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IMPLEMENTATION COMPLETION AND RESULTS REPORT

P149286

ON A

**GLOBAL AGRICULTURE AND FOOD SECURITY PROGRAM
GRANT**

IN THE AMOUNT OF US\$ 34.64 MILLION

TO THE

Republic of Uganda

FOR THE

**Uganda Multisectoral Food Security and Nutrition Project
June 2024**

Agriculture And Food Global Practice
Eastern And Southern Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {June 10, 2024})

Currency Unit = UGX

UGX3790 = US\$1

FISCAL YEAR

July 1 - June 30

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ABBREVIATIONS AND ACRONYMS

| | |
|----------|---|
| CAS | Country Assistance Strategy |
| CBI | Community Based Institutions |
| CBOs | Community Development Organizations |
| CDO | Community Development Officer |
| CF | Community Facilitator |
| CIC | Community Implementation Committees |
| COVID 19 | Corona Virus Disease 2019 |
| DAO | District Agriculture Officer |
| DCDO | District Community Development Officer |
| DDP | District Development Plan |
| DEO | District Education Officer |
| DG | Demonstration Garden |
| DHO | District Health Officer |
| DNAP | District Nutrition Action Plan |
| DNC | District Nutrition Coordinator |
| DNCC | District Nutrition Coordinating Committees |
| DPA | District Project Assistant |
| DPC | District Project Coordinator |
| DPIC | District Project Implementation Committee |
| DPO | District Production Officer |
| DRASPAC | Development Research and Social Policy Centre |
| DSIP | Development Strategy and Investment Plan |
| ESMF | Environmental and Social Management Framework |
| FAO | Food and Agriculture Organization of the United Nations |
| FM | Financial Management |
| FONUS | Food and Nutrition Solutions |
| FP | Focal Person |
| GAFSP | Global Agriculture Food Security Program |
| GMP | Growth Monitoring and Promotion |
| GOU | Government of Uganda |
| GRM | Grievance Redress Mechanism |
| HC | Health Centre |
| HIRB | High Iron Rich Beans |
| HW | Health Worker |
| ICR | Implementation Completion and Results |
| IFA | Iron and Folic Acid |
| IMPIC | Inter-Ministerial Project Implementation Committee |
| IMPSC | Inter-Ministerial Project Steering Committee |
| IR | Intermediate Result |
| LF | Lead Farmer |
| LM | Lead Mothers |
| M & E | Monitoring and Evaluation |
| MAAIF | Ministry of Agriculture Animal Industry and Fisheries |
| MDG | Millennium Development Goals |

| | |
|--------|---|
| MNR | Micronutrient Rich |
| MOES | Ministry of Education and Sports |
| MOFPED | Ministry of Finance Planning and Economic Development |
| MOH | Ministry of Health |
| MOLG | Ministry of Local Government |
| MNC | Maternal Nutrition Care |
| MTR | Mid-Term Review |
| MUAC | Mid Upper Arm Circumference |
| NARO | National Agricultural Research Organization |
| NEPAD | New Partnership for Africa Development |
| NF | National Facilitator |
| NGO | Non-Government Organizations |
| NMS | National Medical stores |
| NSA | Nutrition-sensitive agriculture |
| OFSP | Orange Fleshed Sweet Potato |
| OPM | Office of the Prime Minister |
| PAD | Project Appraisal Document |
| PCD | Partnership for Child Development |
| PCU | Project Coordination Unit |
| PDO | Project Development Objective |
| PFP | Project Focal Persons |
| PG | Parents Group |
| PIM | Project Implementation Manual |
| PNC | Post Natal Care |
| PS | Permanent Secretary |
| PSNAP | Primary School Nutrition Action Plan |
| PSNAP | Primary School Nutrition Action Plan |
| RDCs | Resident District Commissioners |
| RSA | Rapid Social Assessment |
| SACCO | Savings and Credit Cooperative Organizations |
| SC | Sub-component |
| SHP | School Health Policy |
| SIC | Sub County Implementation Committee |
| SMC | School Management Committee |
| SNC | School Nutrition Committee |
| SNCC | Sub County Nutrition Coordination Committee |
| SNV | Netherlands Development Organization |
| SOP | Standard Operating Procedures on school demonstration gardens |
| STEP | Systematic Tracking of Exchanges in Procurement |
| STR | Systematic Technical Review |
| SUN | Scaling Up Nutrition |
| ToMTs | Training of Master Trainers |
| TOTs | Training of Trainers |
| TTL | Task Team Leader |
| UMFSNP | Uganda Multi-sectoral Food Security and Nutrition Project |
| UN | United Nations |

| | |
|--------|--|
| UNAP | Uganda Nutrition Action Plan |
| UNICEF | United Nations International Children's Fund |
| UPE | Universal Primary Education |
| USAID | United States Agency for International Development |
| VHT | Village Health Teams |
| WASH | Water Sanitation and Hygiene |
| WB | World Bank |
| WFP | World Food Program |

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DATA SHEET

BASIC INFORMATION

Product Information

| | |
|------------------------|--|
| Project ID | Project Name |
| P149286 | Uganda Multisectoral Food Security and Nutrition Project |
| Country | Financing Instrument |
| Uganda | Investment Project Financing |
| Original EA Category | Revised EA Category |
| Partial Assessment (B) | Partial Assessment (B) |

Organizations

| | |
|--------------------|--|
| Borrower | Implementing Agency |
| Republic of Uganda | Ministry of Agriculture, Animal Industry & Fisheries |

Project Development Objective (PDO)

Original PDO

The Project Development Objective (PDO) is to increase production and consumption of micronutrient-rich foods and utilization of community-based nutrition services in smallholder households in project areas.



FINANCING

| | Original Amount (US\$) | Revised Amount (US\$) | Actual Disbursed (US\$) |
|---------------------------------|------------------------|-----------------------|-------------------------|
| World Bank Financing | | | |
| TF-18896 | 27,640,000 | 27,640,000 | 27,640,000 |
| TF-B6111 | 7,000,000 | 7,000,000 | 6,999,950 |
| Total | 34,640,000 | 34,640,000 | 34,639,950 |
| Non-World Bank Financing | | | |
| Borrower/Recipient | 0 | 0 | 0 |
| Total | 0 | 0 | 0 |
| Total Project Cost | 34,640,000 | 34,640,000 | 34,639,950 |

KEY DATES

| Approval | Effectiveness | MTR Review | Original Closing | Actual Closing |
|-------------|---------------|-------------|------------------|----------------|
| 07-Jan-2015 | 07-Dec-2015 | 19-Mar-2018 | 31-Dec-2022 | 29-Dec-2023 |

RESTRUCTURING AND/OR ADDITIONAL FINANCING

| Date(s) | Amount Disbursed (US\$M) | Key Revisions |
|-------------|--------------------------|--|
| 21-Sep-2018 | 15.13 | Change in Results Framework Change in Loan Closing Date(s) |
| 21-Oct-2020 | 26.70 | Change in Loan Closing Date(s) |
| 28-Jul-2022 | 32.10 | Change in Results Framework Change in Loan Closing Date(s) Change in Implementation Schedule |

KEY RATINGS

| Outcome | Bank Performance | M&E Quality |
|--------------|------------------|-------------|
| Satisfactory | Satisfactory | High |



RATINGS OF PROJECT PERFORMANCE IN ISRs

| No. | Date ISR Archived | DO Rating | IP Rating | Actual Disbursements (US\$M) |
|-----|-------------------|-------------------------|-------------------------|------------------------------|
| 01 | 01-Sep-2015 | Satisfactory | Satisfactory | 0 |
| 02 | 04-Apr-2016 | Moderately Satisfactory | Moderately Satisfactory | 1.86 |
| 03 | 30-Sep-2016 | Moderately Satisfactory | Moderately Satisfactory | 3.21 |
| 04 | 28-Apr-2017 | Moderately Satisfactory | Moderately Satisfactory | 6.60 |
| 05 | 14-Nov-2017 | Moderately Satisfactory | Moderately Satisfactory | 13.70 |
| 06 | 04-Jun-2018 | Moderately Satisfactory | Moderately Satisfactory | 15.13 |
| 07 | 06-Jan-2019 | Moderately Satisfactory | Moderately Satisfactory | 19.68 |
| 08 | 15-Apr-2019 | Satisfactory | Moderately Satisfactory | 19.68 |
| 09 | 25-Nov-2019 | Satisfactory | Satisfactory | 22.03 |
| 10 | 13-May-2020 | Satisfactory | Satisfactory | 26.70 |
| 11 | 19-Nov-2020 | Satisfactory | Satisfactory | 26.70 |
| 12 | 13-Mar-2021 | Satisfactory | Satisfactory | 27.56 |
| 13 | 26-Jun-2021 | Satisfactory | Satisfactory | 27.56 |
| 14 | 13-Dec-2021 | Satisfactory | Satisfactory | 27.64 |
| 15 | 29-Jun-2022 | Satisfactory | Satisfactory | 32.10 |
| 16 | 27-Feb-2023 | Satisfactory | Satisfactory | 32.10 |
| 17 | 18-Jul-2023 | Satisfactory | Satisfactory | 33.58 |

SECTORS AND THEMES

Sectors

| Major Sector/Sector | (%) |
|--|-----------|
| Agriculture, Fishing and Forestry | 40 |
| Agricultural Extension, Research, and Other Support Activities | 40 |



| | |
|---|------------|
| Education | 30 |
| Other Education | 30 |
| Health | 30 |
| Health | 30 |
| Themes | |
| Major Theme/ Theme (Level 2)/ Theme (Level 3) | (%) |
| Human Development and Gender | 0 |
| Nutrition and Food Security | 100 |
| Nutrition | 50 |
| Food Security | 50 |
| Private Sector Development | 100 |
| Jobs | 100 |

ADM STAFF

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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

1. At appraisal, Uganda was among the 20 countries worldwide with the highest prevalence of under nutrition. In 2011, 33 percent of under-5 children were stunted, which was higher in rural areas compared to urban (36 percent compared to 19 percent), and higher than in neighboring countries with lower per capita income. Micronutrient deficiencies (particularly vitamin A and iron) were also highly prevalent across all regions. The total fertility rate was 6.2 births per reproductive age woman, one of the highest in the world, and about 78 percent of the population was under the age of 30 years, which, combined with Uganda's rapid population growth, posed a challenge to service delivery, infrastructure development, and employment. Notably, 84 percent of the population resided in rural areas, highlighting the imperative for equitable development across geographical divides. Similarly, primary education attainment suffered from high school dropout rates, impeding the realization of universal primary education.
2. Even though food availability, quality, and diversity determinants of household nutritional status clearly fall within the mandate of the Ministry of Agriculture, Animal Industries and Fisheries (MAAIF), the Ministry's programs focused primarily on increasing productivity and commercialization of staple foods and cash crops. The Government of Uganda (GoU) recognized a gap in the agriculture sector's support for nutrition. While the Agriculture Sector Development Strategy and Investment Plan (DSIP) (2010/11-2014/15) had the goal of increasing rural incomes, livelihoods, food and nutrition security, in practice, the comprehensive community-based service structures under MAAIF had minimal focus on nutrition; with no programs in place to address the identified barriers to improving dietary quality (i.e., poor awareness and prioritization of micronutrient-rich (MNR) crops and limited use of inputs and new technologies to support these). Such programs had not been implemented and there was little country experience on how to operationally support these strategies through Government channels.
3. Recognizing the essential role of nutrition in fostering human capital and sustaining economic growth, the Government of Uganda (GoU) prioritized strengthening nutrition across key sectors, including health, agriculture, and education. By leveraging existing programs within each sector, it aimed to enhance technical capacity and streamline sectoral coordination for nutrition, particularly at the sub-national level. The Uganda Multi-Sectoral Food Security and Nutrition Project was a pioneering response to these identified needs.
4. In 2015, the project received funding from the Global Agriculture and Food Security Program (GAFSP) of US\$27.64 million and a subsequent Additional Financing (AF) of US\$7 million (2021) to support project implementation jointly by four ministries namely MAAIF (lead implementing ministry hosting a dedicated Project Coordination Unit (PCU)), Ministry of Health (MoH), Ministry of Education and Sport (MoES), and Ministry of Local Government (MoLG). It selected 1500 Universal Primary Education (UPE) schools across fifteen districts that had high stunting burden and low dietary diversity scores. Securing funding from the GAFSP further underscored the international recognition of nutrition's crucial role in addressing poverty and sustaining development.

Rationale for World Bank's Involvement

5. **Alignment with World Bank Strategies:** The project was in line with the Uganda Country Assistance Strategy (CAS) (FY10/11-14/15) and the CAS Progress Report (July 2013) that focused on ending extreme poverty and reducing vulnerability to shocks. Specifically, the project contributed to the Promotion of Inclusive and Sustainable Economic Growth (Strategic Objective 1) and Promotion of Human Capital Development (Strategic Objective 3) through focus on nutrition and corresponding health and human capital outcomes. In addition, the project aimed to improve efficiency in public spending. The strategic objectives were directly in line with the proposed project contributing to the implementation of the National Development Plan (NDP) and Uganda Nutrition Action Plan (UNAP).
6. The project was consistent with the World Bank's Health, Nutrition, and Population Strategy (2007) as it focused on increasing production and consumption of micronutrient-rich foods and utilization of community-based nutrition



services in smallholder households in project areas. Noting that people learn throughout life and that growth, development, and poverty reduction depend on the knowledge and skills that people acquire, not just the number of years that they sit in a classroom, the World Bank’s Education Strategy 2020 committed to supporting educational development with a focus on learning for all in two priority areas: (i) strengthening the capacity of education systems to achieve learning goals and; (ii) contributing to building a high-quality global knowledge base on education systems. The project was consistently in line with this strategy by supporting the establishment or strengthening of school and community-based nutrition activities, some of which were implemented by the Primary Schools in collaboration with Lead Farmers (LFs) and Parent Groups (PGs).

Theory of Change (Results Chain)

7. Given the interlinkages among different factors influencing nutrition outcomes, the outputs delivered under the project were expected to bring change at service delivery, community, household, and individual levels. Three sets of outcomes – a) production and consumption of MNR crops, b) practicing healthy diet of mothers and children through improved knowledge, and c) reducing disease burden and availing health/nutrition services when needed – were expected to ultimately contribute to the health of mothers and children. The project was designed to improve the health status of all participants in the intervention communities, with potential long-term impacts on reducing stunting among children, even though this was not an explicitly stated goal at design. The figure in **Annex 7** provides the theory of change adopted in this project and its underlying assumptions.
8. In view of the theory of change, the project focused on improving the delivery of multi-sectoral nutrition services at (a) community levels using community-based institutions, primary schools, agriculture extension mechanisms, and village health teams (VHTs), and (b) through sectoral institutions including project management and coordination at both national and decentralized levels.

Project Development Objectives (PDOs)

9. The **Project Development Objective** was to increase the production and consumption of micronutrient-rich foods and utilization of community-based nutrition services in smallholder households in project areas.

Key Expected Outcomes and Outcome Indicators

10. The project had three outcome indicators:
 - Net changes in percentage of households reporting year-round production of at least three micronutrient rich crops in project areas.
 - Net change in percentage of children aged 6-23 months with minimum dietary diversity.
 - Net change in percentage of women participating in community-based nutrition activities in project areas

Components

11. **The project was designed with 3 key components:**
12. **Component 1: Delivery of multi-sectoral nutrition services at primary school and community levels (US\$17.8 million; US\$4 million-AF).** This component used the multi-sectoral approach to deliver enhanced and effective nutrition services to communities in the project districts by improving the nutrition functions of: (i) community-based institutions; (ii) primary schools; (iii) agriculture extension mechanisms; and (iv) village health teams (VHTs) in line with Uganda Nutrition Action Plan (UNAP) and the three sectoral strategic plans.

It had four sub-components (SC), namely:

- **SC 1.1:** Community sensitization and establishment of community-based institutions.
- **SC 1.2:** Enhancing nutrition services delivered through primary schools, parent groups, and lead farmers.



- **SC 1.3:** Agriculture support for school-based nutrition services.
 - **SC 1.4:** Strengthened nutrition services through Village Health Teams (VHTs) and Health Center Level II.
13. **Component 2: Strengthening capacity to deliver nutrition interventions relevant to this project (US\$5.2million; US\$1.77 million -AF);** The component aimed to improve capacity of sectoral institutions to deliver nutrition interventions relevant to the project, including support for: (i) national, district, and sub-county, stakeholder sensitization on nutrition and project activities; (ii) consultancy services to develop necessary training materials for extension agents, primary schools, and community workers, including workshops to finalize training and support materials and printing and distribution of necessary support materials for each sector; (iii) consultant services to deliver nutrition training for relevant district, primary school and community personnel; and (iv) sector-specific refresher training and supportive supervision for relevant staff at district level and below.
14. **Component 3: Project management, monitoring, evaluation, and knowledge generation (US\$4.64 million; US\$1.23million - AF);** The component included initiatives to: (i) ensure project management and coordination; and (ii) support monitoring, evaluation at all levels, knowledge generation and management, and dissemination of findings within Uganda and globally. This component financed goods, services, and specified incremental operating costs.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

Revised PDOs and Outcome Targets

15. The PDO did not change.

Revised PDO Indicators

16. The Results Framework PDO indicators were modified through restructuring in 2018, 2020, and 2022 and targets adjusted upwards in alignment with the extended implementation period and Additional Financing. The details of the original and subsequent revised PDO indicators are provided in **Annex 6**. The re-wording of the PDO indicators to 'percentage' was done to (a) capture more accurately what was being measured; and (b) make the reporting unit in line with national reporting that also captured percentages. Additional revisions in the results framework, including both PDO and intermediate indicators during project implementation are also detailed in **Annex 6**.

Revised Components:

17. The Project Components remained unchanged, but activities were added to project components because of the Additional Financing (AF).
18. **Effects of COVID-19 Pandemic and Additional Financing.** The significant progress and achievements made by the project through 2019 were adversely affected by the COVID-19 pandemic in multiple ways, creating uncertainty of the project's likelihood to achieve its targets within the limited time and resources available. The GoU mandated two lockdowns and other measures in response to the COVID pandemic and sought Additional Financing (AF) of US\$7 million from the World Bank. The AF was primarily requested to scale up project activities to address the COVID-19 impacts in the short and medium term, to minimize disruptions, and ensure sustainability of project results. As a result, additional activities were added to the existing components.
19. The Additional Financing (AF) financed: (i) water, sanitation, and hygiene (WASH) activities, relevant WASH training, and promotion for increased consumption of fruits/vegetables/MNR foods to contribute to fight against the impact of COVID-19; (ii) nutrition improving activities through Nutrition Sensitive Saving schemes for farmers; and (iii) quality-assured MNR seed/planting material multiplication centers and seed banks, value addition, marketing, and distribution activities among others.

