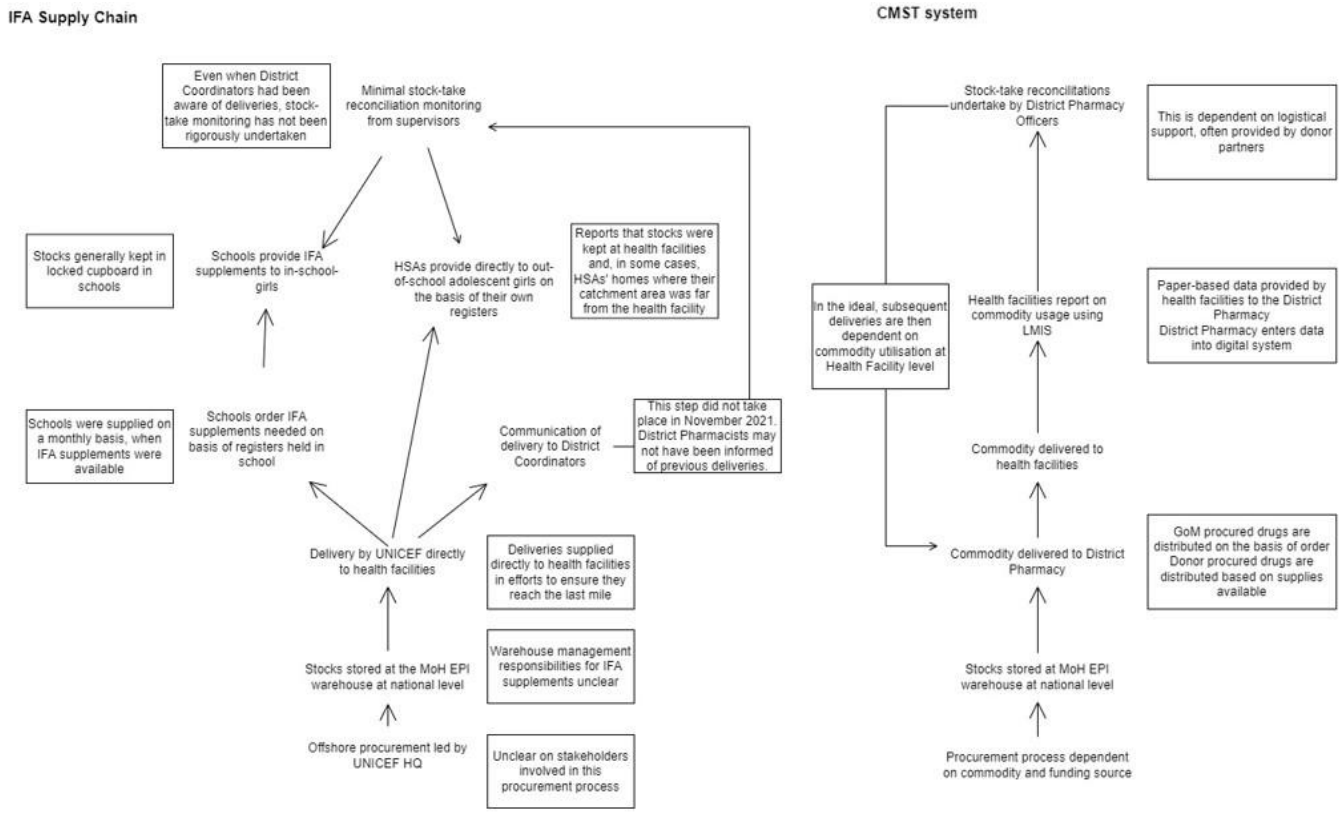


Figure 10: IFA supply chain versus Central Medical Stores Trust (CMST) system

108. As an example, in supplies for November 2021 and March 2022, UNICEF and DNHA delivered supplies to PNHAOs who then circumvented district pharmacy stores and distributed directly to health centres for further sharing with beneficiary schools and community delivery points.

109. The parallel structure resulted in a number of challenges related to monitoring, stock management and reporting. Several schools and health facilities reported to have received more supplies than were actually needed due to the lack of accurate information on the numbers of registered girls. “Tablets have expired because it has taken longer for the girls to finish the huge supplies delivered,” SHN teachers and HSAs said.

110. In some cases, due to poor information and monitoring in the parallel structure, IFA tablets meant for adolescent girls were distributed among pregnant women by health facilities, for instance in Salima. These inconsistences and anomalies presented a high cost to the project and need to be addressed in the future.

Objective 3 of the Project: To promote compliance of iron and folic acid supplements and deworming in 70 per cent of school going and 60 per cent of out-of-school adolescent girls

111. Interviews with girls in all the three districts revealed that when IFA supplements were available in the first and second years, 79 per cent of them complied by taking weekly doses as recommended.

112. To promote compliance, the project required adolescent girls to take tablets weekly on spot under direct supervision of teachers, HSAs or Community Health Nurses and parents. The following procedure was followed and is recommended to be continued:

i. All registered girls came to a common place.
ii. Each girl washed her hands when it was her turn to take the tablet.
iii. SHN teachers and HSAs provided the tablet to each girl to ingest on spot.
iv. Girls brought their cups from home as a COVID-19 precautionary measure.
v. SHN teachers and HSAs recorded in the compliance forms for each girl after taking the tablet.
vi. In instances where a girl missed her weekly dose, it was given on another day within the same week. However, if this was not possible, the following week's dose was given when it was due.

113. During the holidays, SHN teachers provided girls with the IFA tablets to take at home and record it on the compliance forms themselves. This practice was particularly for schools away from health facilities. Girls living close to health facilities received their tablets from HSAs and through the various forums available in the communities during holidays.

114. In spite of these achievements, after March 2020 the project suffered from stock out of supplies mainly because of disruptions by the COVID-19 pandemic. Girls did not have the opportunity to comply, therefore, when asked during the quantitative survey, 'Have you received IFA supplements in the past 6 months (referring to the period from September 2021 till February 2022 when the endline data was collected), 13.6 per cent said yes'. The rest (85.4%) of the girls did not take any supplements during this period.

115. These results are similar to those in Salima for which data were available and shared with the evaluation team. Table 10 shows 12.4 per cent and 20 per cent compliance, by adolescent girls in schools and communities in the district, for the months of September and October 2021 respectively. Most schools had no IFA stocks during this period, hence lower compliance was reported when compared to communities. UNICEF placed an intern in the office of the PNHAO who captured this data. Dedza and Mangochi had no such data to share with the evaluation team.

Table 10: Coverage and compliance with IFA supplementation in Salima by the girls

Indicator	Site	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22
Total # of adolescent girl(s)	In school	16128	16128	16128	16128	16128
	Community	7319	7319	7319	7319	7319
# of adolescent girls enrolled in program	In school	14033	14033	14033	14033	14033
	Community	6331	6331	6331	6331	6331
# of girls consuming 4/5 IFA tablets in a month	In school	1742	1742	0	0	0
	Community	1268	1268	0	0	0
Coverage %	In school	87.0	87.0	87.0	87.0	87.0*
	Community	86.5	86.5	86.5	86.5	86.5
Compliance %	In school	12.4	12.4	0	0	0
	Community	20.0	20.0	0	0	0
# of girls consuming albendazole	In school	0	0	0	0	0
	Community	0	0	0	0	0
Albendazole coverage %	In school	0	0	0	0	0
	Community	0	0	0	0	0
# of Nut & Health Education lessons planned	In school	4	4	4	4	4
	Community	99	99	99	99	99
# of Nut & Health Education lessons conducted	In school	5	5	5	5	5
	Community	65	65	65	65	65
# of girls who experienced adverse effects	In school	3	3	3	3	3
	Community	0	0	0	0	0

*Coverage was calculated based on the numbers enrolled in the program versus the number registered by the schools

In the picture, the SHN teacher is giving IFA tablets to girls at Nthulu Primary School in Dedza and making sure they take them on spot

Deworming of Adolescent Girls

116. The Adolescent IFA Intervention was designed to provide albendazole tablets twice every year to treat intestinal worms in girls. The survey asked a series of questions to establish coverage of the intervention. Results (Tables 11 and 12) show that close to two thirds of the girls (65.2%) indicated to have received albendazole tablets within the 12 months preceding the survey. On average, the girls received the tablets twice (mean=1.56) as recommended.

117. In terms of albendazole intake, 98 per cent of those who received the tablets were from Mangochi (36.7%) and girls in school (81.4%). Interviews with health workers in all the three districts revealed that the IFA Intervention did not distribute any albendazole to the schools. Albendazole was provided as part of the Bilharzia program by district hospitals.

