WFP EVALUATION

Final Evaluation of Enhanced Nutrition and Value Chains (ENVAC) Project 2016-2021

Decentralized Evaluation Report

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WFP Ghana

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WFP
World Food Programme
SAVING LIVES
CHANGING LIVES

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Disclaimer

Contents

List of figures

List of tables

Executive Summary

1. **This decentralised evaluation is a final project evaluation.** It is commissioned by the World Food Programme (WFP) Ghana Country Office (CO). The subject of evaluation is the Enhanced Nutrition and Value Chains Project (ENVAC). The evaluation covers all activities implemented within the framework of ENVAC between March 2016 to June 2021[1]. The ENVAC evaluation serves the dual objectives of accountability and learning. As such, the evaluation must: 1) assess and report on the performance and results of the project, and 2) identify reasons why certain results were achieved or not achieved, to draw lessons and recommendations for learning.

2. **General context:** Ghana ranks in the Lower Middle-Income Countries category. Over the past thirty years the national poverty rate has dropped by more than half, while the northern regions remain more affected by poverty and food and nutrition insecurity. The agricultural sector, dominated by Small Holder Farmers, is the main source of livelihood for the poorest households. The Government of Ghana has sought to move beyond development assistance (Ghana Beyond Aid) and developed a vision that emphasizes a long-term policy commitment towards self-reliance.

3. WFP's country strategic plan (CSP) (2019-2023) spans four thematic areas: private sector integration, nutrition, national food system strengthening, and capacity building and policymaking. WFP in Ghana has started phasing out certain activities, with handover to the government.

4. ENVAC is built on three connected pillars.

   ✓ Pillar1 (P1): Support to Small Holder Farmers for increased local production, improved quality & market integration of nutritious food staples.

   ✓ Pillar 2 (P2): Support to food processors (Industrial & Community levels) for enhanced local processing capacities for Complementary Nutritious Foods (CNF).[2] In return for ENVAC support, the industrial firms agreed to purchase 20% of the raw products they process from Small Holder Farmers supported by the project and to sell the fortified food they produce to WFP at a discount price.

   ✓ Pillar 3 (P3): Promotion of consumption of processed nutritious foods and nutritious crops among the target population, particularly adolescents, women and children to address malnutrition.

5. For all three pillars, ENVAC intends to address issues across the board: 1) Enhanced Food Safety and Quality management among all stakeholders; 2) gender and 3) Monitoring & Evaluation (M&E).

6. The project was implemented in 5 regions,[3] with a budget of US$16.4m provided by Global Affairs Canada.

7. Main ENVAC beneficiaries were:

   ✓ **P1**: 10,000 Small Holder Farmers (55% women & 45% men),

   ✓ **P2:** 2 firms and 30 Community Lead or Medium-Scale Food Processors (CLMSFP), (P2),

   ✓ **P3** : 20,000 Pregnant and Lactating Women; 20,000 Children under 2 and 5,000 Out of School Adolescent Girls,[4] (P3).

[1] Official end of the project was March 2021. The project draft final report (May 2021) mentioned activities to be implemented until August 2021.

[2] CNF (Complementary Nutritious Food) refers to all fortified food products developed through ENVAC Pillar 2 and/or distributed through ENVAC Pillar 3 to specific targets to prevent malnutrition.

[3] Considering the former administrative divisions (See Annex-18).

[4] Adjusted targets.

8. **The main expected users of the evaluation** are the WFP CO, the Evaluation Committee (EC) and the Evaluation Reference Group (ERG);[5] WFP Regional Bureau (RB), headquarters and Office of Evaluation; and the Government of Ghana.

9. **Methodology**: The ENVAC evaluation was based on the OECD-DAC evaluation criteria which are relevance, effectiveness, efficiency, impact, and sustainability. For each criterion a set of Evaluation Questions (Q) were formulated.[6] The Evaluation Team (ET) designed an evaluation methodology and developed an evaluation matrix and data collection tools. Field work was conducted in June 2021. Primary and secondary data gathered by the ET were analysed to produce the evaluation report. The evaluation's key findings are presented below.