Rationale for Changes and their Implication on the Original Theory of Change:

20. The rationale behind the changes were twofold: (i) to align the PDO indicators more closely to the national



indicators and (ii) to provide the project with sufficient resources to complete its activities and achieve its objectives. The changes also gave opportunity for the project to recover from the negative impacts of COVID-19 by ensuring that the project outcomes attained before the pandemic were sustained. Through the changes, the project also evolved to (a) supporting the seed multiplication centers to make more planting materials/seeds available throughout the year; (b) mobilizing participating farmers into forming village loans and saving groups that would engage in nutrition sensitive investments, and (c) empowering the value addition centers to provide a market for MNR crop products from the farmers and process larger quantities of food products for the markets. These changes were consistent with the original theory of change as they served to enhance the project's outputs, outcomes, and impact.

II. OUTCOME

RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating: High

21. **The relevance of the PDO is rated as High.** The UMFSNP was highly relevant at appraisal and at project closing. The project was fully aligned with the World Bank Country Assistance Strategy for FY 2011-2015 (Report No. 54187-UG) as well as the Country Partnership Framework (FY2016-2021), which is still in operation as of June 2024. The latest CPF identified six strategic outcomes (SOs) to support the Government of Uganda. The UMFSNP was aligned with two of the CPF SOs, namely '*Improved Social Service Delivery (SO2)*' and '*Increased Agricultural Commercialization (SO3)*' to contribute directly to achieving the Sustainable Development Goals by robust poverty reduction and shared prosperity. In addition, supporting human capital development including water and sanitation remain key WBG priority areas. Accordingly, the UMFSNP focused on adoption of nutrition-sensitive agricultural (NSA) interventions to increase MNR crop production and value-addition through the agriculture sector (SO3), capacity building and further development of school based demonstration and nutrition education services for improving skills and knowledge of project beneficiaries through the education sector (SO2), and improved nutrition and training to increase utilization of community-based nutrition services through the health sector (SO2).
22. **The PDO was strongly aligned with the National Development Plans (NDP) of Uganda.** Key strategic elements of the NDP-2 (FY16-20) and NDP-3 (FY21-25) emphasized ending hunger, improved nutrition and food security, increased household incomes, enhanced value addition, and strengthened private sector capacity to drive growth. Recognizing that nutrition sensitive agricultural interventions are essential investments for long-term economic development, the GOU identified priority actions in the Uganda Nutrition Action Plan (UNAP-2) to strengthen smallholder household incomes and nutrition within key social sectors, including agriculture, health, and education. The project outcome significantly contributed to the knowledge resources and implementation of the UNAP-2 (FY21-25) as well as the Uganda Food and Nutrition Policy, aimed at promoting adequate, safe, high quality and nutritious food with a long shelf-life for local, regional, and international markets.
23. **The rationale and activities under the Additional Financing of the project strongly aligned with the WB's Strategic Response to COVID-19.** Under this framework, Uganda obtained financial support totaling US\$ 195.5 million through the Uganda COVID-19 Response and Emergency Preparedness Project (UCREP), part of the World Bank's COVID-19 Strategic Preparedness and Response Program (SPRP),¹ as well as the Emergency COVID-19 Economic Crisis and Recovery Development Policy Financing². This provided US\$300 million focusing both on expanding some safety nets and measures to cushion the impact on businesses, including improved targeting of agricultural subsidies, in order to address the unprecedented effects of the COVID 19 pandemic. Overall, the relevance of the project in relation to the country's goals and the challenges faced is rated as **High**.

B. ACHIEVEMENT OF PDOs (EFFICACY)

¹ World Bank's COVID-19 Strategic Preparedness and Response Program (SPRP) - Multiphase Programmatic Approach (MPA) (Report No. PCBASIC0219761); approved by the World Bank's Board on April 2, 2020

² Emergency COVID-19 Economic Crisis and Recovery Development Policy Financing (P173906)



Overall Efficacy Assessment Rating: High

Assessment of Achievement of Each Objective/Outcome:

24. The project achieved and/or surpassed the targets for all three PDO indicators as shown in **Annex 1**. Nine out of the fifteen Intermediate Results indicators were surpassed while the rest were achieved. The PDO outcome results were further qualified by an independent, statistically rigorous Impact Evaluation³ that was carried out by Makerere University School of Health Sciences. The methodology used in the study is presented in a footnote and the study's results summarized below:

- *Outcome 1: To increase the production of micronutrient rich foods is rated as High.*

25. **The Project enhanced awareness of MNR crops, which translated into increased production and adoption of MNR foods in the project areas.** The Impact Evaluation Study⁴ showed that households in project districts had higher levels of awareness of MNR crops than households in control districts, especially regarding Orange Flesh Sweet Potato (35 percent), Amaranthus (17 percent), pumpkin (15 percent) and Iron Rich Beans (4 percent)⁵. Relatedly, adoption rates of MNR crops were significantly higher in project districts compared to control districts, which consequently boosted production of MNR crops such as OFSP (35kg per HH), pumpkins (41kg per HH) and vegetables (31kg per HH)⁶. 340,408 women were trained in nutrition sensitive agriculture, which enhanced awareness of MNR crops (**exceeding end-target IR-2**).

26. The project's investments in seed multiplication centers facilitated farmers' access to MNR seed/planting materials and increased seeds available to households. Project M&E data indicates that 36 local seed multiplication centers were established and operationalized (**exceeding end-target– IR15**) and 298,102 farmers accessed and multiplied seed/planting materials for MNR crops (**exceeding end-target– IR5**). The establishment of seed multiplication gardens made local acquisition of quality seed for subsequent planting easy and protected farmers from purchasing sub-standard seeds thus the quantity of seed/planting materials of selected MNR crops produced by Lead Farmers increased to 107,503kg (**exceeding end-target– IR4**). The creation of demand through Behavior Change Communication, establishment of good seed systems for provision of high-yielding varieties of planting materials, the utilization of agriculture extension services and infrastructure, were all activities the project embarked on through schools, farmer groups and lead farmers. At the end of the project period, 51.54 percent of households in the project districts reported year-round production of at least three micronutrient rich crops (**PDO-1 target achieved**).

- *Outcome 2: To increase the consumption of micronutrient rich foods is rated as High.*

27. The enhanced knowledge and awareness of nutrition and health benefits increased the consumption of MNR crops and led to increased HH dietary diversity and food security⁷ in project districts. The project initiated a combination of activities that included community nutrition education forums, cooking demonstrations, information

³ The Quasi-Experimental evaluation used panel data from the baseline, midline and endline evaluations surveys of the project. The evaluation approach interviewed the same households from baseline and midline in 5 project districts and in 3 comparison districts (non-project districts). The sample survey covered a total of 2,841HHs (1,897HHs from treatment project areas and 944HHs from non-project areas). The evaluation approach corrected for potential selection bias due to non-random allocation of districts to control and treatment groups. During the selection process, each treatment project group was matched with one or two control (non-Project) districts with similarity in location, agroecological conditions and geographical closeness to minimize on district level confounding differences. Treatment project districts were largely comparable to control districts in several aspects. Difference in Difference estimation of impacts were applied with (1) Propensity Score Matching estimators with Kernel matching and nearest neighbor matching and (2) regression based non-matching estimators to ensure robustness of impact results. The study used the Agricultural Scalability Assessment Tool to qualitatively determine the effects of the project on beneficiaries and spill-over effects.

⁴ Impact Evaluation Report of the Multisectoral Food Security and Nutrition Project, December 2023.

⁵ 35 percent more households in treatment districts than in control districts had higher awareness levels of OFSP; 17 percent more households in treatment districts than in control districts had higher awareness levels of Amaranthus; 15 percent more households in treatment districts than in control districts had higher awareness levels of pumpkin while 4 percent more households in treatment districts than in control districts had higher awareness levels of iron rich beans.

⁶ Treatment districts produced higher quantities of MNR crops than control districts; A household in the treatment district produced 35kg more of OFSP than a household in the control districts; A household in the treatment district produced 41kg more of pumpkin than a household in the control district; and a household in the treatment districts produced 31kg more of vegetables than a household in the control districts.

⁷ Food Security was measured in terms of the food consumption score (FCS).



dissemination and community-based health sessions such as Growth Monitoring and Promotion (GMP). The Independent Study found that information on improved feeding practices, schools' Parent Groups (PGs) interventions and access to Folic Acid tablets, had positive impacts on household food security and on women and children's dietary diversity. Additionally, access to deworming tablets was significantly associated with children's dietary diversity. About 10-11 percent more households in project districts adopted improved feeding practices compared to households in control districts⁸. In fact, the study found a deterioration in the percentage of households using improved feeding practices in control districts when compared to the baseline, primarily caused by the effects of COVID-19 and the economic downturn at rural household level. Community outreach programs in the project areas were found to be robust. At the end of the project, 448,135 children under the age of 2 were reached through child feeding and dietary diversity practices, and GMP sessions (**exceeding end-target -IR9**).

28. The Impact Evaluation Study also showed that between 20-23 percent more households in project districts adopted improved health practices compared to control districts. Food consumption and dietary diversity increased between baseline and midline but declined at endline-driven largely by COVID-19 effects- although still higher than levels at baseline⁹. According to M&E data, by the end of the project period, 142,410 households were consuming fruits/vegetables/MNR porridge at least three times a week (**exceeding end-target -IR13**). Overall, household dietary diversity improved by 22 percent – women's dietary diversity by 62 percent, and children's dietary diversity was 4 percent¹⁰. Specifically, the dietary diversity of children in project districts was found to be slightly higher than those in control districts. The difference suggested women's dependency on breastfeeding children for longer periods, rather than weaning them off to available household dietary diversity foods. COVID-19 adversely impacted dietary diversity as it affected project activities such as the nutrition forums and refresher training on nutrition, and demonstration activities at school and community level. Even so, following the pandemic protocol, the project was able to carry out 30,918 community-based monthly nutrition forums, including cooking demonstrations (**exceeding end-target-IR11**). In these forum, multisectoral extension workers, including lead farmers, science teachers, and VHTs/health workers, jointly facilitated nutrition education and demonstration sessions of MNR food production, feeding, and dietary diversity, to increase sensitization to, and consumption of MNR foods, and promotion of Minimum Dietary Diversity (MDD). The project supplied 253,133 girls (in primary 4 and above) with weekly iron folic acid supplements through primary schools in the project districts (**exceeding end-target -IR8**); provided 1,837,513 primary school children with deworming tablets (**exceeding end-target -IR7**) and the study found these interventions to have substantial impact on boosting children's consumption of micronutrient rich foods. By project end, 51.78 percent of children aged between 6 - 23 months from households in project districts had minimum dietary diversity (**PDO-2 target exceeded**).
29. The consumption scores of households in project districts were found to be 9-11 points higher than control districts, translating into 26-34 percent higher based on the Food Consumption Score (FCS)¹¹. The decline at endline was primarily associated with the COVID-19 effects and was even sharper in control districts compared to project districts. Based on the evaluation study, 32 percent more households in project districts were found to be more food secure (as measured by FCS) than households in control districts¹².
30. **The Project had positive impact on child stunting in project districts.** There are several factors that contribute to stunting including nutritional deprivation, poor quality diets during the complementary feeding period, repeated and/or frequent infections. As already documented, nutrition and feeding practices supported by the project positively contributed to improving the nutrition status of women and children. The evaluation showed that

⁸ Impact Evaluation Report of the Uganda Multisectoral Food Security and Nutrition Project, December 2023.

⁹ Ibid

¹⁰ 62 percent more women in treatment districts than in control districts, had improved dietary diversity; 4 percent more children in treatment districts than in control districts had improved dietary diversity.

¹¹ Food Consumption Score (FCS) is most used as a food security indicator. The indicator is a composite score based on households' dietary diversity, food consumption frequency and relative nutritional value of different food groups.

¹² Impact Evaluation Report of the Uganda Multisectoral Food Security and Nutrition Project, December 2023.



awareness of key nutrition and health practices positively impacted the adoption of these practices in project districts compared to control districts. In terms of the project's contribution to reducing the disease burden, the study showed that, over the life of the project, more households in the project districts had improved WASH practices than households in control districts (11-19 percent). M&E data showed that 4500 WASH demonstration facilities¹³ were set up in the communities and schools (**end-target met – IR12**). 5 percent more households in project districts were found to have improved access to safe drinking water compared to households in control districts. The collective results of the interventions contributed to reducing the disease burden in project districts. The estimation of impact on child stunting¹⁴ used a single difference estimator based on only the endline anthropometric measures. There was a significant improvement in Height for Age Z Scores by about 18-21 percent in project districts compared to control districts. Analyzed as a binary outcome, the results showed that the project significantly reduced the proportion of children with stunting in project districts by 5.1-5.3 percent more than in control districts, indicating that the project has sustained significant long-term reductions in child stunting.

- *Outcome 3: To increase the utilization of community-based nutrition services in smallholder households in project areas is rated as High.*

31. **The project contributed to the increased utilization of community-based nutrition services in the project areas.** The project's interventions were designed to change key behaviors and to ensure that the target population received a minimum package of health and nutrition services. Measures were taken to enhance the capacity of a total of 118, 909 key project staff/actors including UMFSNP management at different levels, to deliver nutrition services to project beneficiaries. The project strategically focused on the '1000-day window of opportunity' directed at women of reproductive age and children under two years and envisaged that targeting women with their active participation¹⁵ in community-based improved¹⁶ nutrition activities enhanced motivation among community members and accelerated achievement of the expected outcome. M&E data showed that the project established 3000 Parent Groups, which were used as platforms for delivering various trainings for women (340,408) and for demonstrations (**end-target met – IR1 and IR-2**). Trained women in parent groups sensitized community members, ensuring school-going children received deworming tablets and weekly IFA supplements for girls. By design, the 60 percent membership of the PGs was made up of women. The PGs also engaged in savings and credit activities geared towards supporting nutrition sensitive enterprises. Around 70% of the 15,000 people who received loans under the Nutrition Sensitive Savings Scheme were women (**end-target was met – IR14**). Participation in the scheme facilitated opportunities, especially for women, to engage in value addition activities that afforded broader access to nutrition and health services. The evaluation study also showed that households in project districts registered an increase in using improved nutrition and health services compared to households in the control districts. 832,170 people received improved nutrition services through the project interventions (**exceeding end-target – IR6**). By the end of the project, 57.31 percent of women were participating in community-based nutrition activities in the project district (**PDO-3 target achieved**).
32. **A robust institutional framework and complementary project activities at the local government level contributed to the successful delivery of multisectoral nutritional services at primary school and community levels.** There was strong political commitment from government leadership and local leaders demonstrated by the annual allocation of resources through their budgets to support nutrition interventions and to *enhance the project outcomes*. There was a dedicated coordination structure, overseen by the Office of the Prime Minister (OPM) that ensured

¹³ WASH facilities was defined as facilities with specific relevance to COVID-19 (e.g. hand washing facilities, safe drinking water tanks, dustbins, COVID compliant SOPs, project key actors receiving relevant training, provision of PPEs, and supportive supervision)

¹⁴ The extension of the project including through AF provided the project with a reasonable time frame to assess stunting effects in the project districts, even though, it was not an expected outcome of the project.

¹⁵ 'Participation' was defined to mean focus on utilizing the project-promoted or provided nutrition services including among others receiving capacity building services and improved nutrition services.

¹⁶ 'improved' nutrition services defined as receiving maternal nutrition care, post natal care, training on breastfeeding and health care demand for VHTs, awareness raising nutrition education, and planting materials.



alignment of the project activities and the countrywide scale up strategy for multi-micronutrient supplements (MMS). District local governments were fully engaged and ensured that project activities were integrated into District Nutrition Action Plans. Community-based nutrition actions were regularized through continuous mobilization and training of key stakeholders and through the integration of key service delivery platforms and actors such as primary schools, parent groups, primary health care facilities, and community-based nutrition education at community level. These initiatives provided an effective institutional structure for sustainably improved nutrition outcomes and human capital development.

33. Based on the above assessment, all outcome ratings are assessed as high because they not only achieved and exceeded their targets, but their impacts had broader positive implications for stunting, food security and institutional development. **The overall efficacy is therefore rated as High.**

C. EFFICIENCY

Assessment of Efficiency and Rating

34. **The project's rationale stemmed from the significant economic losses associated with malnutrition, affecting education, labor productivity, and health care costs in Uganda.** It targeted vulnerable populations, particularly pregnant women, and children under two, aiming to maximize long-term health and human capital benefits. The project has yielded significant improvements in human capital and health associated with improved nutritional status with interventions targeting pregnant women, child nutrition and development. These benefits include increased lifetime productivity, the prevention of mortality and morbidity, increased production and consumption of micronutrient rich foods, and increased use of community-based nutrition services.
35. **An investment of US\$34.64 million is estimated to have saved 115,455 Disability-Adjusted Life Years (DALYs), 37 742 lives and averted 17,746 cases of stunting¹⁷.** A DALY is equivalent to a year of healthy life lost due to a health condition¹⁸. Cost-effectiveness analysis of selected high impact nutrition interventions in Uganda suggest that the cost/DALYs saved in Uganda is relatively competitive. For community nutrition programs the cost/DALYs saved is US\$77, while the global estimates range from US\$53 to US\$153¹⁹. According to the Ministry of Health data²⁰, many improvements were observed in the project areas, notably in stunting reduction (from 29 to 22.8 percent)²¹, anemia prevalence (from 53 percent to 43.6 percent), and minimum dietary diversity (45.9 percent to 51.5 percent), indicating positive impacts on nutritional status. Additionally, the project positively influenced school enrolment, retention, and attendance rates, attributed in part to improved access to nutritious foods from school gardens and enhanced parental involvement in education²². Moreover, the project sustained a significant impact on the awareness of MNR crops (28%), feeding practices (25%), and health practices (14%), although awareness regarding WASH practices remained relatively lower at 7%. Notably, the project's impact on awareness of MNR crops and feeding practices remained consistently high.²³

¹⁷ The method to calculate DALYs was based on Black et al (2008) to estimate averted morbidity and mortality for scaling up different nutrition interventions. DALYs benefits were calculated by multiplying the number of DALYs lost of GDP per capita net of current health expenditures per person, estimated to be 33 percent (World Bank 2020). It was not applied as a discount factor as DALY estimates from the global burden of disease are already discounted at a rate of 3 percent.

¹⁸ The World Bank and WHO have suggested benchmarks for interpreting costs per DALY saved. For the World Bank, a public health intervention with a cost per DALY of less than US\$460 is very cost-effective (World Bank 1993).

¹⁹ Refer to annex 4 for detailed Economic Analysis.

²⁰ Reference in the Borrower Completion Report.

