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Organization of the  
United Nations

# Evaluation of the project “Improving Food Security and Nutrition in the Gambia through Food Fortification”



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# **Evaluation of the project “Improving Food Security and Nutrition in the Gambia through Food Fortification”**

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## Abstract

This evaluation report on “Improving Food Security and Nutrition in the Gambia through Food Fortification” presents the findings, conclusions and recommendations of the evaluation. The project was funded by the European Union and implemented by the Food and Agriculture Organization of the United Nations (FAO), specifically the FAO Gambia National Office in the West African nation of the Gambia. The overall objective of the project was to improve the nutritional and health status of vulnerable populations suffering from micronutrient deficiencies throughout the Gambia and particularly women, girls and children in Central River Region (CRR) and the North Bank Region (NBR) of the Gambia, who were expected to increase consumption of micronutrient fortified foods. The project was initially designed to begin in March 2017 and end in February 2021, however it received a no-cost extension to 28 February 2022. The project aimed to contribute to: i) technical support for legislation development; ii) awareness raising and capacity building at community level; and iii) institutional strengthening. The evaluation assessed the i) relevance of the programme; ii) progress to impact; iii) programme’s efficiency; iv) achievement and sustainability of programme results; v) programme’s contribution to gender issues; and vi) identified lessons learned and provided recommendations for the implementation of future initiatives to develop or scale the results of the programme.

The approach was qualitative and included a questionnaire, extensive document review and interviews with key stakeholders and institutions involved in the project. The evaluation was conducted with a hybrid approach, partly remotely, due to the COVID-19 pandemic, with a field visit carried out by the national consultant.

Among the findings, the evaluation found out that the Gambia faces challenges of undernutrition that include insufficient intake of nutrients, stunting and wasting. The project was relevant as it addressed this challenge through industrial and biofortification of foods which is a globally accepted approach and a cost-effective way to help improve vitamin mineral status of vulnerable populations. The project also aligned with the country’s normative frameworks, such as the National Nutrition Policy and the National Development Plan. Further, the project helped strengthen the foundations upon which the national capacities and agency of key national institutions in industrial and biofortification are harnessed for their effective implementation, by reinforcing their inputs to address malnutrition in the most appropriate intervention sites, that is, CRR and NBR. The project was able to develop capacity among its stakeholders responding to the knowledge gaps that were noted. The project was instrumental in influencing policy formulation on industrial and biofortification, establishment of intersectoral coordination and facilitating planning of the appropriate stakeholders. This approach significantly catalysed ownership.

The evaluation makes a number of recommendations which include continuation of strengthening operational and technical capacity in the Gambia on industrial and biofortification, and increased investment in food fortification programming, given its high relevance as a tool to combat challenges of malnutrition in the Gambia.



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The evaluation benefitted from the inputs of many other stakeholders, including government officers, personnel of other United Nations (UN) agencies, the European Union as resource partner, and the private sector. Their contributions were critical to the evaluation team's work and are deeply appreciated.

## **Abbreviations and acronyms**

CRR	Central River Region
FAO	Food and Agriculture Organization of the United Nations
FSQA	Food Safety Quality Authority
M&E	monitoring and evaluation
NAFF	National Alliance for Food Fortification
NBR	North Bank Region
WFP	World Food Programme



## Executive summary

1. The Food and Agriculture Organization of the United Nations (FAO), with financial support from the European Union under the wider agreement on “Inclusive and Sustainable Value Chains and Food Fortification” (FOOD/2016/380-042) (FAO, 2016a), launched the programme “Improving Food Security and Nutrition in the Gambia through Food Fortification” in the West African Country of the Gambia between March 2017 and February 2021. The programme received a no-cost extension till 28 February 2022.<sup>1</sup> The overall objective of the project was to improve the nutritional and health status of vulnerable populations suffering from micronutrient deficiencies throughout the Gambia and particularly women, girls and children in the regions of Central River Region (CRR) and the North Bank Region (NBR) of the Gambia, who were expected to increase consumption of micronutrient fortified foods.
2. This final evaluation covered the project duration from March 2017 to 28 February 2022,<sup>2</sup> including all project components and aspects. It also reviewed management arrangements and cooperation with partners of the United Nations (UN) system, as well as government institutions and other stakeholders. The evaluation was initiated in October 2021 and completed in March 2022, and mainly focused on assessing the relevance, effectiveness, efficiency and sustainability of the programme, as well as whether it mainstreamed gender and contributed to women’s empowerment, and it adopted a qualitative approach. The evaluation was conducted during the COVID-19 pandemic, which imposed limitations to data collection in particular, allowing only the national consultant to conduct field visits.

## Relevance

3. The Gambia faces challenges of undernutrition that include insufficient intake of nutrients, stunting and wasting. The project was highly relevant because industrial and biofortification of foods is a globally accepted approach and a cost-effective way to help improve vitamin mineral status of vulnerable populations. The project was also relevant because its goal<sup>3</sup> i) was aligned with the country’s normative frameworks such as the National Nutrition Policy and the National Development Plan ii) it addressed one of the 17 global goals under the 2030 Agenda, specifically Sustainable Development Goal (SDG) 2 (UN, 2015); and iii) was situated within FAO’s comparative advantage to catalyse delivery of the organizational mandate<sup>4</sup> and the Country Programming Framework (CPF) (FAO, 2019).
4. The project was designed from a needs-based perspective informed by the situation analysis drawn from both secondary sources such as the 2013 Demographic and Health Survey (DHS) and reinforced by inputs from key national institutions such as the National Nutrition Agency (NaNA), National Agricultural Research Institute (NARI), and Department of Agriculture. The information gathered underscored that the Central River Region and the North Bank Region (FAO, 2016a)

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<sup>1</sup> At the time of the evaluation, the project was negotiating with the European Union for an additional no-cost extension.

<sup>2</sup> At the time of the evaluation, the project was negotiating with the resource partners an additional no-cost extension. When the evaluation report was being drafted, the no-cost extension had not been officially granted yet.

<sup>3</sup> Improve nutrition and health of vulnerable women and children in the project regions by reducing micronutrient deficiency.

<sup>4</sup> To improve nutrition, increase agricultural productivity, raise the standard of living in rural populations and contribute to global economic growth.

were the most appropriate sites for intervention by the project because they were the most affected by malnutrition.

5. The bedrock of this project was capacity building. In this regard, the project recognized that capacity development enhances beneficiary ownership, quality, sustainability and scale of intended results. The project was thus relevant because it responded to the knowledge gaps both upstream and downstream to build knowledge and exchange experiences that provided stakeholders with a holistic view of the complex web of food fortification as a pathway to nutrition security.
6. From a design perspective, although the project's results chain had a logical flow, it rendered itself as a planning tool but not as a management tool in determining the extent to which the project performed based on the indicators proposed. It also lacked a theory of change to illustrate the missing middle between what the project interventions would do – instrumental changes – and how these would lead to the desired transformative changes.

## Effectiveness

7. Specific objective.<sup>5</sup> The evaluation acknowledges the reported increase in access to, and consumption of industrial and biofortified foods, and the project's contribution to it; however, the limited availability of project specific data does not allow to attribute this increase exclusively to the efforts of the project.
8. The project used as vehicles for food fortification food types that were i) economically out of reach of the targeted population; and ii) not as widely consumed as others. This limited the extent to which the project was able to increase access and consumption of the industrial and biofortified foods and food crops.
9. Output 1.1.<sup>6</sup> The project was instrumental in involving and convening multiple stakeholders which resulted in effective consolidation of inputs from the interdependent sectors and identification of policy entry points for development of legislation and standards on food fortification. This culminated in the development of food fortification standards and regulations in the Gambia. In this regard, the project was a catalyst towards improving the enabling environment for nutrition security.
10. Output 1.2.<sup>7</sup> The evidence shows an increase in quantity of biofortified foods produced, to which the project activities contributed. However, this increase cannot be exclusively attributed to the project interventions because the data utilized to report it (FAO, 2021) did not extrapolate project specific data.<sup>8</sup>
11. Output 1.3. The project undertook various activities to create awareness on nutrition sensitive agriculture, and utilized web-based communication platforms to publicize nutrition-related events. However, based on the food consumption survey findings commissioned by the project, these communication and awareness activities were not sufficient to translate into dietary

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<sup>5</sup> Increased access to and consumption of industrial and biofortified foods by women of child bearing age and children under five years in CCR and NBR.

<sup>6</sup> The legislative, regulatory, policy, institutional and governance environment for food fortification is improved.

<sup>7</sup> Output 2: Production of fortified foods and biofortified crops in quantity and quality increased.

<sup>8</sup> Secondary data from the Demographic and Health Survey and the Gambia Micronutrient Survey did not extrapolate data for the project's beneficiaries nor the foods that were the focus of the project.

transition behaviour change. This was evidenced by the limited difference in consumption patterns of biofortified foods between intervention and non-intervention sites.

12. The project was effective in convening various multistakeholder expertise to enable it to address common and shared concerns that could not be addressed adequately through a single sector approach.
13. The collaborative spirit on which the project is grounded was also reflected in its multistakeholders' governance. This was evidenced through the creation of the National Alliance for Food Fortification (NAFF), a joint oversight and coordination mechanism. The NAFF constituted different Technical Working Groups that developed respective work plans and was allocated resources based on the delineated division of labour which was also complementary.
14. The project leveraged on ongoing national initiatives to maximize synergies and gain traction on the adoption of biofortified foods as a source of micronutrients.
15. There was space for improvement in the project monitoring and evaluation (M&E) system to appropriately and routinely monitor the project and provide immediate feedback to improve implementation, performance and progress. This paucity of primary data limited the project's extent of learning and adaptation, and caused delay in making informed decisions on mitigation measures to undertake unforeseen challenges.
16. The project was effective in piloting a fortification monitoring and surveillance system (FORTIMAS) to track the trends or changes in the effective coverage and nutritional impact of fortified foods over time on populations that regularly consume fortified foods. This, however, was at a higher and national level as opposed to project beneficiary level.
17. The project exhibited adaptive management in making decisions and adjustments in response to new information and changes in its operational and implementation context. This was facilitated by the flexibility in the project and activity design that minimized the obstacles towards the team's best supposition about the most likely path to change in order to meet the project's goal.
18. The project endeavoured to be holistic and included interconnected enablers that have the potential to reverse gains in nutrition security if not addressed. To achieve this, the project built on existing initiatives and approaches to gain traction of its interventions. However, the full realization of the desired results was hampered by some inadequacies in national capacities, operational functions, procedural limitations, the project's scope of influence, and the limited availability of data to make timely informed decisions.

## **Efficiency**

19. The project activities suffered from several delays throughout the implementation period such as i) delays in procurement and deployment of the requisite personnel; ii) delays in procurement of inputs and equipment following policies and procedures established for FAO's own operations; and iii) sequential nature of the activities to be implemented. This led to the project requesting two no-cost-extensions, the first of which was granted from February 2021 to February 2022. By the time of this evaluation, the process for seeking approval for the second no-cost extension was still at play.

## Sustainability

20. The project's design ensured that some of the prerequisite conditions for sustainability are in place, some of which cannot be retracted, and when put in practice, they can only continue to be enhanced and strengthened extensively. These included i) the capacities, knowledge and skills transferred to the national stakeholders; ii) the strengthened enabling environment; and iii) assimilation of project outputs into national overarching initiatives.
21. Though, there are some aspects of the project that are not likely to be continued unless national resources are allocated towards them, alongside some external risks that may affect sustainability of the project results.
22. Although the project had embedded several elements of sustainability into its design such as capacity development, coherence and a people centred approach, at the time of data collection, there was no evidence of a formal structured and documented exit strategy. However, given the no-cost extension, the project had embarked on documenting and formalizing its exit strategy.

## Gender

23. The project design explicitly recognized that women are significant actors in the agriculture sector from production to consumption, and more specifically, the pivotal role they play in inadvertently enabling malnutrition if alienated, or slowing down its impact if involved. The project also contributed towards women's reduction of burden and empowerment by targeting them in biofortification activities, preparation and consumption of biofortified foods.
24. Due to limited consultations with women community beneficiaries, as well as the lack of sex-disaggregated data, some of the project's interventions and inputs served to further entrench the social construct of gender roles.

## Conclusions

**Conclusion 1.** The project stirred up interest from the public and private sector in industrial and biofortification as a viable strategy to reduce malnutrition in vulnerable populations. This further cemented FAO's position to contribute to the national and regional nutrition agenda.

**Conclusion 2.** The project was instrumental in involving and convening multiple stakeholders which resulted in the development of food fortification standards and regulations in the Gambia. In this regard, the project was a catalyst towards improving the enabling environment for nutrition security. Evidence also shows an increase in food fortified production and consumption to which the project has contributed. However, the evaluation was unable to exclusively attribute the achievement of this increase to the project's efforts.

**Conclusion 3.** The design of the project results chain, the intended outputs and specific objective proved to be too ambitious to be achieved within the planned time frame. Furthermore, the limited timeliness of assessments for the selection of food types to fortify prior to the project's implementation showed space for improvement in the logical sequence of the activities implemented. The onset of the outbreak of the COVID-19 pandemic further slowed down the implementation of the project.

**Conclusion 4.** Most of the awareness activities provided information on the benefits of consuming biofortified foods. The evaluation recognizes that changing consumption habits is a multifaceted phenomenon that requires concerted efforts from several stakeholders to sufficiently move the needle

towards a change in behaviour. Nevertheless, the project planted the seed of raising awareness and successfully supported institutional and policy reforms regarding food fortification in the country.

**Conclusion 5.** The project effectively leveraged strategic partnership with multisector stakeholders that provided valuable contributions to address food fortification holistically. These ranged from public, private sectors, other UN agencies, and the community. However, the evaluation also identified opportunities for further collaboration that the project could have pursued.

**Conclusion 6.** The gains made by the project are considered to be sustainable measures. However, there are factors that could affect the sustainability of the project results.

**Conclusion 7.** Women were specifically included in the project's implementation being the target beneficiaries of the biofortification activities, preparation and consumption of biofortified foods. Nevertheless, some of the project's interventions and inputs unintentionally served to further entrench the social construct of gender roles.

## Recommendations

**Recommendation 1.** FAO should continue strengthening operational and technical capacity in the Gambia together with increased investment in food fortification programming.

**Recommendation 2.** FAO should develop more realistic results chain that can be relatively achieved within the project's time frame. Also, the activities should be sequenced to enable them to build and gain traction from preceding ones. In this regard, FAO should consider conducting early surveys and more needs assessments to determine the most suitable vehicle for food fortification before implementation starts.