Relevance (Q1)

10. ENVAC is built on previous experiences and evaluation work and well aligned with national policy framework and WFP policies. (Q1-3)

11. **P1**: ENVAC intended to work on Post-Harvest-Handling and target Small Holder Farmers already able to produce and market their crops. This approach is relevant. Relevance is reduced by : the scattering of activities; the geographical scope; and the lack of clarity regarding inclusion of vulnerable producers whose needs and capacities are not necessarily in line with opportunities provided by ENVAC. (Q1-1)

12. **P2** : the selection of the two agro-food industries supported (Premium Foods Ltd and Yedent Agro Processing Ventures Ltd) did not go through a formal open tender ; however, it was based on previous experiences and assessments of the firms and is overall relevant. (Q1-1)

13. **P3**: Social and Behaviour Change Communication (SBCC) targeted Pregnant and Lactating Women and caregivers of Children under 2 ; it is fully relevant as it covers the first 1,000 days of life, which are key to preventing malnutrition. Cash Based Transfers (CBT) (Cash or Voucher modality) were planned to facilitate access for Pregnant and Lactating Women, caregivers of Children under 2 and Out of School Adolescent Girls to CNF. The absence of vulnerability criteria for targeting reduced the relevance of CBT. Voucher composition was not fully relevant (little attention given to local fresh food; no demonstrated evidence of efficacity in malnutrition prevention for some CNFs supplied). (Q1-1)

14. Focus on Food Safety and Quality for all 3 pillars was very relevant, it answers the needs of producers, processors and consumers (Q1-1) and is aligned with national priorities (Q1-3). Activities planned are however not clearly defined at design stage (Q1-1). The design of ENVAC was based on extensive gender analysis by WFP and others, but the translation into concrete activities focusing on women was suboptimal (Q1-2).

Effectiveness (Q2)

15. **P1**: The overall effectiveness of the intervention is fair; ENVAC reached over 10,000 Small Holder Farmers (Q2-1). However, activities were numerous and one-off in nature, with limited follow up. Many topics were covered but the focus was mainly on Post-Harvest-Handling (Q2-2). ENVAC also supported aggregators to develop linkages between Small Holder Farmers and firms. Premium Foods Ltd and Yedent Agro Processing Ventures Ltd procured raw material from Small Holder Farmers but it was difficult to trace the proportion coming from ENVAC farmers (Q2-3).

16. **P2:** Support provided by ENVAC[7] has enabled Premium Foods Ltd and Yedent Agro Processing Ventures Ltd each to build a new production site. Both businesses have produced and supplied CNF for Pregnant and Lactating Women. These are branded TomVita (Yedent Agro Processing Ventures Ltd) and Maizoya (Premium Foods Ltd); but the firms have not been able so far to produce SC+ (SuperCereal plus) for Children (6-23 months) meeting WFP requirements. An audit and external analysis, commissioned by WFP in 2020, revealed Food Quality and Safety issues with TomVita. Since then, Tom Vita distributions to

[5] ERG includes representatives from: THE Government of Ghana, Implementing Partners and subcontractors.

[6] Annex-3-A.

[7] Complemented by other contributions.

ENVAC beneficiaries has stopped. Under P2, three CLMSFP (out of 30 planned) were supported with equipment at the very end of the project. (Q2-4)

17. **P3:** Health agents in 92 targeted Health Facilities were trained on SBCC and provided with SBCC material (Q2-5); P3-beneficiaries received commodity vouchers to access CNF, whether or not it was produced by firms supported on P2.[8] CNF for targeted women and adolescents was supplemented with food and/or non-food items or cash distributions depending on the area. Monthly redemption follow-up demonstrated some periods with regular distributions and periods of shortages for each target.

Efficiency (Q3)

18. The cost-efficiency evaluation was limited by the absence of financial reports. Based on a rough estimate, the cost per CBT-P3 appeared higher than planned initially (Q3-1). ENVAC management efficiency was limited by a lack of external and internal coordination. Time management showed weaknesses with many activities delayed, starting only in 2020, instead of 2017, and strongly impacted by COVID restrictions. The contractual agreement with firms was not very efficient: the double commitment required of enterprises in order to receive ENVAC support was difficult to monitor. Prices for CNFs that were fixed in 2017 changed during the implementation period (+50% for Maizoya - the most widely redeemed CNF) (Q3-2).

19. WFP invested in a large M&E system that did not capture properly the effects of P1 and P3 activities. On P3, regular monitoring was conducted, mobilising GHS (Ghana Health Service) agents to inform various databases to which GHS had no access itself. CNF transport and delivery were managed by CNF providers and a network of retailers, which worked efficiently (Q3-3).

20. Food safety concerns regarding Yedent Agro Processing Ventures Ltd's CNF were raised by a mission of WFP Regional Bureau /Head Quarter in January 2020. CO reacted quickly and stopped the distribution of TomVita, which is positive. However, WFP is responsible for the quality of CNFs delivered through commodity vouchers, and the lack of external quality controls on delivered CNFs is a serious oversight.