²¹ This is in line with surveys conducted in 24 DHS countries with comparable population, health and nutrition levels in sub-Saharan Africa- The surveys have shown important reductions in stunting among children under age 3 over these two decades, with declines of at least 2 percentage points per year. These six countries are Senegal, Namibia, Togo, Uganda, Eritrea, and Tanzania. Senegal has had the most dramatic reduction in stunting, from 22 percent in 1993 to only 14 percent in 2005. Another three countries (Botswana, Gabon, and Gambia) do not have DHS trend data, but the World Health Organization (WHO) and UNICEF indicate they already have low or moderate levels of stunting.

²² Impact Evaluation Report of the Uganda Multisectoral Food Security and Nutrition Project, December 2023.

²³ *ibid*



36. **An ex-post cost benefit analysis was conducted based on the estimated economic value of the benefits attributable to specific interventions funded by the project.** The analysis revealed an internal rate of return of 16 percent, demonstrating the project's sound investment for Uganda. The estimated net present value of benefits is US\$45.4 million, with a benefit-cost ratio of 1.4. This implies for every US\$1 invested through this project, it has generated benefits of US\$1.4²⁴. The changes in the ERR and NPV from appraisal are likely due to an overestimation of the number of beneficiaries and benefits during appraisal, as well as some changes in the calculations since the original ones were not provided. Specifically, for the number of stunting cases, recorded figures from the Ministry of Health were used instead of estimates. The economic analysis employed a cash flow model over 20 years, accounting for all project costs and benefits. Sensitivity analysis confirmed the project's economic viability, even under adverse conditions, highlighting its importance in promoting nutrition interventions in Uganda for sustained economic and social benefits.
37. **These findings underscore the project's effectiveness in generating economic and social returns, despite the benefits materializing over several years.** The project's success can be attributed to strong senior leadership, intersectoral collaboration, and efficient resource utilization. Meaningful coordination across ministries and community-level actors has been a key strength, enabling effective project design and implementation. Particularly, during the COVID-19 pandemic, the project's multisectoral structures, such as PGs, VHTs, LFs, and geo-enabled M&E technology, played a crucial role in continuing implementation efforts.
38. Based on the above assessment, **the efficiency of the project is rated as High.**

D. JUSTIFICATION OF OVERALL OUTCOME RATING:

39. The project achieved, and in several cases, exceeded its intended outcomes. The project made optimal use of its resources, even with initial delays in implementation due to delay in effectiveness for about seven months²⁵ and subsequent lockdowns necessitated by the COVID-19 pandemic. Even so, the project made upward adjustments to target indicators through all the project restructurings and additional financing. In addition, the project maintained a "satisfactory" rating for a significant part of the implementation period till project closure. Given that Relevance has been rated as High; Efficacy is rated as High; and Efficiency is rated as High, **the overall Outcome Rating is "Highly Satisfactory"**.

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

Gender

40. The project's primary beneficiaries included (a) pregnant and lactating women, (b) children under the age of two, and (c) all household members of Lead Farmers (LFs) and Parents Groups (PGs), taking part in nutrition promotion activities in the catchment areas of selected primary schools. The project benefited 1.717 million primary beneficiaries, exceeding both the initial design target of 1.14 million and the revised target of 1.69 million during the AF period. The majority of these were smallholder-farming families with an average of eight members and headed by men. 713,449 women were targeted as the beneficiaries of the improved nutrition services. At project completion the number of women exceeded the target to total 830,936. Furthermore, the project design required that at least 60% of the total female beneficiaries in 15 districts be targeted for training opportunities. At project completion the total female beneficiaries trained, stood at 111% of the target.
41. Results obtained from the project's impact evaluation indicate that the project beneficiaries had significantly higher assets at endline than non-project beneficiaries in comparison districts. Households in project districts had 18 percent

²⁴ An Investment Framework for Nutrition Reaching the Global Targets for Stunting, Anemia, Breastfeeding, and Wasting Meera Shekar, Jakub Kakietek, Julia Dayton Eberwein, and Dylan Walter, World Bank, 2016.

²⁵ This was because one of the two conditions of effectiveness (eg. setting up a functional PCU) was delayed .



more land assets, 60 percent more equipment and machinery assets, and were 13 percent more likely to have solar electricity panels than their counterparts in comparison non-project districts. Specifically, the women's participation in the Nutrition Savings Groups enabled them to increase their assets as many became business entrepreneurs like micro-bakers, sellers of planting materials/seeds, and/or sellers of MNR crops to the public and value addition centers.

42. The project caused significant mind-set changes:

- (a) The project tackled negative agricultural perceptions in schools by strengthening the school curriculum through experiential learning. Thereby improving learners' perceptions and views of agriculture as a source of better life, livelihoods and business.
- (b) The exposure, training and skills provided through the project led to more men getting engaged in MNR crop production and value addition for livelihoods.
- (c) Through the engagement of lead farmers, lead mothers, farmer groups and learners in production, the project was able to establish the communities' acceptance of indigenous vegetables and MNR crops as invaluable components of a balanced diet critical for proper nutrition, healthy eating habits and a sustainable and resilient source of food, especially in the face of climate change.

43. **The provision of iron and folic acid (IFA) supplements contributed to increased school attendance and reduced dropout rates for primary school-going girls.** The project-generated knowledge resulted in a demand for IFA and other maternal health-benefiting supplements from both the community and the central Ministry of Health. In response to this demand, as a sustainability measure of the project's success, a national strategy for countrywide adaptation of Multiple Micronutrient Supplementation (MMS) in addition to IFA for women is currently being developed in collaboration with the World Bank, Kirk Foundation, and the GoU.

Other Unintended Outcomes and Impacts:

44. Several unintended outcomes and consequences of the project were realized as detailed below:

- **The project contributed significantly to shaping the design of the program approach under NDP-III based on the lessons learnt from the multisectoral approach of the project.** This has also been extended to the ongoing development of NDP-IV. The Draft School Health policy also benefitted from the Uganda nutrition and school feeding guidelines developed by the project.
- **The project successfully strengthened the community-based monthly nutrition forum, establishing it as a viable and cost-effective structure for:** (a) identification, referral and management of malnourished children between the villages and health facilities; (b) facilitation of frequent dialogue especially between female farmers and agriculture extension officers, health workers, school authorities and local government officials.
- **Homegrown feeding programs expanded to supplement student and staff diets and were managed by parent groups using MNR crops from demonstration gardens.** Availability and accessibility of school feeding for both teachers and students became a reality with all project districts reporting improved school enrolment, retention, attendance, and performance. Data on the 1500 UPE schools obtained from the project Districts' Department of Education collected between 2016-2023, showed a 20 percent average increase in retention rates of students and a 26.5 percent average increase in pass rates of exam candidates. The provision of IFA to schoolgirls also had a similar impact on their education.
- **The project supported the development of the Orange Fleshed Sweet Potato value chain for commercialization.** Thus, it demonstrated that nutrition can significantly contribute to the country's economic growth through commercialization and competitiveness of MNR crop production and agro-processing (see note in Annex 8)

Institutional Strengthening

- **Following its implementation framework, the project significantly contributed to institutional development,** particularly the long-term development of the country's capacity and institutions. The framework outlines how various sectors at different levels engaged in the project's context during its implementation (see note in Annex 8).



- **The position of District Nutrition Officer (DNO) was institutionalized** and mainstreamed into district structures along with a dedicated budget.
- **Some districts established a District Nutrition Policy that makes the establishment of kitchen gardens mandatory for all households in rural and peri-urban areas.** National guidelines were developed for the establishment and maintenance of school demonstration gardens and the Ministry of Finance issued a directive to schools to provide facilitation for school demonstration gardens.
- **Training provided to Head Teachers and the relevant school committees resulted in improved institutional efficiency²⁶, financial discipline, and transparency in management of resources provided to the primary schools.** The technical capacity of the School Nutrition Committee/School Procurement Committee was strengthened to effectively plan, procure, and account for funds of their school nutrition projects and other projects. Data obtained from the project districts' Department of Education showed that 99 percent of the participating schools reported improved books of accounts and 98 percent of them, efficiently utilized resources because of the training they received through the project.
- **The capacity of the Village Health Teams (VHTs) to carry out their core functions was strengthened** through training, and many have been integrated into the health system as community health extension workers.
- **The project also enabled the advancement of the implementation of the national School Health Policy (SHP),** that resulted in weekly school visits by health workers to provide health and nutrition talks and interventions to students demonstrating the relevance and impact of the project.

Mobilizing Private Sector Financing

45. **The increased demand in the market for value added products from MNR crops created a stimulus** for (i) strengthened linkages between communities and markets for large scale production of micronutrient crops; (ii) establishment of feeder businesses such as micro-bakers and micro-bakery clubs founded on strong business entrepreneurship skills obtained through the project's value addition centers; (iii) leveraging additional resources from larger enterprises using MNR crop products in their businesses. The project supported an enterprise through a public-private partnership to facilitate farmer access to mobile irrigation equipment that would enable them to produce vines in the dry season for all year-round production of Orange Fleshed Sweet Potato.

Poverty Reduction and Shared Prosperity

46. **The project contributed to addressing poverty as** (a) many schoolgirl drop-outs who had married and/or are mothers were able to utilize the knowledge acquired for generating income from production and sale of MNR crops and planting materials/seeds; (b) the trainees that benefitted from the value addition centers supported by the project were engaged in various enterprises related to MNR crops in their local communities. Farmers were able to generate income as local seed entrepreneurs producing quality declared seeds/planting materials for MNR crops that the local communities could readily access at competitive prices resulting in asset accumulation through project activities. The project demonstrated that a community could transition from subsistence to commercial farming and come out of poverty through production and sale of MNR crops and planting materials/seeds, with support of extension services and initial inputs.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

- **The Ministry of local government (MOLG) was not explicitly identified as an implementing entity in the original project design.** Although the MOLG reports were used as a basis of readiness for implementation,⁷ the MOLG was

²⁶ Efficiency is measured in terms of timely production and utilization of workplans including procurement plans, timely execution of procurements, timely payments to service providers, display of funds received and expended, timely accountability for the funds received and spent, timely production of financial reports.



not included for implementation coordination and fiduciary accountability. The MTR recognized this and brought MOLG on board as a formal key player in the project, which improved coherence both in project implementation and supervision.

- **Project procurement arrangements did not include a community procurement guideline at design stage.** Project procurement was intended to take place at the national and local levels through PCUs and schools. During the preparation stage, capacity and fiduciary assessments were conducted, and a capacity development plan for various levels as well as a detailed project procurement strategy, were developed. However, as the implementation began, the project team identified the need for a ‘simplified community procurement guideline’ for schools and the community to carry out their own procurement tasks. Guidelines were then developed, and committees were formed, with the headmaster as the accounting officer and the school nutrition committee as the procuring entity. Stakeholders received orientation and refresher training to avoid capacity gaps caused by frequent transfers of head teachers or relevant key project actors.

B. KEY FACTORS DURING IMPLEMENTATION

Factors subject to government / implementing agency control.

- **There were start-up delays in meeting one of the effectiveness conditions²⁷.** To address this, the GoU and the World Bank agreed and revised the project’s procurement and implementation plans, to accelerate implementation, and granted an extension allowing enough time to complete the planned activities and achieve the desired results.
- **There was active engagement of central government and local leaders:** The project's success was largely attributed to the involvement of project champions, who provided credibility and support for the activities.
- **Splitting of original project districts did not affect the geographical scope or the results but did cause some ambiguity and deviation from originally planned administration and allocation of project resources.** However, the project resolved this administrative issue through a memorandum of understanding on resource allocation signed by both districts (new and old) and MAAIF.
- **The OPM was strategically positioned as the leader of government business and brought all sectors together using its authority as the apex coordinator for the multisectoral nutrition effort.** The OPM responsibly cascaded the coordination to district and community levels, ensuring sectors worked together without conflicts.
- **There was strong political commitment for the project's implementation, from the highest level of government leadership of different sectors to the local leaders in the communities.** In addition, MAAIF PCU demonstrated strong leadership in implementation coordination, ensuring that micromanagement and resistance from participating sectors were precluded.
- **There were several changes in political, administrative, and technical persons engaged in coordination, management, implementation of the project at national, district, school, and community levels.** They were, however, addressed by conducting continuous and deliberate fresh and refresher training to ensure that all key stakeholders were on the same page.
- **The M&E system adopted and pioneered an innovative geo-enabled monitoring and supervision (GEMS) technology** in enhancing timeliness and reporting on the project progress (details are in the M&E section of the report)
- **The PCU at MAAIF migrated to the Integrated Financial Management Information System (IFMIS) under MOFPED,** which assisted in continuing FM adequacy and transparency, reducing any fiduciary risks that would potentially be associated with manual excel systems, while also improving project funds management, accountability, and auditing, particularly at the district and primary school levels.

²⁷ Establishment of the Project Coordination Unit (PCU), and fiduciary readiness on the ground.



Factors Outside Government / Implementing Agency Control

47. **COVID-19 slowed down project activities and setback the previous positive outcomes.** The pandemic-led national lockdown and school closures disrupted project interventions at primary schools, health centers, communities, and procurement activities, particularly for the nutrition commodities like IFA supplements. It decreased interest in group activities in project areas and led to an increase in adolescent pregnancies and early marriages in the country. However, during the COVID-19 pandemic, the project's multisectoral structures/elements, such as parent groups, VHTs, LFs, and the geo-enabled M&E technology, proactively continued to the greatest extent possible under the circumstances. With the COVID-19 responsive additional financing and lifting of the lockdown, an intensive set of strategies helped to revive implementation momentum and recover gains from the COVID-19 slump. There was massive training on post-COVID-19 roles/responsibilities and scale-up of interventions at different levels. Refresher training and community sensitization (e.g. TV/radio shows) were regularly undertaken and the project increased frequency of community-based nutrition forums to raise awareness on COVID effects and recovery strategies with frequent progress reviewed with districts and community; and follow-up with the World Bank.
48. **The frequent long periods of dry season/drought affected the timely availability of seeds and planting materials when the rains started.** The project responded through (i) establishment of seed multiplication centers and seed banks in the communities, and (ii) promoting climate smart agriculture interventions.

Factors Subject to World Bank Control

49. **The World Bank supervision team provided regular supervision for the project.** Implementation Support (IS) missions included gender balanced teams and a wide range of technical expertise that covered all the sectors supported in the project. The ISRs reported on project implementation with candor, allowing Bank management to effectively support the supervision team. The supervision teams made proactive recommendations and agreed-upon actions to help project management address the identified shortcomings, opportunities, and challenges.
50. **Regular meetings between the World Bank team and the PCU/Inter-Ministerial Project Implementation Committee (IMPIC) proved effective for project implementation progress,** especially in terms of project monitoring, fiduciary management, and safeguard implementation. The World Bank team was available, supportive in addressing implementation issues and bottlenecks, and responded positively to government requests for extensions and additional financing.

IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

The overall quality of M&E is rated as **High**.

M&E Design

51. **The design of the project had a Project results framework and monitoring plan that included three indicators as project development objectives (PDO) and 10 Intermediate results (IR).** An additional IR was included after MTR, and 4 IRs were included as part of the project extension with additional financing. The set of indicators were developed in close consultation with implementers. Baseline study and midline and endline evaluation of the project were built into project design. However, the unit of measurement of the three PDO indicators had to be reworded to 'percentage' to better capture more accurately what was to be measured by each of the PDO indicators and in alignment with national reporting. The Results Framework and logical Framework were also reviewed and revised with respect to the outcomes of the MTR, restructuring and project closing date changes; monitoring checklist was updated to include follow up on the functionality of GRM; the PIM and the record keeping forms for each of the new indicators with respect to the AF were updated. The design of the M&E also provided for the (a) joint collaborative support between Makerere University and Partnership for Child Development (PCD), Imperial College, London, for conducting the impact evaluations; (b) the position of a Monitoring and Evaluation Specialist at the PCU as one of



the conditions for effectiveness; and (c) six operational researchers for enhancing outcomes, knowledge generation and ICR and impact evaluation.

M&E Implementation

52. **There was capacity building for all M&E officers of the sectors, including nutrition M&E who were trained and exposed to Geo-enabled Technology for monitoring the project implementation in the context of their sector.** A total of 300 Community Facilitators (CF) were recruited and each of them were responsible for a cluster of 5 schools from which he/she collected information from head teachers, VHTs, LFs and PGs and transmitted to the district project assistants for compilation/consolidation/ validation and submission to PCU. At the initial stages, the paper-based system was slow due to delays at different levels, however, when the project migrated to an e-based reporting system, information became available in real time. Each of the CFs, DPAs, and sectoral M&E officers were trained, and smartphones were distributed to each of them with an electronic questionnaire installed. The data was sent instantly to the District Project Assistants and M&E officers at the central level. Thus, the project pioneered the use of this technology for nutrition project monitoring and built capacity on geo-enabled M&E for about 535 project staff.
53. **The use of geo-technology improved M&E's role in the project especially in effectiveness, efficiency, accuracy of data collection, evaluation, learning and reporting.** All the results indicators were regularly reported on, and all the data was geo-referenced and geo-tagged. In addition, the impact evaluation endline survey of the original project operations was carried out. A rapid social assessment (RSA) to evaluate COVID-19 impacts on the social aspects of the project interventions was also carried out. The project won an award from the World Bank for effectively adopting the use of e-technology in M&E of a project.

M&E Utilization

54. **The M&E data was used to inform project management and decision-making in a timely and appropriate manner. In addition, the M&E data was used in the following ways:**
- The M&E data including MTR and impact evaluation reports helped (a) inform technical mission discussions (b) prepare Implementation Status and Results Reports (ISRs) and other reports for communicating with World Bank management on project issues. The project information-based M&E data was also used by government through the Minister of Finance Budget Speech to advocate for policy and budgetary support to the project and support the nutrition agenda of the country. More broadly, the results of the project fed into the organization of the 3rd National Nutrition Forum anchored by the Office of the Prime Minister that took place in May 2024.
 - The M&E data were used to guide the setting of new targets after MTR, project restructuring of project and at programming of Additional Financing to capture more accurately the outcomes of the additional resources.
 - The M&E data informed the revision of the Results Framework, including upward revision of end targets for all the three PDO indicators as well as six intermediate results (IR) indicators (IR-2,5,6,8,9,10).
 - The M&E data informed the need, procurement, and distribution of additional nutrition commodities (e.g., IFA supplements to the communities particularly to the increased number of pregnant adolescents) which was an urgent, well-timed strategic action and response with nutritional services to the target groups who were also primary beneficiaries of the project.

Justification of Overall Rating of Quality of M&E

55. The overall quality of M&E is rated High given the High rating of all the three facets, namely M&E design, M&E implementation, and M&E utilization. The geo-enabled M&E system enabled systematic tracking of project performance and the M&E data generated informed project management, restructurings, policy, and programmatic decisions in the sector.

A. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

56. **Environmental and Social Safeguards:** The project was assigned Environmental Assessment Category B - Partial Assessment since it involved activities with limited readily predictable adverse environmental impacts that were



short-term, site-specific, and could be adequately avoided, mitigated, or managed. The project triggered two environmental safeguard policies: Environmental Assessment (OP 4.01) since Component 1 involved establishment and operation of demonstration gardens of selected farmer groups and primary schools; and Pest Management (4.09) as the project entailed limited use of pesticides to enhance production of the selected crops. In compliance with the requirements of the triggered policies, during project preparation, MAAIF prepared an Environmental and Social Management Framework (ESMF), which included a Pest Management Plan (PMP). Safeguards performance was monitored consistently during Project implementation. Monthly Environment and Social Screening (using a checklist provided by MAAIF) of the project sites was done by the designated District Environment Officers.

57. Throughout project implementation, the safeguards performance ratings were largely satisfactory. There were commendable environmental practices and accomplishments that were observed. The major challenge faced during implementation was in the designation of safe final disposal of the collected agro-chemical waste due to budget constraints (for districts to set up their own licensed sites) and costly outsourced waste handlers. The establishment of regional licensed sites for safe disposal across agricultural projects is being considered by the government, as a sustainability measure. The project benefited from training the key project stakeholders such as District project assistants, District Education Officers, District School Inspectors and Agricultural Extension officers on E&S which facilitated information dissemination and grievance management. Through M&E activities, the project Grievance Redress Mechanism (GRM) was reported as functional, and thematic grievances captured through the GRM monitoring tool. Social safeguards compliance during project implementation progressed throughout the project with no critical challenges. The overall environment and social safeguards rating at the close of the Project was **Satisfactory**.
58. **Financial Management:** The Financial Management arrangements were handled at three levels including the national (MAAIF), the Local Government for monitoring and supervision and the school on behalf of the community. Work plan and budgets for the schools and local governments were consolidated at the national level (MAAIF) for appropriation. Funds were transferred from the national level directly to the communities (schools) and local governments, each with project-specific accounts for easy management and FM adequacy. Capacity building was completed at each level and systems were streamlined. Periodic reports were prepared at each of these levels and consolidated at the national level to submit to the World Bank on time. The Office of the Auditor General carried out annual financial audits and ensured timely submission. There were no outstanding audits, and any issues that came up were addressed by management. The Financial management rating at the close of the project was **Satisfactory**.
59. **Procurement Management:** Throughout the project life, the procurement rating ranged from moderately satisfactory to satisfactory. Procurement for the project was carried out at two levels: national (through MAAIF) and at community level. At MAAIF, procurement processes initially experienced delays due to internal bureaucracy, stakeholder consultative processes during preparation of statement of requirements for Nutrition commodities and IEC materials, and limited knowledge of project objectives among some internal staff. There were also delays in uploading documentation into STEP. Most of the mitigation measures recommended at implementation support missions were continuous in nature and were monitored throughout the project's life cycle. The project suffered human resource losses but was able to leverage on expertise of the procurement specialist in the Bank financed Agriculture Cluster Development Project and a dedicated procurement staff in the mainstream Ministry. The collaborative effort ensured that all deliverables were completed within the project timeframe. Procurement at the community level was mainly for planting materials and other requirements for the Schools and Lead farmers' demonstration gardens. PIM-compliant Community Procurement Guidelines were followed. These provided for a procurement structure that included a School Nutrition Committee (User), Procurement Committee (Procurement Unit) and Head Teacher (Accounting Officer). Delayed implementation in some instances was attributed to conflicting roles between the key players in procurement. To ensure successful completion, the project procurement team undertook extensive training and provided handholding support in community procurements. The onset of COVID-19 also contributed to delayed implementation at the two levels, but once the Public Procurement Authority issued SOPs, procurement processing resumed. Overall, there were no major issues of compliance with procurement requirements during project implementation. Procurement management rating at the close of the project was **Satisfactory**.



B. BANK PERFORMANCE

Rating: Satisfactory

60. **Bank Performance at Project Preparation is rated as Satisfactory.** The task team worked closely with MAAIF, MOH, MOE, MOLG and other technical partners at project identification to ensure that the project was aligned with key nutrition strategies and targets at the National and District levels. The team maintained a good balance between introducing multi-sectoral global best practices in nutrition, and getting the OPM involved early enough for overall coordination so all allied ministries would be motivated to participate effectively in project design. The team ensured continued and open discussions at the central level to resolve bottlenecks in design at the Centre, district, and sub district levels, to convince the district authorities, as well as the specifically targeted community groups (school children; parents; farmers and teachers') on the effectiveness of the interventions. To reach the population most in need of nutrition services, the project introduced an innovative beneficiary identification process, to achieve better beneficiary targeting compared with commonly used methods. This methodology was based on nutritional status and poverty data and ensured that a high portion of nutritionally disadvantaged groups were covered by the project interventions.
61. **Bank Supervision is rated as Satisfactory:** The Bank team comprised of technically strong specialists in relevant areas and well informed on Bank policies, including experienced nutrition specialists, agriculture, education, health specialist, capacity building specialist, economist, financial management specialist, procurement specialist, and safeguard specialist. The Fiduciary specialists also provided on-the-job capacity building of client participants. Having joint Task Team leads covering Agriculture, Health and Education Sectors, including having the agriculture lead with deep understanding of the context of nutrition in Uganda, based in Kampala, was an advantage for project oversight. The team composition was consistently maintained throughout the project life, even with changes in TTLs and co-TTLs, the Bank's was consistent in its provision of quality support and supervision to the project.

C. RISK TO DEVELOPMENT OUTCOME

62. The UMFSNP was very successful in meeting its objectives however, there were a few risks that could affect sustainability of its development outcomes:
- **With the project's end, operations and maintenance of equipment and structures could be at risk because the mechanism for this had been tested only during the short period of the AF implementation period.** However, the project has put in place a Memorandum of Understanding signed under PPP provisions, where District Local Governments (DLGs) would continue to provide technical support and supervision to value addition centers, ensuring proper maintenance and operation of all equipment and centers. The value-addition centers were designed to be self-sustaining, and the funds generated will be used to maintain and operate the equipment, and District Local Governments will also provide refresher training through the extension service system led by the Agricultural Engineers.
 - There is a risk that Seed Entrepreneurs may not continue to offer QDS to farmers after the project's end as they (a) fail to secure seeds/planting materials from the breeders (b) many not seek agricultural extension advise and supervision of good agricultural practices (d) may not comply with the requirement of having their products certified by MAAIF, (e) may not sell their products only among their local communities to avoid competing with larger seed suppliers. This will not only undermine the sustainability and utilization of QDS but also the production and utilization of MNR crops, food security, nutrition, livelihood, and commercialization, thus affecting the development outcome of the project in medium long term. However, District Local Governments are committed to continuously support seed entrepreneurs through the extension supply system and linkages with the National Agricultural Research Organization. Additional support can also be leveraged through the new Uganda Climate Smart Agricultural Transformation Project where the development of the seed system is a key intervention for support.



V. LESSONS LEARNT AND RECOMMENDATIONS:

The Project offers several important lessons, some specific to Uganda and nutrition and others that are broader and generally applicable especially in the context of a multisectoral project. These are summarized as below:

63. **Importance of multisectoral approach and coordination.** Multisectoral nutrition action with robust supra-ministerial coordination provides an effective institutional structure for improved nutrition outcomes critical to human capital development. Future nutrition initiatives should leverage and strengthen the national nutrition coordination structures under the leadership of the supra-ministerial coordination structures like the OPM to achieve better coordination and greater impact. The choice of the coordination anchor is extremely vital in the success of the approach as was the case of the OPM, which is also nationally mandated to anchor the country's nutrition strategy.
64. **Due to their complex nature and locational variability, successful implementation of multisectoral nutrition projects requires constant learning from implementation experience and evaluation outcomes.** Therefore National-level policy dialogue and widespread dissemination of project learnings are essential for obtaining the desired commitment from the highest levels of government to maintain project gains.
65. **Using a common platform to deliver multiple complementary services can maximize action and impact in the most efficient and cost-effective way.** The Primary Schools, Primary Health Care facilities including community health workers, strong involvement of local governments coordination structures, and Community-based nutrition education fora are critical vehicles for the delivery of agriculture, nutrition, and public health interventions. Using primary schools as a key vehicle was instrumental in delivering an integrated package of interventions that cut across several sectors to not only enhance nutrition outcomes but also reduce the cost of delivery for even greater impact. Nutrition projects should integrate key service delivery platforms, actors, and capacity building plans to enhance beneficiary participation and utilization. Continuous stakeholder mobilization and training are critical for community-based nutrition action, as they increase participation and sustainability during crises. The results are crucial for promoting integrative programming, which is one of the strategies currently being advocated by the World Bank.
66. **Importance and strength of the M&E design.** Adoption of Geo-enabled M&E technology, capacity building of relevant staff, and proper utilization of M&E outputs can all help to significantly improve project routine M&E - quality, speed, and due diligence. It allows for effective decision making and course-correction to fully achieve planned outcomes. In addition, careful selection of nutrition related indicators and setting of realistic targets is critical to achieve desired results. Nutrition outcomes, by their nature, take time to fully manifest as behavioral change is a time-consuming endeavor that progressively takes root. As such, project teams need to be realistic in setting targets that reflective of such progression.



ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Increase production and consumption of micronutrient-rich foods

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|--|-----------------|----------------------|----------------------|-------------------------|-------------------------------|
| Percentage of children aged 6-23 months in households with minimum dietary diversity | Percentage | 45.90 01-Jun-2017 | 50.49 07-Jan-2015 | 51.63 29-Jul-2022 | 51.78 30-Nov-2023 |

Comments (achievements against targets):
Target surpassed

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|--|-----------------|----------------------|----------------------|-------------------------|-------------------------------|
| Percentage of households reporting year-round production of at least three micronutrient rich crops in | Percentage | 41.20 01-Jun-2017 | 49.44 07-Jan-2015 | 51.50 29-Jul-2022 | 51.54 30-Nov-2023 |



| | | | | | |
|--|--|--|--|--|--|
| project areas | | | | | |
| <p>Comments (achievements against targets): Set target Achieved</p> | | | | | |

Objective/Outcome: Increase utilization of community-based nutrition services

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|--|-----------------|----------------------|----------------------|-------------------------|-------------------------------|
| Percentage of women participating in community-based nutrition activities in project areas | Percentage | 36.40 01-Jun-2017 | 55.00 07-Jan-2015 | 57.30 29-Jul-2022 | 57.31 30-Nov-2023 |

Comments (achievements against targets):
Set target Achieved

A.2 Intermediate Results Indicators

Component: Delivery of Multi-sectoral nutritional services at primary school and community levels

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|----------------------------|-----------------|-----------|-----------------|-------------------------|-------------------------------|
| Number of under-2 children | Number | 40,500.00 | 187,500.00 | 445,126.00 | 448,135.00 |



| | | | | | |
|---|--|-------------|-------------|-------------|-------------|
| reached for Growth Monitoring and Promotion in project areas | | 01-Jun-2017 | 07-Jan-2015 | 29-Jul-2022 | 30-Nov-2023 |
| Comments (achievements against targets): Target Surpassed | | | | | |

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|---|-----------------|-------------|-----------------|-------------------------|-------------------------------|
| Number increase in farmers accessing multiplied or produced micronutrient rich seed/planting materials in project areas | Number | 0.00 | 93,000.00 | 293,375.00 | 298,102.00 |
| | | 01-Jun-2017 | 07-Jan-2015 | 29-Jul-2022 | 30-Nov-2023 |
| Comments (achievements against targets): Set target Surpassed | | | | | |

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|---|-----------------|-------------|-----------------|-------------------------|-------------------------------|
| Number of girls (primary 4 and above) receiving weekly iron folic acid supplements through primary schools in project areas | Number | 0.00 | 93,750.00 | 219,381.00 | 253,133.00 |
| | | 01-Jun-2017 | 07-Jan-2015 | 29-Jul-2022 | 30-Nov-2023 |



Comments (achievements against targets):

Target Surpassed

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|---|-----------------|-------------|-----------------|-------------------------|-------------------------------|
| Number increase in the quantity of seed/planting materials of selected micronutrient rich crops multiplied or produced by lead farmers in project areas | Number | 0.00 | 105,000.00 | 105,000.00 | 107,583.00 |
| | | 01-Jun-2017 | 07-Jan-2015 | 29-Jul-2022 | 30-Nov-2023 |

Comments (achievements against targets):

Target Surpassed

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|---|-----------------|-------------|-----------------|-------------------------|-------------------------------|
| Number of people receiving improved nutrition services (disaggregated by gender and age) in project areas | Number | 177,460.00 | 600,000.00 | 713,449.00 | 832,170.00 |
| | | 01-Jun-2017 | 07-Jan-2015 | 29-Jul-2022 | 30-Nov-2023 |

Comments (achievements against targets):



Target Surpassed

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|--|-----------------|---------------------|-------------------------|-------------------------|-------------------------------|
| Number of WASH demonstration facilities compliant with COVID requirements established and operationalized at community and schools | Number | 0.00 30-Jun-2021 | 4,500.00 07-Jan-2015 | 4,500.00 29-Jul-2022 | 4,500.00 30-Nov-2023 |

Comments (achievements against targets):

Target Achieved

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|--|-----------------|--------------------------|---------------------------|---------------------------|-------------------------------|
| Number of households consuming fruits/vegetables/ Micro Nutrient Rich porridge (MNR) at least three times a week | Number | 93,000.00 30-Jun-2021 | 139,500.00 30-Jun-2021 | 139,500.00 30-Jun-2021 | 142,410.00 30-Nov-2023 |

Comments (achievements against targets):

Target Surpassed



| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|---|-----------------|---------------------|--------------------------|--------------------------|-------------------------------|
| Number of people receiving loans disbursed under Nutrition Sensitive Saving schemes (disaggregated by gender) | Number | 0.00 30-Jun-2021 | 15,000.00 30-Jun-2021 | 15,000.00 30-Jun-2022 | 15,000.00 30-Nov-2023 |
| Comments (achievements against targets): Target Achieved | | | | | |
| Component: Strengthening capacity to deliver nutrition interventions relevant to this project | | | | | |
| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
| Number of cooking demonstrations carried out at community level | Number | 0.00 28-Sep-2018 | 30,000.00 28-Sep-2018 | 30,000.00 28-Sep-2018 | 30,918.00 30-Nov-2023 |
| Comments (achievements against targets): Target Surpassed | | | | | |



| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|---|-----------------|-------------|-----------------|-------------------------|-------------------------------|
| Number of women trained in nutrition sensitive agriculture through PGs in project areas | Number | 0.00 | 27,000.00 | 303,797.00 | 340,408.00 |
| | | 01-Jun-2017 | 07-Jan-2015 | 29-Jul-2022 | 30-Nov-2023 |
| Comments (achievements against targets): Set target Surpassed | | | | | |
| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
| Number of primary schools offering a package of nutrition demonstration activities in project areas | Number | 0.00 | 1,500.00 | 1,500.00 | 1,500.00 |
| | | 01-Jun-2017 | 07-Jan-2015 | | 30-Nov-2023 |
| Comments (achievements against targets): Target Achieved | | | | | |
| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
| Number of parent groups (PGs) established and functional | Number | 0.00 | 3,000.00 | 3,000.00 | 3,000.00 |
| | | 01-Jun-2017 | 07-Jan-2015 | | 30-Nov-2023 |



Comments (achievements against targets):

Set target Achieved

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|--|-----------------|-------------|-----------------|-------------------------|-------------------------------|
| Number of local seed multiplication centers for micronutrient rich crops established and operationalized | Number | 0.00 | 30.00 | 30.00 | 36.00 |
| | | 30-Jun-2021 | 30-Jun-2021 | 30-Jun-2021 | 30-Nov-2023 |

Comments (achievements against targets):

Target Surpassed

Component: Project management, monitoring, evaluation, and knowledge generation

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|--|-----------------|-------------|-----------------|-------------------------|-------------------------------|
| Number of meetings of the project Inter-ministerial Implementation Committee | Number | 0.00 | 60.00 | 28.00 | 28.00 |
| | | 01-Jun-2017 | 07-Jan-2015 | 29-Jul-2022 | 30-Nov-2023 |

Comments (achievements against targets):



Target Achieved

| Indicator Name | Unit of Measure | Baseline | Original Target | Formally Revised Target | Actual Achieved at Completion |
|--|-----------------|-------------|-----------------|-------------------------|-------------------------------|
| Number of primary school children receiving deworming tablets through primary schools in project areas | Number | 39,906.00 | 675,000.00 | 1,809,887.00 | 1,837,513.00 |
| | | 01-Jun-2017 | 07-Jan-2015 | 30-Jun-2021 | 30-Nov-2023 |

Comments (achievements against targets):
Target Surpassed



B. KEY OUTPUTS BY COMPONENT

| | |
|---|--|
| Objective/Outcome 1: <i>To increase the production and consumption of micronutrient rich foods</i> | |
| Outcome Indicators | <ol style="list-style-type: none"> 1. Percentage of children aged 6-23 months in households with minimum dietary diversity 2. Percentage of households reporting year- round production of at least three micronutrient rich crops in project areas |
| Intermediate Results Indicators | <ol style="list-style-type: none"> 1. Number of under-2 children reached for GMP in project areas 2. Number of households consuming fruits/vegetables/ Micro Nutrient Rich (MNR) porridge at least three times a week 3. Number of cooking demonstrations carried out at community level 4. Number of women trained in nutrition-sensitive agriculture through PGs in project areas 5. Number increase in the quantity of seed/planting materials of selected micronutrient rich crops multiplied or produced by lead farmers in project areas 6. Number increase in farmers accessing multiplied or produced micronutrient rich seed/planting materials in project areas |
| Key Outputs by Component (linked to the achievement of the Objective/Outcome 1) | <p>Component-1: Around 448,135 children under-2 reached GMP session; 142,410 households consumed MNR foods thrice a week; Lead farmers produced /multiplied 107,583 KGs of MNR seeds/planting materials; and 298,102 farmers accessed to MNR seeds/planting materials.</p> <p>Component-2: Some 30,918 nutrition forum and cooking demonstration were carried out (comp-2); and 340,408 women trained in nutrition sensitive agriculture</p> |
| Objective/Outcome 2: <i>To increase the utilization of community-based nutrition services in smallholder households in project areas</i> | |
| Outcome Indicators | <ol style="list-style-type: none"> 1. Percentage of women participating in community-based nutrition activities in project areas |
| Intermediate Results Indicators | <ol style="list-style-type: none"> 1. Number of people receiving improved nutrition services in project areas (disaggregated by gender) 2. Number of girls (primary 4 and above) receiving weekly iron folic acid supplements through primary schools in project areas 3. Number of people receiving loans disbursed under Nutrition Sensitive Saving schemes (disaggregated by gender) 4. Number of primary schools offering a package of nutrition demonstration activities in project areas 5. Number of local seed multiplication centers for micronutrient rich crops established and operationalized |
| Key Outputs by Component (linked to the achievement of the Objective/Outcome 2) | <ol style="list-style-type: none"> 1. Component-1: Around 832,170 women received improved nutrition services (e.g. training on Breastfeeding, Health care demand, PNC, MNC, biofortified plant materials, community nutrition education programs); 253,133 school girls received IFA supplements; and 70% of 15,000 people who received nutrition-sensitive scheme’s loans were women; 2. Component-2: Some 1,500 primary schools provided a package of nutrition demo activities; Around 36 local MNR seed multiplication centers were established and operationalized; 340,408 women received training through 3,000 functional PGs, and enriched knowledge on nutrition aspects and food security through some 30,918 nutrition forum including cooking demo. |