Table 11: Girls who received albendazole in the past 12 months

Have you received albendazole in the past 12 months	Frequency	Per cent
No	246	34.8
Yes	461	65.2
Total	706	100

Table 12: Girls who received albendazole by district

Have you received albendazole in the last 12 months?		District			Total
		Dedza	Mangochi	Salima	
No	Count	101	77	67	245
	%	41%	31%	27%	100%
Yes	Count	126	172	163	461
	%	27.3%	37.3%	35.4%	100%
Total	Count	227	249	230	706
	%	32%	35%	33%	100%

Objective 4 of the Project: To create an enabling environment for effective implementation of adolescent nutrition intervention

Question 3.2: What were the major factors influencing the achievement or non-achievement of the project objectives?

118. The project achieved notable successes in creating an enabling environment for effective implementation of adolescent nutrition in the targeted districts. Examples of factors that show the environment was conducive include the following:

1) ***Delivery of IFA tablets directly in schools and health facilities*** –The choice of schools and health facilities as distribution places made it possible for girls to access the tablets easily from teachers and HSAs whom they saw daily and trusted.
2) ***On spot monitoring for compliance*** – SHN teachers, HSAs and parents had a responsibility to observe girls when taking IFA tablets and record it, which helped to ensure compliance whether girls were at school or home.
3) ***Training of government frontline workers*** helped improve capacities while increasing competence and efficiency for carrying out project activities within the busy working schedules.
4) ***Increasing knowledge about the Malawi six food groups*** - Adolescent boys and girls consistently demonstrated knowledge of the Malawi six food groups model, including recognition of individual groups, and the foods contained therein. Nearly two-thirds adolescents (65.5% - 67% in-school and 60% out-of-school) were able to name all the six food groups in the model diagram when displayed in front of them during interviews. SHN teachers and HSAs covered the subject as part of nutrition education and health talks before administering tablets, although not regularly. More than half (51.4%) of the adolescent girls surveyed reported to have ever attended nutrition education classes. In-school girls were more likely (54.3%) to have attended such classes compared to 40.3 per cent of out-of-school girls (Figure 11). SWET also covered issues of diets and the Malawi six food groups during mass awareness campaigns through community drama and radio, which reached adolescent girls and boys as well.

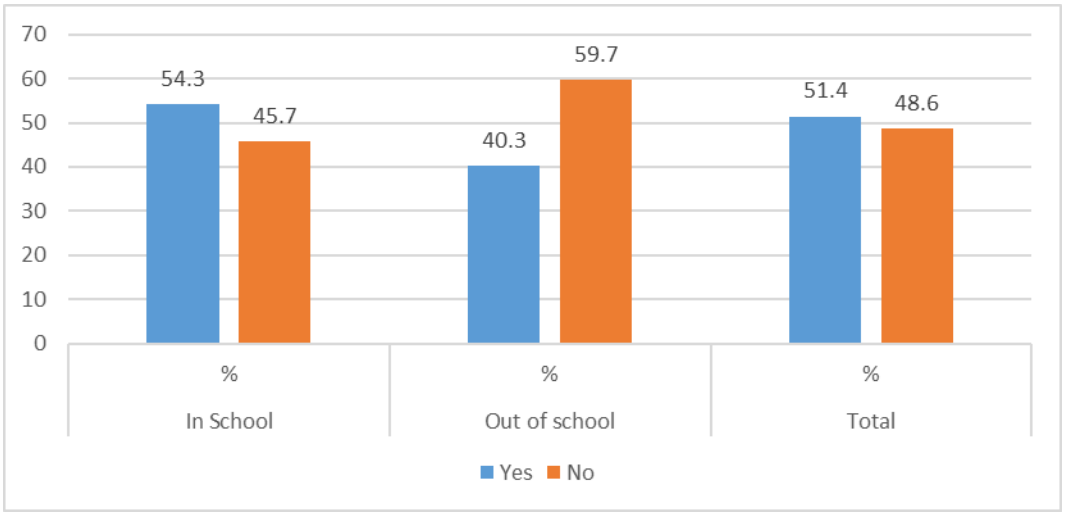


Figure 11: Adolescent girls who have received nutrition education

Question 3.3: To what extent has the implementation of strategies and project approaches, such as intake of the weekly IFA supplements worked as intended?

119. As outlined in detail above, implementation of strategies and project approaches such as the intake of weekly IFA supplements in schools and health facilities, involvement of government frontline workers, engagement of communication partners like SWET, and incorporating nutrition education as part of the IFA supplementation sessions have worked well and delivered the results. These approaches are some of the best practices that the project should scale up.

Question 3.4: How effectively did UNICEF engage with the Government to strengthen coordination and how far did government leadership and political will influence the achievement of the results and vice versa?

120. There is evidence to suggest that higher government ownership over the intervention at district level can be correlated with greater problem solving and resource mobilisation for effective delivery and monitoring.

121. Political will is and has been demonstrated by the GoM through development of the Malawi Growth and Development Strategy (MGDS) III (2017-2022), and the National Multi-Sector Nutrition Policy and Nutrition Strategy (2018-2022) launched in June 2018. As one way of operationalizing the policy and strategy, the government has developed the Multi-Sectoral Adolescent Nutrition Strategy (2019-2023), which aims to deal with health and nutrition issues affecting adolescents. This, though not an end in itself, demonstrates affirmative action on part of the government. While UNICEF mobilized the funds for IFA supplementation and will continue to do so, government ministries and departments have been at the core of the implementation process. The DNHA and RHU coordinated IFA activities at the national level; district-level structures such as the PNHAO, DNO, SHN coordinators, SHN teachers and HSAs played key roles in providing IFA supplementation services.

Question 3.5: How successful was UNICEF in reaching the most vulnerable groups in the target districts?

122. In this intervention, UNICEF and its partners succeeded quite well in reaching out to adolescent girls, including those in remote areas where there was a lack of basic amenities, including nutrition education and healthcare services. UNICEF and its partners implemented the Adolescent IFA Intervention in the same schools and communities where these girls are present in their daily lives, to enable them access IFA and deworming services easily. They put the same teachers, community health nurses (CHNs) and HSAs, who already educate the girls on issues of education and health, at the forefront to render services and ensure compliance.

123. Another unique result achieved by this intervention is its ability to reach out to boys who in most cases are left out by humanitarian and development projects. The boys took part in nutrition education and many of them testified in FGDs that they have been enlightened. *"We have learned about the Malawi six food groups for the first time. We did not know anything about them previously and as a result we were eating food just to satisfy hunger. We have now started discussing the importance of nutrition in our youth clubs while increasing consumption of diversified diets at home, thanks to the project,"* said one group of the boys during FGDs in Salima.

Question 3.6: What other changes (positive, negative, direct, indirect or intended and unintended) have occurred as a result of the project interventions?

As for unexpected and negative results, the following were identified:

124. **Sharing of the tablets with pregnant and lactating mothers by health facilities.** According to pharmacists and DNOs interviewed, IFA tablets procured by the project were also given to pregnant and lactating women when normal supplies were out of stock at the hospital. Conversely, the project benefited from albendazole that hospitals procured for routine treatment of bilharzia as already stated.

125. **Increased workload for SHN teachers.** Since one SHN teacher was trained and because only one day of the week was specifically dedicated to IFA supplementation (Wednesdays or Thursdays in most of the schools), rather than having sessions spread over several days of the week (for example, 1 day for each class to be done quickly), SHN teachers complained about heavy workload and that other school activities were neglected in favour of IFA supplementation. Head teachers, SHN coordinators and other key persons suggested supporting SHN teachers during these days to alleviate the workload by training additional teachers for standard 4-8.

SO 5: Evaluate outcomes of the adolescent nutrition programme and the extent to which the project has contributed to improving compliance of the intake of Iron and Folic acid supplements.

126. The goal of the Netherlands-supported IFA Intervention was "to improve nutritional status of in and out of school adolescent girls aged 10-19 years in the three districts by the end of 2021" The evaluation assessed whether this goal was achieved by asking girls, their schools and communities to respond to three main questions.

127. The Adolescent IFA Intervention has worked and shown tangible impacts amidst the challenges faced. Both in and out of school girls complied well between 2019 and 2021 because they were taking tablets in the presence of SHN teachers and

HSAs or parents, if at home. These frontline workers corroborated and anticipated the impact on reduction of iron deficiency and anaemia to be huge in the absence of an anaemia study.

128. **Nutritional Status of Adolescent Girls:** Weight and height measurements were taken to derive Body Mass Index (BMI) and assess the prevalence of underweight girls. BMI was calculated by dividing weight in kilograms by height in meter squared (kg/m^2). The values obtained were further compared with the reference population from the 2006 WHO Anthro to generate BMI-for-age. A BMI of less than 18.5 kg/m^2 was used to determine underweight. Results (Figure 12) showed that the underweight prevalence, which represents both chronic and acute deprivation, has decreased from 12.9 per cent reported by the MDHS of 2015/2016 to 10.4 per cent in February 2022 - when field work for the evaluation took place. In younger girls 10-14 years, underweight prevalence has declined by 4.1 percentage points from 21 per cent reported by the aforesaid MDHS to 16.9 per cent.