Effect and Impact (Q4)

21. The effects and impacts (Q4-1) on food security and malnutrition were not adequately captured by the M&E system.

22. Some positive ENVAC effects of P1 were mentioned by key stakeholders, but they cannot necessarily be attributed to ENVAC activities.

23. Improved attendance at GHS Child Welfare Clinics and Ante-Natal Care was mentioned as a positive effect of P3 ; this was not reflected by the GHS monitoring system. However, it could be legitimately assumed that the project has contributed to developing the skills of health agents and to giving importance to SBCC activities.

24. The main outcome of the project was the accreditation of Premium Foods Ltd as a WFP SuperCereal (SC) provider, which could quickly be extended to accreditation for SC+. A first order for SC was made by WFP-RB for WFP's program in Burkina Faso in 2021. ENVAC facilitated WFP's procurement of CNFs and is likely to contribute to reducing the dependency of WFP-West African programs on imported CNFs. The development of large-scale CNF production capacities is likely to reduce production costs and allow affordable access to quality CNFs for a significant number of people in Ghana.

25. ENVAC's impact on Food Safety and Quality management remained limited. ENVAC did not build a real strategy to strengthen the technical capacities of national institutions to ensure safety and quality on the targeted value chains as initially planned.

26. **Regarding the gender dimension** (Q4-2 to Q4-6), effects and impacts were weak; no improvement was captured under P1; under P2, the activity started targeting women (CLMSFPs) only in 2021; under P3, female retailers were financially empowered and CNFs exposed women to alternative food

[8] Neither Premium Foods Ltd nor Yedent Agro Processing Ventures Ltd managed to produce CNF for Children under 2 : other local CNF processors supplied CNF for this group.

sources to supplement the household food basket, while lessening the burden of women. A potential negative outcome of CBT targeting out-of-school adolescent girls could be that some girls are incentivised to remain out of school; the risk was identified but not monitored during ENVAC implementation.

Sustainability (Q5)

27. (Q5-1) The availability of CNFs produced locally from local produce is not fully ensured, as the supported firms can be tempted to use equipment provided by ENVAC for other purposes (provide high quality processed food for local breweries, poultry farms, or even Nestlé).

28. If import permits were to be issued, firms are likely to purchase raw materials on foreign markets, reducing the impact on local agriculture.

29. The market-based approach should ensure sustainability, but the CNF Value Chain developed by ENVAC is not really market-driven. The demand for CNFs is led by WFP's demand for CNFs. Ghanaian consumers' willingness to pay for CNFs is not demonstrated by ENVAC.

30. P1 also does not demonstrate a high level of sustainability due to the weak linkages between aggregators and processors along the Value Chain. Sustainable adoption of approaches promoted by P1 is not ensured (beneficiaries not asked to contribute, little serious thought given to the economic model of the innovation, little focus on capacity building of FOs and aggregators on organization, and business management).

31. (Q5-2) Partners including government actors are used mainly as service provides for ENVAC and capacity building of institutions was limited, which hampers sustainability.

Conclusions and recommendations

Table 1: Summary of conclusions and recommendations

Main findings	Conclusions	Recommendations
General strategy	**Conclusion 1:** In a context of funding reductions, ENVAC offers a new perspective on the type of actions that can be envisaged and it provides lessons for WFP to better support Ghana on its development trajectory.	**Recommendation 1:** WFP's next country strategy plan (CSP) for Ghana should include a CNFs value chain approach based on the lessons learnt from ENVAC and it should be tailored to the Ghana Beyond Aid context. WFP should position itself as a provider of technical support to national institutions (MOFA, GSA and FDA, GHS and LEAP programme) and plan its exit strategy.
Food Safety & Quality	**Conclusion 2:** Food Safety & Quality management was a key point in the project document that was not translated into robust activities. CO and national institutions did not have enough capacity to handle FSQ, and there was not enough focus on building the capacities of national institutions. The new quality management support programme of WFP was not able to fully strengthen CO with its FSQ activities under the ENVAC project. Several initiatives encourage production of fortified food specially formulated for fragile consumers (young children, pregnant women) in Ghana, while national institutions are not	**Recommendation 2:** WFP should help to improve FSQ management systems at all stages of the CNF production chain in Ghana. This will involve in particular strengthening the regulatory framework in Ghana (and the region – links with ECOWAS), norms and standards for CNFs. Meanwhile, ensure safety of all CNFs distributed by WFP's projects.