C. Assessment of Achievement of Each Objective/Outcome

| Existing Indicator | Baseline (A) | Achieved (B) | End Target (C) | Achievement (%) (B-A/C-A) # |
|--|--------------|--------------|----------------|-----------------------------|
| Project Development Objective (PDO) Indicators | | | | |
| 1. Percentage of households reporting year- round production of at least three micronutrient rich crops in project areas | 41.2 | 51.54 | 51.5 | 100 Achieved |
| 2. Percentage of children aged 6-23 months in households with minimum dietary diversity | 45.9 | 51.78 | 51.63 | 102 Surpassed |
| 3. Percentage of women participating in community-based nutrition activities in project areas | 36.4 | 57.31 | 57.3 | 100 Achieved |
| Intermediate Results (IR) Indicators | | | | |
| IR.1 Number of Parent Groups (PGs) established and functional | 0 | 3,000 | 3,000 | 100 Achieved |
| IR2. Number of women trained in nutrition-sensitive agriculture through PGs in project areas | 0 | 340,408 | 303,797 | 112 Surpassed |
| IR3. Number of primary schools offering a package of nutrition demonstration activities in project areas | 0 | 1,500 | 1,500 | 100 Achieved |
| IR4. Number increase in the quantity of seed/planting materials of selected micronutrient rich crops multiplied or produced by lead farmers in project areas | 0 | 107,583 | 105,000 | 102 Surpassed |
| IR5. Number increase in farmers accessing multiplied or produced micronutrient rich seed/planting materials in project areas | 0 | 298,102 | 277,375 | 107 Surpassed |
| IR6. Number of people receiving improved nutrition services (disaggregated by gender and age) in project areas | 177,460 | 832,170 | 713,449 | 122 Surpassed |
| IR7. Number of primary school children receiving deworming tablets through primary schools in project areas) | 39,906 | 1,837,513 | 1,809,887 | 102 Surpassed |
| IR8. Number of girls (primary 4 and above) receiving weekly iron folic acid supplements through primary schools in project areas | 0 | 253,133 | 219,381 | 115 Surpassed |
| IR 9. Number of under-2 children reached for GMP in project areas | 40,500 | 448,135 | 445,126 | 101 Surpassed |
| IR 10. Number of meetings of the Project Inter-ministerial Implementation Committee | 0 | 28 | 28 | 100 Achieved |
| IR 11. Number of cooking demonstrations carried out at community level | 0 | 30,918 | 30,000 | 100 Achieved |
| IR 12. Number of WASH demonstration facilities compliant with COVID requirements established and operationalized at community and schools | 0 | 4,500 | 4,500 | 100 Achieved |
| IR 13. Number of households consuming fruits/vegetables/ Micro Nutrient Rich (MNR) porridge at least three times a week | 93,000 | 142,410 | 139,500 | 106 Surpassed |
| IR14. Number of people receiving loans disbursed under Nutrition Sensitive Saving schemes (disaggregated by gender) | 0 | 15,000 | 15,000 | 100 Achieved |
| IR.15 Number of local seed multiplication centers for micronutrient rich crops established and operationalized | 0 | 36 | 30 | 100 Achieved |

Surpassed =100%+; Achieved/Substantially = 80%+; Partially Achieved = 65%-79%; Not Achieved = < 64%

**ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION****A. TASK TEAM MEMBERS**

| Name | Role |
|---|---------------------------------|
| Preparation | |
| Ziauddin Hyder | Task Team Leader(s) |
| Mary C.K. Bitekerezo | Social Specialist |
| Herbert Oule | Social Specialist |
| Supervision/ICR | |
| Joseph Oryokot/ Pushina Kunda Ng'andwe | Task Team Leader(s) |
| Annet Tamale Katuramu, Ocheng Kenneth Kaunda Odek | Procurement Specialist(s) |
| Sufiyian Igwahabi | Financial Management Specialist |
| Paul Kato Kamuchwezi | Financial Management Specialist |
| Brian Joseph Kayondo | Procurement Team |
| Rogers Ayiko | Team Member |
| Nushrat Sharmin | Team Member |
| Christine Katende Namirembe | Social Specialist |
| Daphine Nagadya | Procurement Team |
| Diana Rita Nantaba Sekaggya Bagarukayo | Team Member |
| Shawn Michael Powers | Team Member |
| Boyenge Isasi Dieng | Social Specialist |
| Brenda Joanne Basalwa Sengendo | Environmental Specialist |
| Paulo Jorge Temba Sithoe | Environmental Specialist |
| Bodomalala Sehenoarisoa Rabarijohn | Team Member |
| Christine Kasedde | Environmental Specialist |
| Janet Christine Atiang | Procurement Team |
| Nikolai Alexei Sviedrys Wittich | Procurement Team |
| Grace Nakuya Musoke Munanura | Procurement Team |



| | |
|-------------------|------------------|
| Aira Maria Htenas | Team Member |
| Rahmoune Essalhi | Procurement Team |
| Marie Lolo Sow | Team Member |
| Eva K. Ngegba | Team Member |
| Esther Ampumuza | Team Member |

B. STAFF TIME AND COST

| Stage of Project Cycle | Staff Time and Cost | |
|------------------------|---------------------|--|
| | No. of staff weeks | US\$ (including travel and consultant costs) |
| Preparation | | |
| FY14 | 11.915 | 102,275.12 |
| FY15 | 8.410 | 144,857.09 |
| FY16 | .300 | 494.28 |
| FY20 | 0 | 69,985.70 |
| FY21 | 0 | 104,993.40 |
| Total | 20.63 | 422,605.59 |
| Supervision/ICR | | |
| FY15 | 3.700 | 33,802.87 |
| FY16 | 21.812 | 240,883.81 |
| FY17 | 22.074 | 203,431.51 |
| FY18 | 26.830 | 250,738.09 |
| FY19 | 21.840 | 334,359.35 |
| FY20 | 20.510 | 207,935.37 |
| FY21 | 19.380 | 170,103.59 |
| FY22 | 19.886 | 149,795.26 |
| FY23 | 52.221 | 300,581.83 |
| FY24 | 13.433 | 82,299.40 |
| Total | 221.69 | 1,973,931.08 |



ANNEX 3. PROJECT COST BY COMPONENT

| Components | Amount at Approval (US\$M) | Actual at Project Closing (US\$M) | Percentage of Approval (US\$M) |
|---|---------------------------------------|--|---|
| Delivery of multisectoral nutrition services at primary school and community levels | 21.8 | 21.78 | 100 |
| Strengthening capacity to deliver nutrition interventions | 6.97 | 6.97 | 100 |
| Project management, monitoring, evaluation and knowledge generation | 5.87 | 5.89 | 100 |
| Total | 34.64 | 34.64 | 100.00 |



ANNEX 4. EFFICIENCY ANALYSIS

Introduction and Background

1. **The Uganda Multisectoral Food Security and Nutrition Project (UMFSNP) along with its Additional Financing (AF), have been financed by the Global Agriculture and Food Security Program (GAFSP) totaling US\$ 34.64 million, and was implemented from 2016 to December 2023.**
2. **The Project development objective (PDO) was to increase production and consumption of micronutrient- rich foods and utilization of community-based nutrition services in smallholder households in project areas.** Key indicators at the PDO level included: (i) percentage of households reporting year-round production of at least three micronutrient rich crops in project areas; (ii) percentage of children aged 6-23 months in households with minimum dietary diversity; and (iii) percentage of women participating in community-based nutrition activities in project areas. The Project comprised three components:
 - Delivery of multisectoral nutrition services at primary school and community levels
 - Strengthening capacity to deliver nutrition interventions relevant to this project.
 - Project management, monitoring, evaluation, and knowledge generation.
3. **An Additional Financing (AF) was approved in 2021 to scale up existing activities and support an emergency response to the health and economic impact of the COVID-19 on multisectoral food security and nutrition services,** especially for women and children under-2 in Uganda, in line with the World Bank Group’s COVID-19 Crisis Response Approach (June 2020). The AF supported: (i) water, sanitation, and hygiene (WASH) activities, relevant WASH training, and promotion for increased consumption of fruits/vegetables/MNR foods to contribute to fight against the impact of COVID-19; (ii) nutrition improving activities through Nutrition Sensitive Saving schemes for farmers; and (iii) quality-assured MNR seed/planting material multiplication centres and seed banks, value addition, marketing, and distribution activities among others. The AF was very timely as it not only provided emergency financing for UMFSNP beneficiaries to resume activities that had stalled but also enabled the project to undertake additional activities crucial for achieving the Project Development Objective (PDO) and ensuring the sustainability of outcomes already achieved before the onset of the COVID-19 pandemic²⁸.
4. **The focus on under nutrition in Uganda was based on evidence-based research.** On a macro level, global evidence shows that global evidence demonstrates that countries prioritizing investments in human capital experience growth rates up to 1.25 percent higher than those underinvesting in such areas. Timely allocations towards health and nutrition can mitigate economic losses associated with these conditions, including reduced school performance, labor productivity, incomes, and increased healthcare expenditures. Micronutrient deficiencies (particularly vitamin A and iron) were also highly prevalent across all regions of the country with (a) thirty three percent of children under 5 years of age being vitamin.²⁹ One out of three children in Uganda are stunted and an estimated 82 percent of all cases of child undernutrition go untreated. Around 15 percent of all child mortality cases in Uganda are associated with

²⁸ UMFSNP Borrower Completion Report

²⁹ Ibid.



undernutrition.

5. **With an estimated 110,220 cases of child mortality associated with child undernutrition from 2004-2009, it is estimated that child mortality associated with undernutrition has reduced Uganda's workforce by 4 percent (Cost of Hunger in Uganda 2013).** Malnutrition slows economic growth and affects human capital and productivity through several routes: (i) direct loss in productivity from poor physical status; (ii) indirect loss from poor cognitive function and deficits in schooling; and (iii) losses owing to increased health care costs (World Bank, 2006). Height has been shown to be related to productivity and final height is determined in large part by nutrition from conception to age two. A one percent loss in adult height because of childhood stunting is associated with a 1.4 percent loss in productivity.
6. **In addition, stunting also has medium to long-term effects on cognitive development and school achievement.** Being stunted in early childhood (before the age of five) is associated with a delayed start at school (Daniels and Adair 2004), reduced schooling attainment and underperforming (Fink et al. 2016; Martorell et al. 2010), and substantially decreased adult wages. Undernourished children face challenges in competing favorably in school due to lower cognitive and physical capacities. Lower education levels attained by stunted children often make them less qualified for work, thus significantly reducing income-earning potential when they reach working age. Currently, average expected years of schooling per child in Uganda is 6.1 years and 50 percent of children repeat primary grade ¹³⁰.
7. **The magnitude of the economic impact of malnutrition provided a strong rationale for project interventions based on three factors:** (i) markets failing to address the problems of malnutrition for poor families who do not have access to adequate food or health care, compounded by "informational asymmetries" (lack of knowledge on best food or feeding practices for children), which still exist and affect both poor and better-off families; (ii) effective target groups: the intervention allocated resources to the most vulnerable and high risk segments of the population and furthermore, the focus on pregnant women and children 0-23 months, the critical "window of opportunity", that maximizes the long term impact of the interventions on human health and capital; and (iii) the Copenhagen Consensus concluded that nutrition interventions generate returns among the highest of 17 potential development investments. The global estimated benefit-cost ratios range from >5: 1 for breastfeeding promotion, >10:1 for integrated childcare programs, to >6:1 for iron supplementation to pregnant women.
8. **The project's objective aimed to increase the consumption of foods rich in micronutrients to address this challenge.** The project strategically focused on "1000-day window of opportunity", spanning from pregnancy through birth to 23 months, as this period represents the highest nutritional vulnerability, wherein nutritional deficiencies can significantly impact growth and development, directed at women of reproductive age, newborn and young children under the age of two years. It was envisaged that targeting women with community-based nutrition activities including cooking demonstrations nutrition education sessions e.g., on child feeding practices, participating in Growth Monitoring and Promotion (GMP) among others would accelerate achievement of the indicator. This indicator was also surpassed having reached

³⁰ UNICEF, 2023. Investing in the Future: A Cost-Benefit Analysis of Pre-Primary Education in Uganda NPA (2019). Third National Development Plan.



57.31% compared to the target of 57.30%, from a baseline value of 36.4%.

- 9. **The distribution of UMFSNP resources placed a significant emphasis on delivering multi-sectoral nutrition services, with over 62% of the funding allocated to this purpose** (table below). This allocation was logical, as it ensured that these resources were directly channeled into providing services to the project beneficiaries.
- 10. **Addressing treatment and assessment solely at health facilities frequently led to individuals relapsing and returning with recurring medical conditions, particularly during peak seasons.** Therefore, the project's design was pertinent in strengthening the integrated management of acute malnutrition. Patients received treatment at the facility and were educated on appropriate dietary practices before being sent back to their communities. The project established a support system comprising lead farmers, farmer groups, and lead mothers to facilitate their learning, multiplication, and production of essential nutrient-rich foods. Additionally, it supported the delivery of nutrition-specific interventions, such as nutrition education and the provision and administration of Iron and Folic Acid (IFA) tablets and deworming tablets. These interventions were carried out across various community platforms, including schools (the primary platform), health facilities, and Nutrition Forums (NFs) in communities.

Table 4a. Details of Original Project and Additional Financing Costs

| Components | Amount (USD million) | | | Component weight (%) |
|---|------------------------|----------------------|---------------------|----------------------|
| | Original Project Costs | Additional Financing | Total Project Costs | |
| Component 1: Delivery of multisectoral nutrition services at primary school and community levels | 17,80 | 4,00 | 21,80 | 62,9% |
| <i>Sub-component 1.1: Community sensitization and establishment/strengthening of community-based strengthening of com</i> | 1,48 | 0,70 | 2,184 | 6,3% |
| <i>Sub-component 1.2: Enhancing nutrition services delivered through primary schools, PGs and LF.s</i> | 13,00 | 1,431 | 14,431 | 41,7% |
| <i>Sub-component 1.3: Agriculture support for school-based nutrition services.</i> | 0,92 | 1,109 | 2,032 | 5,9% |
| <i>Sub-comèment 1.4: Strengthened nutrition services through VHTs and HCII level.</i> | 2,37 | 0,762 | 3,133 | 9,0% |
| Component 2: Strengthening capacity to deliver nutrition intervention | 5,20 | 1,77 | 6,97 | 20,1% |
| <i>Sub-Component 2.1. Training to equip extension agents, and school-and community-workers.</i> | 5,10 | 1,63 | 6,732 | 19,4% |
| <i>Sub-Component 2.2. Supportive supervision and monitoring of nutrition activities at district level and below.</i> | 0,10 | 0,14 | 0,236 | 0,7% |
| Component 3: Project management, monitoring, evaluation and knowledge generation | 4,64 | 1,23 | 5,87 | 16,9% |
| <i>Sub-component 3.1: Project Management and coordination</i> | 3,46 | 0,78 | 4,240 | 12,2% |
| <i>Sub-component 3.1: Project Evaluation and Knowledge creation</i> | 1,20 | 0,45 | 1,652 | 4,8% |
| Total | 27,64 | 7,00 | 34,64 | 100% |

- 11. **This project was highly relevant and crucial due to a significant challenge in the country's education system: over 66% of school children do not have access to food at school.** However, a hungry child cannot learn effectively. To tackle this issue, the project provided nutrient-dense foods at both school and community levels. According to the Borrower Report, the project was also instrumental in advancing the implementation of the national School Health Policy, which is based on the Focusing Resources on Effective School Health (FRESH) framework. Throughout the implementation period, the project supported the establishment or strengthening of school and community-based nutrition activities, some of which were implemented by the Primary Schools in collaboration with LFs and PGs.. Using primary schools as a key vehicle was instrumental in delivering nutrition services, demonstrating interventions, distributing input packages (such as planting materials), and coordinating efforts among agricultural extension workers, VHTs, and LFs/LMs. This approach also facilitated the organization of community-based multisectoral monthly nutrition forums and ensured the implementation of other project interventions at both the schools and their surrounding communities. These results are crucial for promoting integrative programming, one of the strategies currently advocated by the World Bank . During



the COVID-19 pandemic, the project's multisectoral structures, such as parent groups, VHTs, LFs, and geo-enabled M&E technology, played a crucial role in continuing implementation efforts. For instance, parent groups maintained the school demonstration gardens, and community-based activities were monitored and reported through GEMS technology.

12. **Previously, implementing the policy was challenging due to budget constraints, lack of coordination between health centers and schools, and time constraints for health and school staff.** However, the project's design facilitated a connection between the Ministry of Health (MOH) and Ministry of Education and Sports (MOES), thus aiding in the operationalization of the SHP. Currently, health workers visit schools weekly to provide health and nutrition talks and interventions to students. This highlights the project's continued relevance.
13. **The original UMFSNP Project Appraisal Document (PAD) conducted a cost benefits analysis estimating health and nutritional benefits.** It estimated an Economic Rate of Return (ERR) of 24 percent and an annual contribution to GDP of US\$85 million with a benefit cost ratio of 2.3. It is noted that the original Excel files necessary to revise this calculation were not found and provided to the ICR team. The AF PAD did not conduct a cost benefit analysis and maintained the ERR and Net Present Value (NPV) of the original analysis.
14. **This annex presents an ex-post cost benefits analysis (CBA) of UMFSNP and AF, assessing the main achievements and impact of the project.** At project closing, the overall investment reveals an EIRR of 16 percent with an estimated net present value of benefits is US\$ 45.4 million, using a 6 percent discount rate in line with the World Bank guidelines and the practice of recent projects³¹. The changes in the ERR and NPV from project appraisal are likely due to an overestimation of the number of beneficiaries and benefits during appraisal, as well as some changes in the calculations since the original ones were not provided. Specifically, for the number of stunting cases, recorded figures from the Ministry of Health were used instead of estimates. Additionally, the impact of COVID-19 may have also affected the results.