**Recommendation 3.** To accelerate the pace of behaviour change on dietary habits, FAO should make sure that future projects include a strong knowledge management component. For instance, innovation and tools for knowledge management, a behaviour change communication strategy and systematic lessons learned gathering could be considered as core components of similar projects.

**Recommendation 4.** Prior to project conceptualization, FAO should consider undertaking a stakeholder mapping to establish which other institutions are carrying out similar initiatives to ensure that strategic collaboration is maximized with initiatives already being implemented in the country.

**Recommendation 5.** It is recommended that in future projects, FAO develops structured exit strategies from the design stage to increase the probability of results sustainability.

**Recommendation 6.** In future projects, FAO should ensure that the project design and interventions are gender responsive by, for instance, undertaking gender analyses as part of the inception phase. Women play a significant role in improving their household food security as they contribute to food production, enhance dietary quality, and consumption diversity.

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# 1 Introduction

## 1.1 Purpose of the evaluation

1. The purpose of this evaluation is to provide accountability for results achieved to resource partners, the Food and Agriculture Organization of the United Nations (FAO) and national government agencies; and to draw lessons from the implementation processes that can inform future projects and decisions by the operational partners, the project donor, project teams and FAO at all levels. More specifically, the evaluation:
  - i. assessed the results achieved by the project based on the activities implemented at the time of the evaluation. This assessment was guided by the Organisation for Economic Co-operation and Development Assistance Committee (OECD/DAC) evaluation criteria which also included gender and human rights perspective as a cross-cutting dimension; and
  - ii. formulated lessons learned and recommendations from the design and implementation of the project taking into account its specific design, which could inform similar future initiatives related to food fortification to better serve their purpose.

## 1.2 Intended users

2. The main audience and intended users of the evaluation are:
  - i. the FAO country office, the project team, technical teams at FAO headquarters and at FAO Regional Office for Africa (RAF) that will use the evaluation findings and lessons to finalize the project,<sup>9</sup> plan for sustainability of results achieved, and improve formulation and implementation of similar projects;
  - ii. the project's counterpart, including the Ministry of Agriculture and other relevant partners that could use the evaluation findings and conclusions for future planning and, if necessary, corrective action; and
  - iii. the European Union that, as the donor, will benefit from the evaluation for future planning and strategic positioning in the country and in the region, and in future projects with similar objectives.
3. The envisioned uses of this evaluation include accountability, learning for future funding and implementation choices of similar initiatives, and evidence-informed design, implementation, completion, and sustainability of the project aims and results.
4. The findings of this evaluation may be useful to inform other audiences such as international organizations that work in nutrition and food fortification, including global level entities that provide support, guidance and funding under the objectives of Sustainable Development Goal (SDG) 2, the academia that might be interested in the development of studies and trainings; and non-state actors that might be interested in undertaking pilot initiatives with the public sector.

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<sup>9</sup> At the time of the evaluation, negotiations with the donor for an additional no-cost extension were taking place.

### 1.3 Scope and objectives of the evaluation

5. The evaluation covered the project duration from March 2017 to 28 February 2022,<sup>10</sup> including all project components and aspects. It also reviewed management arrangements and cooperation with partners of the United Nations (UN) system, as well as government institutions and other stakeholders.
6. This final evaluation assessed the project's:
  - i. relevance in light of the extent to which the objectives of the project were consistent with beneficiaries' requirements, recipient country needs and policies and global policies;
  - ii. effectiveness on the extent to which its objectives were achieved taking into account their relative importance and the extent to which the results achieved correspond to the project's aims;
  - iii. efficiency based on the measure of how resources and inputs were economically converted into results;
  - iv. sustainability where the probability of the continuation of benefits derived from the project after it wound up; and
  - v. gender considerations where the project mainstreamed gender and contributed towards women's empowerment.
7. The evaluation was keen to identify unexpected institutional outcomes or milestones along the project's change pathway. These were considered as a significant observable change in practices, norms, policies and plans which were actively and voluntarily undertaken by the project beneficiaries.
8. This evaluation was initiated in October 2021 and completed in March 2022.
9. Five overarching questions were designed in the evaluation terms of reference to guide the analysis, and were further developed by the evaluation team in the evaluation matrix that can be found in Appendix 2.

#### *EQ 1. Relevance*

- i. To what extent was the project relevant to the needs and priorities of the national stakeholders, including the government?
- ii. To what extent was the project relevant to community beneficiaries, in particular vulnerable women and girls of reproductive age, and children in the North Bank Region and in the Central River Region?
- iii. To what extent was the project relevant to the broader sustainable development initiatives, for example the 2030 Agenda, to the FAO Strategic Framework and to the FAO Country Programming Framework?
- iv. Was the project design and the logical framework appropriate for delivering the expected outcomes?
- v. To what extent was the technical support provided by FAO relevant to the country?
- vi. To what extent was the geographical targeting of the project pertinent?

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<sup>10</sup> At the time of the evaluation, the project was negotiating with the resource partners an additional no-cost extension. When the evaluation report was being drafted, the no-cost extension was not officially granted yet.

*EQ 2. Effectiveness*

- i. To what extent has the project achieved its overall and specific objectives and its related outputs and were there any unintended results?
- ii. What were the enabling/constraining factors influencing the achievement and non-achievements of the outcomes and outputs?
- iii. To what extent was the M&E system appropriate in monitoring and supporting the implementation and enhancing the effectiveness of the targeted results?
- iv. How have the project partnerships contributed to the project results?
- v. To what extent has the project been able to build on ongoing initiatives (reforms, strategies/plans, processes) to achieve its results?
- vi. How effective was the current project governance structure and operational modality, including management, in contributing to the overall achievement of the programme objectives?
- vii. How effective was the communication strategy in achieving the result of increasing awareness of the entire population of the Gambia?

*EQ 3. Efficiency*

- i. Was the project implemented in an efficient manner?
- ii. To what extent did the project activities, the institutional arrangements, the partnerships in place and the resources available contribute to, or impede, the achievement of the project's results and objectives?
- iii. How efficient was the collaboration among partners and project beneficiaries?
- iv. Were there any complementarities or duplication with other activities in the country?
- v. To what extent was the project able to adapt its management, based on learning, and to the changing context, including COVID-19?

*EQ 4. Sustainability*

- i. What is the likelihood that the project results will continue to be useful or will remain even after the end of the project?
- ii. What are the risks that may affect the sustainability of the project results and what are the factors that have contributed to it?

*EQ 5. Gender perspective*

- i. To what extent were gender considerations taken into account in designing, monitoring, and implementing and reporting of the project?
- ii. Was the project implemented in a manner that ensures gender responsive participation and benefits?

## **1.4 Evaluation methodology**

10. The evaluation was guided by the United Nations Evaluation Group (UNEG) Norms and Standards for evaluation (2016), while respecting the UNEG Ethical Guidelines for Evaluation (2008).
11. The evaluation team was made up of two external experts: one Evaluation Team Leader (international consultant) and one Evaluation Team Member (national consultant) based in the Gambia. The team worked under the guidance of the FAO Office of Evaluation (OED) Evaluation Manager.

### **1.4.1 Evaluation approach and data sources**

12. Reverse-engineering. The evaluation used the reverse-engineering variant of results-based management (RBM). Specifically, the evaluation began by examining the following: i) What were the desired results of the project? ii) What did the project intend to change? This involved reviewing the project logframe or results chain, and theory of change. Once the Change Menu



was established, the evaluation worked backwards (reverse-engineering) and examined: iii) How did the project personnel, project partners and stakeholders work towards the desired change? iv) How was this process monitored to ensure that the desired change was achieved?

13. The level of results. The assignment approach focused on the results, not just the activities rolled out. Instead of focusing on what the project and its partners did, the emphasis was on what they achieved. The project's achievements were then decomposed into three levels. The project's ability to influence each level varied, with outputs being more directly related to the work of the project personnel, partners and stakeholders, and outcomes and impact being a function of many other cross-cutting interventions implemented by other actors. This was informed by examining the following sequence:
  - i. What was done? These were the activities that were implemented by the project. The evaluation treated the activities as a means to an end; and not the achievement of the desired change.
  - ii. What happened? The first and lowest level of results was outputs. These were the products, capital goods and services, or changes that were directly attributable to the project and were relevant to the achievement of the outcome. After rolling out the activities, the evaluation assessed what happened. The evaluation also examined i) if the outputs were expressed as a desired state of being; and ii) if they were attributable to the activities proposed in the results chain.
  - iii. What changed? The second level of results was outcomes. These were the likely or achieved short-term and medium-term effects of the project. As mentioned above, the evaluation approach began by defining the desired change. The evaluation assessed the extent to which the process of change happened. This was achieved by examining the cumulative effects of a combination of outputs. The evaluation also assessed i) if the outcomes were expressed as a desired state of being; ii) if they reflected a cumulative effort of the outputs; and iii) if they were transformational in nature, for example change in behaviour, practices or access to services.
14. Gender responsiveness. As a cross-cutting theme, the evaluation examined the extent to which the project was aligned with key gender principles which include i) ownership and leadership; ii) participation and inclusion; iii) gender responsive innovation; and iv) fair power relations. This was in line with the FAO Policy on Gender Equality (2016) that recognizes the potential of women and men in achieving food security and nutrition and its commitment to overcoming gender inequality.
15. Data sources. To respond to the above overarching evaluation questions, the evaluation relied on two categories of sources:
  - i. primary sources: these were the responses drawn from the key informant interviews and focus group discussion interviews undertaken during the data collection; and
  - ii. secondary sources: these were from two categories of literature: the first category was, *inter alia*, i) the project document, concept notes, project narrative reports, workshop and training reports, and communication and outreach materials. The second category was ii) grey literature that included include, *inter alia*, FAO sources of documents, such as FAO Strategic Framework and the FAO Country Programming Framework (CPF); as well as external sources of documents such as policy briefs, national reports and national development plans.

### 1.4.2 Data collection

16. An inception phase was conducted during the initial phase of the evaluation. This included consultations with FAO for an in-depth understanding of the project design, management and implementation as well as the evaluation focus. This and the preliminary document review were the basis for the inception report which detailed the evaluation's understanding of the terms of reference, the approach and methods of data collection and the categories of respondents.
17. Desk review. This examined the following factors of the project:
  - i. Project design. This was assessed on four levels:
    - Design intent. The evaluation examined: i) how the project was conceptualized; ii) what were the proposed solutions; iii) if the appropriate beneficiaries were identified and targeted.
    - Design of implementation. The evaluation assessed the sequential implementation of activities and their causal linkage to the outputs and outcome.
    - Responsiveness of design. The evaluation sought to examine: i) if there was flexibility built into the design of the project; ii) how it enabled or disabled its functionality; iii) if the project's design was flexible enough to allow for changes brought about by its environment of implementation and accommodate them.
    - Design of the missing middle. The evaluation assessed if the project had a theory of change that depicted how the set of interventions would lead to intended changes through a causal linkage.
  - ii. Project implementation. The evaluation examined how successful the implementation of the project was, bearing in mind that activities are not results. It also examined if there were any deviations from the planned activities and why they occurred.
18. Key informant interviews. These involved interviewing individuals who have particularly informed perspectives and first-hand knowledge on the project design and its implementation. The interviews were semi-structured qualitative set of questions with the scope for follow-ups and further probing. Key informant interviews were conducted for institutional respondents such as FAO personnel, government partners, donors and private sector. These interviews were partly conducted remotely due to the COVID-19 pandemic that hindered the international consultant's travel (see section 1.5 on Limitations) and partly during field visits conducted by a national consultant.
19. Focus group discussions. These interviews took place at the project implementation sites. They involved interviews with direct beneficiary groups of about 7–11 people to gain their insights and issues of most concern on the project. The interviews were moderated by the national consultant using an interview guide and asking questions to solicit responses as it relates to the project.
20. Site visits. The project intervened in approximately 60 communities in five regions (Upper River Region, Central River Region South, Central River Region North, West Coast Region and North Bank Region) and one municipality (Kanifing Municipal County). The interventions ranged from support to community gardens, school gardens, individual farmers, and provision of small ruminants and poultry. The selection of the project sites visited was determined by the type and number of interventions in each site. Twenty communities were visited (approximately 33 percent of the total scope of the project). The agenda for the project site visits is in Appendix 3.

### **1.4.3 Data analysis**

21. This was a qualitative evaluation which consequently yielded text-based data. This was in the form of i) transcripts from online interviews; and ii) notes derived from the desk review. The evaluation identified significant patterns and drew meaning from data and the logical chain of evidence. In doing so, the evaluation was guided by interrogating iii) what is the text saying? (v) what does it represent? v) what is it an example of? vi) what kind of events were at issue here? and vii) what was the information trying to convey?
22. The data collected was analysed by:
  - i. content analysis. This was the categorization of the data collected for purposes of classification, summarization and tabulation, as necessary. This was done on two levels: i) descriptive: this described the raw data; ii) interpretative: this described the evaluation's interpretation of the data collected and was based on emerging patterns and associations;
  - ii. narrative analysis. The evaluation analysed the transcribed experiences as narrated by respondents through the online interviews. These narratives were then recast and organized according to the evaluation criteria and emerging themes, while maintaining the integrity of the narrative as told by the respondent; and
  - iii. grounded theory. The evaluation started with an examination of a single case from a predefined population in order to formulate a general statement or hypothesis. Subsequently, other cases were examined to see if the hypothesis fits the statement. Ultimately, probable causal explanations to arrive at an explanation of why certain phenomena happened were drawn.

### **1.4.4 Stakeholders analysis**

23. The evaluation involved stakeholders directly affected by the project implementation. This allowed buttressing of the ownership of the findings, enhancing the relevance and eventual use of the evaluation. The analysis involved the identification of which stakeholder to engage during in the evaluation process, when and in what ways, based on the role they played in this project. The complete stakeholder analysis can be found in Appendix 4 of this inception report.

## **1.5 Limitations**

24. This evaluation was entirely conducted during the COVID-19 pandemic which generated specific challenges:
  - i. Travel restrictions. Global travel restrictions were put in place due to the pandemic. Consequently, the lead evaluator was unable to undertake visits for one-on-one interviews with the respondents. However, the evaluation mitigated this by hiring a national consultant who was able to undertake field visits for key informant interviews and focus group discussions. This enriched the evaluation by providing the benefit of insights gained from proximity of interaction that builds trust with respondents; and to record unuttered information gained from direct observation of interventions.
  - ii. Time constraints. Although sufficient time was allocated for the inception and desk review phase, there was limited time available for the online interviews with various stakeholders. This is because the interviews coincided with the end of 2021 and beginning of 2022 holidays which delayed the identification and setting up of the online interviews.
  - iii. Connectivity challenges. There were challenges experienced in internet connection and the interview platform for some of the virtual interviews conducted. However, the evaluation

overcame these challenges by switching reconnecting or seeking clarification on questions/responses when connection was poor and were finally able to successfully complete the interviews.