129. When compared to the situation analysis study of nutrition, knowledge, attitudes, behaviour and practices of adolescents on iron and folic acid (IFA) supplementation, the decrease is much higher at 20.3 percentage points in Salima, Dedza and Mangochi from 30.7 per cent to 10.4 per cent (Figure 12).

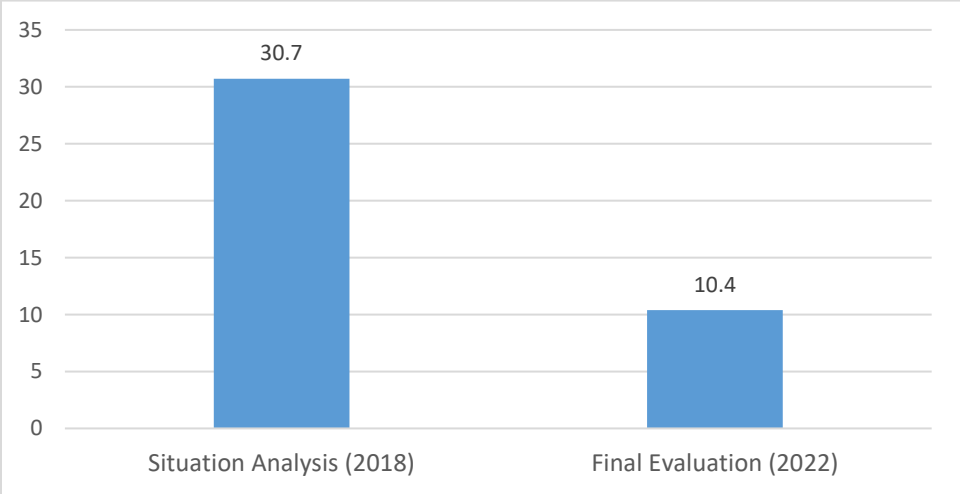


Figure 12: Declines in underweight in girls between the baseline and endline (%)

130. Between 2010 and 2015/2016, the prevalence of underweight and thinness deteriorated in Malawi, with underweight prevalence rising from 14 per cent to 21 per cent and thinness from 2 per cent to 8 per cent among young girls aged 6-12 years old for which data are available. These figures mean that underweight prevalence increased by 50 per cent and thinness by 300 per cent. A SMART nutrition survey of 2018 in 26 out of 28 districts of Malawi found an underweight

prevalence of 14 per cent in adolescent girls of 10-14 years. In the selected six pilot districts, the SMART survey found underweight prevalence of 26.5 per cent. By implication, reductions observed in this evaluation represent the beginning of positive trends that need to be nurtured and scaled up.

131. Of the 95 out of 662 girls who were underweight (14.4%), 15.6 per cent were in school and 9.7 per cent out of school. These results were expected because girls in school have busy work schedules during learning periods that reduce time for eating. The evaluation also found that girls out of school engaged in small businesses and earned money to fend for their food needs. Underweight prevalence in girls was lowest in Salima (10.3%), followed by Mangochi (14.9%) and then Dedza (17.1%). All the three districts are food sources for the country as they produce fish, rice, maize, groundnuts, soybeans and various vegetables. There is, therefore, need for further nutrition education to foster social behaviour change with respect to food utilization in the districts.

132. The evaluation did not assess iron deficiency anaemia as the National Statistical Office (NSO) is scheduled to do the same survey in 2022-23. However, reductions in underweight prevalence serve as evidence for improvements in nutritional status in general as various foods consumed are sources of both macro and micronutrients, including iron.

Contributing factors

133. According to the participants in the individual interviews and FGDs, main factors that have positively contributed to the achievements of the project's outcomes are:

i. ***Training of frontline workers***. In this project, trainings of frontline workers (HSAs and teachers) for all the participating schools and health facilities, to offer nutrition education and IFA tablets, have contributed to the nutritional gains registered. Teachers, HSAs and their managers have acquired a good understanding of the program and delivered the results.

ii. ***Delivery of the project in the existing schools and health centre infrastructure***, has brought IFA tablets and other interventions much closer to the expected beneficiaries (adolescent girls and boys), thus increasing availability and access to services.

iii. ***Nutrition education*.** Lessons offered have helped adolescent girls, boys and their communities diversify diets to include sources of iron, using the Malawi six food groups, and locally available food items. The evaluation found an increase in the consumption of certain foods like meat and meat products and dark green leafy vegetables.

iv. ***Support to the districts by partners*** such as UNICEF, WFP and UNFPA (JPGE programme), CARE Malawi and EU (Afikepo - implemented by

UNICEF and FAO in collaboration with the Ministry of Agriculture) helped to leverage efforts and made it possible to carry out monitoring and supervision of activities, although these were irregular.

v. ***Successful partnerships*** with various organizations and programmes also helped to consolidate resources and efforts that in turn accelerated performance and impact.

SO 6: Evaluate the extent to which the intervention promoted social behavioural change towards the intake of diversified foods, including iron-rich foods among adolescents

134. The IFA Intervention adopted the Social Behaviour Change Communication (SBCC) approach to help adolescent girls and boys, and community members at large understand the importance of adequate nutrition and IFA supplementation. The intervention required frontline workers (SHN teachers and HSAs) to conduct awareness talks before IFA supplementation in order to highlight benefits among adolescent girls. Interviews with SHN teachers and HSAs revealed that such talks were conducted mostly during initial stages of the intervention. Discussions with various groups of girls confirmed the reports by frontline workers.

135. The Story Workshop Educational Trust (SWET), an implementing partner in the project, also supported promotion of social behaviour change through the following interventions:

1) Mobilizing and conducting meetings with traditional leaders to eliminate harmful practices.
2) Empowering school-based structures such as parent-teacher associations (PTAs) and mother groups to mobilize and engage parents on the uptake of IFA tablets by girls.
3) Conducting community and school-based accountability meetings to reinforce community action and data reporting on nutrition and IFA supplementation.
4) Awareness campaigns through community and school-based meetings and radio programmes on IFA supplementation and the value of girls' education.

136. SWET used theatre for development (TFD) tools, such as drama, radio programs, and dialogue sessions with community members and traditional leaders. Through these interventions, the project managed to reach 32,354 adolescent girls, 22,472 boys and 2,510 local leaders with behavioural change messages to promote good nutrition and IFA uptake. Table 13 presents a summary of activities conducted by SWET to support social behaviour change and the extent of reach in the project districts.

Table 13: Sensitization work done by SWET as part of the intervention

Activity	Number
School based community dialogues	164
Men reached with GBV and IFA messages	18,405
Women reached with GBV and IFA messages	23,058
Adolescent girls reached with GBV and IFA messages	32,354
Adolescent boys reached with GBV and IFA messages	22,472
Local leaders reached with GBV and IFA messages	2,510
People reached with radio drama	7,014,439

Evaluation Criterion 4: Sustainability

Question 4.1 To what extent has the programme contributed to the strengthened capacity of duty bearers and service providers in nutrition, health and other relevant sectors?

137. The Adolescent IFA Intervention has trained and strengthened the capacity of district personnel in the health and education sectors in areas of distribution, administration and management of IFA tablets. In Salima, for instance, the project trained around 200 out of the 366 HSAs available, 164 SHN teachers and 164 head teachers from the participating schools (Table 14). Teachers, can now administer IFA tablets to pupils competently, a practice that will continue to reduce workload for the HSAs. Interviews conducted showed that HSAs and SHN teachers are able to order supplies from district pharmacy stores, manage them and provide reports for compliance with minimum supervision.

Table 14: Duty bearers and service providers trained by the IFA intervention

Staff	Dedza	Mangochi	Salima	Total
SHN and head teachers	297	40	328	665
HSAs	465	480	200	1,145
Total Staff trained	762	520	528	1,810

Source: SHN coordinators and DNOs

Question 4.2: What evidence exists to inform the view that particular activities in the project are being replicated beyond the initially intended reach of the project (e.g. outside of geographic areas or target groups)?

138. By the time of the evaluation, IFA supplementation was limited to the schools and health centres participating in the project across the three districts. The use of own supplies from the Bilharzia program for young children to deworm adolescent girls (10-19 years) by the district hospital in Salima is a good spill over effect example of the IFA project because according to the DNO it has never happened before.

Question 4.3 What internal/external factors and drivers have contributed to or constrained the sustainability of the programme?