SUMMARY OF BENEFITS

15. **The project has yielded significant improvements in human capital and health associated with improved nutritional status** with interventions targeting pregnant women, child nutrition and development. These benefits include increased lifetime productivity, the prevention of mortality and morbidity, increased production and consumption of micronutrient rich foods, and increased use of community-based nutrition services.
16. **An investment of US\$34.64 million is estimated to save 115,455 Disability-Adjusted Life Years (DALYs), 37 742 lives and to avert 17,746 cases of stunting³².** A DALY is equivalent to a year of healthy life lost due to a health condition. It counts the gains from both mortality (how many more years of life lost due to premature death are prevented) and morbidity (how many years or parts of years of life lost due to disability are prevented). Cost-effectiveness analysis of selected high impact nutrition interventions in Uganda suggest that the cost/DALYs saved in Uganda is

³¹ World Bank (2016): Discounting of Costs and Benefits in Economic Analysis of World Bank Projects, The World Bank, Washington DC, 11 p.

³² The method to calculate DALYs was based on Black et al (2008) to estimate averted morbidity and mortality for scaling up different nutrition interventions. DALYs benefits were calculated by multiplying the number of DALYs loss of GDP per capita net of current health expenditures per person, estimated to be 33 percent (World Bank 2020). It was not applied as a discount factor as DALY estimates from the global burden of disease are already discounted at a rate of 3 percent.



relatively competitive. For community nutrition programs the cost/DALYs saved is US\$77, while the global estimates are ranging from US\$53 to US\$153³³. Nutrition interventions are consistently identified as one of the most cost-effective development actions (Horton and Hoddinott 2014). According to the Ministry of health data³⁴, improvements have been observed in the project areas, in stunting reduction (from 29 to 22.8 percent)³⁵, anemia prevalence (from 53 percent to 43.6 percent), and dietary diversity (45.9 percent to 51.5 percent), indicating positive impacts on nutritional status. Project households show an adoption impact on health practices of 21%, on improved feeding practices of 11%, and on WASH practices of 17%. The project multi sectoral approach significantly increased food security of the project households by 32% between 2017-2023³⁶. Additionally, the project has positively influenced school enrolment, retention, and attendance rates, attributed in part to improved access to nutritious foods from school gardens and enhanced parental involvement in education.

17. **An ex-post cost-benefit analysis reveals a high internal rate of return of 16 percent, demonstrating the project's sound investment for Uganda.** The estimated net present value of benefits is US\$45.4 million, with a benefit-cost ratio of 1.4. This implies for every US\$1 invested through this project, it has generated benefits of US\$1.4. These findings underscore the project's effectiveness in generating economic and social returns, despite the benefits materializing over several years. Notably, the project has also facilitated increased income for lead farmers and parent group members through the production and sale of crops, such as Orange Fleshed Sweet Potato (6-7% adoption impact compared to non-project districts) and other nutrient-rich vegetables such as High Iron Rich Beans (HIRB) that are particularly rich in iron, an essential element for blood production. According to the endline impact survey conducted by Makerere University, 7 years later, MNR production quantities still far exceed production in control districts with impacts of 1.3-1.4 tons per year. It also shows a greater share of the micro-nutrient rich (MNR) crop production is being sold by households. The project has sustained a significant impact on the awareness of MNR crops (28% impact), feeding practices (25%), and health practices (14%), although awareness regarding WASH practices remained relatively lower at 7%. Notably, the project's impact on awareness of MNR crops and feeding practices remained consistently high.³⁷ Awareness or information remains crucial for sustaining the adoption of healthier practices related to feeding, WASH, and MNR crops. Efforts to provide households with information should be continued to ensure that the gains in adoption are maintained over time.

18. **Additionally, the project contributed to enhancing agricultural production and productivity through strengthened institutions.** These benefits have not been estimated or included in the economic analysis to avoid double counting. Whilst there has indeed been an increase in MNR crops, which are part of the diet of the population of interest, those benefits were considered as health and nutritional benefits where health parameters of the beneficiaries have been

³³ The World Bank and WHO have suggested benchmarks for interpreting costs per DALY saved. For the World Bank, a public health intervention with a cost per DALY of less than US\$460 is very cost-effective (World Bank 1993).

³⁴ Borrower ICCR 2024.

³⁵ This seems in line with surveys conducted in 24 DHS countries with comparable population, health and nutrition levels in sub-Saharan Africa. The surveys have shown important reductions in stunting among children under age 3 over these two decades, with declines of at least 2 percentage points per year. These six countries are Senegal, Namibia, Togo, Uganda, Eritrea, and Tanzania. Senegal has had the most dramatic reduction in stunting, from 22 percent in 1993 to only 14 percent in 2005. Another three countries (Botswana, Gabon, and Gambia) do not have DHS trend data, but the World Health Organization (WHO) and UNICEF indicate they already have low or moderate levels of stunting.

³⁶ Impact Evaluation Report of the Uganda Multisectoral Food Security and Nutrition Project, December 2023.

³⁷Ibid.



monitored throughout the project. Removing the health benefits from increased production benefits is quite complicated and carries a significant risk of errors and duplication of benefits at this stage as showing causality is difficult. Furthermore, data on production, sales and consumption have not been provided.

- 19. The project contributed to poverty reduction. Hoddinott et al. 2011 report that young children who were stunted were 33 percent less likely to escape poverty as adults.** These consequences add up to overall GDP losses of 4 to 11 percent in Africa and Asia (Horton and Steckel 2013). Thus the direct nutrition interventions that can mitigate the burden of stunting are consistently identified as being among the most cost-effective development and global health actions (Horton and Hoddinott 2014).
- 20. The project contributed to addressing gender issues.** Empowerment and gender equality through enhanced nutritional knowledge and improved dietary, hygiene, and sanitation practices. Gender equality also reduces pressure on women and children to eat smaller and less nutritious food than adult men household members. In the agriculture sector, as the proposed activities focused on improving and diversifying household food production of smallholder farms which are traditionally controlled by women, through increasing access to agricultural inputs and extension services and promoting use of labor-saving technologies. The provision of demonstrating micro-nutrient-rich (MNR) crop production and food availability at school, combined with the provision of iron and folic acid (IFA) tablets has contributed to reducing sick days thus increasing school attendance and reducing the dropout rate of primary school-going girls, also highlighting the project's broader impact on education and well-being of both the students and parent groups. Additionally, the girls, both in and out of school, have gained agricultural knowledge and skills, empowering them to pursue sustainable livelihoods (Borrowers ICR).
- 21. The project's success can be attributed to strong senior leadership, intersectoral collaboration, and efficient resource utilization.** Meaningful coordination across ministries and community-level actors has been a key strength, enabling effective project design and implementation. Overall, the project has demonstrated significant achievements in improving health, nutrition, and socio-economic outcomes, underscoring its importance in advancing national development goals in Uganda.

METHODOLOGY

- 22. The methodology employed for the ICR mirrored that of the UMFSNP's design phase.** An ex-post cost-benefit analysis was undertaken relying on secondary information from Bank documentation, including two impact assessments, and stakeholder communications during the ICR mission. It is noted that the original calculations (original excel files) nor the ICR Borrower report were not provided. The ICR team conducted this analysis based on estimated economic values of health and nutrition benefits from project interventions. Apart from these benefits, the analysis also incorporated returns to education, considering the impact of stunting on educational outcomes. Students who are stunted before the age of five are more likely to underperform in school and to drop out of school. All project costs were included in the analysis and converted into economic costs using a conversion factor of 0.9. Revised assumptions were incorporated, along with some new ones, to refine the analysis and presented in a table in later paragraphs.



BENEFITS CALCULATION

23. **Health and nutrition quantifiable benefits were assessed for components 1 and 2, focusing on scaling up nutrition interventions.** The expected benefits were measured in terms of: (i) Disability-Adjusted Life Years (DALYs); (ii) cases of childhood stunting averted; and (iii) lifetime wage gains due to an additional year of schooling. The education stream was additional to the original cost-benefit analysis (CBA).

The streams of benefits were calculated based on:

- Disability-Adjusted Life Years (DALYs): One Assumed to be valued at 1.5 times the country's GDP per capita. It was assumed that only 90 percent of these income gains were realized to be conservative.
- Averted cases of stunting: Calculated based on estimates of per capita permanent income increase, with productivity losses estimated at over 66 percent of lifetime earnings (Hoddinott et al., 2011).
- Education benefits: Calculated based on lifetime wage gains due to an additional year of schooling. It was assumed that only 80 percent of beneficiaries would realize the income gains to be conservative.

24. **DALYs. The method to calculate the number of DALYs** used was the method employed by Black et al. (2008) to estimate the averted morbidity and mortality from scaling up different nutrition interventions. An advantage of DALYs is that it is a metric that is recognized and understood by external audiences such as the World Health Organization (WHO) and the National Institutes of Health (NIH). It helps to gauge the contribution of individual diseases relative to the overall burden of disease by geographic region or health area. Combined with cost data, DALYs allow for estimating and comparing the cost-effectiveness of scaling up nutrition interventions in different countries (**World Bank, 2016**)³⁸. The method uses population attributable fractions (PAF) based on the comparative risk assessment project (Ezzati et al. 2004; Ezzati et al. 2002) to estimate the burden of infectious diseases attributable to different forms of undernutrition using most recent Global Burden of Disease study (2010). The human capital approach was used to monetarily value DALYs lost: DALYS benefits were calculated multiplying the number of DALYs lost by GDP per capita net of current health expenditure per person, estimated to be 33 percent (World Bank 2020). The DALYs calculated at design stage was assumed to be realistic and applied the same to this analysis. It was not applied as a discount factor as DALY estimates from the global burden of disease are already discounted at a rate of 3 percent.

25. **Lives Saved and reduced stunting benefits.** To arrive at a dollar value for the impact on mortality and morbidity of a one-year investment in reaching full national coverage, we use estimates of number of lives saved produced by the LiST tool (March 2024) and the reduced cases of averted stunting (per project data). Consistent with the methodology used to quantify the benefits of health and nutrition interventions in Stenberg et al. (2013), a statistical life year saved is valued at 1.5 times the country's GDP per capita, which is a conservative estimate. It was assumed that only 90 percent of these income gains were realized to be conservative. However, valuing years

³⁸ World Bank, 2016. An Investment Framework for Nutrition Reaching the Global Targets for Stunting, Anemia, Breastfeeding, and Wasting file:///C:/Users/Paglietti/OneDrive%20-%20Food%20and%20Agriculture%20Organization/WB%20Uganda/108645-v2-PUBLIC-Investment-Framework-for-Nutrition.pdf.



of life saved alone does not account for the economic benefits of reduced morbidity, which includes the long-term, non-lethal impacts of malnutrition on individuals. While there are several long-term impacts of nutritional deficiencies, the benefits estimation is focused on stunting given the availability of country-specific impact estimates produced by the LiST tool.

26. **To estimate the value of a case of childhood stunting averted, the methodology used in Hoddinott et. al. (2013) was applied.** The stunted individuals are assumed to lose an average of 66 percent of lifetime earnings, based on direct estimates of the impact of stunting in early life on later life outcomes found in Hoddinott et al. (2011). This point estimate for the effects of stunting on future consumption is used as a proxy for the effect of stunting on lifetime earnings. Additionally, Hoddinott et al. (2013) account for uncertainty by assuming that only 90 percent of the total gains will be realized. The calculations were adjusted to reflect the country's labor force participation rate, which is 79 percent (World Bank, 2021).
27. **Values presented are taken from a year in which all beneficiaries have reached productive age.** The estimated benefits in this analysis are likely to be underestimated due to several reasons: (i) the economic benefits are calculated mostly from nutrition interventions for children under five and do not take account potential benefits from other source, such as improved cognitive skills for school-age children that benefits from more nutritious food and better care practices; (ii) it does not include benefit of increased life-years of children saved before they become active in the labor force: (iii) it does not include benefits from increased agricultural production and productivity to avoid double counting as explained earlier. Many benefits have not been estimated and excluded because they cannot be measured or easily translated to monetary values and to avoid double counting.

BENEFICIARIES

28. **The project was effective in selecting the target groups as women are often the household members most at risk of malnutrition.** They have specific needs, but often give up (or are deprived of) their share of food in favor of men and children. Furthermore, women nutrition not only affects their health and well-being today, but also that of future generations. The intervention allocated resources to the most vulnerable and high-risk segments of the population focusing on pregnant women and children 0-23 months, the critical "window of opportunity", that maximizes the long-term impact of the interventions on human health and capital. The direct Project beneficiaries were: (a) Pregnant and lactating women, (b) under-2 children in all participating districts delivering enhanced community-based nutrition services; and (c) all household members of Lead Farmers (LFs) and Parents Groups (PGs) participating in nutrition promoting activities with catchment areas of selected primary schools. In total, the project benefited 1,717 million primary beneficiaries, higher number than originally planned, to be mainly from smallholder farming families with an average of 8 members. These families were primarily headed by males, and most members were middle-aged. Mothers tended to have lower literacy rates compared to fathers, although the majority had attained primary level education.
29. **Secondary beneficiaries will include primary school teachers and school children; VHTs; agriculture, education, and health line ministry extension workers (at central, district, and sub-county levels); and District Nutrition Coordinating Committees.** In total, the project benefited 1,717,405 beneficiaries, a higher number than originally planned (1.14 million at original project



design, with a revised target of 1.69 million at AF design). Table 1 below provides a detailed breakdown by category.

Table 1: Project beneficiaries.

| Year | Project Year | Districts | Pregnant women | Children under 2 | Participating primary households | Schools no. | lead mothers | Head teachers | VHTS | No Girls in Primary 4+ receiving IFA | Primary school children dewormed | Total Beneficiaries |
|-------|--------------|-----------|----------------|------------------|----------------------------------|-------------|--------------|---------------|-------|--------------------------------------|----------------------------------|---------------------|
| 2016 | 1 | 10 | | | 282,000 | 1,000 | 2,000 | 1,000 | 1,000 | | | |
| 2017 | 2 | 15 | 177,460 | 40,500 | 124,644 | 442 | 884 | 442 | 442 | 0 | 39,906 | 638,159 |
| 2018 | 3 | 15 | 248,626 | 67,312 | | | | | | 30,469 | 803,628 | 315,938 |
| 2019 | 4 | 15 | 148,071 | 162,474 | 16,356 | 58 | 116 | 58 | 58 | 121,995 | 256,716 | 327,446 |
| 2020 | 5 | 15 | 43,083 | 47,133 | | | | | | 22,932 | 548,730 | 90,029 |
| 2021 | 6 | 15 | 36,496 | 20,011 | | | | | | 12,645 | 69,400 | 56,694 |
| 2022 | 7 | 15 | 38,986 | 51,635 | | | | | | 0 | 51,143 | 83,807 |
| 2023 | 8 | 15 | 139,448 | 59,070 | | | | | | 65,092 | 67,990 | 205,332 |
| Total | | | 832,170 | 448,135 | 423,000 | 1,500 | 3,000 | 1,500 | 1,500 | 253,133 | 1,837,513 | 1,717,405 |

30. **Saved lives Disability-Adjusted Life Years (DALYs) benefits:** An investment of US\$37.64 million is estimated to save 115,455 Disability-Adjusted Life Years (DALYs). A DALY is equivalent to a year of healthy life lost due to a health condition. It counts the gains from both mortality (how many more years of life lost due to premature death are prevented) and morbidity (how many years or parts of years of life lost due to disability are prevented). The 115,455 Disability-Adjusted Life Years calculated at design stage was assumed to be realistic and applied the same to this analysis.
31. **Cost-effectiveness analysis of selected high impact nutrition interventions in Uganda** suggest that the cost/DALYs saved in Uganda is relatively competitive. For community nutrition programs the cost/DALYs saved is US\$77, while the global estimate is ranging from US\$53 to US\$153.
32. **Lives Saved and reduced stunting benefits:** Malnutrition’s economic costs for Uganda are substantial: at the macroeconomic level, the total economic loss is estimated at 1.8 trillion UGX which is equivalent to 5.5 percent of the GDP in 2009. Health cost of undernutrition is estimated at 525 billion UGX with 87 percent of the cost borne by families and the remaining 13 percent by the health system. An estimated 44 percent of the health costs associated with undernutrition occur before the child turns 1 year-old. At the individual level, the productivity losses are estimated at more than 66 percent of lifetime earnings, based on direct estimates of the impact of stunting in early life on later life outcomes (Hoddinott et al 2011).
33. **With the implementation of the project, there has been improvement in the status of stunting in the project areas.** Stunting was reduced from 29 percent to 22.8 percent, anemia reduced from 53 percent to 43.6 percent and Minimum Dietary Diversity Minimum dietary diversity improved from 45.9 percent to 51.5 percent. The projected number of cases of childhood stunting averted are calculated using the project data of cases of childhood stunting averted (6 percent reduction). This seems in line with surveys conducted in 24 countries with comparable population, health and nutrition levels in sub-Saharan Africa. The surveys have shown important reductions in stunting among children under age 3 over these two decades, with declines of at least 2 percentage points per year. These six countries are Senegal, Namibia, Togo, Uganda, Eritrea, and Tanzania. Senegal has had the most dramatic reduction in stunting, from 22 percent in 1993 to only 14 percent in



2005³⁹.

34. **For both lives saved and cases of stunting averted, the benefits of a one-year investment in scaling up each intervention are grouped according to the age cohort to which they are attributable (under 2).** It is assumed that these children enter the labor force at age 15 and exit the labor force at age 59, which is equivalent to Uganda's life expectancy at birth.
35. **Benefits from both stunting and lives saved are then multiplied by a lifetime discount factor (LDF) derived at 5 percent), an adjustment for age at the time of investment, as well as the years of lifetime productivity expected.** The LDF represents the years of productivity that are "counted" in the calculation, discounted back to their present value in the year in which the investment in nutrition is made. For benefits attributable to interventions that target children under two years of age, we use an LDF that assumes that all children will enter the labor force in 13 years, while for interventions that target children under five years of age, we use an LDF that assumes that all children will enter the labor force in 10 years.

Education benefits

36. **Cost of grade repetitions associated with stunting is 19.6 billion UGX or 1.8 percent of the total national investment in education (Cost of Hunger in Uganda 2013).** On impact on education, 7.3 percent of all grade repetition cases in 2009 are estimated to be associated with the higher risk of stunting.
37. **Estimated benefits from better education in relation to an increase in the beneficiary's educational attainment will, in turn, enhance their productivity and earnings over their lifetime.** A child entering pre-primary in 2024 would earn an additional income of roughly 5.5 million UGX (1465 USD) over a lifetime (Peet et al., 2015).⁴⁰
38. **The ex-post analysis has also calculated the monetary value of one additional year of schooling.** Consistent with the methodology used to quantify the schooling benefits through nutrition interventions in Woessmann et al. (2017) and Bashir et al. (2018), an estimated increase in lifetime earnings of 11.9 percent for every year of education was computed for the beneficiaries.
39. **Project's interventions are not projected to have an impact on students until they will be 15 years old, the minimum age for employment in Uganda.** It was assumed that our beneficiaries of primary school are 2 years old in 2016 (beginning of the project). It was applied a discount factor of 6 percent. This estimation is based on (Woessmann et al. 2017) and the GDP per capita of US\$ 964 in Uganda in 2021 (World Bank). The NPV of lifetime total wage gains for additional year of education in Uganda is US\$ 4,933.