## **1.6 Structure of the report**

25. Following this introduction, section 2 provides background and context of the project, including its theory of change. Section 3 presents the findings to the main evaluation questions. Section 4 presents lessons learned, followed by conclusions and recommendations in section 5.
26. The report is also accompanied by the following Appendices:
  - i. Appendix 1. People interviewed;
  - ii. Appendix 2. Evaluation matrix;
  - iii. Appendix 3. Site visits itinerary; and
  - iv. Appendix 4. Stakeholders analysis.



## 2. Background and context of the project

### 2.1 The role of food fortification in nutrition security

27. Food fortification has been defined as the deliberate addition of one or more micronutrients to some foods aiming to increase the intake of micronutrients that are in deficit in the diet of a given population to correct or prevent identified deficiency and improve the health of individuals (Science Direct, 2022). Micronutrients are vitamins and minerals which are needed by the body in little amounts.
28. More than two billion people in the world today suffer from micronutrient deficiencies; particularly women, adolescent girls and young children who have the highest biological needs for micronutrients. This is worse in lower middle income countries (LMICs) with least access to micronutrient dense foods and also lack of awareness in nutrition and gender dynamics (FAO *et al.*, 2020).
29. Also known as hidden hunger, micronutrient deficiency is caused largely by a dietary deficiency of vitamins and minerals. It is also estimated that six out of the top ten risk factors for the global burden of disease are diet-related (Harvest Plus, 2021). Although zinc, iron and vitamin A deficiencies occur worldwide, 80 percent are in sub-Saharan Africa (Ohanenye *et al.*, 2021). These deficiencies are associated with perinatal complications – some resulting in death, poor growth, poor cognitive development and lower intelligence. When left unaddressed, hidden hunger curtails children's ability to reach their full potential and impacts on adults' health and productivity which ultimately affects a country's economic development and growth from generation to generation.
30. The effects of the recent COVID-19 pandemic, coupled with the effects of the climate change crisis and armed conflicts have exacerbated malnutrition in all its forms, particularly in lower middle income countries.
31. Food fortification of regularly consumed foods (such as iodization of salt), and fortification of staple foods (through biofortification at the production level or through post-harvest fortification) has proven to be a cost-effective and scalable measure to reduce these deficiencies.
32. National standards, with quality assurance and quality control systems, as well as regulatory and public health monitoring, are needed to ensure quality fortification in line with international guidelines. These also need to focus on the staples that are most available and affordable foods for the population to make these nutrients available to the most vulnerable at an affordable cost.
33. For the best results from a fortification programme, careful selection of the foods to which iron will be added is recommended (Grantham-Mcgregor and Ani, 2001). The selected foods should preferably be staples frequently consumed by the population, low cost and easily available. The choice of the iron compound must be based on its bioavailability and stability.
34. Several efficacy and effectiveness studies have demonstrated the impact of fortification on improving the intake of iron and thus decreasing the prevalence of anaemia. Examples include the fortification programmes in Chile (wheat flour and powdered milk for infants), Ghana (complementary food for children), Guatemala (sugar), Indonesia (soy sauce), India (salt), Mexico (infants' complementary food and powdered milk) and the Bolivarian Republic of Venezuela (maize and wheat flour) (Zimmermann *et al.*, 2003).

35. For zinc, it can be added directly to food, depending on its solubility, but has also been promising in biofortification in sorghum and wheat seeds for use in bread and sorghum. Vitamin A is fat soluble and is often used in the fortification of fats and oil-based foods such as margarine and cooking oils; it is also used in other forms to fortify cereal flours, sugar, wholewheat grain, dry milk, biscuits, yogurt and cereals. Several staple foods such as rice, cassava and orange-fleshed sweet potatoes (OFSP) have successfully been biofortified with vitamin A (Ohanenye *et al.*, 2021).
36. There have been successes recorded in food fortification in Uganda, Rwanda, the Democratic Republic of the Congo and Nigeria, among others. For instance, increased zinc, iron and vitamin A among children in Uganda from biofortification of sweet potatoes. In Rwanda, new varieties of beans enriched in iron have not only increased iron consumption but yield more than three tonnes per hectare, compared to less than a tonne per hectare from indigenous beans further improving income for local farmers (Busani, 2014).
37. In addition, FAO has utilized fish powder to improve micronutrients in foods in Ghana and Uganda where it has been shown to increase calcium, phosphorous zinc, iron, selenium and omega 3 to improve staple foods like cassava and maize flours (FAO, 2016b).

## **2.2 Food fortification in the Gambia**

38. The Gambia is located on the West African Coast and has a population of 2.1 million people (The Gambia Bureau of Statistics, 2022). It is classified as a low-income food-deficit country. 48.6 percent of the population live below the USD 1.25 per day poverty line (HIS, 2016). The Gambia was ranked 67 out of 107 in the Global Hunger Index.<sup>11</sup>
39. Despite having a predominantly agricultural economy employing about 70 percent of its labour force (GBOS & ICF International, 2014), food insecurity and malnutrition are high in the Gambia; the highest being in the Central River Region (CRR) and the North Bank Region (NBR) (FAO, 2016a). In 2018, 18 percent of the children under five were stunted and 5 percent wasted; two-thirds of children under five, one-third of pregnant women and 16 percent of lactating mothers had vitamin A deficiency, 44 percent women had iron deficiency; and two-thirds of pregnant women, and about one-half of lactating women were anaemic. (NaNA-Gambia *et al.*, 2019).
40. These deficiencies further contribute to maternal deaths. For children, iodine and iron deficiencies contribute to them not reaching their full developmental potential. Anaemia accounted for 289 maternal deaths per 100 000 live births in the Gambia (The DHS Program, 2021).
41. Food fortification presents an attractive potential area of investment to address micronutrient deficiencies in vulnerable girls, women and children in the Gambia based on its potential to provide a relatively low-cost, affordable, scalable and immediate tool in response to the global initiative to eliminate micronutrient deficiencies (FAO, 2018). It also provides an opportunity to harness the significant role and resources of the private sector to participate in food processing and fortification in the Gambia.
42. While low-cost food fortification in the Gambia exists, there are currently only food fortification regulations for iodised salt. Other programmes that provide nutrient supplementation such as vitamin A and iron for children under five and pregnant women do exist, but they are insufficient (FAO, 2016a). Additional information and policy enhancement even for traditionally fortified foods

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<sup>11</sup> Out of 107 countries with sufficient data to calculate Global Hunger Index scores in 2020 (Global Hunger Index, 2020).

like salt is also needed as in 2013, only 76 percent of women with children under five lived in a household using iodised salt (GBOS & ICF International, 2014).

## 2.3 The project

43. The project “Improving Food Security and Nutrition in the Gambia through Food Fortification” was set-up to fill the gaps in food fortification in the Gambia. It is implemented by FAO Gambia national office, funded by the European Union through the European Commission under the wider agreement on “Inclusive and Sustainable Value Chains and Food Fortification” (FOOD/2016/380-042) (FAO, 2016a).
44. The project was initially designed to begin in March 2017 and end in February 2021, but received a no-cost extension to 28 February 2022.<sup>12</sup>
45. The project aimed at contributing to i) technical support for legislation development; ii) awareness raising and capacity building at community level; and iii) institutional strengthening. FAO had comparative advantage to provide this support to the Gambia, having done this in other countries.
46. The overall objective of the project was to improve the nutritional and health status of vulnerable populations suffering from micronutrient deficiencies throughout the Gambia and particularly women, girls and children in the CRR and NBR of the Gambia who were expected to increase consumption of micronutrient fortified foods. This aimed at contributing to i) improvements in health and nutrition indicators, especially the reduction of stunting and wasting and normal cognitive development in children; and ii) reduced anaemia among women; as well as iii) reduction in complications during pregnancy and maternal mortality.
47. The outcome of the project was to increase access and consumption of industrial and biofortified foods by women of childbearing age and children under five years in CRR and NBR.

## 2.4 Theory of change

48. The project did not have a theory of change. The evaluation team, based on the results chain, developed the following one:
  - i. **IF** the legislative, regulatory, policy, institutional and governance environment for food fortification in the Gambia is improved; and
  - ii. **IF** there is an increase in the quantity and improvement in the quality of fortified foods and biofortified crops in the Gambia; and
  - iii. **IF** communities in the Gambia are made aware of the importance of micronutrient enriched foods;
  - iv. **THEN** there will be increased awareness, availability and access to fortification with micronutrients in staple and available foods in the Gambia; and
  - v. **THIS** will contribute to improved nutritional and health status of vulnerable populations suffering from micronutrient deficiencies throughout the Gambia. Specifically: i) reduction of stunting and wasting and normal cognitive development in children; and ii) reduced anaemia among women; as well as iii) reduction in complications during pregnancy; and iv) reduced maternal mortality.

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<sup>12</sup> At the time of the evaluation, the project was negotiating with the European Union for an additional no-cost extension.



49. The foundation to enable success of the project was anchored on three levels: i) legislation/strategic; ii institutional; and iii) community. It aimed at the following results:
- i. Output 1: Improvement of the legislative, regulatory, policy, institutional and governance environment for food fortification;
  - ii. Output 2: Increased production (quality and quantity) of fortified foods and biofortified foods; and
  - iii. Output 3: Improved social marketing and communication on integrated nutritional interventions.
50. The project, funded by the European Union with a total budget of USD 5 151 132, was implemented in partnership with the public sector, the private sector, civil societies and other UN agencies, with the beneficiaries being the Gambian population with a specific focus on girls, women and children.

### 3. Evaluation findings

#### 3.1 Relevance

51. This subsection presents findings on the extent to which the project design and interventions were relevant and timely to address the needs and priorities of the target beneficiaries; the extent to which the project's interventions were in alignment with relevant policies and strategies; and FAO's comparative advantage in this area of work.

**Finding 1.** The Gambia faces challenges of undernutrition that include insufficient intake of nutrients, stunting and wasting. The project was highly relevant because industrial and biofortification of foods is a globally accepted approach and a cost-effective way to help improve vitamin mineral status of vulnerable populations.

52. Micronutrient malnutrition (MNM) is a widespread concern that affects at least one-third of the world's population, the majority of whom are in the developing countries, including the Gambia. Young children and women of reproductive age tend to be among those at risk of developing micronutrient deficiencies which lead to adverse health effects on human health. The three most common forms of MNM are vitamin A, iron and iodine deficiency. MNM is a risk factor for many other diseases that contributes to high rates of morbidity and mortality. The World Health Organization (WHO) estimates that micronutrient deficiencies account for 0.8 million deaths, of which 1.5 percent of the total is attributed to iron and Vitamin A deficiency.
53. In the Gambia, 18 percent of children under five are stunted and 5 percent wasted; two-thirds of children under five, one-third of pregnant women and 16 percent of lactating mothers had vitamin A deficiency, forty-four percent of women had iron deficiency; and two-thirds of pregnant women, and about a half of lactating women were anaemic (NaNA-Gambia *et al.*, 2019).
54. In this regard, the project was highly relevant to increase intake of micronutrients through industrial and biofortification of foods as an essential intervention to combat malnutrition among those at high risk.

**Finding 2.** The project was also relevant because its goal<sup>13</sup> i) was aligned with the country's normative frameworks such as the National Nutrition Policy and the National Development Plan; ii) it addressed one of the 17 global goals under the 2030 Agenda, specifically SDG 2 (UN, 2015); and iii) was situated within FAO's comparative advantage to catalyse delivery of the organizational mandate<sup>14</sup> and the Country Programming Framework (FAO, 2019).

55. As a best practice, the project was designed to systemically align with normative frameworks at the national level. For instance, the project's goal mirrored the i) National Development Plan where one of the eight strategic priorities is to modernize agriculture for economic growth, food and nutrition security and poverty reduction; and ii) the National Nutrition Policy whose mission is to improve the nutritional status of the Gambian people thus reducing malnutrition, morbidity and mortality among the general population, especially the most vulnerable groups, pregnant women and lactating mothers, and children under the age of five.

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<sup>13</sup> Improve nutrition and health of vulnerable women and children in the project regions by reducing micronutrient deficiencies.

<sup>14</sup> To improve nutrition, increase agricultural productivity, raise the standard of living in rural populations and contribute to global economic growth.

56. The project was also relevant because it was aligned with the 2030 Agenda for sustainable development goals, specifically SDG 2 which aims to end hunger, achieve food security and improve nutrition and promote sustainable agriculture. The country is only able to meet half of its population’s food needs and largely depends on food imports (The Republic of the Gambia, 2018). According to the National Guide to Achieving Sustainable Development Goal 2 by 2030 (2018), the country recognizes that malnutrition is a major public health problem especially among women and children who are constantly energy deficient due to poor dietary habits and frequent infections. Therefore, the goal of the project<sup>15</sup> was coherent with the targets<sup>16</sup> of SDG 2.
57. The project was relevant because it accentuated FAO’s ability as a convenor and aggregator to broker the pathway towards the project’s goal. This comparative advantage due to the Organization’s standing contribution to national development, technical expertise, experience and mandate provided the project with impetus to convoke intersectoral and national actors to provide a national platform that catalysed traction and a pathway towards commitment to biofortification. This was evidenced by the national capacities strengthened by the project that culminated in the formulation of the Food Fortification Regulations (All Africa, 2021) to serve as a regulatory tool for compliance and enforce mandatory fortification of key essential food products with the right micronutrients to improve the nutritional status, thus reducing malnutrition among vulnerable populations.
58. While fortification had been taking place in the Gambia in the form of salt iodization, this was the first time it was undergoing a nationwide approach to ensuring key staples like wheat and oil consumed in the country were fortified and especially flour with iron and folic acid. Therefore, there was limited expertise on the matter. Hence, FAO’s comparative advantage enabled the project to draw on the expansive pool of international expertise in food fortification standards and regulations, food consumptions surveys, food fortification experts, to support implementation of the project. This international expertise applied their innovative field experiences, analytical support, tools and data to complement the in-house project technical expertise.

**Finding 3.** The project was designed from a needs-based perspective informed by the situation analysis drawn from both secondary sources such as the 2013 Demographic and Health Survey (DHS), and reinforced by inputs from key national institutions such as National Nutrition Agency (NaNA), National Agricultural Research Institute (NARI) and Department of Agriculture. The information gathered underscored that NBR and CRR were the most appropriate sites for intervention by the project because they were the most affected by malnutrition.