139. In summary, the following are the internal and external factors that guarantee the sustainability of this intervention:

i) ***Active involvement and capacity building of local communities and structures***. The IFA Intervention did not establish new structures. It used existing structures with a long experience of working in the sectors and built their capacities before putting them in the forefront to lead.

ii) ***Institutionalization of IFA activities into routine work of government workers***. HSAs ordered IFA tablets from district hospitals together with other medical supplies for their health centres. Similarly, SHN teachers served the same girls they teach daily, which increased trust and compliance. Many of them continued to demonstrate commitment and the ability to plan and work without any incentives.

iii) ***Engagement of the same team of district managers to monitor and supervise activities in the field.*** This enabled them to carry out IFA activities when they went out to perform other tasks.

iv) ***A major external factor of relevance on sustainability*** are the partnerships and integration of IFA Interventions and those of large-scale projects working with adolescents like the JPGE and Afikepo. Activities that these projects leveraged, such as formation of adolescent clubs, Home-Grown School Meals (HGSM), nutrition education and hygiene promotion, will continue to have an impact on the adolescent girls in the years to come.

140. Conversely, over the past three-years the Adolescent IFA Intervention has faced a number of misconceptions that have affected successful implementation and compliance by adolescent girls. This is likely to continue if no awareness is created within communities, local leaders and parents. There are also a number of challenges that need to be addressed which have been summarised in the subsequent sections on the report.

Question 4.4: To what extent are various stakeholders, including service providers, community leaders, parents and households likely to sustain behaviour changes related to the goals of the project after it has ended.

141. The IFA Intervention implemented a range of activities at different levels to address iron deficiency and anaemia in adolescent girls 10-19 years of age. This section discusses integration of the interventions in the national nutrition, health and education systems using the six pillars of governance, financing, human resources, service delivery, infrastructure and supplies, and information system.

142. For each pillar, the evaluation team analysed the level of integration based on the existing data to judge the degree of likelihood by various stakeholders to sustain behavioural changes and the best practices registered.

Governance

143. Full integration at this level is achieved when the mechanisms for accountability, drafting of policies, plans and reports, coordination and resource allocation are under the control of local authorities. Integration in the context of IFA Intervention is partial when these responsibilities are shared between the health and education system and other organizations. In Malawi, national policies including the Malawi Growth and Development Strategy (MGDS) III, National Multi-Sector Nutrition Policy (NMSNP) and National Multi-Sector Nutrition Strategic Plan (NMSNSP) of 2018, the Multi-Sector Adolescent Nutrition Strategy (2019-2023) and Malawi Vision 2063, have been developed by the government with support from development partners placing nutrition on top of their agenda.

144. A large part of this project's governance was undertaken by government ministries, departments and frontline workers. DNHA provided overall coordination and management at the national level. At the district level, the project was managed by DNOs, PNHAOs and District Education Manager (DEM) who were working hand in hand with SHN teachers and HSAs at the community level. Distribution of IFA supplies from the district pharmacy store to health facilities was carried out by the districts themselves. However, being a pilot project provision of resources dedicated to the procurement of IFA tablets and distribution to district pharmacies came from UNICEF. In terms of governance, there is currently partial integration of the IFA Intervention in the nutrition, health and education systems in Malawi.

Funding

145. In this regard, funding refers to the raising of funds to support the IFA Intervention program and the means by which these funds are obtained. Integration is complete when the process of budgeting, fundraising and financing the program is entirely handled and provided by the government and local authorities.

146. In Malawi, although malnutrition is considered a priority by the government through adherence to various multi-sectoral nutrition platforms and development of policies, strategies and plans, no national budget line is directly allocated to nutrition. Departments prepare budgets every year, but when the Other Recurrent Transactions (ORT) come there is no funding. Financing nutrition is heavily dependent on development partners who are at liberty to fund activities of their choice. For instance, funding for the Adolescent IFA Intervention was largely provided by UNICEF. However, the government participated through provision of

healthcare and education frontline workers, and infrastructure for the storage and provision of supplies to the girls. When the supplies expired, IFA supplementation sessions came to an immediate halt in all the three districts. The integration of funding for the IFA supplementation program therefore remains partial in the country.

Service Delivery

147. IFA services are fully integrated if they are delivered within the local infrastructure and under the responsibility of government health and education workers. Integration is partial when this responsibility is shared between government health workers and staff specifically recruited for the intervention.

148. Since its inception, the provision of IFA supplementation services was institutionalized into routine and day-to-day activities of government structures. Administration of tablets to the girls was performed within these structures under the direct supervision of SHN teachers and HSAs. All supply and reporting activities were delivered by government health and education workers. Integration of service delivery is therefore full in the pilot districts.

Human Resources

149. UNICEF and DNHA provided training for staff involved in the project at its very onset in year 1. The project selected 2 SHN teachers at each school - one was trained along with the head teacher. It also trained Primary Education Advisors (PEAs), HSAs and district senior officers (PNHAO, DNO and SHN coordinator). The trainings offered were learning experiences and have equipped the personnel with the necessary knowledge and skills, which they will continue to employ in addressing iron deficiencies even after the program has ended.

150. However, a challenge voiced by districts, schools and health facilities was the high turnover of trained staff. Some of the staff were posted to other locations, where the IFA Intervention was not available, while newly assigned officers to replace them were not part of the orientation training. The newly selected SHN and HSAs, in most cases did not participate in the project complaining that they were not trained. New PNHAOs and DNOs who also came to the districts after the training had already been cascaded, had difficulties catching up. Integration of human resources is therefore partial.

Infrastructure and Input Supply Chain

151. As mentioned in the preceding sections, IFA services were deployed within the national health and school structures, which is an important and positive element for sustainability. However, the delivery system for the IFA tablets ran parallel to the national supply chain system by the Central Medical Stores Trust (CMST). The

CMST in this regard had no direct oversight of the ordering of supplies (as it was done by UNICEF and DNHA). At the schools, space had shown to be limited and was not conducive for the storage of nutrition supplies such as IFA tablets for a period of one year. The supply chain system followed by the IFA Intervention and storage infrastructure are still not well integrated to the CMST system and therefore remain unsustainable in the end.

Health Information System

152. The monitoring system is fully integrated when the information technology infrastructure, data collection and analysis are provided by government institutions. In this program, data collection started from schools and health facilities to district hospitals, which then consolidated and shared the data with DNHA. IFA supplementation data are not part of the District Health Information System (DHIS2). This component is therefore partially integrated (Table 15).

Table 15: Performance of the project on sustainability

Sustainability Pillar	**Performance**
Governance	Partial
Funding	Partial
Service delivery	Full
Human resources	Partial
Infrastructure and supply chain	Partial
Health information system	Partial

153. In summary, the general finding on sustainability is that the program implementation has shown partial performance in different areas and, for this reason, the likelihood that it can be sustained without donor support is low at the moment. Nutrition activities as already stated depend on support from development partners. Behavioural changes that stakeholders of the project can sustain relate to those on nutrition education and diversification of diets to increase consumption of iron rich foods. Interviews with communities and girls have revealed that knowledge, willingness and practices are high, meaning that when these foods are available, they will continue to consume them.

Evaluation Criterion 5: Gender and Human Rights

154. This section presents findings from both quantitative and qualitative data in line with the OECD's DAC criteria questions related to Gender and Human Rights. An overview of the evaluation questions has already been provided above in section 3.0 (methodology).

Question 5.1: To what extent has the intervention been aligned with UNICEF's equity agenda in addressing the needs of the target groups (i.e. to what extent has the initiative reached different groups, including those marginalized and living with disabilities)?

155. In line with the Country Programme Document's (CPD's) focus on human-centred, rights-based approach to programming, the IFA Intervention had the intention to contribute toward greater gender equality between adolescent girls and boys. This section details the extent to which that intention was realised.

156. The IFA Intervention specifically targeted adolescent girls for IFA supplements due to the biological and physiological drivers that cause this group to be more vulnerable to iron-deficiency anaemia. The evaluation found a high level of recognition of this amongst frontline workers and community (girls, boys and mothers) respondents.

> *'We heard that the pills help ensure that we have enough blood, especially during delivery when we get pregnant'*
> *In school girl FGD respondents*

157. The data suggests, however, that the recognition of this biological fact may have been confounded with social norms of girls and women as child-bearers and child carers, as a number of community-level respondents referenced this norm when articulating the reasons for girls to be provided IFA supplements. It is plausible to suggest that this linkage may be reinforcing inequitable gender norms within target communities. The scope of this evaluation is insufficient to draw strong conclusions in this regard, and so this hypothesis should be treated as a question for further research.

158. Though key respondents noted that the UNICEF CPD focusses on social inclusion of marginalised groups, including people with disabilities, no documentation pertaining to how people with disabilities were to be targeted was made available to the evaluation team. Such documentation may include specific disability inclusion training for frontline workers and implementing partners, specific approaches to ensure that activities are accessible, available and acceptable to people with disabilities, and specific approaches to gathering monitoring data that can be disaggregated by disability status, such that disability inclusion is determined and responded to during programme delivery. Further information regarding reach and benefits to people with disabilities is discussed below.