³⁹ Reducing Child Malnutrition in Sub-Saharan Africa: Surveys Find Mixed Progress, 2008. Population Reference Bureau. The Demographic and Health Surveys (DHS), conducted worldwide by Macro International with support from the U.S. Agency for International Development (USAID), provide such standardized anthropometric indicators for 24 sub-Saharan countries for at least two points between 1986 and 2006. [https://www.prb.org/resources/reducing-child-malnutrition-in-sub-saharan-africa-surveys-find-mixed-progress/#:~:text=One%2Dquarter%20\(six\)%20of,2%20percentage%20points%20per%20year.](https://www.prb.org/resources/reducing-child-malnutrition-in-sub-saharan-africa-surveys-find-mixed-progress/#:~:text=One%2Dquarter%20(six)%20of,2%20percentage%20points%20per%20year.)

⁴⁰ Cited in G. Pscharopoulos and H. A. Patrinos (2018). 'Returns to Investment in Education: A Decennial Review of the Global Literature', Education Economics, Vol. 26, No.5, pp. 1-1.



40. **The implementation of the UMFSNP led to schools reviving the provision of lunch to pupils, which was reported to have contributed to improvements in class attendance,** particularly during afternoon lessons⁴¹. When households began producing enough for consumption, they adopted the practice of selling the excess produce, providing them with additional income. This income allowed some households to pay school fees, enabling some children to return to school. This ability to pay school fees was highlighted in several interviews, reflecting the UMFSNP's effectiveness in addressing a significant need and consequently improving school attendance.
41. **A systematic analysis of learners' performance comparing pre- and post-intervention data or intervention versus control schools has yet to be done.** However, preliminary data indicates improved learner performance as a result of the UMFSNP intervention. For instance, one intervention school reported that pupil involvement led to better examination results. To investigate further, a head teacher conducted an analysis comparing the performance of students who benefited from the UMFSNP intervention with those from previous years who had not. The results showed better performance among the group exposed to the UMFSNP. Similarly, district education officials analyzed primary leaving examination performance district-wide before and after the UMFSNP implementation, revealing improved performance during the intervention years⁴².
42. **Lastly, the project's impact prompted policy recommendations from the Ministry of Education and Sports to establish guidelines for school demonstration gardens.** Additionally, the Ministry of Finance, Planning, and Economic Development directed schools to provide support for these gardens. Moving forward, the presence of school demonstration gardens will be an indicator used to assess the performance of schools and headteachers⁴³.
43. **The annual increase in GDP attributable to each package of interventions is calculated based on the same estimates of future benefits.** Although these benefits occur several years after the investment, it is assumed that these benefits serve as an approximation of the present value of economic productivity lost each year because of mortality and morbidity that would otherwise be prevented by scaling up nutrition interventions. Values presented are taken from a year in which all beneficiaries have reached productive age.

⁴¹ Endline Impact Assessment May 2024.

⁴² Ibid.

⁴³ Ibid.



44. The following values and sources were used in the above benefit calculations for this project:

Table 2. Statistics & Key Assumptions

| Item | Original | | REVISED | |
|---|----------|----------------------|-------------|------------------------|
| GDP per capita | \$480 | World Bank 2012 | \$964 | World Bank 2022 |
| Life expectancy at birth | 59 years | World Bank 2012 | 62.85 years | World Bank 2021 |
| Health Expenditure per capita | | | 0.33 | World Bank 2020 |
| Labor force participation rate | 78% | World Bank 2012 | 79% | World Bank 2021 |
| Coefficient of stunting | 0.66 | Hoddinott 2011 | 0.66 | Hoddinott 2011 |
| Actual gains realized | 0.9 | Hoddinott 2013 | 0.9 | Hoddinott 2013 |
| Lifetime discount factor by discount rate (5%) | 0.0931 | Estimated | 0.05 | Bhutta et al.'s (2013) |
| Lifetime discount factor by discount rate (Under 5 Cohort) | 0.1699 | Estimated | 0.05 | Bhutta et al.'s (2013) |
| Discount factor | 0.06 | Estimated | 0.06 | Estimated |
| Life expectancy (years) | 64 | World Bank 2012 | 64 | World Bank 2021 |
| Expected number of working years (lifetime) | 44 | Assumption | 44 | Assumption |
| Number of lives saved | | LIST | 37742 | LIST |
| Number of lives years saved DALYS | 115463 | Disease study (2010) | 115463 | |
| Rate of return of an additional year of education in Uganda | 0.11 | | 0.11 | |

Production Benefits.

45. **According to the borrower’s report, and the impact assessments reports, the project has significantly contributed to diversifying livelihoods in the project area and beyond.** Unfortunately, data on production and income increases have not been provided. There has indeed been an increase in cultivated crops, which are part of the diet of the population of interest, whose health parameters have been monitored. To calculate benefits from improved production and sales, there is need to develop financial models that reconstruct the production and consumption processes of the producers, then separate the increased production and sales benefits from those related to health and nutrition. Removing the health benefits is quite complicated and carries a significant risk of errors as finding causality is difficult.
46. **It was not possible both for time constraints and lack of data to separate the impact on the income and the impact on the improvement of production from that of health, without a significant risk of double counting of benefits.** Therefore, it was preferable to make an implicit assumption that makes more sense (improved production and consumption of MNR products leads to improved health and nutrition status, improved human capital) and is more accurate, rather than attempting to split benefits into different categories) health, nutrition, production, income) where calculation errors are likely to occur.
47. **This mission carried out nevertheless a qualitative analysis of the project impacts based on personal communications with relevant stakeholders, coupled with Bank documentation.**



48. **The increased production of micro-nutrient rich planting materials, such as seeds sourced from NARO, has transformed these seeds and seedlings into sources of income.** As a result, the economic status of numerous lead farmers and parent group members has been elevated through vine multiplication and commercial cultivation of MNR crops and vegetables. Additionally, the project has enhanced the capacity of producer groups (PGs) to manufacture energy-saving stoves, which are now being sold for income generation. Through capacity building initiatives, PGs have been able to add value to MNR crops, resulting in a diverse range of products available for sale.
49. **According to Borrower ICR⁴⁴, there has been a notable shift in attitudes toward school agriculture.** Previously seen as a form of punishment for late or misbehaving children, demonstration gardens are now valued components of the curriculum by teachers, students, and parents. Furthermore, several districts have developed nutrition anthems, which were broadcasted on local radio stations and sung at schools. This initiative has contributed to a positive change in attitudes and behaviors towards nutrition, with more people now recognizing its importance.
50. **Furthermore, the establishment of 38 community seed banks, 36 seed multiplication centers, and value addition centers has created employment opportunities for community members.** Under this intervention, the project supported 1,500 primary schools in establishing multiplication gardens for growing micro-nutrient-rich crops, extending beyond the initial school demonstration gardens. The multiplication centers will continue to avail quality seed and planting materials to the farmers within their communities. They will also ensure sustainable seed production. Through enterprise selection and management training, members are empowered to generate income and improve their economic status. This not only benefits individual group members but also contributes to the economic growth of the community.

WASH Benefits

51. **The additional financing aimed to scale up WASH interventions in both communities and schools to intensify 'new normal' sanitation practices, particularly as schools gradually reopened after the lockdowns.** A total of 4,500 WASH items were procured and distributed to 1,500 primary schools across the 15 project districts. These items included safe water tanks, dustbins, and handwashing facilities, ensuring that schools were equipped to promote hygiene and sanitation practices effectively. The WASH practices that were significantly adopted included constructing new toilets, building bath shelters, and utilizing dry racks for drying utensils. The provision of information on WASH practices led to a substantial increase in the adoption of improved WASH practices, with project households showing a notable impact, resulting in a 17% increase.

⁴⁴ According to the Ministry of Education and Sports focal point for this project.



52. Investing in WASH interventions yields multiple benefits for health, education, economy, and the environment, leading to improved quality of life for individuals and communities. Some evidence links poor water and sanitation to a greater incidence of diarrheal diseases, which is a risk factor for stunting (Bhutta et al. 2013). . Access to clean water and proper sanitation facilities reduces the risk of waterborne diseases, such as diarrhea, cholera, and typhoid fever, leading to better health for individuals and communities. The promotion of behaviors such as handwashing with soap helps prevent the spread of infectious diseases and contributes to overall hygiene and cleanliness. Improved WASH infrastructure can lead to increased productivity and economic growth by reducing healthcare costs associated with waterborne diseases and improving overall well-being. Schools with adequate WASH facilities are more likely to attract and retain students, particularly girls, who may otherwise miss school due to the lack of access to water and sanitation facilities during menstruation. This was observed and corroborated by field visits and discussions with the beneficiaries.

Multisectoral Approach

53. Multisectoral policies that take holistic approaches that are well-implemented are more likely to reduce chronic malnutrition. The policies would target food security, nutrition, education, gender, disease burden, and population. Using primary schools as a key vehicle was instrumental in delivering nutrition services, demonstrating interventions, distributing input packages, and coordinating efforts among agricultural extension workers, VHTs, and LFs/LMs. Meaningful coordination across ministries⁴⁵ and community-level actors has been a key strength, enabling effective project design and implementation. Particularly, during the COVID-19 pandemic, the project's multisectoral structures, such as PGs, VHTs, LFs, and geo-enabled M&E technology, played a crucial role in continuing implementation efforts.

54. According to the Endline impact assessment, the project's multi-sectoral approach has enhanced food security of households by 32 percent from 2017 to 2023. This approach has the potential to decrease vulnerability to food insecurity in Uganda over the long term. The substantial gains in food security, as evidenced by the food consumption score, underscore the effectiveness of the multi-sectoral approach. These outcomes suggest that the multi-sectoral approach can yield lasting benefits in terms of food security.

55. Interventions carried out by village health teams and agricultural input support have demonstrated broad impacts across various nutritional, food security, and income outcomes. Health interventions, such as deworming, have exhibited significant and widespread effects in increasing children's consumption of various micronutrient-rich foods. This highlights a robust multisectoral linkage between health and nutrition.

Economic Analysis

56. The analysis uses a cash flow model over a 20-years period that includes all investment and operational costs of the project, as well as the incremental net revenues derived from the nutrition and health models. Total project costs have been estimated at US\$ 32.7 million over

⁴⁵ Health, agriculture, education, and local government) ministries.



seven years of implementation. It was also assumed yearly recurrent costs after last year of project implementation, a 5 percent of total costs, to ensure project’s sustainability.

57. **For the economic analysis purposes, all the project costs have been considered as they are all related to project implementation and contributed to the success of the activities.** An economic conversion factor of 0.9 has been used for benefits generated by the Project.

58. **Given the above assumptions, the revised EIRR for the base case scenario is 16 percent and NPV is US\$ 45.4 million.** The discount rate used for the economic analysis, that is 6 percent, is in line with the World Bank guidelines and the practice of recent projects.⁴⁶ The opportunity cost of capital is 11 percent⁴⁷. These results indicate that, based on an opportunity cost of capital the project shows a satisfactory EIRR and NPV and is justified on economic grounds.

59. **A number of scenarios have been tested to establish the economic viability of the project in the event of adverse factors.** The sensitivity analysis confirms that EIRR and NPV are robust. Increases of investment costs by 10 and 20 percent led the EIRR to 14.9 percent and 14 percent with positive NPV.

Sensitivity Analysis and Conclusions

60. **A sensitivity analysis was carried out to determine the robustness of the NPV and EIRR.** The analysis indicates that the Project’s economic viability is quite robust. The project remains viable with increases in capital and recurrent costs or in delay of benefits due to implementation issues such as the effectiveness delay at the onset of the project and the COVID-19 pandemic outbreak.

61. **This ICR assessment confirms the economic justification of investments aiming to promote nutrition interventions in Uganda.** The benefits from improved human capital, health, nutrition, and education result in significant returns and are clearly justified in economic terms; the incremental benefits both from the point of view of beneficiary’s nutritional status and of the country’s economy are positive and robust against major risks.

Table 3: Economic Internal Rate of Return sensitivity

| Base case scenario | Project Benefits | | | | | | Project Costs | | Delay in benefits | |
|--------------------|------------------|--------|--------|--------|--------|--------|---------------|--------|-------------------|--------|
| | -30 % | -20 % | -10 % | +10 % | +20 % | +30 % | +10 % | +20 % | 1 yr. | 2 yrs. |
| 16.0 % | 12.2 % | 13.6 % | 13.7 % | 17.0 % | 17.9 % | 24.3 % | 14.9 % | 14.0 % | 13.8 % | 11.8 % |

⁴⁶ World Bank (2016): Discounting of Costs and Benefits in Economic Analysis of World Bank Projects, The World Bank, Washington, 11 p.

⁴⁷ Opportunity cost of capital 11 percent.IMF <https://www.elibrary.imf.org/view/journals/002/2022/350/article-A001-en.xml>



Design and Implementation Efficiency

- 62. **The project was in line with the National Development Plan (NDP), Uganda Nutrition Action Plan (UNAP-I) (2011-2016), the 2003 Uganda Food and Nutrition Policy (UFNP) and the 2005 Uganda Food and Nutrition Strategy (UFNS) being focused on agriculture, health, and education.** At completion, the project has demonstrated the significant impact of nutrition on the national agenda, making significant contributions to both (a) Vision 2040 and (b) NDP – III.
- 63. **The PDO was realistic and relevant.** UMFSNP has successfully achieved its development outcomes, achieving all the PDO indicators. All the sixteen indicators of the Intermediate Results (IR) were achieved, with half of them being surpassed.
- 64. **The distribution of UMFSNP resources placed a significant emphasis on delivering multi-sectoral nutrition services, with over 64% of the funding allocated to this purpose.** This allocation was logical, as it ensured that these resources were directly channeled into providing services to the project beneficiaries.
- 65. **The project experienced serious delays in implementation issues due to delays in effectiveness and the outbreak of the COVID-19 pandemic.** In response to the pandemic, the Government of Uganda implemented two stringent lockdowns aimed at containing the outbreak. However, these measures also had significant impacts on the socio-economic wellbeing of the population and the implementation of project activities in the country restricting in-country and out-country travel, closure of schools, prohibition of social gatherings, and limitations of events such as weddings and funerals. Additionally, major business and trade centers in the capital city, Kampala, were closed. It is noted that the government responded promptly and decisively within the framework of UMFSNP by swiftly seeking additional financing from the World Bank to address the challenges and impacts of COVID-19 on UMFSNP interventions and the achievement of the PDO at that time. The project’s multisectoral structures, such as PGs, VHTs, LFs, and geo-enabled M&E technology, played a crucial role in continuing implementation efforts during the pandemic.

Table 4: PDO indicators achievements

| Indicator (%) | Baseline (2017) | Current Performance (Dec 2023) | End Target Dec 2023 | Increase |
|--|-----------------|--------------------------------|---------------------|----------|
| HHS reporting year-round production of at least three micronutrient rich foods | 41.2 | 51.54 | 51.5 | 10.3 |
| Children aged 6-23 months in households with minimum dietary diversity | 45.9 | 51.78 | 51.63 | 5.73 |
| Women participating in community-based nutrition activities in project areas | 36.4 | 57.31 | 57.3 | 20.9 |

Source : Project M&E documents, 2024



Table 5: Change in Nutrition Status from baseline-Percentage

| Indicator | Project Baseline (2016) | Impact (2022) |
|---------------------------|------------------------------------|--------------------------|
| Stunting | 29 | 22.8 |
| Anemia | 53 | 43.6 |
| Minimum Dietary Diversity | 30 | 51.5 |

Source : Project M&E documents, 2024.



ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

Comments from the Borrower

1. **On the section of Key ratings;** we note that M&E quality is rated as substantial. Since 2019, the project M&E has been rated Satisfactory including in the last Implementation support mission of November 2023. This rating contradicts the one reported in all the implementation support missions since 2019. It also contradicts the rating on the overall quality of M&E which is specified as **High** on the Section of Quality of Monitoring and Evaluation on page 17 and page 19 paragraph 78 in the draft ICR. This is also highlighted in the table indicating Ratings of Project Performance in ISRs. We suggest that this rating is maintained as **Satisfactory** as reported in the different implementation support mission Aide Memoires.
2. On page 8, at the end of paragraph 30, there is an 'F' which seems to be redundant.
3. In paragraph 38, page 10, the investment is specified as US\$37.64 million. However, the amount received by the project is US\$ 34.64 million. This also applies to paragraph 16, page 40, paragraph 30, page 45. The figure of US\$37.64 may need to be recalculated if it involves World Bank Costs as well.
4. In paragraph 38, page 10, figures reported on stunting and anemia prevalence are figures as of 2022. However, these figures were updated in the Impact Evaluation study. At the end of the project in 2023, stunting of under 2 children was reduced to 18.0% and maternal anemia reduced from 35.8% at baseline to 24.0% at endline. This also applies to paragraph 33, page 45
5. In paragraph 87, page 21, the risk on QDS multiplication will be managed by continuous supervision by the extension workers at the Subcounty level. In addition, the Department of Crop Inspection and Certification at MAAIF will continue to offer certification services to the seed multipliers.
6. Paragraph 42, page 47, the recommendation by MoFPED to support school gardens was contained in the budget speech of 2019.
7. Table 5, page 53 should include the 2023 figures from the impact evaluation.

Factors leading to the success

No: Pg 16, No 66: The statement "In addition, MAAIF PCU demonstrated strong leadership in implementation coordination, ensuring that micromanagement and resistance from participating sectors were precluded."

Comment/input: The focal persons took lead in routine implementation of the projects in their line ministries and put in all their efforts and commitment with a strong desire for the success of this project beyond individual benefits. Never at any time was any misunderstanding / serious disagreement between focal points or with PCU. All focal officers developed a very strong attachment and would defend the project at all fora.



The focal persons of MAAIF, MOES, MoH were involved in the original design of the project, hiring of a competent PCU prioritizing success. The design of the project implementation pathway such as using UPE Schools as a central focus, insisting of funds transfer to the last mile including follow up modifications such as involving the Sub County, hiring community facilitators was no doubt key in its success. In fact, many follow up programs in government and non-state actors are applying most of these innovations. The PDM is in a way using a similar approach in its funds transfer up to the last mile. In the words of the 1st project Coordinator Dr. Mwambu Paul, “ I quote, the design of the UMFSNP was so good that a project coordinator would have to struggle a lot to make the project fail”.