59. Despite the country having a predominantly agrarian economy employing about 70 percent of its labour force (GBOS & ICF International, 2014), food insecurity and malnutrition are still high, with the highest being in the Central River Region and the North Bank Region (FAO, 2016a), which were the project’s intervention sites at community level.
60. Further assessments showed that in 2018, 18 percent of the children under five were stunted, and 5 percent wasted; two-thirds of children under five, one-third of pregnant women and 16 percent of lactating mothers had vitamin A deficiency, 44 percent of women had iron deficiency; and two-

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<sup>15</sup> Improve nutrition and health of vulnerable women and children in the project regions by reducing micronutrient deficiency.

<sup>16</sup> Target 2.1: Universal access to safe & nutritious food; Target 2.2: End all forms of malnutrition.

thirds of pregnant women, and about a half of lactating women were anaemic (The Republic of the Gambia, 2018).

61. Both the CRR and NBR are situated at the border between the Gambia and Senegal. This makes them highly susceptible to porosity of unfortified foods from informal exports channels. Hence, these are the areas that are required targeted surveillance to reduce the influx of unfortified foods which do not comply with the regulations and standards of fortified foods as a measure of reducing malnutrition.

**Finding 4.** The bedrock of this project was capacity building. In this regard, the project recognized that capacity development enhances beneficiary ownership, quality, sustainability and scale of intended results. The project was thus relevant because it responded to the knowledge gaps both upstream and downstream to build knowledge and exchange experiences that provided stakeholders with a holistic view of the complex web of food fortification as a pathway to nutrition security.

62. The capacity strengthening undertaken by the project was trifurcated to build the capacities of public sector, private sector and communities.
  - i. Public sector: there was insufficient knowledge on biofortification, industrial fortification, the agricultural production of biofortified foods, the requisite skills on how to develop food fortification standards and regulations, and the monitoring and surveillance of foods to ensure that they meet the required standards for food fortification.
  - ii. Private sector: there was inadequate technical knowledge on the correct procedures for fortifying imported flour with micronutrients such as iron, folic acid, vitamin B12, Vitamin A and zinc that meets quality and safety standards.
  - iii. Communities: there was inadequate awareness on the benefits and opportunities of preparation, consumption and agricultural production of biofortified foods, particularly the yellow fleshed potatoes, iron-rich beans and cassava variety that were not widely cultivated in the country.
63. To transcend these knowledge gaps, the project applied a three-pronged approach towards knowledge building as follows:
  - i. technical capacities: the skills, knowledge and competences of the stakeholders were strengthened, for example i) training government inspectors on how to monitor fortified foods and how to develop a plan for monitoring to implement the fortification monitoring and surveillance (FORTIMAS) system; ii) training private sector millers on quality assurance and quality control in line with the fortification standards; iii) training the women farmers on different recipes for the preparation of biofortified foods; and iv) training extension officers and farmers on good agronomic practices, and food processing and preservation techniques;
  - ii. functional capacities: the capacities relevant to organizational effectiveness were enhanced, for example, in the establishment and facilitation of the National Alliance for Food Fortification (NAFF) which was a platform that convened multisectors to deliberate on issues on improved nutrition through industrial and biofortification; and
  - iii. enabling environment: where policy and legal frameworks were developed to regulate, enforce and enhance compliance of mandatory fortification of key essential food products with the appropriate micronutrients.

**Finding 5.** From a design perspective, although the project's results chain had a logical flow, it rendered itself as a planning tool but not as a management tool in determining the extent to which the project performed based on the indicators proposed. It also lacked a theory of change to illustrate the missing

middle between what the project interventions would do – instrumental changes – and how these would lead to the desired transformative changes.

64. There was no theory of change that illustrated the missing middle between what the project interventions will do – instrumental changes – and how these will lead to the desired transformative changes. There was therefore no way to:
  - i. exhibit the causal link between interventions and the various result areas or the corollary lateral unintended changes, if any;
  - ii. show the underlying assumptions and contextual factors that potentially could be important mediating variables; and
  - iii. assess if the sequence of events would produce the desired results and deliverables.
65. The project's indicators were high level indicators and heavily reliant on secondary data sources, for example the Demographic and Health Survey data thus making it impossible to attribute changes brought about by the project's interventions at outcome level. Moreover, DHS data is aggregated nationally, yet the project was not being implemented at national scale. There was also no methodology to show how this data from these national sources would be extrapolated to inform the changes taking place at the project intervention sites as a result of the project's efforts. In addition, most of the baseline and target values remained to be discussed, making it difficult to assess project performance in realization of project targets.
66. At the specific objective level, the project did not have behavioural outcome indicators that monitor the effectiveness of the project interventions designed to have an impact on nutrition status of the target group. The indicators measured the instrumental effort of the project rather than the transformative change brought about by the project's intervention. For example, the percentage of children aged 6–23 months who consumed vitamin A rich foods (24 hours before the survey). At the outcome level, the project should have tracked the metrics of percentage of children aged 6–23 months who have health concerns caused by vitamin A deficiency.

## 3.2 Effectiveness

67. This subsection presents progress towards the achievement of the project's set results. The project has a results framework that specified impact, outcomes, outputs and specific key performance indicators with corresponding targets that would serve as a means of measurement of achievement through the project's interventions; and how all these contributed towards shaping the project's goal.

### 3.2.1 Achievements of project's set results

**Finding 6.** Specific objective:<sup>17</sup> The evaluation acknowledges the reported increase in access to, and consumption of industrial and biofortified foods, and the project's contribution to it; however, the limited availability of project specific data does not allow to attribute this increase exclusively to the efforts of the project.

68. The project had aimed at increasing the access to, and consumption of industrial and biofortified foods. For example, the project had intended to increase the percentage of children aged 6–23

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<sup>17</sup> Increased access to and consumption of industrial and biofortified foods by women of childbearing age and children under five years in CCR and NBR.

months who consumed vitamin A rich foods by about 9 percent<sup>18</sup> in CRR and by 0.8 percent<sup>19</sup> in NBR.

69. Although the project reported an increase in the percentage of children aged 6–23 months with minimum acceptable diet (FAO, 2021) who consumed vitamin A and iron rich foods (FAO, 2021), and the increase in the tonnage of yield for the industrial and biofortified foods and food crops, the evaluation could not attribute this increase to the project because:
  - i. the data was secondary data reported by the DHS 2020 report and the Gambia National Micronutrient Survey, and it reflected the whole region where the interventions were undertaken and not extrapolated for the project beneficiaries who were producing the biofortified foods on a pilot scale;
  - ii. the increase in the micronutrients was not disaggregated into the industrial and biofortified foods that the project was focused on and hence the source could have been from other food sources; and
  - iii. at the time of the yield report (2020), NARI had not released nor certified the biofortified seeds for maize and cowpeas and cuttings for the orange-fleshed sweet potato and cassava for mass production.

**Finding 7.** The project used as vehicles for food fortification food types that were i) economically out of reach of the targeted population; and ii) not as widely consumed as others. This limited the extent to which the project was able to increase access and consumption of the industrial and biofortified foods and food crops.

70. The project allocated resources to the private sector flour millers to enhance fortification of wheat flour, for example in the procurement of 600 kg of premix, which was projected to last six months. However, a food consumption survey that assessed the average daily per capita intake of target food products found that only 56 percent of the target population consume bread. The low per capita consumption was attributed to the cost of the bread (FAO, 2021).
71. On the contrary, rice is the country's staple food with a per capita consumption of 117 kg (Africa Development Bank Group, 2018). It thus presents as a more appropriate food fortification vehicle. And although the project design had included it as one of the foods to be fortified, the intervention was later dropped because the quantities of rice grown in the country did not sustain economies of scale to fortify. The Gambia produces 50 percent of its domestic consumption requirements of rice yet the country's cereal needs has been consistently above local production with the cereal need gap widening. The national requirement for rice is approximately 215 000 metric tonnes while the national production is estimated at only 12 000 tonnes (Africa Development Bank Group, 2018). The deficit is met through imports. To underscore this, the country earned USD 80 million from Tourism in 2017, but spent USD 74 million on rice imports in the same year to meet the deficit (Africa Development Bank Group, 2018). Yet, a study supported by the project and undertaken by Food Safety Quality Authority (FSQA) from January to April 2019, showed that 100 percent of the 1 445 tonnes of imported rice during that period was unfortified (FAO, 2021).
72. Owing to the level that rice occupies in the diet of the Gambians, the project supported NaNA and FSQA to attend a rice fortification workshop in Senegal to learn the best practices on rice

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<sup>18</sup> From 31 percent to 40 percent.

<sup>19</sup> From 59.2 percent to 60 percent.

fortification. Nonetheless, as mentioned above, the project dropped the rice fortification interventions given the levels of local production.

73. The project supported a food consumption survey to assess the average intake of the targeted food types. The survey found that there were no significant differences in the mean consumption of bread, rice and biofortified pearl millet, biofortified maize, orange-fleshed sweet potato, iron rich cowpeas, biofortified cassava, vegetable oil, fruits and vegetables in all the target groups between intervention and non-intervention areas, and between rural and urban areas (FAO, 2021).

**Finding 8.** Output 1.1:<sup>20</sup> The project was instrumental in involving and convening multiple stakeholders which resulted in effective consolidation of inputs from the interdependent sectors and identification of policy entry points for development of legislation and standards on food fortification. This culminated in the development of food fortification standards and regulations in the Gambia. In this regard, the project was a catalyst towards improving the enabling environment for nutrition security.

74. As a clear demonstration of public-private partnership model, the project convened multiple stakeholders ranging from the public and private sector, to identify the nexus of response from a policy perspective. Spearheaded by the Food Safety Quality Authority, the project developed regulations to enforce fortification of additional foods such as wheat flour, edible fats and oil to improve nutrition. This was an improvement to the previously existing legislation on iodized salt because it broadened the number of foods that should be fortified. To demonstrate its importance, the launch of the policy was presided over by the Vice-President of the country. The Gazettement of this policy made it mandatory for importers and manufacturers of wheat flour, salt and edible fats and oils to fortify their products with adequate levels of specified nutrients.
75. To support enforcement of the food fortification policy, the project applied a three pronged approach: i) trained public inspectors on how to inspect and check that imported foodstuffs were fortified with the mandatory legislated micronutrients, including ensuring appropriate labelling and documentation complied with the legislation; ii) developed appropriate protocols and guidelines on how to monitor and enforce compliance at the market level by ensuring that the food stuff on sale complied with the fortification regulations; and iii) developed data collection tools and trained the FSQA inspectors and Ministry of Health officials in the application of the Premix reconciliation tool and data collection on the FORTIMAS system.
76. However, three factors hampered enforcement of the policy:
- a. Given that the capacity strengthening of monitoring and surveillance preceded the enactment of the food fortification policy, the trained inspectors had no mandate to routinely undertake their responsibilities in public markets and hence did not inspect foodstuffs on sale in the market.
  - b. The lab was not enabled to test the foodstuffs because procurement and installation of the lab equipment was delayed and had not been installed at the time of evaluating the project. The delay was occasioned by lengthy procurement procedures within FAO, and the outbreak of COVID-19 delayed the shipment of the laboratory equipment.
  - c. However, despite the laboratory equipment finally arriving in country in 2021 after long delays, by the time of the evaluation the equipment had still not been installed in the

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<sup>20</sup> The legislative, regulatory, policy, institutional and governance environment for food fortification is improved.

laboratory thus rendering it non-functional to test compliance with the developed standards. The installation was further delayed by operational inventory issues within FAO.

77. To increase compliance, the project trained importers to increase their awareness on the requirements of the micronutrients that the foodstuffs they imported should contain. The project also supported FSQA to conduct a survey to assess the fortification levels of imported food stuffs such as edible oil, wheat flour and salt to obtain baseline data on import volumes of the selected foods to ascertain compliance with the fortification regulations. The findings showed that most of the foodstuff imported were unfortified, for example 100 percent of the 1 445 tonnes of imported rice, 34 percent of approximately 1.2 million litres of edible oils were unfortified (FAO, 2021). The evaluation, however, found these findings to be a snapshot that captured the information at a specific point in time, hence making it difficult to accurately conclude the effectiveness of importers awareness created and compliance levels to the policy and regulations.
78. In addition to the regulations, the project was instrumental in the development of four standards for fortified wheat flour, iodized salt, rice, edible oil and fats. To increase their reliability, the project subjected the standards to the World Trade Organization (WTO) rigour and notification. Subsequently, they were approved by the Gambia Standards Bureau.

**Finding 9.** Output 1.2:<sup>21</sup> The evidence shows an increase in the quantity of biofortified foods produced, to which the project activities contributed. However, this increase cannot be exclusively attributed to the project interventions because the data utilized to report it (FAO, 2021) did not extrapolate project specific data.<sup>22</sup>

79. The data reported in the interim report showed that there was a 613 percent increase in the quantities of industrial fortified flour produced as of September 2021.<sup>23</sup> The evaluation acknowledges the contribution of the project activities to this increase; however, it is not possible to exclusively attribute it to the project intervention. This is because there is no clear correlation between the project's support to the miller in the form of 6 metric tonnes of fortificants that were projected to last six months, and the increase in production of wheat flour.
80. A field assessment done by the evaluation on the production of the biofortified foods showed mixed results as follows:
  - i. To increase production and consumption of biofortified foods, and that they meet safety and quality standards, the project planned to enhance the technical capacities of NARI to ensure that the varieties of biofortified foods introduced were suitable. The yield from the cassava was 23 percent<sup>24</sup> of the expected target because the specific variety took very long to cook and did not soften as well as the local varieties do. Due to this, some of the communities abandoned its production and consumption. Subsequently, NARI recalled this specific variety with the intention of reintroducing a different variety that took less time to prepare and was as soft as the local variety that the communities were used to.
  - ii. There was a preference by the women of growing the sweet potatoes because there was a high demand from the neighbouring country, Senegal, and the farmers were able to sell both the vegetable and its leaves at about GMD 50 (USD 1) per kilo. On average, the

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<sup>21</sup> Output 2: Production of fortified foods and biofortified crops in quantity and quality increased.

<sup>22</sup> Secondary data from the Demographic and Health Survey and the Gambia National Micronutrient Survey did not extrapolate data for the project's beneficiaries nor the foods that were the focus of the project.

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.



farmers sold 70 percent of their harvest and consumed 30 percent. This demand motivated the farmers to continue producing this biofortified sweet potato. The sweet potato also had a high yield of 108 percent (FAO, 2021) of the expected target. This increase in yield should be interpreted with caution because at the time of the yield report (2020), NARI had not released nor certified the biofortified cuttings for orange-fleshed sweet potato for mass production were thus still under pilot production.