Question 5.2: Has the intervention contributed to equitable participation/reach and benefits to various groups (what proportion of boys, girls and people with disabilities)?

159. Adolescent girls, as the key target for the IFA supplements, consistently reported engagement in the IFA supplementation intervention when tablets were available.

160. In general, there were no substantive differences in the scores on key indicators for in-school girls compared to out-of-school girls, though there were varying reports regarding the delivery of nutrition education classes. The strongest determinants of whether an adolescent girl had attended a nutrition education session were their enrolment in school and district of residence. Just over half (54%) of in-school girls reported to have attended a nutrition education session, compared to just 40 per cent of out-of-school girls. The district breakdown is shown in Table 16. Girls in Salima were more likely to report having attended a nutrition education session than in Dedza and Mangochi.

Table 16: IFA interventions by disability status

Indicator	**Proportion of adolescent girls *with* disabilities**	**Proportion of adolescent girls *without* disabilities**	**Difference between groups**
Proportion of girls who have received IFA in the 6 months preceding the survey	N - 12/111 10.8%	N – 82/596 13.8%	3%
Proportion of girls who have attended a nutrition education class	N – 51/111 45.9%	N – 284/596 47.7%	1.8%
Proportion of girls who could correctly name the Malawi six food groups model	N – 62/111 55.9%	N – 374/596 62.8%	6.9%
Proportion of girls who named animal foods as a source of iron	N – 31/111 27.9%	N – 181/596 30.4%	2.5%
Proportion of girls who stated that they were unable to buy animal foods due to lack of money	N – 14/111 12.6%	N – 63/596 10.6%	2%

161. Of the 662 respondents to the quantitative survey, 111 (16.8% of the sample) were determined that they haves a disability using the Washington Group Questions Short Set methodology. Overall, adolescent girls with disabilities scored slightly worse than adolescent girls without disabilities across all key indicators, as shown in Table 16. Disability inclusion requires intention of inclusion, meaning that an intervention that will make an effort to understand the specific needs of girls with disabilities, will adapt the outreach approach with these needs considered, and will monitor the extent to which girls with disabilities are included such that they can fully participate, benefit from and lead an intervention. These findings suggest that, though there may not have been discrimination (i.e. intention to marginalise) there was no inclusion (i.e. intention to include) either. This could explain why girls with disabilities scored slightly worse than girls without disabilities on all indicators.

SO 7: Document lessons, key challenges, strengths and good practices.

Lessons Learned

162. **Low sensitization resulted in uncertainty about project implementation and reduced acceptance of the IFA tablets by communities, parents and girls.** Table 6 under the efficiency section shows that UNICEF budgeted for IFA tablets only for the first and second years since the project was for pilot purposes only.

Nevertheless, it did not inform health workers, SHN teachers and other government frontline workers at the district level adequately about this. Therefore, all of them expected a three-year supply to be available. When the supply ended in the second year, there was self-judgement that the project had no resources to proceed hence, other activities also slowed down.

163. Similarly, communities and parents in the three districts lacked the basic understanding of the IFA tablets and had various misconceptions because they were not sensitized at the beginning according to the FGDs conducted.

164. In areas where sensitization was done well by mother groups, school management committees (SMCs), HSAs and Agriculture Extension Development Coordinators (AEDCs), for instance in TA Kambalame and other parts of TA Kalonga in Salima, the project recorded high acceptance rates of the tablets because the stakeholders understood the benefits.

165. The project became aware of the problem and engaged SWET in 2020. SWET addressed misconceptions around IFA supplementation through community dialogue sessions, radio and drama in communities. Nevertheless, three main factors affected the impact SWET would have made:

i. **Late approval of SBCC messages by the Ministry of Education**, which delayed SWET in commencing its work on the ground.
ii. **COVID-19 pandemic** – Unfortunately, barely 4 months into the program SWET's activities coincided with peaks in COVID-19 infections and restrictions on crowding. SWET reprogrammed and started doing door to door awareness meetings. However, this reduced potentially high numbers of households that could have been reached had it been mass awareness campaigns.
iii. **Late engagement** - The organization was engaged in the program late in 2020 while intervention had already started in 2018.

166. **Lack of clear roles of the PNHAO, DNO and health workers created confusion and neglect of work.** IFA tablets were initially supplied from pharmacy stores at the district hospital and the District Nutrition Office (DNO), according to the intervention design. In the course of implementation, the project started working with Principal Nutrition, HIV and AIDS Officers (PNHAOs) without official communication to the DNOs. This created tension and affected working relationships between the two offices in all the three districts.

167. Likewise, SHN teachers, SHN coordinators and HSAs indicated that they had no idea who to consult at the hospital as there was no appointed person to coordinate issues related to IFA tablets among the pharmacist, AEHO and DNO. For instance, during stock outs none of the three could take the lead responsibility to inform schools and health centres of the problem or address restocking concerns. Schools and health facilities used to consult each one of them separately and got varied information. There is a need to draw ToRs for the PNHAO and DNO offices to streamline coordination, monitoring and management of activities.

168. **Inability by the office of the DNO to compute data, from the schools and health centres, affected reporting of the project at district and national levels.** As data were coming from the districts, DNO offices were overwhelmed to capture it in computers due to their busy schedules. The evaluation team found heaps of report forms piled in the offices. None of the three DNOs had electronic data ready to share with the evaluation team. In Salima, the project placed an intern in the office of the PNHAO who computed the data for a few months and shared it with the evaluation team. The recommendation is to include IFA data in the District Health Information System (DHIS2) and engage clerks who already enter data for other programs like Community-based Management of Acute Malnutrition (CMAM), malaria, tuberculosis and antenatal care at district hospitals to capture it. There is therefore a need to orient 2 or 3 clerks at every hospital about the project and data entry.

169. **Implementation of the Adolescent IFA Intervention in conjunction with JPGE II and III in the same districts has enabled UNICEF and DNHA leverage efforts and accelerate impact.** On a positive note, JPGE II and III provided additional resources and support over the three years of the Adolescent IFA Intervention. This support included 1) training of teachers and health workers to lead the implementation of the IFA activities, 2) provision of resources to SWET for awareness campaigns around IFA supplementation, life skills and child marriages, and 3) provision of reporting tools when they got finished in the districts. These activities enhanced quality of service delivery and impact.

Challenges of the IFA Intervention

170. Although this intervention has met its goal of contributing to improving the nutritional status of adolescent girls (10-19 years) in the three pilot districts, the implementation process has been challenging. These challenges are not only the reasons for shortfalls in implementation, but also suggest that the impact would have been greater had the project operated smoothly.

171. The main ones (for example those that have not been discussed in detail already in the preceding sections of the report) are:

172. **External factors beyond the control of the project**

i. Covid-19, which was first detected in early April 2020, in Malawi, disrupted activities in the entire lifespan of the project.

ii. Frequent political violence during disputed presidential elections of May 2019.

Project officers worked remotely for a good part of 2020 and 2021 in fear of the consequences of the two external factors. Implementation of activities was affected in one way or the other. As an example, on 23rd March 2020 the government of Malawi closed schools as part of imposing stricter COVID-19 preventive measures. Schools remained closed for more than eight months. During this period,

adolescent girls took the IFA tablets and recorded the compliance cards themselves at home under the supervision of their parents. Administration of tablets at health facilities was not possible because crowding in public places was limited to 50 people.

173. **Lack of joint monitoring of activities in schools and health centres.** PNHAOs, DNOs, SHN coordinators and the district teams used the vehicles they had from other projects to monitor activities. However, the project provided fuel only once toward the end of 2021 after the IFA supplies had already ended. The fuel provided at MK90,000 was not enough to visit all the schools and health centres. Project activities remained largely unmonitored within quarters and across all the three years.

174. **Lack of monthly and quarterly review meetings at the district level.** The IFA Intervention held quarterly meetings at the national level where progress and planning of activities were discussed. The minutes of these meetings were shared with the evaluation team. However, interviews with PNHAOs, DNOs and SHN coordinators revealed that no such meetings took place in the districts. Lack of necessary facilities and limited connectivity in the districts made it difficult to convene virtual meetings that would include all the concerned parties.

175. **Inability to procure and distribute albendazole tablets.** Interviews with key persons and schools involved showed that albendazole tablets were not provided to the health facilities and schools under the IFA Intervention. In Salima, albendazole was provided to girls in 2020 under the Bilharzia program which the district hospital ensures routinely to deworm masses.

176. **Low implementation of nutrition education to girls and boys**. SHN teachers and HSAs only briefed girls and boys on the Malawi six food groups according to the interviews conducted. Teachers did not have reference materials or guides and there was limited time to do thorough nutrition education as part of IFA supplementation sessions since everything happened within class time by one SHN teacher. FGDs with boys in all the three districts revealed that they had been hardly reached with nutrition messages.