Another Key success factors was the already well established multisectoral nutrition framework / spirit in the country coordinated under the office of the Prime Minister. This multisectoral working mode would not be successful if the parties involved had not clearly come to terms on how to work together with a clear winning spirit.

Challenges / issues for further action

While the target households in the project performed very well, in some districts there was need for a wider coverage to significantly change the overall nutrition outlook of the region.

Comments from GAFSP

N/A



ANNEX 6. PROJECT INDICATOR REVISIONS (PDO AND IR INDICATORS)

| Original Indicators | September 28, 2018 | June 30, 2021 | August 1, 2022 |
|---|---|---|---|
| PDO INDICATORS | | | |
| Net changes in percentage of households reporting year-round production of at least three micronutrient rich crops in project areas <i>Baseline:</i> <i>Target: 20% increase from baseline</i> | Percentage of households reporting year- round production of at least three micronutrient rich crops in project areas <i>Baseline:</i> <i>Target: 20% increase from baseline</i> | Percentage of households reporting year- round production of at least three micronutrient rich crops in project areas <i>Baseline: 41.2</i> <i>Target: 49.44</i> | Percentage of households reporting year- round production of at least three micronutrient rich crops in project areas <i>Baseline: 41.2</i> <i>Target: 51.50</i> |
| Net change in percentage of children aged 6-23 months in households with minimum dietary diversity <i>Baseline:</i> <i>Target: 10% increase from baseline</i> | Percentage of children aged 6-23 months in households with minimum dietary diversity <i>Baseline:</i> <i>Target: 10% increase from baseline</i> | Percentage of children aged 6-23 months in households with minimum dietary diversity <i>Baseline: 45.90</i> <i>Target: 50.49</i> | Percentage of children aged 6-23 months in households with minimum dietary diversity <i>Baseline: 45.90</i> <i>Target: 51.63</i> |
| Net change in percentage of women participating in community-based nutrition activities in project areas <i>Baseline:</i> <i>Target: 50% increase from baseline</i> | Percentage of women participating in community-based nutrition activities in project areas <i>Baseline:</i> <i>Target: 50% increase from baseline</i> | Percentage of women participating in community-based nutrition activities in project areas <i>Baseline: 36.40</i> <i>Target: 55</i> | Percentage of women participating in community-based nutrition activities in project areas <i>Baseline: 36.40</i> <i>Target: 57.30</i> |
| INTERMEDIATE INDICATORS | | | |
| IR.1 Number of Parent Groups (PGs) established <i>Baseline:</i> <i>Target: 3,000</i> | IR.1 Number of Parent Groups (PGs) established and functional <i>Baseline:</i> <i>Target: 3,000</i> | IR.1 Number of Parent Groups (PGs) established and functional <i>Baseline:</i> <i>Target: 3,000</i> | IR.1 Number of Parent Groups (PGs) established and functional <i>Baseline:</i> <i>Target: 3,000</i> |
| IR.2. Number of women trained in nutrition-sensitive agriculture through PGs in project areas <i>Baseline: 0</i> <i>Target: 27,000</i> | IR.2. Number of women trained in nutrition-sensitive agriculture through PGs in project areas <i>Baseline: 0</i> <i>Target: 32,400</i> | IR.2. Number of women trained in nutrition-sensitive agriculture through PGs in project areas <i>Baseline: 0</i> <i>Target: 230,468</i> | IR.2. Number of women trained in nutrition-sensitive agriculture through PGs in project areas <i>Baseline: 0</i> <i>Target: 303,797</i> |
| IR3. Number of primary schools offering a package of nutrition demonstration activities in project areas <i>Baseline: 0</i> <i>Target: 1,500</i> | IR3. Number of primary schools offering a package of nutrition demonstration activities in project areas <i>Baseline: 0</i> <i>Target: 1,500</i> | IR3. Number of primary schools offering a package of nutrition demonstration activities in project areas <i>Baseline: 0</i> <i>Target: 1,500</i> | IR3. Number of primary schools offering a package of nutrition demonstration activities in project areas <i>Baseline: 0</i> <i>Target: 1,500</i> |
| IR4. Percentage increase in the quantity of seed/planting materials of selected micronutrient rich crops multiplied or produced by lead farmers in project areas <i>Baseline:</i> <i>Target: Increase by 15% from baseline</i> | IR4. Number increase in the quantity of seed/planting materials of selected micronutrient rich crops multiplied or produced by lead farmers in project areas <i>Baseline:</i> <i>Target: 105,000</i> | IR4. Number increase in the quantity of seed/planting materials of selected micronutrient rich crops multiplied or produced by lead farmers in project areas <i>Baseline: 0</i> <i>Target: 105,000</i> | IR4. Number increase in the quantity of seed/planting materials of selected micronutrient rich crops multiplied or produced by lead farmers in project areas <i>Baseline: 0</i> <i>Target: 105,000</i> |
| IR5. Percentage increase in farmers accessing multiplied or | IR5. Number increase in farmers accessing | IR5. Number increase in farmers accessing | IR5. Number increase in farmers accessing multiplied or |



| | | | |
|---|---|--|--|
| produced micronutrient rich seed/planting materials in project areas <i>Baseline:</i> <i>Target: Increase by 10% from baseline</i> | multiplied or produced micronutrient rich seed/planting materials in project areas <i>Baseline:</i> <i>Target: 93</i> | multiplied or produced micronutrient rich seed/planting materials in project areas <i>Baseline:</i> <i>Target: 189,000</i> | produced micronutrient rich seed/planting materials in project areas <i>Baseline: 0</i> <i>Target: 293,375</i> |
| IR6. Number of people receiving improved nutrition services (disaggregated by gender and age) in project areas <i>Baseline: 0</i> <i>Target: 600,000</i> | IR6. Number of people receiving improved nutrition services (disaggregated by gender and age) in project areas <i>Baseline: 0</i> <i>Target: 600,000</i> | IR6. Number of people receiving improved nutrition services (disaggregated by gender and age) in project areas <i>Baseline: 177,460</i> <i>Target: 701,748</i> | IR6. Number of people receiving improved nutrition services (disaggregated by gender and age) in project areas <i>Baseline: 177,460</i> <i>Target: 713,449</i> |
| IR7. Number of primary school children receiving deworming tablets through primary schools in project areas <i>Baseline: 0</i> <i>Target: 675,000</i> | IR7. Number of primary school children receiving deworming tablets through primary schools in project areas <i>Baseline: 0</i> <i>Target: 945,070</i> | IR7. Number of primary school children receiving deworming tablets through primary schools in project areas <i>Baseline: 39,906</i> <i>Target: 1,809,887</i> | IR7. Number of primary school children receiving deworming tablets through primary schools in project areas <i>Baseline: 39,906</i> <i>Target: 1,809,887</i> |
| IR 8. Number of girls (primary 4 and above) receiving weekly iron folic acid supplements through primary schools in project areas <i>Baseline: 0</i> <i>Target: 93,750</i> | IR 8. Number of girls (primary 4 and above) receiving weekly iron folic acid supplements through primary schools in project areas <i>Baseline: 0</i> <i>Target: 93,750</i> | IR 8. Number of girls (primary 4 and above) receiving weekly iron folic acid supplements through primary schools in project areas <i>Baseline: 0</i> <i>Target: 216,396</i> | IR 8. Number of girls (primary 4 and above) receiving weekly iron folic acid supplements through primary schools in project areas <i>Baseline: 0</i> <i>Target: 219,381</i> |
| IR 9. Number of under-2 children reached for GMP in project areas <i>Baseline: 0</i> <i>Target: 187,500</i> | IR 9. Number of under-2 children reached for GMP in project areas <i>Baseline: 0</i> <i>Target: 187,500</i> | IR 9. Number of under-2 children reached for GMP in project areas <i>Baseline: 40,500</i> <i>Target: 344,905</i> | IR 9. Number of under-2 children reached for GMP in project areas <i>Baseline: 40,500</i> <i>Target: 44,126</i> |
| IR 10. Number of meetings of the Project Inter-ministerial Implementation Committee <i>Baseline: 0</i> <i>Target: 60</i> | IR 10. Number of meetings of the Project Inter-ministerial Implementation Committee <i>Baseline: 0</i> <i>Target: 21</i> | IR 10. Number of meetings of the Project Inter-ministerial Implementation Committee <i>Baseline: 0</i> <i>Target: 26</i> | IR 10. Number of meetings of the Project Inter-ministerial Implementation Committee <i>Baseline: 0</i> <i>Target: 28</i> |
| | IR 11. Number of cooking demonstrations carried out at community level <i>Baseline: 0</i> <i>Target: 30,000</i> | IR 11. Number of cooking demonstrations carried out at community level <i>Baseline: 0</i> <i>Target: 30,000</i> | IR 11. Number of cooking demonstrations carried out at community level <i>Baseline: 0</i> <i>Target: 30,000</i> |
| | | IR 12. Number of WASH demonstration facilities compliant with COVID requirements established and operationalized at community and schools <i>Baseline: 0</i> <i>Target: 4,500</i> | IR 12. Number of WASH demonstration facilities compliant with COVID requirements established and operationalized at community and schools <i>Baseline: 0</i> <i>Target: 4,500</i> |
| | | IR 13. Number of households consuming fruits/vegetables/ Micro Nutrient Rich (MNR) porridge at least three times a week | IR 13. Number of households consuming fruits/vegetables/ Micro Nutrient Rich (MNR) porridge at least three times a week <i>Baseline: 93,000</i> |

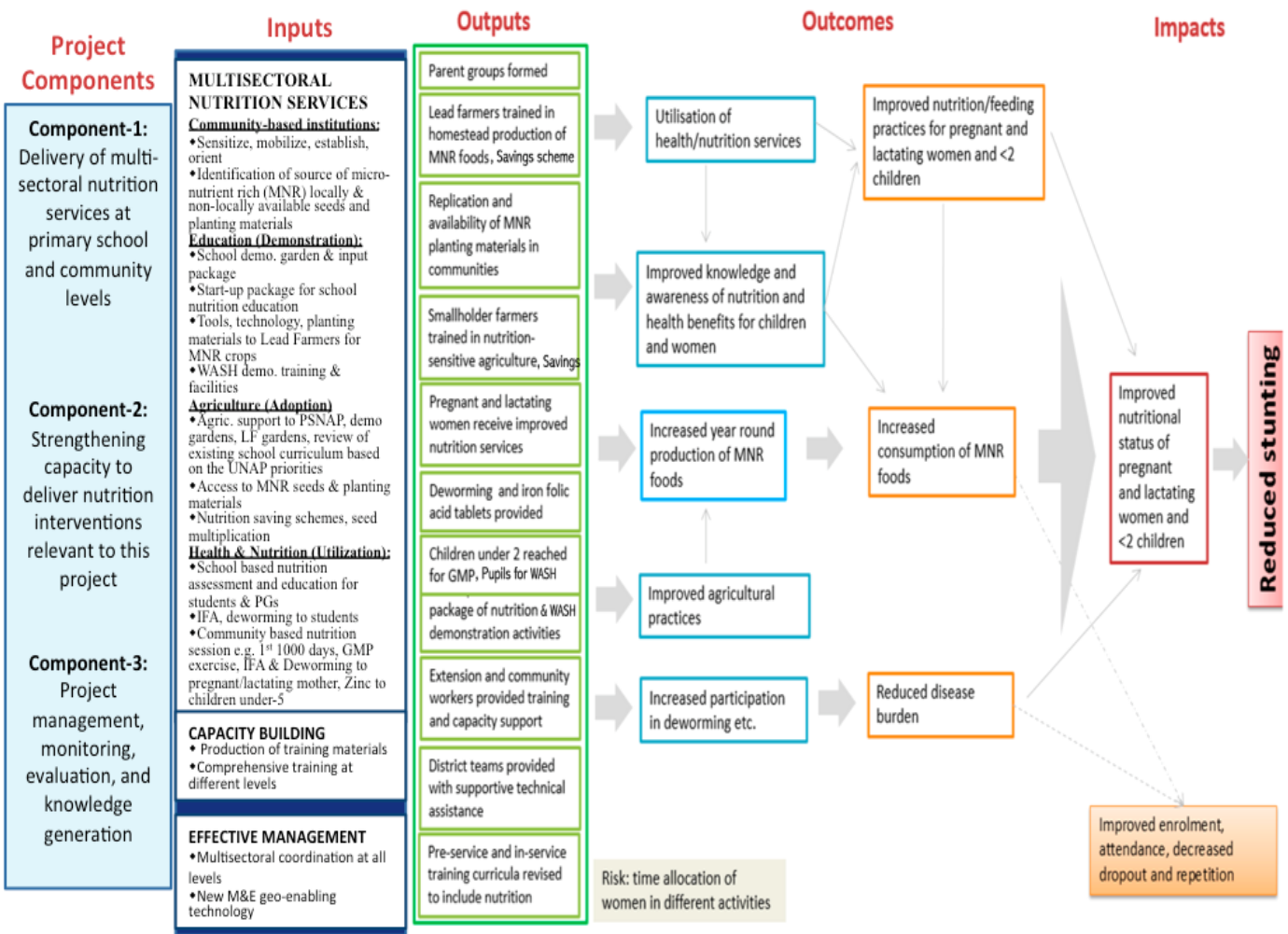


| | | | |
|--|--|--|---|
| | | <i>Baseline: 93,000</i> <i>Target: 139,500</i> | <i>Target: 139,500</i> |
| | | IR14. Number of people receiving loans disbursed under Nutrition Sensitive Saving schemes (disaggregated by gender) <i>Baseline:0</i> <i>Target: 15,000</i> | IR14. Number of people receiving loans disbursed under Nutrition Sensitive Saving schemes (disaggregated by gender) <i>Baseline:0</i> <i>Target: 15,000</i> |
| | | IR.15 Number of local seed multiplication centers for micronutrient rich crops established and operationalized <i>Baseline:0</i> <i>Target: 30</i> | IR.15 Number of local seed multiplication centers for micronutrient rich crops established and operationalized <i>Baseline:0</i> <i>Target: 30</i> |

Note: The project interventions were determined to bring about changes in high-impact nutrition behaviours and practices that are known to contribute to stunting reduction in the medium- and long-term. The initial set target for the indicators measuring these changes were set at modest levels. But during the Midterm Review (MTR) in March 2018 and subsequent Additional Financing in June 2021, considering the performance trend, some of the targets were revised upwards to better capture progress and achievements in moving the implementation of the project forward. Five Intermediate Indicators (IR) were added to the original list of ten; one IR was added at the Mid-Term Review in 2018, and four IRs were included as part of the project extension with additional financing in 2021 as detailed above.



Annex 7: Theory of Change



The underlying assumptions that were critical to the success of the project’s operations were: (i) districts, primary schools, and health centers/ community would have the capacity and resources to implement the project activities; (ii) community, schools, and stakeholders at all levels would work together seamlessly; (iii) targeted individuals would allocate time to the activities introduced by the project; (iv) women’s workload resulting from participating in the nutrition saving schemes or demonstration garden intervention would not compromise their role as mothers; (v) improved knowledge and skills would increase agricultural production all year round; (vi) there would be adequate enthusiasm among target community people to utilize the agricultural technology introduced by the project, to produce and consume MNR foods to fight against malnutrition; and, (vii) nutritional and health services would be readily available in target communities. The assumptions of the project's theory of change (ToC) remained valid throughout the implementation period, ensuring that districts, primary schools, and health centers had the necessary resources and institutional setup to achieve the planned outcomes.



Annex 8: Additional Notes on Project Implementation and Impacts

On Commercialization of the Orange Fleshed Sweet Potato: In Arua district of the West Nile Region the project has been able to unlock the potential of OFSP value chain for commercialization, income generation and food security. The project has demonstrated that OFSP can be a viable substitute raw material to wheat in the production of bread and other related confectionaries. As most wheat in Uganda is imported, this has also created a stimulus for increased production of OFSP in West Nile, South Sudan and the DRC because local farmers have appreciated the income generation aspect of OFSP production. A private sector bakery trained many micro bakeries in the use of OFSP. It has also established a micro-bakery club for networking and support; trainees/incubates are allowed to use the facility to make products for meeting their own orders at a very minimal fee. It also supports farmers on private-private partnership basis to access mobile irrigation equipment to produce vines throughout the year for sale to other farmers. The demand and market for OFSP based bread and other products is large with potential to increase beyond the project districts. The new variety of OFSP from NARO NASPOT7 which has been added on the list has also proved beneficial in the development of flour for porridge liked by school children. OFSP has therefore been elevated from the status of woman’s/peasant farmer’s crop for domestic consumption to a commercial crop produced by farmers for income generation and for use by modern bakeries. This has potential to grow further beyond the project’s life.

On the Implementation Framework of the Project.

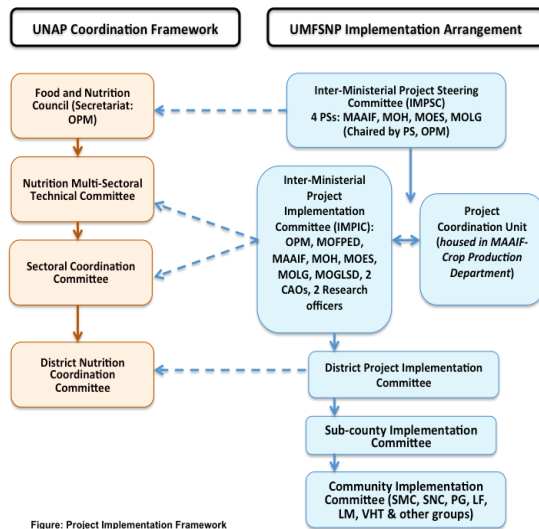


Figure: Project Implementation Framework

At the national level, MAAIF, the lead implementing agency, ensured effective implementation by coordinating with implementing ministries through PCU and project focal points, as well as monitoring project progress through periodic inter-ministerial project implementation committee (IMPIC) meetings. The steering committee, chaired by the PS OPM, provided strategic guidance and oversaw multisectoral coordination through its own structure at various levels. At the district LG level, establishing the DNCC and making it functional and accountable for utilizing project resources, endorsing project progress reporting, and supervising/monitoring implementation in communities ensured multisectoral coordination. Additionally, district project assistants (DPAs) and community facilitators (CFs) hired by the project played critical and catalytic roles in ensuring multisectoral coordination/cohesion at the district



and community levels respectively. At the community level, primary schools, with their committees (SMC, SNC, PGs, etc.), remained the key vehicle for providing nutrition services, demonstrating interventions, input packages (planting materials, etc.), coordinating among agriculture extension workers, VHTs, LFs/LMs, assisting to organize community-based multisectoral monthly nutrition forums, and ensuring the implementation of other project interventions at school and catchment community premises.