- iii. The biofortified cowpeas variety introduced was highly susceptible to pests and farmers lost a significant amount of produce due to pests' infestation. The crops were further made more vulnerable to pests infestation due to the agricultural practice taught to the farmers by NARI, where they were instructed to plant the cowpeas alone, as opposed to their traditional way of growing cowpeas whereby they do mix crop farming with groundnuts which shields them from pests. This too contributed to the unsustainability of this biofortified crop intervention. The yield for the cowpeas was 26 percent of the expected target. Similar to the orange-fleshed sweet potato, this reported yield should be interpreted with caution because at the time of the yield report (2020), NARI had not released nor certified the biofortified cowpeas seeds for mass production and were thus still under pilot production.
- iv. The production of biofortified maize was quite successful and most farmers expressed their satisfaction with the crop. However, it is also important to consider gender implications behind this result. Men are often viewed as being responsible for production of cash crops, while women are responsible for the production of subsistence crops for home consumption. Maize being a cash crop, it is considered a men's crop. This could have incentivized the increase in the maize yield as opposed to the motivation for using biofortified maize as a means to curb malnutrition. The yield for the maize was at 74.4 percent (FAO, 2021) of the expected target. However, it should be noted that at the time of the yield report (2020), NARI had not released nor certified the biofortified seeds for maize for mass production and were thus still under pilot production.
- v. There was a higher appreciation of production of biofortified foods in the rural community gardens as opposed to those in the urban areas. Those in the urban areas did not value the intervention as highly, and they only planted and harvested once. The evaluation deduced this to be because farming was not the main source of livelihood for those in the urban areas and the project undertook this intervention as a response to the COVID-19 pandemic to cushion the urban communities against interrupted food supply chains and job losses.
- vi. The project aimed at improving access to biofortified foods to school going children. However, the school gardens were not successful because they were left untended and hence the crops were destroyed by rodents and in some instances there was insufficient water to sustain the vines. The evaluation found this to be occasioned by inadequate needs assessment prior to intervention commencement, and a lack of monitoring to ensure the sustainability of the project interventions.

81. The project issued small ruminants and poultry to the women as a complementary addition to their dietary diversification. Though a noble intervention, it was a point of departure from the project's objective whose emphasis was food fortification. The evaluation did not find the correlation between the project objective and the need to supplement dietary diversification. The beneficiaries also received additional support in the form of inputs such as vaccines and animal feeds to increase the probability of sustainability for the small ruminants. Despite this support, the livestock issued to the vulnerable households had a 50 percent mortality rate after suffering bouts of diarrhoea.

82. The farmers were provided with poultry layers two weeks prior to the evaluation. Hence it was not feasible to assess the impact it had on beneficiaries.
83. Despite stakeholder consultations on the type of livestock the project should support them with, the project gave the beneficiaries goats instead of sheep that they had proposed due to the fact that they had more experience rearing sheep than goats. The evaluation found that the project's lack of follow-up with stakeholders needs contributed to the partial unsustainability of the small ruminants intervention.

**Finding 10.** Output 1.3: The project undertook various activities to create awareness on nutrition sensitive agriculture, and utilized web-based communication platforms to publicize nutrition-related events. However, based on the food consumption survey findings commissioned by the project, these communication and awareness activities were not sufficient to translate into dietary transition behaviour change. This was evidenced by the limited difference in consumption patterns of biofortified foods between intervention and non-intervention sites.

84. To achieve the overall aim of this project required behaviour change to adopt different and new dietary habits and production of biofortified crops that are not widely cultivated in the country. To achieve behaviour change, the project had planned to improve social marketing with integrated nutrition interventions. Some of the activities planned under this result area included linking fortified foods to social protection interventions; creating community food fortified shops where the stakeholders would be able to purchase biofortified foods at subsidized prices; identification by the communities of a special logo contained in the packaging of fortified foods, etc.
85. The project undertook two major activities to create awareness on the importance of healthy diets and consumption of fortified foods. These included a nation-wide healthy diet caravan, and a live radio and television programme to promote nutrition-sensitive agriculture. The televised show featured a 29-minute cooking demonstration supported by the project on preparation of biofortified foods.
86. The project also undertook other communication activities to create awareness on biofortified foods. These included:
  - i. branding with the European Union logo in all mass media campaigns and communication materials such as billboards, banners, brochures, leaflets, handouts, notepads, t-shirts, project signboards supplies, vehicles and motorbikes;
  - ii. using social media platforms to share videos on the national nutrition week and also the cooking preparation of recipes of biofortified foods; and
  - iii. using social influencers to promote production and consumption of micronutrient rich foods, for example using a local musician to release a song on the World Food Day celebrations.
87. Furthermore, other activities useful to raise awareness were also conducted, such as training the communities on a weekly basis on the health benefits of the biofortified crops, their preparation using various recipes, and on good agricultural practices such as spacing, fertilizer usage and compost making. Other types of training undertaken included social and behaviour change communication step down training of trainers to village support groups, traditional communicators, farmer field schools and other clubs.
88. It is worth noting that training is less effective in raising awareness. Awareness creation is raising the consciousness of your target audience about the importance of a certain issue with the

intention of influencing their attitudes, behaviours and beliefs towards the achievement of your communication goal and win their support, while training is the impartation of skills and knowledge towards a specific competence.

89. The project was a catalyst in the development of other ancillary products. An example is the multisectoral nutrition policy strategic plan that is being developed by NaNA which incorporates several initiatives of this project. This strategic plan was not completed by the time of this evaluation.
90. However, most of the awareness activities were undertaken as one-off events, although this project was geared towards a dietary transition behaviour change. Behaviour change entails substantial effort that involves several iterative steps starting with readiness to change if one has the resources and knowledge to make lasting change successfully, barriers to change if there are any obstacles preventing one from changing, and likelihood of relapse which might trigger a return to a former behaviour. The one-off events undertaken by the project provided information on the benefits of consuming biofortified foods. But it was not sufficient to move the needle towards where the communities were committed to change their behaviour on the basis of one-off events.
91. Finally, similar to Output 1.2, the data reported on the population who were aware of biofortified foods and its benefits was secondary data (The Republic of the Gambia, 2018) and did not extrapolate data for the project's beneficiaries nor the fortified foods that were the focus of the project. While the evaluation acknowledges the contribution of the project towards awareness raising, it is unable to demonstrate the attribution of the results reported entirely to the project interventions. In addition, some of the data reported was on awareness of fortified oil which was not a focus of this project.

### 3.2.2 Partnerships and collaboration

**Finding 11.** The project was effective in convening various multistakeholder expertise to enable it address common and shared concerns that could not be addressed adequately through a single sector approach.

92. The creation of the NAFF, which constituted various technical working groups, consolidated and harnessed the various technical expertise required to implement the project interventions. This concerted effort was for instance able to realize the regulations and standards on food fortification by engaging the various actors to cover a wider scope of foods that should be fortified. This partnership was spearheaded by the Gambia Standards Bureau that approved the standards formulation, and the Food Safety Quality Authority that approved the technical food fortification regulations.
93. To increase awareness of the benefits of nutrition-sensitive agriculture, the project partnered with the Directorate of Health Promotion and Education (DHPE) who in turn trained multidisciplinary facilitator teams, community volunteers on the importance of nutrition to strengthen the immune system and its relevance in combating COVID-19 infections.
94. To increase production of biofortified foods, the project partnered with NARI to conduct experimental tests as part of quality control, for seeds viability, adaptation to the climate, typology of soil and disease tolerance. They also partnered in collaboration with regional agricultural offices and field extension staff to support farmers in piloting the biofortified crops. The project also partnered with the National Seed Secretariat (NSS) to register and certify the four biofortified crops that were introduced. However, at the time of the evaluation, the NSS had only registered and certified the maize seeds.

95. The partnership with the World Food Programme (WFP) in supplementing their school feeding programmes with biofortified foods, and with both the United Nations Children's Fund (UNICEF) and WFP in undertaking joint activities during the Nutrition week, was instrumental in strengthening the UN reforms of delivering as one (DAO). This also demonstrated the joint planning as UN agencies in the United Nations Sustainable Development Cooperation Framework (UNSDCF) which is the core instrument for articulating the UN's role in achieving collectively owned development results under the 2030 Agenda for Sustainable Development at country level.

**Finding 12.** The collaborative spirit on which the project is grounded was also reflected in its multistakeholders governance. This was evidenced through the creation of the NAFF, a joint oversight and coordination mechanism. The NAFF constituted different Technical Working Groups that developed respective work plans and was allocated resources based on the delineated division of labour which was also complementary.

96. The project document outlined a clear division of labour in the multistakeholder involvement plan, establishing responsibilities to lead the delivery of specific project outputs for each stakeholder. Despite this being a collaborative project, FAO maintained the responsibility of mobilizing and applying effectively the required technical and administrative capacities and inputs in order to realize the expected outputs and assumed overall management responsibility and accountability for the project implementation adhering to the policies and procedures established for its own operations.
97. Internally, the project was managed by a Project Implementation Unit (PIU) that consisted of technical, operational and administrative expertise. There were, however, challenges in the constitution of the PIU which resulted in delays in implementation of the project. For example, given that production of biofortification was a key component of this project, it was imperative that an agronomist be considered as part of the core PIU. However, this was not the case and the project had to rely on the Ministry of Agriculture extension services to provide this support.

### 3.2.3 Synergies and coherence

**Finding 13.** The project leveraged on ongoing national initiatives to maximize synergies and gain traction on the adoption of biofortified foods as a source of micronutrients.

98. An example is the National Nutrition Program from the Ministry of Health that has an ongoing clinical initiative for pregnant women, lactating mothers and children under five years of age at the health facilities where they are provided with vitamin A and iron supplements. It was therefore not very alien to introduce the same benefits through production and consumption of biofortified foods.
99. The General Principles for the Addition of Essential Nutrients to Foods are guidelines developed by FAO that provide guidance to national authorities on how to develop guidelines and legislation.
100. The project rode on the resolution of the Second International Conference on Nutrition (ICN2) on Nutrition for African countries whose key recommendation was to strengthen local food production and processing including food fortification with micronutrients and the promotion of diversification of crops and the use of nutrient-dense biofortified foods varieties. This recommendation is also outlined in the Rome Declaration and Framework for Action.
101. The project also leveraged FAO's country office long-term and emergency seed projects whose goal is to assist smallholder farmers with improved high quality, high yielding, nutritive and drought resistance seeds.

102. The project built on existing national programmes like the anaemia programme run by the Ministry of Health that gives iron folate supplements to pregnant women to expand the reach through fortification of flour with iron and folic acid to other women, children and wider population that may be iron deficient in order to reduce anaemia. It has also built on the vitamin A supplementation programme for children that is still ongoing through biofortification with vitamin A in the orange-fleshed sweet potato, cowpeas and oil.
103. In CRR and NBR, the department of water resources and other development partners such as the International Fund for Agricultural Development (IFAD) and FAO, had already initiated projects to sink boreholes to increase access to water for farming. The project built on this initiative in the community gardens so as to have adequate supplies of water for the production of biofortified food crops.

### 3.2.4 Monitoring and evaluation system

**Finding 14.** There was space for improvement in the project monitoring and evaluation (M&E) system to appropriately and routinely monitor the project and provide immediate feedback to improve implementation, performance and progress. This paucity of primary data limited the project's extent of learning and adaptation, and caused delay in making informed decisions on mitigation measures to undertake unforeseen challenges.

104. The paucity of primary data limited the opportunity of the project to undertake mitigation actions and propose course corrections in a timely manner.<sup>25</sup> Without M&E data, the project was not able to identify areas of improvement or focus and lessons learned during implementation.
105. Furthermore, it was not possible to attribute the positive changes to the project because the data was not primary data collected by the project and using the project beneficiaries as a data source. This limitation denied the project the opportunity to demonstrate its effectiveness because the data reported was secondary data derived from Demographic and Health Survey, Ministry of Health Sentinel Surveillance Sites and the micronutrient surveys (MNS). In particular, the data from the Ministry of Agriculture was on the progress of the implementation, and not on the project performance tracking, while the data from the Ministry of Health was sentinel surveillance data that was not specific to the project beneficiaries.
106. A better functioning M&E system<sup>26</sup> could have also contributed to provide up to date and reliable data from its direct beneficiaries for communication purposes, knowledge products or fit for purpose solutions on industrial fortification and biofortification in the Gambia, beyond those products already developed by the project, such as radio programmes and newsletters, among others.

**Finding 15.** The project was effective in piloting a fortification monitoring and surveillance system (FORTIMAS) to track the trends or changes in the effective coverage and nutritional impact of fortified foods over time on populations that regularly consume fortified foods. This however was at a higher and national level as opposed to project beneficiary level.

107. The project built the capacity of stakeholders to implement the FORTIMAS system that assesses the effectiveness of a flour fortification programme over time in populations who are documented

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<sup>25</sup> An example of this are the school gardens, which were undergoing difficulties that were only discovered during the field work of this evaluation.

<sup>26</sup> A monitoring and surveillance officer was hired during the COVID-19 pandemic. Having to comply with the imposed restrictions, his work suffered from limitations.

to regularly consume the fortified flour. Participants were drawn from NaNA, Ministry of Health, FSQA and the private sector who play a role in monitoring and evaluation.

108. The project also supported in the pilot roll out of FORTIMAS at health facility levels where they collected surveillance data on the haemoglobin status of the first trimester pregnant women by checking on the anaemia levels which plays a role as an indicator of their iron intake.

### 3.2.5 Adaptive management

**Finding 16.** The project exhibited adaptive management in making decisions and adjustments in response to new information and changes in its operational and implementation context. This was facilitated by the flexibility in the project and activity design that minimized the obstacles towards the team's best supposition about the most likely path to change in order to meet the project's goal.

109. At the time of the project design, it was not envisaged that a global pandemic outbreak would occur. Hence the project intervention sites were identified in the rural areas where agriculture is the mainstay of the beneficiaries' livelihoods. However, in response to the COVID-19 outbreak, the project included urban agriculture as an intervention, which although was a departure from the project's main objective of reducing malnutrition, it was a good practice in adaptive management in response to an unforeseen challenge, which if left unattended, would have in the long run resulted in cases of malnutrition due to the breakdown of the food supply chain and the loss of jobs.
110. The project also abandoned the intervention of rice fortification after information emerged that it was not viable as an intervention due to the low levels of local production.
111. The project had intended to supply the two flour milling companies with fortificants. However, after realization that the second milling company required to first retrofit its production process to be able to fortify the wheat flour, to avoid delays, the project issued all the fortificants to one milling company that was already retrofitted for purpose.
112. Also, as part of adaptive management, where specialized competences were lacking at national level, the project recruited international consultants to implement those interventions e.g. development of industrial and biofortification regulations and standards. This ensured that the interventions were of high recognized quality.