177. **Lack of data to show progress of the project.** Inability by the District Nutrition Offices to compute results from schools and health facilities resulted in the lack of data for the IFA Intervention. The only electronic data from Salima that the districts were able to share with the evaluation team were collated by the intern placed by UNICEF. This has made it difficult to quantify some of the indicators of the project using routine monitoring data.

178. **Staff transfers and turnover.** One difficulty voiced by the participants was the high turnover of trained staff. Replacements, if made, were done after the trained ones had already left. There was lack of orientation and transfer of information, which was creating dilemma on how to continue the project in various schools and health facilities. The project trusted that head teachers and SHN teachers trained would cascade the knowledge and skills to their colleagues, but this model did not

work well as every teacher wanted to attend the first training themselves. When they were left out, they felt rejected and refused to consider themselves part of this project. Trained SHN teachers therefore experienced work overload in this project because they could hardly be assisted by their fellow teachers who did not receive the first training. At the health facilities, HSAs newly employed and deployed lacked the orientation also since they come on the job with the Malawi School Certificate of Education (MSCE) and do not receive any formal nutrition education. Nutritionists and senior staff members who joined the project after it had already started, such as the PNHAO and DNO for Salima, were never trained which made the implementation and supervision of activities difficult.

179. **Delays in the submission of reports to health facilities**. SHN teachers had difficulties taking reports to health facilities because most of them were located far away from the schools. Some schools failed to submit reports for particular months and provided them later which complicated the filing process, carried out by the district nutritionists.

180. **Reporting tools got finished in most schools and were not restocked as quickly as wanted.** As a result, some schools and health facilities stopped sending reports. Other schools and communities devised their own tools. JPGE III bought various additional tools in July 2021 (compliance cards, monthly community platforms and monthly healthy facility tools). Nevertheless, as already pointed out the tools came at a time when provision of IFA supplementation had almost stopped due to lack of supplies and therefore remained unused in most of the schools and health facilities.

181. **Limited funding for nutrition by the government.** Nutrition activities in the districts are donor dependent. The government does not fund despite districts putting them on the budget yearly. Even in the District Implementation Plan (DIP), there is no vote for nutrition. District offices, UNICEF, OXFAM, CISANET, CISONA and Save the Children have been analysing budgets, particularly in Salima and lobbying through District Executive Committees (DEC) and full council[8] for inclusion of nutrition funding on the government budget. DNHA, UNICEF and CSONA have taken a step further and initiated advocacy meetings with members of the parliamentary committee, development partners and decision makers from the central government for budgeting and finance. Positive results have started emanating as a result of these efforts according to the PNHAOs and DNOs. In the agriculture and education sectors, there has been an increase in the funding under Other Related Activities Transaction (ORT), which cover nutrition. In Salima, plans were underway to allocate money from the local tax revenues to the PNHAO's office, for nutrition activities.

[8] Full district council comprises of the executive committee (MPs, all sector heads of departments, Traditional Authorities (TAs) and counsellors. The lobbying is done for the council to advocate for inclusion and funding of nutrition on the development agenda of the country

Box 3: Key strengths and best practices for IFA supplementation

The following are the key strengths and best practices observed:

i. A strong policy environment that puts nutrition on top of the development agenda. The United Nations has cited Malawi as having a very high commitment to nutrition through the Hunger and Nutrition Commitment Index where the country is ranked number 2 among 45 countries.
ii. Increasing number of NGOs, Civil Society Organisations (CSOs), Development Partners (DPs), Community Based Organizations (CBOs) and others working at community level interested in adolescent nutrition to reduce iron deficiency and anaemia.
iii. Existence of nutrition coordination structures at national, sectoral, district and community levels. DNHA has posts at all these levels.
iv. The SHN programme with a pool of teachers is available and modelled to promote agriculture, nutrition, health and sustainable environment targeting all school-going children, including adolescents.
v. Decentralization of activities to district level, which is helping to ensure effective and timely implementation of agriculture and nutrition activities.

6.0 Conclusion and Recommendations

182. In conclusion, the Adolescent IFA Intervention is a success looking at the impact and lessons generated. The design used, which involved putting government frontline workers at national, district and community levels to lead in the implementation of activities, has shown to work well and is sustainable. Using the 3-year generous support from the government of the Netherlands, the intervention is one of the first of its kind in Malawi to pre-test the use of iron and folic acid to reduce anaemia among adolescent girls (10-19 years) and has shown tangible results. No study has been conducted to assess levels of anaemia most recently by the NSO. Nevertheless, with 1,820,000 IFA tablets the project procured between 2018 and 2021 (52 for each one of the 35,000 girls targeted), most of which have been ingested by the girls on spot in the presence of SHN teachers and HSAs, coupled with improvements on diets as shown by results from the 24-hour dietary recall, reductions in anaemia are anticipated to be huge in the three pilot districts. Activities under the three key result areas (IFA supplementation, deworming with albendazole and nutrition education) synchronized well and should be scaled up. Co-existences, collaboration and coordination present with large-scale adolescent projects like the JPGE, Afikepo and ONSE should be fostered to continue leveraging resources and improving quality of service delivery.

183. As per the WHO threshold for nutritional deficiencies, intermittent iron and folic acid supplementation is recommended if anaemia prevalence is 20 per cent or higher among non-pregnant women of reproductive age (15-49 years old).

184. The IFA Intervention is therefore an unfinished agenda because anaemia remains high among adolescent girls in the rest of the districts in Malawi where no such interventions have taken place. Between 2004 and 2010, rates of anaemia dropped by 13 percentage points from 42.2 per cent to 28.6 per cent, but these gains were reversed, and prevalence increased by 6 percentage points to 35.3 per cent according to the MDHS of 2015/2016. Many actions remain undone to scale up successful and pre-tested interventions for a wider impact.

185. The government of Malawi with support from UNICEF is committed to scaling up the IFA supplementation to other districts in the country. After starting with the six districts, UNICEF and DNHA received funding from the German government through Kreditanstalt für Wiederaufbau (KfW) and sub-granted it to the Hunger Project for the implementation of adolescent nutrition in Phalombe and Nsanje from 2020-2023 under the SUN project. Most recently, UNICEF has started funding the Adolescent IFA Intervention in Kasungu and Blantyre (2020-2025, a period of 5 years) under the JPGE and KfW-SUN funded project by Farmers Union of Malawi (FUM) respectively. These efforts have brought the total number of districts receiving Adolescent IFA Interventions with grants from UNICEF to 10.

186. Besides this, with funding from the World Bank and the Global Financing Facility (GFF) the government of Malawi is implementing a 5 year (2018-2023) US$60 million Investing in Early Years (IEY) for Growth and Productivity project in 13 districts of Malawi. In the districts, the project is benefiting 1.2 million children under five years, 2.2 million adolescent boys and girls of ages 11–19 years, and 370,500 pregnant and lactating women. For adolescent girls, IEY is providing iron-folate supplements and deworming tablets to girls who are in and out of school. The 13 districts are Rumphi, Mchinji, Ntcheu, Mangochi, Machinga, Neno, Chikwawa, Zomba, Likoma, Mwanza, Dowa, Thyolo, and Chiradzulu. UNICEF, as one of the agencies championing the sector, should leverage on the existing projects and scale up IFA programming to at least four of the remaining eight districts (Ntchisi, Nkhotakota, Nkhata Bay, Mzimba, Karonga, Balaka and Mulanje) by 2022 depending on the severity of the problem and the availability of funding. Chitipa, not listed anywhere above, has a lower prevalence of anaemia in women of reproductive age 15-49 years at 16.1 per cent according to the MDHS of 2015/2016. Adolescent interventions in the districts should continue to focus on nutrition education and dietary diversity.

187. The evaluation supports scaling up in phases as already done with UNICEF support to allow time for standardizing procedures, addressing challenges identified and learning additional lessons for a wider application.

188. Table 17 below summarizes recommendations to overcome identified bottlenecks in the implementation of the scaled-up phase.