### 3.2.6 Enabling and constraining factors influencing the achievement of results

**Finding 17.** The project endeavoured to be holistic and included interconnected enablers that have the potential to reverse gains in nutrition security if not addressed. To achieve this, the project built on existing initiatives and approaches to gain traction of its interventions. However, the full realization of the desired results was hampered by some inadequacies in national capacities, operational functions, procedural limitations, the project's scope of influence, and the limited availability of data to make timely informed decisions.

#### **Enablers**

113. The project leveraged FAO's long-standing contribution and recognition towards national development and more specifically in Agriculture in the country to convoke multi and intersectoral and national actors to establish a National Food Fortification platform. This forum served as the project's national steering committee that provided strategic guidance, a coordinating, advocacy and accountability mechanism, and also as a knowledge sharing and resource mobilization platform. It catalysed traction and a pathway towards commitment to food fortification by the

respective constituencies. The on-the-ground presence also promotes partnerships including with other UN agencies.

114. The project also leveraged on FAO's familiarity and experience with its traditional partners in public, private and development partners, including UN agencies. This facilitated a quick ramp up of the project especially within the NAFF. In the development of, *inter alia*, the project subcommittees work plans, and constitution of Technical Working Groups.
115. The project was able to draw on global team support technical expertise that complemented the project's in-country team. This included the international expertise on industrial fortification, food fortification regulations and standards, and food consumption survey expertise.
116. The fact that the mandate of ensuring nutrition security is situated in the Office of the Vice-President, allowed a more effective coordination of activities between multilateral stakeholders and facilitated the project to partner with a diverse group of stakeholders.
117. The project's interventions are science-driven. As earlier elucidated, food fortification is a globally accepted approach to improve the deficiency of micronutrients to improve human health. Hence, the project did not face any entry barriers with the national authorities given the global acceptance of this approach.

### **Disablers**

118. There were inadequate national capacities in the highly specialized area of food fortification to implement the project in a timely manner. This delayed execution of the work plan because of the delays in procurement of the international expertise. For example, recruitment and deployment of the international experts in industrial fortification and in food fortification and standards was done in 2019, two years after project commencement. Yet, their role would have had a higher utility at the inception phase of the project. Similarly, the international consultant for rapid food consumption survey was deployed in 2021, yet the survey findings were supposed to inform the project on the consumption of foods per capita in order to ascertain which were the most appropriate food vehicles for food fortification. Subsequently, the survey concluded that the selected food crops for biofortification such as cowpeas, orange-fleshed sweet potatoes and cassava are not commonly consumed across the country but only in specific regions.
119. Scope of influence by the project was limited especially with the public sector. The project worked with respective departments within the larger Ministries, for example the Food Technology Services (FTS) whose primary role was to develop recipes of the biofortified foods and train the communities on their preparation to increase its consumption. FTS is a Unit in the Ministry of Agriculture and under regular circumstances relies on the Ministry's allocation of resources to the department. The project's scope is limited in influencing the Ministry to allocate additional resources to sustain the FTS interventions after project completion, hence compromising sustainability.

### **3.3 Efficiency**

120. This section presents the extent to which the project delivered on its interventions within the intended time frame, or a time frame reasonably adjusted to the demands of the evolving context. The project experienced delays caused by both internal and external factors that required two no-cost extensions to complete the planned interventions.

**Finding 18.** Project activities suffered from several delays throughout the implementation period such as: i) delays in procurement and deployment of the requisite personnel; ii) delays in procurement of inputs and equipment following policies and procedures established for FAO's own operations; and iii) sequential nature of the activities to be implemented. This led to the project requesting two no-cost extensions, the first of which was granted from February 2021 to February 2022. By the time of this evaluation, the process for seeking approval for the second no-cost extension was still at play.

121. Internally, the project was managed by a Project Implementation Unit that consisted of technical, operational and management expertise. The National Nutrition Officer who developed the project document and was to take the lead in managing the project left FAO three months after the project agreement was signed. This led to a prolonged period of approximately eight months before the International Nutrition Specialist was recruited to take on the project leadership. It then took another three months to replace the National Nutrition Officer. In total, this was almost a full year that the project did not have the substantive technical expertise to implement the project.
122. In addition, four months to the end of the project, the project will not have a substantial Project Coordinator because the International Nutrition Specialist resigned in October 2021. Should the project receive approval for the second no-cost extension, it will mean that the project will be implemented for ten months without substantive leadership because the current Project Coordinator is doing so in an acting capacity. This lack of substantive leadership stretches the capacities of the other technical experts because they have to take on the roles of the missing positions in addition to their own responsibilities.
123. The procurement and deployment of the international expertise was slow and was not in sync with the sequence of interventions, for example the food consumption survey was undertaken in the last year of project implementation as opposed to the inception phase of the project to inform the appropriate interventions such as the most appropriate food vehicles to fortify.
124. FAO being a technical Organization has the responsibility to ensure that the inputs, supplies, commodities and equipment procured at national level meets the required technical specifications. In this regard, there is a sequential approval chain procedure that originates at country level, then to the Regional Office for Africa (RAF) and eventually to FAO headquarters. These policies and procedures established for FAO's own operations add extra layers of delay. In the case of this project, this was even more protracted because of the highly technical nature of the inputs and equipment that was required to be procured for the industrial and biofortification whose approval was escalated to include the legal department at FAO headquarters and several pages of justification by the country office. Procurement approvals, in some cases, took up to six months to be granted.
125. Some of the activities did not take place to the level that they were required because of the sequential nature of the activities. An example is the behaviour change communication activities. These required the legislation on industrial and biofortified foods to be first enacted before the awareness and sensitization on their benefits of production and consumption. The legislation was enacted in 2021.
126. Further delays in implementation of the project were occasioned by the coincidental end of contract for some of the Project Implementation Unit personnel. Hence there was a period of approximately three months before the personnel were rehired under new contracts.
127. Any procurement that is above a certain threshold requires approvals from RAF and/or headquarters. This further added layers of bureaucracy that caused delays of inputs and equipment, for example for the laboratory.



### 3.4 Gender considerations

128. This section describes the extent to which the project mainstreamed gender to respond to the differential impact of malnutrition based on women's and men's participation, involvement and power relations considering the diversity of social, economic and cultural structures.

**Finding 19.** The project design explicitly recognized that women are significant actors in the agriculture sector from production to consumption, and more specifically, the pivotal role they play in inadvertently enabling malnutrition if alienated or slowing down its impact if involved. The project also contributed towards women's reduction of burden and empowerment by targeting them in biofortification activities, preparation and consumption of biofortified foods.

129. The project highlighted the inclusion of women in various interventions such as the pilot activities in the community gardens where the production of biofortified foods such as cassava, maize and cowpeas was undertaken. This was informed by the fact that women provide most of the agricultural labour and are also the key determinants of the family diet. Hence creating awareness on the value of production and consumption of biofortified foods was a targeted approach to encourage them to consciously choose to grow and feed their households on biofortified foods.
130. The project catalysed microfinancing for women through table banking or *kafo* as it is commonly known in the local language. Women sell the surplus harvest and with their minimal disposal income, they participate in *kafo*. Through *kafo*, women acquire a diverse set of skills such as leadership, financial management such as savings, investments and access to microcredit table banking. Consequently, women are able to increase their income, strengthen their capacity for self-organization and expand their range of choices. In this regard, the project thus catalysed financial inclusion of women albeit on a small scale.
131. The project provided women with gender-responsive technology that reduced their labour, time and burden. This was through the issuance of threshing machines that enabled them to save time and labour when threshing groundnuts which they previously did with their bare hands. Additional gender-responsive machinery was also issued to the women to make groundnut paste for sale to supplement their income and increase their participation in *gabo*.

**Finding 20.** Due to limited consultations with women community beneficiaries, as well as the lack of sex-disaggregated data, some of the project's interventions and inputs served to further entrench the social construct of gender roles.

132. There was no evidence to show that there was stakeholder consultation from the women community beneficiaries on the choice of biofortified foods to be produced. This was evidenced by the type of biofortified cassava that was introduced. The respective variety was not a staple of the country. Its preparation required to first be processed and transformed into local foods (*fufu* or *gari*). Due to the unfamiliarity with the need to first process it, its preparation took much longer than the local variety. This new variety discouraged the beneficiaries of its production and consumption.
133. Some of the project interventions served to further entrench the social construct of gender roles. The project issued goats and poultry to the women as a complementary addition to their dietary diversification. While this was a beneficial intervention from the perspective of dietary diversification and sustainability of nutritious protein food products, it nevertheless perpetuated the role of women looking after livestock species that is deemed to be of a less value culturally

and monetarily. Yet, the livestock husbandry and management of raising goats is more costly than sheep and the sheep sell faster and fetch better prices in the market.

134. The project targeted women farmers in the provision of inputs such as seeds. However, women farmers do not own productive assets such as land. Hence, in some communities such as the Mamud Fana mix farming centre, although the project issued maize seeds to the female farmers, the differential power relations between men and women denied women the opportunity to grow the maize. Ultimately, the inputs were issued to men to grow in their farms.
135. Finally, at the time of data collection of this evaluation, there was no sex-disaggregated data collected and analysed by the project. Having sex-disaggregated data could have given the project the opportunity to provide a more complete and nuanced understanding of the differential impact on men and women of production and consumption of biofortified foods, which would have informed policy and programme development that responds to men and women's needs appropriately. However, from consultations with the M&E team, it was clear that they had recognized the limitation of non-disaggregated data and that plans to ensure that the data collected was disaggregated had been instituted for the remaining period of the project.

### 3.5 Sustainability

136. This subsection assesses the extent to which the interventions, achievements and deliverables of the project will continue beyond the shelf-life of the project. The evaluation assessed the potential of the continuation of project benefits as opposed to maintaining project investments by examining the measures taken to ensure that results initiated or catalysed by the project will be continued on cessation of donor support.

**Finding 21.** The project's design ensured that some of the prerequisite conditions for sustainability are in place, some of which cannot be retracted, and when put in practice, they can only continue to be enhanced and strengthened extensively. These included i) the capacities, knowledge and skills transferred to the national stakeholders; ii) the strengthened enabling environment; and iii) assimilation of project outputs into national overarching initiatives.

137. The project applied capacity building as a conceptual approach to individual, institutional and enabling environment development by focusing on the barriers that would inhibit the national stakeholders to apply and implement food industrial and biofortification processes. To this end, the project trained the public and the private sector, and the community on various aspects across the industrial and biofortification spectrum. Trainings included, *inter alia*, training FSQA and Ministry of Health officers in the application of the Premix Reconciliation Tool and data collection on FORTIMAS; training extension officers and farmers on good agronomic practices, principles of fortified food processing, preservation and preparation, and quality seed production techniques.
138. The project's partnership with NaNA and NARI ensures the availability of certified biofortified seeds. This means that when the farmers are ready for planting, the inputs will be readily available. The exception to this is the orange-fleshed sweet potato cuttings which will require completion of the tissue culture lab to enable NARI's capacity to preserve, produce and multiply high-quality planting materials for orange-fleshed sweet potato.
139. The alignment of the project's goal with the national development plans such as the multisectoral nutrition strategic plan ensures that nutrition will continue to be viewed as a priority in the country and thus receive allocation of national resources. By extension, this means that national resources

will continue to be allocated along the spectrum of food fortification as a proven alternative to nutrition security.

**Finding 22.** There are some aspects of the project that are not likely to be continued unless national resources are allocated towards them, alongside some external risks that may affect sustainability of the project results.

140. Not all aspects of the projects are likely to be continued unless national resources are allocated towards them. These include, *inter alia*:

- i. funding the NAFF to continue playing its oversight and coordination role;
- ii. funding Food Technology Services to continue developing recipes for biofortified foods and disseminating the same to the communities;
- iii. providing free inputs to the farmers, for example small ruminants, vaccines, biofortified seeds and fertilizer;
- iv. equipping the lab with consumables, supplies or repair/maintenance of the laboratory equipment;
- v. monitoring and enforcement of standards and regulations to ensure compliance with food fortification policy particularly at the border inspection posts and in retail markets;
- vi. staff attrition of already trained public sector staff without adequate provisions for cascading down, or institutionalizing the knowledge gained on industrial and biofortification; and
- vii. food register that will mandate all fortified foods coming into the country to be registered, which will help enforcement of the food fortification regulation.

141. Other risks that may affect sustainability of the project results include, *inter alia*:

- i. if the demand for the biofortified foods exceed the quantities of local production of the food crops;
- ii. low awareness and sensitization of the population on the benefits of consuming industrial and biofortified foods which will ultimately lead to low uptake of the same; and
- iii. the recently emerged COVID-19 global pandemic, which has had huge devastating effects on all sectors of the world's economies. Hence, if the national priorities are concentrated on mitigating the effects of the COVID-19 pandemic, and to address the financial losses borne by this pandemic in industrial, commerce and other sectors, this may threaten the sustainability of project interventions.

**Finding 23.** Although the project had embedded several elements of sustainability into its design such as capacity development, coherence and a people centred approach, at the time of data collection there was no evidence of a formal structured and documented exit strategy. However, given the no-cost extension, the project had embarked on documenting and formalizing its exit strategy.

142. As explained above, the nature of the project activities rendered themselves to be sustained after termination of the project. However, the evaluation did not find a formal structured and documented exit strategy that would have crystallized the continuation of the project. A structured and documented exit strategy would have enabled the project to delineate the three phases of an exit strategy and monitor them thus ensuring commitment to continuation of the activities by the partners as follows:

- i. Phase down. The project would have identified which activities required a gradual reduction of project inputs and deployment of resources in the final year of implementation. Examples include the training activities.

- ii. Phase out. The project would have identified the activities that the project would completely withdraw from without making further explicit arrangements for the inputs or activities to be continued by any other entity because the project would have realized the changes that are likely to be sustainable without further inputs. Examples include procurement of laboratory equipment.
- iii. Phase over. The project would have identified the activities that it would have officially transferred to other entities to take up the continued delivery and sustenance of project benefits. Examples include resourcing NAFF.



## 4. Lessons learned

143. Partnering with multistakeholders was strategic because of their wide influence, reach and convening power of other ancillary ministries and departments. This creates traction for programme ownership and sustainability to a certain extent once the processes are institutionalized and mainstreamed into the existing national processes. This type of partnership, when well nurtured, can provide a fertile learning platform of what works or doesn't because feedback can be easily solicited and received from downstream beneficiaries through existing feedback mechanisms.
144. Convening different and relevant stakeholders in food fortification provides for an effective landscape consultation approach and makes the process of mainstreaming food fortification in development planning and policy formulation easier, as it creates an environment that brings duty bearers and rights holders together. This interaction enables reflection of food fortification issues, priorities and concerns by all actors thus helping to address knowledge and coordination gaps. This landscape approach also helps to build consensus around priorities. The foundational element of this project was an upstream proposition towards influencing policy and standards. This takes a long time to formulate and manifest, respectively, and the policy integration cycle is not always aligned with the project time frame. It is therefore important to determine which upstream activities can realistically be achieved in the shelf-life of the project, while bearing in mind the malleability of relevant institutional structures and systems.
145. Given that this was the first attempt by FAO Gambia to undertake a project on industrial and biofortification of foods and food crops, it would have been useful for the project to institute systematic lessons learning and knowledge management on success stories, good practices, what works or does not work, that could have been utilized for future projects in this area.



## 5. Conclusions and recommendations

### 5.1 Conclusions

**Conclusion 1.** The project stirred up interest from the public and private sector in industrial and biofortification as a viable strategy to reduce malnutrition in vulnerable populations. This further cemented FAO's position to contribute to the national and regional nutrition agenda.

146. This was the first time that FAO Gambia was undertaking a food fortification initiative in the country. Hence, given that there were inadequate national capacities, FAO continued to become a resource in strengthening the capacities at national level. This also creates an opportunity for FAO to serve as a regional resource for other countries that may want to undertake food fortification projects and would wish to learn from FAO Gambia's experiences. However, to successfully occupy this space requires continued and strengthened operational and technical capacity, together with increased investment in food fortification programming.

**Conclusion 2.** The project was instrumental in involving and convening multiple stakeholders which resulted in the development of food fortification standards and regulations in the Gambia. In this regard, the project was a catalyst towards improving the enabling environment for nutrition security. Evidence also shows an increase in food fortified production and consumption to which the project has contributed. However, the evaluation was unable to exclusively attribute the achievement of this increase to the project's efforts.

147. The project's efforts were instrumental in achieving effective consolidation of inputs from the interdependent sectors and identification of policy entry points for the development of legislation and standards on food fortification.
148. The project had aimed at increasing the access to, and consumption of industrial and biofortified foods. However, the limited availability of project specific data hampered the possibility to exclusively attribute the increase in consumption of industrial and biofortified foods as well as the increase in production of biofortified foods entirely to the project's efforts. The secondary data utilized to report such increase did not extrapolate data for the project's respective beneficiaries nor the respective fortified foods that were the focus of the project.

**Conclusion 3.** The design of the project results chain, the intended outputs and specific objective proved to be too ambitious to be achieved within the planned time frame. Furthermore, the limited timeliness of assessments for the selection of food types to fortify prior to the project's implementation showed space for improvement in the logical sequence of the activities implemented. The onset of the outbreak of the COVID-19 pandemic further slowed down the implementation of the project.

149. The project did not factor in realistic time frames for the length of time and processes to undertake crop trials, variety selection, on-farm testing, cataloguing and certifying the crop varieties, then releasing them for mass production, while at the same time increasing production of the quality and quantity of biofortified foods, increasing access to its uptake and consumption all within four years. Furthermore, the lack of timely assessments prior to the project's implementation led to the selection of food types that were economically out of reach of the target population and not as widely consumed as others as vehicles for food fortification. On the contrary, being that rice was the major staple food in the country, it would have been a more appropriate food fortification vehicle; thus, allocating resources towards monitoring and enforcement of fortified imported rice would have achieved a greater uptake of fortified foods throughout the country.



**Conclusion 4.** Most of the awareness activities provided information on the benefits of consuming biofortified foods. The evaluation recognizes that changing consumption habits is a multifaceted phenomenon that requires concerted efforts from several stakeholders to sufficiently move the needle towards a change in behaviour. Nevertheless, the project planted the seed of raising awareness and successfully supported institutional and policy reforms regarding food fortification in the country.

150. Despite the various awareness raising activities carried out, findings from the food consumption survey revealed that there was no significant demand and uptake on fortified foods between project intervention and non-intervention sites. However, the project's activities have contributed towards raising awareness about changing consumption habits.

**Conclusion 5.** The project effectively leveraged strategic partnership with multisector stakeholders that provided valuable contributions to address food fortification holistically. These ranged from public, private sectors, other UN agencies, and the community. However, the evaluation also identified opportunities for further collaboration that the project could have pursued.

151. The partnership with WFP in supplementing their school feeding programmes with biofortified foods, and with both UNICEF and WFP in undertaking joint activities during the Nutrition week was instrumental in enhancing the project's results. In addition, within the public sector, the project engaged various entities with different mandates such as FSQA on ensuring quality, National Seed Secretariat on ensuring certification, and NARI on ensuring a science-driven process for the biofortification.
152. However, there were opportunities for further collaboration that the project did not pursue. Among other examples, stronger collaboration with WFP would have been beneficial in increasing the effectiveness of the school garden's activities by ensuring that an alternative school diet was provided to children.

**Conclusion 6.** The gains made by the project are considered to be sustainable measures. However, there are factors that could affect the sustainability of the project results.

153. By aligning its objectives with global priorities and national plans and strategies, and having capacity development as its substructure, the benefits of the project are considered to be sustainable measures. However, there are some aspects that could affect the sustainability of the project's results, such as the fact that some areas of the project would require national funding to continue, and the lack of a structured exit strategy prior to the closing phase of the project.

**Conclusion 7.** Women were specifically included in the project's implementation being the target beneficiaries of the biofortification activities, preparation and consumption of biofortified foods. Nevertheless, some of the project's interventions and inputs unintentionally served to further entrench the social construct of gender roles.

## 5.2 Recommendations

**Recommendation 1.** FAO should continue strengthening operational and technical capacity in the Gambia together with increased investment in food fortification programming.

154. Leveraging on the high relevance of industrial and biofortification as a tool to combat challenges of malnutrition in the Gambia, as well as FAO's comparative advantage to contribute to the national and regional nutrition agenda, it is recommended that continued work on food fortification in the country is envisioned and advocated for in order to follow-up to the initiatives started by this project.

155. Furthermore, in order to continue to achieve positive results in the area of food fortification, it is important that projects build solid M&E systems that allow continuous monitoring of activities in the field. This would also facilitate direct attribution of results to FAO's interventions.

**Recommendation 2.** FAO should develop more realistic results chain that can be relatively achieved within the project's time frame. Also, the activities should be sequenced to enable them to build and gain traction from preceding ones. In this regard, FAO should consider conducting early surveys and more needs assessments to determine the most suitable vehicle for food fortification before implementation starts.

156. FAO should adopt the business model of Analyse-Act-Advocate. In this regard, the food consumption surveys to ensure that industrial and biofortification is undertaken using the major staple foods as the vehicles, as well as other needs assessments should precede all other activities; followed by the implementation of respective interventions, including development of regulations and standards, the advocacy for the uptake of those interventions through behaviour change communication, and finally the monitoring and enforcement of the regulations and standards for the fortified foods.
157. Realistic time frames for the biofortification of food crops should be set. The length of time and processes to undertake crop trials, variety selection, on-farm testing, cataloguing and certifying the crop varieties, then releasing them for mass production should be factored before planning to increase the quality and quantity of biofortified foods within four years.

**Recommendation 3.** To accelerate the pace of behaviour change on dietary habits, FAO should make sure that future projects include a strong knowledge management component. For instance, innovation and tools for knowledge management, a behaviour change communication strategy and systematic lessons learned gathering could be considered as core components of similar projects.

158. Knowledge products that provide fit for purpose solutions based on the data and information collected, analysed and interpreted during implementation of the project should be developed. Examples of knowledge products could include policy briefs, guidelines, manuals, FAQs, etc. Methodologies for data collection could be in the form of i) analytical reviews to inform and guide the fortification processes; ii) case studies, for example on cost benefit analysis; and iii) evaluation studies with counterfactuals exploring the linkages between intake of industrial and biofortified foods and the health status of the targeted beneficiaries.
159. A core component of similar projects should be a behaviour change communication strategy which should include iterative strategies on how to encourage individuals and communities to change their behaviours and trigger them to adopt the uptake of industrial and biofortified foods. For upstream activities, the strategy should encourage enforcement of the food fortification regulations and standards.

**Recommendation 4.** Prior to project conceptualization, FAO should consider undertaking a stakeholder mapping to establish which other institutions are carrying out similar initiatives to ensure that strategic collaboration is maximized with initiatives already being implemented in the country.

160. An example is collaboration with the African Development Bank in its project in the Gambia on the rice value chain whose objective is to improve production, processing and marketing of rice locally in the Gambia and reduce high importation of rice into the country. In such a scenario, FAO would have collaborated with the African Development Bank to ensure that fortification becomes a key component of the rice value chain.

**Recommendation 5.** It is recommended that in future projects, FAO develops structured exit strategies from the design stage to increase the probability of results sustainability.

161. The exit strategies should also be monitored and commitments for continuation of activities once the project terminates are secured, rather than leaving it up to chance of the sustainability elements embedded in the project design. This would increase the commitment and accountability from the partners responsible for the continuation of the project activities once the project comes to an end. It would also provide opportunity for the partners to incorporate into their plans the resources required to achieve a seamless continuation of the activities.

**Recommendation 6.** In future projects, FAO should ensure that the project design and interventions are gender responsive by, for instance, undertaking gender analyses as part of the inception phase. Women play a significant role in improving their household food security as they contribute to food production, enhance dietary quality, and consumption diversity.

162. This would entail undertaking a gender analysis to understand how differential power relations and decision-making between men and women, and differential access to productive tangible and intangible productive assets such as land, capital, tools and information leads to variations in nutritional outcomes on different members of the household. The gender analysis would reveal if the proposed project interventions would increase time demands on women who are already experiencing time poverty; if the beneficiaries lack the agency to make decisions on new agricultural practices and crop choices proposed by the project; and if the project further entrenches socially constructed gender roles through interventions that are perceived as the preserve of women.
163. Regarding the enabling environment, future projects should subject the policies, plans and strategies to a gender marker to assess the extent to which the principal objectives or results in these instruments, aim at reducing gender inequalities by promoting positive social norms, support women's agencies and skills to exercise their rights, and support systems and capacities for gender responsive and rights-based service provision.

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## Appendix 1. People interviewed

Last name	First name	Position	Organization
Badgie	Saruba	Member	Community garden
Bah	Halimatou	Nutrition Officer (National)	FAO Gambia
Bah	Amadou	Communication Officer	FAO Gambia
Bah	Amat	Executive Director	National Nutrition Agency
Bah	Amie	Member	Community garden
Bah	Lamin	Auditor	Poultry scheme
Bah	Hawa	Member	Poultry scheme
Bah	Pateh	Organizer	Poultry scheme
Bah	Adama	Member	Poultry scheme
Bah	Tako	Member	Poultry scheme
Bah	Incha	Cashier	Poultry scheme
Bah	Binta	Member	Poultry scheme
Bah	Isatou	Member	Poultry scheme
Baldeh	Sarakula	Farmer	Individual farmer
Barrie	Alfusainey	Farmer	Individual farmer
Barry	Tayibou	Member	Community garden
Blanco Gonzalez	Evangelina	Donor	European Union
Bobb	Amie	Member	Community garden
Bojang	Hawa	Assistant President	Community garden
Bojang	Olimmatu	Member	Community garden
Bojang	Yai	Member	Community garden
Bojang	Fatou (Jambarang)	Member	Community garden
Bojang	Hawa	Member	Community garden
Bojang	Fatou	Member	Community garden
Bojang	Sirra	Member	Community garden
Bojang	Mamina	Member	Community garden
Bojang	Bintou	Member	Community garden
Bojang	Wassa	Member	Community garden
Bojang	Musu	Member	Community garden
Camara	Mama	Member	Community garden
Camara	Binta	Member	Community garden
Cassama	Mama	Member	Community garden
Ceesay	Mam	Cashier	Community garden
Ceesay	Faddy	Member	Community garden
Ceesay	Eliman	Field staff	Community garden
Ceesay	Njieyo	Member	Community garden
Ceesay	Kumba	Member	Poultry scheme
Ceesay	Dawda	Member	Poultry scheme
Ceesay	Batanding	Member	Community garden
Ceesay	Hawa	Member	Community garden
Ceesay	Satou Hatta	Facilitator	Farmer field school
Ceesay	Nyarading	Member	Community garden
Ceesay	Fafa	Teacher/garden master	School
Ceesay	Nanding	Member	Community garden
Cham	Amie	Member	Community garden
Cham	Alieu	Farmer Male	Individual Farmer
Chege	Mercy	Programme Officer	FAO Gambia
Chegeh	Mercy	Operations (international)	FAO Gambia
Chune	Isata	Member	Poultry scheme
Conteh	Fatou	Member	Community garden
Conteh	Bintou	Member	Community garden
Corr	Fatou	Member	Community garden
Dansira	Dansaba	President	Community garden

<b>Last name</b>	<b>First name</b>	<b>Position</b>	<b>Organization</b>
Danso	Binta	Member	Small ruminants recipient
Darboe	Binneh	Agriculture ATI	Community garden
Darboe	Jai	Member	Community garden
Drammeh	Aja Seray	President	Community garden
Drammeh	Filijay	Member	Community garden
Ebrima Minteh	Oustass	Farmer	Individual
Fanta Jabbi	Lamin	Secretary	Community garden
Faye	Badou	Veterinary personnel	Poultry scheme
Fofana	Sulaiman	Project Focal Point	National Agricultural Research Institute
Fofana	Maimuna	Member	Community garden
Gagigo	Sajor	Member	Poultry scheme
Gassama	Bakuntu	Member	Community garden
Gibba	Alabatu	Member	Community garden
Hakim Jawara	Abdul	M&E Surveillance	FAO Gambia
Heise	Solange	Former Project Coordinator	FAO Gambia
Hydara	Isatou	Member	Community garden
Jabang	Fatou	Member	Community garden
Jabbi	Mamading	Member	Community garden
Jabbi	Fatoumata	Member	Community garden
Jabbi	Ma Bintou	Member	Community garden
Jagne	Lamin	Senior master/Garden master	School
Jagne	Fatou	President	Community garden
Jaiteh	Lamin	Focal point	Food Safety Quality Authority (FSQA)
Jaiteh	Amie	Member	Community garden
Jallow	Demba B.	Director General	National Agricultural Research Institute
Jallow	Adama	Project Focal Point	National Agricultural Research Institute
Jallow	Bakary	Project Focal Point	National Nutrition Agency
Jallow	Mustapha	Headmaster	School
Jallow	Mariama	Member	Community garden
Jallow	Isatou	Member	Community garden
Jammeh	Binta	Secretary	Community garden
Jammeh	Jainaba	Member	Community garden
Jammeh	Naffie	Member	Community garden
Janneh	Naffie	Member	Community garden
Jarju	Ousman	Project Focal Point	National Agricultural Research Institute
Jarjue	Adama	Agriculture extension worker	Department of Agriculture
Jarjue	Gibril	Member	Community garden
Jarjue	Isatou	Member	Community garden
Jarjue	Asombi	Member	Community garden
Jarjue	Bambakoo	Member	Community garden
Jattta	Maimuna	Member	Community garden
Jawara	Ndey	Member	Small ruminants recipient
Jawara	Satou	Member	Community garden
Jawara	Mam	Secretary	Poultry scheme
Jawla	Khaddy	Member	Community garden
Jawo	Sirra	Member	Community garden
Jeng	Baboucarr	Member	Community garden
Jobarteh	Sariyang M.K.	Deputy Director	Department of Agriculture extension services
Jobe	Modou Lamin	Director	Food Technology Services
Jobe	Fatim	Coordinator	Community garden