Table 17: A summary of recommendations to guide implementation of the scaling up phase

Recommendation, responsible organization and timing	**Justification, specific actions and timeline**	**Rationale**
1. Widen coverage and impact by scaling up the IFA supplementation to a total of 14 districts by adding 4 districts by the end of 2022. **Responsible organizations:** DNHA, Reproductive Health Unit (RHU), MoH, MoE, UNICEF and concerned district councils. **Timing:** High priority - over the next **2-6** months	Anaemia rates remain very high among women of reproductive age 15-49 years in the remaining 7 districts of the country based on the results of the MDHS of 2015/2016. 1. Scale up IFA supplementation. In the scaling up phase, collaborate with the World Bank and GFF's IEY project and ensure that IFA supplementation and deworming cover all the girls in these pilot districts. Scale up to additional 4 districts that have not yet been reached by the end of 2023 to widen the impact. The goal should be to standardize procedures and iron out challenges observed in the next 3-5 years before scaling up to the rest of the districts in the country. 2. Agree on the criteria for selecting additional 4 districts. Districts with the highest rates of anaemia and those that lack nutrition projects should be prioritized. 3. Strengthen linkages with the World Bank and GFF's IEY adolescent IFA project and collaboration with organizations that matter on the ground like WFP, CARE Malawi, FAO and others to leverage efforts and accelerate impact. Draw memoranda of understanding (MOUs) to formalize relationships.	The WHO requires that anaemia prevalence of 20 per cent or more should be addressed by supplementing diets with IFA supplements. Districts that are not yet covered by IFA supplementation for adolescent girls in Malawi have the following rates: Ntchisi (24.6%), Nkhotakota (46.5%), Nkhata Bay (44.4%), Mzimba (30.3%), Karonga (37.5%), Balaka (38.6%) and Mulanje (31.0%). IFA interventions have already proven to be successful in a number of countries. Preliminary results in the 6 pilot districts in Malawi are very promising and justify the need to scale up this intervention to benefit more girls.
2. Enhance awareness on IFA tablets to address misconceptions among communities, parents and girls.	Awareness should take into account contextual and cultural factors contributing to misconceptions around IFA supplementation.	The evaluation has revealed misconceptions around IFA supplementation among communities, parents and

Responsible organizations: DNHA, PNHAO, DNO, SHN coordinators, SHN teachers, HSAs, MoE, UNICEF, and SWET. **Timing:** High priority - over the first **6** months and on-going	1. Provide resources and hold community engagements and dialogue sessions with traditional and religious leaders, parents and adolescent girls to understand their concerns about IFA supplementation. 2. Radio programs should be in vernacular Chichewa and other commonly used languages to reach targeted girls easily. Inform them about the times when radio programs will be aired and encourage them to listen either as individuals or in their clubs. Meetings of the clubs can be scheduled during the same times when radio programs are aired for all the girls to listen together and have a discussion afterwards. 3. Ministry of Education (MoE) is a crucial partner and should be engaged on time with regards to radio, school and community messages and drama around IFA supplementation. 4. Contribute to the efforts to finalise and roll out the Social and Behaviour Change Communication (SBCC) Strategy to guide messaging for IFA supplementation.	girls, which include thinking that IFA tablets are contraceptives, COVID-19 vaccine or medication for cervical cancer. Mangochi, with one of the highest rates of anaemia, is where acceptance of IFA tablets is lowest among the three pilot districts. Local leaders and communities are very suspicious about the whole program in the district. Any further interventions should first of all address such barriers to succeed.
3. Strengthen components of nutrition education, deworming and social behaviour change in the scaled-up phase. **Responsible organizations:** DNHA, MoE, MoH, participating districts (PNHAO, DNO, FNO etc.) and UNICEF	1. Train SHN teachers and HSAs in nutrition education for adolescents that should include farmer field schools, the Malawi six food groups with emphasis on iron-rich foods locally available in the districts and cooking demonstrations among other things 2. Continue to support efforts on revision of Life Skills curriculum to include nutrition that Ministry of Education (MoE) is undertaking. In addition, explore possibilities of offering	Specific objective number one of the Adolescent IFA Intervention is to promote consumption of the Malawi six food groups. The evaluation findings show that nutrition education was in general sparingly offered, boys were hardly reached and the approach to delivery

Timing: High priority – during the entire period of implementation	nutrition education and cooking demonstrations in adolescent clubs after classes or during weekends to ensure both in and out of school girls and boys are reached. 3. Provide guides and booklets that SHN teachers, HSAs and mentors of clubs should use as reference materials. Make clear divisions about the topics to be covered in the first, second and third terms of the school calendars. 4. Increase numbers of boys in both in and out of school youth clubs for them to access nutrition education and information on diversified diets easily. 5. Nutrition education tailored to increase iron-rich food intake should target parents as well, through Care Groups, because they are the ones who make decisions about food for adolescents at home. The majority of Care Groups are being involved in the Scaling Up Nutrition (SUN) and other projects by NGOs to reduce undernutrition in children under five years of age by concentrating investment and efforts in the first 1,000 days. There is need to engage and orient them on how they can disseminate information about adolescent nutrition as they may not be very familiar with it. 6. Liaise with the World Health Organization (WHO) regarding the possibility to leverage resources and efforts around procurement and distribution of albendazole for the IFA program. Albendazole used in this intervention was from the Bilharzia program by district hospitals. The	varied significantly across and within districts. With an anaemia prevalence of 9 per cent, compared to 35.3 per cent for girls, boys should still be monitored to avoid being overwhelmed in future. The government of Malawi has a booklet for IFA supplementation titled in vernacular Chichewa as, "*Ndondomeko yopelekera mankhwala a ayiloni ndi foliki kwa a tsikana a chisodzela a zaka 10 mpaka 19*". Nevertheless, this booklet has not been shared with the schools and health facilities to use as a guide. More so, there are no guidelines and topics that SHN teachers and HSAs can use to educate girls and boys on nutrition besides the Malawi six food groups

	intervention was not carried out adequately due shortfalls in stocks. 7. Draw lessons on the tracking of iron rich foods from Afikepo program for inclusion in the scale up phase, including those that are locally available such as various ants, insects and caterpillars, as other sources like poultry, meat and organ meat have shown to be scarce and expensive.	
4. Address problems associated with implementation of the IFA Intervention **Responsible organizations:** DNHA, RHU, concerned district councils, MOH, MoE, district hospitals (DNO, AEHO and pharmacist), PNHAO, UNICEF and other stakeholders. **Timing:** High priority - over the next 6 months	Interviews with various people at the district level have revealed a number of challenges in the implementation process of the IFA program. These challenges need to be addressed by: 1. Devising ways of improving communication between UNICEF, DNHA, concerned ministries, district health offices, PNHAOs, schools and health centres involved with respect to determining quantities of IFA supplements to order or deliver in the health centres, status of implementation of activities, challenges faced and possible solutions that can be used. This will help keep all the players well informed, prevent stock-outs and retain momentum already gained. 2. Clarifying roles of the DNO and PNHAO to avoid confusion. Empower DNO to lead in the implementation of IFA activities that includes identification and training of HSAs, overseeing supplies of IFA tablets, compilation of data and reporting to DNHA. The PNHAO should concentrate on overall coordination of the program. Consult both parties and draw clear and agreed-upon Terms of References (TORs)	Interviews with district hospital staff showed that they are not entirely involved in the whole procurement exercise until IFA tablets come to the pharmacy stores at the district hospital or PNHAOs' office. The procurement office at the hospital therefore does not have much knowledge on the transactions involved. There is conflict in the roles of the DNO and PNHAO of late. The central level changed roles of the two offices in the course of the project. PNHAO has taken over roles of the DNO like receiving and distributing IFA supplies in the districts and

	to address tensions that have arisen between them. 3. Strengthen the capacity of PNHAOs to coordinate the IFA program and other interventions specific and sensitive to nutrition at district level from planning, resource mobilization and implementation phase. Strong coordination would facilitate the pooling of resources and optimize the combined effects of interventions in the targeted districts. 4. Analyse storage capacities of district hospitals, health centres and schools in the intervention districts and maintain delivery of quarterly supplies as they are easy to keep and distribute. *These recommendations should be acted upon in 2022, during the planning phase of the next scale-up.*	capturing results from the field, which has been leaving DNOs in a dilemma since they have not been communicated officially about the changes. All the DNOs in the three districts feel that asking the PNHAOs' offices to carry out the above-mentioned tasks is an anomaly. Despite limitations of space, head teachers' offices in the pilot districts are used for keeping all sort of things, including teaching materials, dust bins, mops and brushes. Huge supplies of IFA tablets that were provided at once, therefore, complicated the situation.
5. Integrate the IFA supplement supply chain within the Ministry of Health (MoH) and Central Medical Store Trust (CMST) system as outlined in objective number 2 of the project **Responsible party:** DNHA, RHU, MoH and UNICEF, **Timing:** High priority – During the planning phase and over the implementation period of the scaled up	1. The IFA supplement supply chain should be integrated within the MoH and CMST supply chain system, to enable the programme in: i. Contributing to supply chain strengthening as per the original programme plan ii. Facilitating more effective monitoring and reporting of stock and usage iii. Avoiding stock outs and delays in supply after scaling up	As outlined under the effectiveness section, the IFA supply chain has of late been set up in parallel to the CMST supply chain, which has shown to contribute to inadequate monitoring of stocks, stock-outs and expirations. All this does not strengthen the MoH, RHU