<b>Last name</b>	<b>First name</b>	<b>Position</b>	<b>Organization</b>
Jobe Jawo	Tabara	Deputy Principal	School
Joof	Adama	Member	Community garden
Kandeh	Lisa	Member	Community garden
Kanni	Binta	Member	Community garden
Kebbeh	Fatou	Member	Community garden
Keita	Amie	Member	Poultry scheme
Keita	Ba Lamin	Alkalo	Small ruminants recipient
Keita	Jaworo	Member	Small ruminants recipient
Kolley	Mansata	Farm Manager	Community garden
Krubally	Aljummah	Member	Community garden
Lamin Manga	Morro	Director	National Seed Secretariat
Makhumula	Phillip	International Consultant - Food fortification Expert	FAO Gambia
Malang	Fofana	Deputy Director	National Nutrition Agency
Manjang	Ramou	Member	Community garden
Manneh	Mariama	Member	Small ruminants recipient
Manneh	Fatou	Member	Community garden
Manneh	Kebba	Member	Community garden
Mballow	Kudeh	Farmer	Individual farmer
Mbye	Modou	President	Community garden
Mendy	John	Farmer	Individual
Mofu	Musonda	International Consultant - Food consumption Survey	FAO Gambia
Morro Jaiteh	Imam	Imam	Small ruminants recipient
Nding Minteh	Suwareh	Member	Community garden
Ndure	Maimuna	President	Community garden
Ndure	Maimuna	Member	Community garden
Ngallan	Adama	Member	Poultry scheme
Nyan	Yassin	Secretary	Community garden
Nyassi	Saffiatou	Member	Community garden
Odum Nyumuah	Richard	International Consultant – Expert on Legislation & Standards	FAO Gambia
Parvanta	Ibrahim	International Consultant – FORTIMAS Expert	FAO Gambia
Rabetokotany	Eugene	Production Manager	Gambia Milling Corporation
Rampedi	Moshibudi	FAO Representative	FAO Gambia
Saho	Yankuba	Former Project Coordinator (Nutrition Specialist)	UNICEF
Saho	Hatou	Member	Poultry scheme
Saidy	Banna	Member	Small ruminants recipient
Saine	Mamie	Member	Community garden
Saine	Khaddy	Member	Small ruminants recipient
Sallah	Mariama	Member	Poultry scheme
Sallah	Fatoumatta	Member	Poultry scheme
Sallah	Ayo	Member	Poultry scheme
Sallah	Maram	Secretary	Poultry scheme
Sanneh	Mama	Member	Small ruminants recipient
Sanneh	Sheriffo	Vice-President	Community garden
Sanneh	Ramata	Member	Community garden
Sanneh	Mariama	Member	Community garden
Sanyang	Saikou E.	Director General	Department of Agriculture extension services
Sanyang	Nyima	Member	Community garden
Sarr	Fatou	Member	Community garden
Secka	Adama	Member	Poultry scheme



<b>Last name</b>	<b>First name</b>	<b>Position</b>	<b>Organization</b>
Senghore	Tom	Former NARI, Focal Point	United Purpose
Senghore	Fatou	Member	Community garden
Sey	Maram	Secretary	Poultry scheme
Sey	Jayla	Member	Poultry scheme
Sey	Musa	Organizer	Poultry scheme
Sey	Adam	Member	Poultry scheme
Sidibeh	Mama Bintou	Member	Community garden
Sowe	Ebrima	Communication Officer	FAO Gambia
Sowe	Musu	Member	Community garden
Sowe	Rohey	Member	Community garden
Sowe	Isatou	Member	Community garden
Sowe	Yagga	Member	Community garden
Sukati	Mphumuzi	Lead Technical Officer (LTO) – Senior Food & Nutrition Officer	FAO RAF
Suwareh	Adama	President	Community garden
Suwareh	Tumbul	Member	Community garden
Tamba	Naffie	Member	Community garden
Willan	Fatou	Member	Poultry scheme
	Halima	Food Technology Officer	Food Technology Services
	Alice	Food Technology Officer	Food Technology Services
	Baragoya	Food Technology Officer	Food Technology Services
	Essa	Food Technology Trainer	Food Technology Services
	Mercy	Food Technology Trainer	Food Technology Services
	Jabou	Member	Community garden

## Appendix 2. Evaluation matrix

Specific questions	Data sources	Data collection methods
<b>Evaluation criteria: Relevance</b>		
<ol style="list-style-type: none"> <li>1. To what extent was the project relevant to the needs and priorities of the national stakeholders, including the government?</li> <li>2. To what extent was the project relevant to community beneficiaries, in particular vulnerable women and girls of reproductive age, and children in the North Bank Region and in the Central River Region?</li> <li>3. To what extent was the project relevant to the broader sustainable development initiatives, for example the 2030 Agenda, to the FAO Strategic Framework and to the FAO Country Programming Framework?</li> <li>4. Was the project design and the logical framework appropriate for delivering the expected outcomes?</li> <li>5. To what extent was the technical support provided by FAO relevant to the country?</li> <li>6. To what extent was the geographical targeting of the project pertinent?</li> <li>7. How relevant were the activities conducted to enhance the capacity of technical experts communities and policymakers in improved nutrition?</li> <li>8. How does the project align with, and support national development plans and priorities and the primary stakeholders?</li> <li>9. Was a needs assessment conducted for the project?</li> <li>10. If so, did it sufficiently consider the needs and priorities of the beneficiaries?</li> </ol>	Interviews Secondary sources	KIIs
<b>Evaluation criteria: Effectiveness</b>		
<ol style="list-style-type: none"> <li>a. To what extent has the project achieved its overall and specific objectives and its related outputs and were there any unintended results? Impact: Improve food security, nutrition and health of vulnerable women and children in the Gambia in project regions by reducing micronutrient deficiency (MND).</li> <li>b. Outcome: Increase access and consumption of industrial and biofortified foods by women of child-bearing age and children under five years in CCR and NBR.</li> <li>c. Output 1: The legislative, regulatory, policy, institutional and governance environment for food fortification is improved.</li> <li>d. Output 2: Production of fortified foods and biofortified crops in quantity and quality increased.</li> <li>e. Output 3: Improved social marketing and communication with integrated nutrition interventions.</li> </ol> <ol style="list-style-type: none"> <li>2. What were the enabling/constraining factors influencing the achievement and non-achievements of the outcomes and outputs?</li> <li>3. To what extent was the M&amp;E system appropriate in monitoring and supporting the implementation and enhancing the effectiveness of the targeted results?</li> <li>4. How have the project partnerships contributed to the project results?</li> <li>5. To what extent has the project been able to build on ongoing initiatives (reforms, strategies/plans, processes) to achieve its results?</li> <li>6. How effective was the current project governance structure and operational modality, including management, in contributing to the overall achievement of the programme objectives?</li> <li>7. How effective was the communication strategy in achieving the result of increasing awareness of the entire population of the Gambia?</li> </ol>	Interviews Secondary sources	KIIs FGDs

Specific questions	Data sources	Data collection methods
<b>Evaluation criteria: Efficiency</b>		
<ol style="list-style-type: none"> <li>11. To what extent has the project delivered its planned activities and outputs according to the set timelines and budget? Was it cost effective?</li> <li>12. To what extent did the project activities, the institutional arrangements, the partnerships in place and the resources available contribute to, or impede, the achievement of the project's results and objectives?</li> <li>13. How efficient was the collaboration among partners and project beneficiaries?</li> <li>14. Were there any complementarities or duplication with other activities in the country?</li> <li>15. To what extent was the project able to adapt its management, based on learning, and to the changing context, including COVID-19?</li> <li>16. To what extent have the project's governance and management structures and processes enabled, or hindered, the delivery of its activities?</li> <li>17. Did the project have a well-functioning planning and project management system?</li> <li>18. Did the project monitoring system enable effective management, implementation and accountability?</li> <li>19. How should lessons from the project guide the FAO National/Regional Office in future engagement related to Improved food security, nutrition and health of vulnerable women and children in the Gambia?</li> </ol>	Interviews Secondary sources	KIIs
<b>Evaluation criteria: Gender perspective</b>		
<ol style="list-style-type: none"> <li>1. To what extent were gender considerations taken into account in designing, monitoring, and implementing and reporting of the project?</li> <li>2. Was the project implemented in a manner that ensures gender responsive participation and benefits. Was the needs assessment and routine monitoring data collected and disaggregated according to relevant criteria?</li> <li>3. Do the reports address gender specific findings?</li> <li>4. To what extent was the allocation and use of resources take into account the need to prioritize women?</li> </ol>	Interviews Secondary sources	KIIs FGDs
<b>Evaluation criteria: Sustainability</b>		
<ol style="list-style-type: none"> <li>1. What is the likelihood that the project results will continue to be useful or will remain even after the end of the project?</li> <li>2. What are the risks that may affect the sustainability of the project results and what are the factors that have contributed to it?</li> <li>3. Was a specific exit strategy or approach prepared and agreed upon by key partners to ensure sustainability?</li> <li>4. Do government, partners and beneficiaries have sufficient abilities and means to sustain the project's positive effects after completion?</li> <li>5. Did the capacity development activities, technical support and legislation shifts in food fortification in the Gambia at the legislation level, institutional level and community level provide a basis for continued capacity enhancement of policy makers, local experts, communities – especially women; and other stakeholders in moving forward the objectives of improved food security, nutrition and health of vulnerable women and children in the Gambia?</li> <li>6. To what extent is there local ownership of achieved results and developed capacities?</li> <li>7. Are the results of the project likely to be anchored in national institutions and beneficiary communities?</li> </ol>	Interviews Secondary sources	KIIs

### Appendix 3. Site visits itinerary

Date	Purpose	Site to be visited	Region /Ward
Monday, 24 January 2022	Focus group discussion Key informant interviews Observations	Old Cape Road Women Garden (Community Garden) Kerr Serign Women Garden (Community Garden)	Kanifing Municipal County
Tuesday, 25 January 2022	Focus group discussions Observations	Banjuliding Community (Community Garden) Lamin Kerewan (Individual –	West Coast Region
Wednesday, 26 January 2022	Focus group discussion Key informant interviews Observations	Essau (School garden, individual – small ruminants, PVA) Albreda (Individual – small ruminants, PVA maize) Fass Njagga Choi (Individual – Small Ruminants, PVA) Community Garden	North Bank Region
Monday, 31 January 2022	Focus group discussion Key informant interviews Observation	Njaba Kunda (community Garden, Individual PVA maize) Suwareh Kunda (Community Garden) Noo Kunda (community Garden, Individual PVA) Minteh Kunda ( Individual Farmer)	North Bank Region
Tuesday, 1 February 2022	Key informant interviews Observation	Wassu (Small ruminants) Njau Sawallaw (Community Garden, Njau Sey Kunda (Poultry scheme) Lamin Koto (Community Garden)	Central River Region North
Wednesday, 2 February 2022 Leave for URR	Focus Group discussion Key informant interviews Observations	Mankamang Kunda (Individual) Kerewan Nyakoi (Community Garden)	Upper River Region
Thursday, 3 February 2022	Focus group discussion Observations	Mamud Fana (Community Garden – cowpea, Individual) Sinchu Madado (Poultry scheme) Galleh Manda (School Garden – sweet potato, Individual)	Central River Region South

## Appendix 4. Stakeholder analysis

	Key stakeholders	What role related to the project?	How will they use the evaluation?	What might they gain or lose from the evaluation?	How or when should they be involved in the evaluation?
1	FAO	i) Project proposal development; ii) implementers; and iii) business continuity.	Findings will be used to inform i) formulation of future similar projects; ii) apply relevant lessons learned to ongoing projects; iii) determine the specific activities that will be implemented during the no cost period; iv) show contribution to larger development goals, e.g. SDG 2.	Gain i) new insights into formulation and implementation of future similar projects; ii) leverage additional funding for similar future projects; iii) improve operations for efficient management of current and future projects.	From the start with the i) inputs into the design of the terms of reference (TOR); ii) assist in sharing relevant documents; iii) assist in logistical preparations for field interviews; iv) assist in identifying the appropriate respondents to the evaluation questions; v) participate in the interviews; vi) participate in the management responses,
2	Public Government partners	Participate in the i) project's needs assessment; ii) implementation.	Findings will be used to inform i) national strategies and policies on food fortification; ii) achievements relating to SDG 2; iii) plan for capacity development where there are gaps.	Gain i) new insights on industrial and biofood fortification processes, policies, receptivity within the Gambia; ii) leverage for additional budgetary allocation from the national budget; iii) advocate for further related capacity development.	From the start with i) inputs into the design of the TOR; ii) assist in sharing relevant documents; iii) assist in identifying appropriate respondents for field interviews; iv) participate in the interviews.
3.	Private sector	Participate in project implementation as beneficiaries.	Findings will be used to inform i) improvement in fortification processes; ii) awareness with fortification regulations.	Gain i) improved efficiency in industrial and biofood fortification processes; ii) comply with fortification regulations,	During data collection provide responses to the evaluation questions.
4.	UN agencies	Collaboration in similar initiatives.	Findings will be used to inform formulation of future similar interventions.	Gain entry points for UN Delivery as One.	i) Provide inputs into the design of the TOR; ii) participate in interviews.
5.	Direct beneficiaries	Participate in project implementation, e.g. as farmers, livestock keepers, consumers.	Information from the communication strategies based on the evaluation findings will inform them on the benefits of producing and consuming fortified foods for their well-being.	Better health status through lower malnutrition rates, and lower maternal mortality and morbidity from high anaemic levels.	During data collection provide responses to the evaluation questions.

## **Annexes**

Annex 1. Terms of reference

<https://www.fao.org/3/cc2989en/cc2989en.pdf>



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