phase	2. Moreover, a data flowchart should be established such that stock data is provided to the programme team for effective monitoring of IFA compliance, which can feed into the monitoring system.	and CMST supply chains as required.
6. Strengthen the capacity of district level managers (PNHAO, DNO, SHN coordinators, Food and Nutrition Officers from (FNOs) and government frontline workers (SHN teachers and HSAs) in monitoring, supervision, evaluation and reporting of activities **Responsible organizations:** DNHA, district managers, Ministry of Health, MoE and UNICEF **Timing:** High priority – during the entire period of implementation	1. Develop and implement a range of activities for routine monitoring of the project. These activities may include: ▪ Regular qualitative interviews with beneficiaries and various stakeholders. ▪ Regular verification of data at health centres and those registered in the databases. ▪ Monthly and quarterly monitoring by district teams (DNO, PNHAO, SHN coordinators and RHU staff) to ensure good coverage of the program and to identify potential bottlenecks in time. ▪ More in-depth analyses of the data to ensure its consistency and quality. 2. Provide enough fuel for joint monitoring and supervision of activities. District teams suggested at least 130 litres (2 full tanks for a 4x4 vehicle) month to enable them visit a number of schools and health centres. 3. Consider providing Buffalo bicycles to focal SHN teachers and HSAs who collect supplies from health centres and bring reports every month. 4. Improve the existing monitoring tools by including copies for SHN coordinators for them to compute figures from schools and share with the DEM and PEA. These management offices	There is need to increase joint monitoring and supervision of the program to improve quality of services, motivate SHN teachers and HSAs as the same visits can be used to provide further mentorship and appraisals for best performance. UNICEF's allocation for fuel for one quarter has been MK90,000 and this was described to be inadequate by the districts.

	do not receive copies of the monthly reports from the schools at the moment. 5. Weekly registers are not user friendly, and SHN teachers find it difficult to follow records of beneficiary girls due to the way they have been designed. Schools and health facilities have already informed UNICEF and DNHA about this. Therefore, the design needs to be simplified for easy record-keeping and follow up. 6. Another key reporting change to make the whole process inclusive and efficient is that schools should submit their reports to Teacher Development Centres (TDCs) where teachers go every month for Continuous Professional Development (CPD). This will reduce delays in the submission of reports. The AEHO should collect reports from all the schools at the CPD and submit them to health facilities. Health surveillance assistants (HSAs) can then submit both school and health facility reports to the district nutritionist. Thereafter, the district team should meet briefly every month to validate the district report before sharing with the DNHA to improve accuracy and quality of data at the national level. 7. Improve data capturing for the adolescent IFA. Configure IFA data into the District Health Information System (DHIS2) so that data entry clerks available (those who enter Community Based Management of Acute Malnutrition (CMAM), malaria, tuberculosis and antenatal data) can capture it. This will reduce the work load in the office of the DNO and make	The evaluation found it challenging to get up to date data on compliance to IFA. Electronic data was not available at the district level to be shared. Data flow implementation charts need to be operationalized as

	electronic data for the project available to inform further programming. 8. Train 2-3 clerks at each district hospital about the program and its indicators to address issues of staff turnover upfront. *This should be done in 2022, during the planning phase of the next program cycle. Once the program commences, it should be completed throughout*.	previously designed by the project.
7. Introduce review meetings at the district level. **Responsible organizations:** DNHA, UNICEF, RHU and MoE **Timing:** High priority – over the period of the next phase (e.g. from August 2022 onwards)	1. UNICEF, DNHA and MoE should provide resources and introduce quarterly review meetings for the district teams to look at the district performance, identify bottlenecks on time, and plan for activities for the next quarter. 2. The suggestion is to have the SHN coordinator from the DEM's office, District Nutritionist (hospital) and PNHAO meet with AEHO, SHN teachers and HSAs at the TDC, where the majority of teachers can easily be reached since they are in majority – to summarize data for each quarter and plan the way forward together for easy implementation. 3. Alternatively, quarterly meetings can take place at health facility or school zone level (zones have 4-6 facilities) to cut on costs.	Review meeting for the Adolescent IFA Intervention have only been taking place at the national level. No such meetings have been supported and convened in the districts.
8. Reduce work overload for SHN teachers **Responsible organizations:** DNHA, RHU, MoE, district managers (PNHAO, DNO, SHN coordinators and Food and Nutrition Officers - FNOs) and UNICEF, . **Timing:** High priority – over the next 6	1. Mobilize resources for capacity building 2. Train all staff involved: i. Train senior staff at the district level who oversee project implementation – PNHAO, District Nutrition Officer (DNO), Food and Nutrition Officer (FNO) from agriculture, District Education Manager (DEM) and SHN coordinator. Offer orientation and refresher	As outlined in various sections of the report, a key challenge to the achievement of objectives was the limited training that was provided at the commencement, and

. months	training to address problems of staff turnover, transfers and replacements ii. Using the cascade model, the project should provide backstopping services and use trained district trainers (PNHAO, DNOs and FNO) to train head teachers and all teachers from standard 4 to 8 for them to administer IFA tablets to girls in their classes and thereby reduce work overload on one teacher as is currently the case. iii. One SHN teachers should be made the focal person and be responsible for consolidating and submitting school reports. Refreshers and training of new teachers and HSAs are needed yearly to maintain good progress of the project. iv. Senior HSAs and HSAs in health facilities need trainings and refreshers as well to keep them updated. v. Training workshops should be delivered annually, and an in-depth induction package should be developed and rolled out to new staff who join in between training workshops or after programme commencement. vi. Work with MoE and include issues of IFA supplementation, deworming and adolescent nutrition in the curriculum for Teachers Training Colleges (TTCs) to enable trainee teachers cover them before deployment to the schools. *Apply these recommendations from the start of the implementation of the next phase*.	throughout the course of the programme. Each school has two SHN teachers and only one and the head teacher were trained. Other teachers refused to help the trained SHN teachers stating they had not been trained. The work load was overwhelming for one person. Long time spent on this activity caused delayed classes in some cases. A good example is St Augustine I primary school in Mangochi that has an enrolment of more than 4,500 learners, with almost 50 per cent being girls. Using the cascade model, the project should provide backstopping services and use trained district trainers (PNHAO, DNOs and Food and Nutrition Officers - FNOs) to train head teachers and all teachers from standard 4 to 8 for them to administer IFA and albendazole tablets to girls in their classes.

		Training several teachers will therefore help reduce the amount of time spent in schools to administer tablets. In health facilities, when the project was starting, for instance in Salima, it trained less than 200 of the 366 HSAs available according to the District Nutritionist. When the trained individuals were transferred to other places and replaced with untrained ones, the latter refused to administer IFA tablets citing they were not trained. On-job trainings and refresher trainings should therefore be on-going.
9. Enhance sustainability of the intervention **Responsible organizations:** UNICEF, government, DNHA and participating districts. . **Timing:** High priority – on-going	1. Lobby for a step-by-step plan for the integration of IFA supplementation into budgets for Ministries of Health and Education to foster sustainability in the end. 2. Strive to maintain the MoH, RHU and CMST to administer the procurement and supply chain of the IFA tablets as suggested above. 3. Trainings of government frontline workers should be prioritized as suggested above. 4. IFA adolescent project is currently referred to as the UNICEF program in all the three	Adolescent IFA and nutrition activities are not currently funded by the government

	districts. Increase government ownership of the program by increasing its visibility through materials such as booklets, posters, wrappers and T-shirts. Ability by the government to finance some of the activities of the program, as suggested above, can also make stakeholders recognize it belongs to the government. At the community level, there should be more sensitization and increased involvement of structures on the ground, including Care Groups, Mother Groups and Community Health Nurses, from the very beginning of the project.	

Annexes

Annex 1 Key partnerships in the Adolescent IFA Intervention

Annex 1 A list of partners for the IFA in

Annex 2 Evaluation matrix

Annex 2 Evaluation Matrix.docx

Annex 3: Terms of Reference (ToRs)

Annex 4 TORs LRFP-2021-9170281-

Annex 4: Data collection tools

Annex 3 Data collection tools IFA 18

Annex 5: A list of key persons and groups consulted

Annex 5 A list of people and groups co

Annex 6: Sample size determination and procedure

Annex 6 Sample size determination.docx

Annex 7: Ethical approval for the evaluation

Annex 7 502MALW22 UNICEF

Annex 8: Consent / assent form for the evaluation

Annex 8 Consent Assent Form.docx

Annex 9: Details about the proposed theory of change

Annex 9 Detailed Explanation for Theory

Annex 10: A list of school and communities visited by the evaluation team

SPSS output1 for schools and communi

Annex 11: Evaluators' CVs

CV William Kasapila.pdf

CV Amanda Bangura.pdf