	fully able to guarantee the quality of these CNFs.	
P2 – Support to CNF processors	**Conclusion 3:** The ENVAC strategy of developing the capacities of local private industries to process produce CNFs was pertinent and could contribute to a sustainable increase in access to SuperCereal and SuperCereal+ for nutrition interventions at local, national, and regional level.	**Recommendation 3:** If Recommendation 2 is validated, pursue partnerships with the two private actors to facilitate a sustainable supply of locally produced quality CNFs, through both commercial markets and CBT. Access to WFP support (financial, technical and CBTs) by companies should be conditional upon 1) fair trade conditions with small farmers/aggregator suppliers of raw material suppliers (Male and Female) (See Reco-4) ; 2) investments by industries in commercial markets; 3) Transparency on price of CNFs delivered to WFP, as well as on terms and conditions for price revisions.
P1 –Value Chain approach for Small-Holder Farmers	**Conclusion 4:** Support for Small-Holder-Farmers and Farmers Organisations to develop production and sales of raw materials for CNF production was relevant but was insufficiently focused on the areas and conditions that could make a difference and lead to increased volumes of quality raw materials produced and sold	**Recommendation 4 :** Strengthen partnerships with development actors and MOFA to develop and upscale the Value Chain approach to intensify market linkages between Small-Holder-Farmers (Male and Female) and industrial processors **of all kinds**, focussing on WFP's specific added value (quality and post-harvest handling) as much as possible.
Linkage P3-P2	**Conclusion 5:** Targeting Pregnant and lactating women and children under 2, the population at risk of malnutrition, by combining SBCC and facilitated access to CNF through market and vouchers is relevant and innovative. However: 1) CBT (voucher) beneficiaries were not targeted based on their vulnerability, which hampered the impact of the intervention; 2) at the end of the ENVAC project, there is no evidence that industries are better equipped to position their products on the local markets and that the CNFs market is going to develop sustainably; 3) the boundaries are not always clear between SBCC promoting good practices (involving GHS agents) and commercial promotion of branded product.	**Recommendation 5 :** *(if Recommendation 2 is validated).* Strengthen and formalise the innovative strategy that combines nutrition assistance, promotion of good feeding practices, and market access for local CNFs: the targets of free distribution should be defined based on beneficiary vulnerability using national criteria (LEAP program); the role that each actor should play according to its mandate (Health, Social protection, Education) should be clarified; the impact of free distribution on commercial sales should be monitored.
Support to the most vulnerable Smallholder Farmers (male and female).	**Conclusion 6:** ENVAC's CNF food chain approach is likely to exclude vulnerable Small Holders and especially female from WFP programs supporting farmers. ENVAC had no impact on the food security of Small Holder Farmers because the project was not designed to target the most vulnerable	**Recommendation 6:** Develop specific interventions to support vulnerable Small-Holder-Farmers Male and Female in Ghana in line with the Global Food Security Strategy adopted in Ghana. Support the roll-out of the national strategy and the implementation of ad hoc programs that

	Farmers (including women), nor to answer their specific needs.	target vulnerable farmers and especially female farmers to improve food security of the most vulnerable.
Weak Time management	**Conclusion 7:** Time management was not optimal. Many activities started late (like support for CLMSFPs) and delays were made worse by COVID restrictions	**Recommendation 7 :** Ensure implementation and monitoring of on-going ENVAC activities (e.g. support for CLMSFPs – Training on gender and Climate Change) and draw lessons from these activities before the end of 2021.
CO Technical skills and project management	**Conclusion 8:** Lack of technical capacity (Gender, Food Safety & Quality management) at CO's level impacted the implementation of ENVAC and poor project management limits the opportunities to learn from the project.	**Recommendation 8 :** Strengthen CO capacity with the skills required for future activities: capacity building, institutional strengthening, partnership management, M&E and capitalisation; as well as technical skills in Food Safety & Quality and gender.

1. Introduction

1. The Enhanced Nutrition and Value Chains Project (ENVAC) evaluation report was based on a detailed meta-analysis of monitoring data and documentation during the inception phase along with the primary data generated during the field mission with key stakeholders including beneficiaries; the final evaluation included field work and interviews with key WFP staff and the investigation of WFP databases, monitoring data and documentation collected in the field and from key sources.

1.1. EVALUATION FEATURES

2. ENVAC is funded by the Canadian government through Global Affairs Canada (GAC). It is implemented in Ghana by WFP's Ghana Country Office (CO), in partnership with Non-Governmental Organizations (NGOs), National Public Services or Institutions (Universities, Research Centres), and private sector actors.

3. The evaluation covers all ENVAC activities during the period 2016-2021. The evaluation is conducted in 2021 to coincide with the end of the ENVAC project at the end of March 2021[9]. The unit of analysis is the project as defined in the project document, with its goals, objectives, outcomes, outputs, activities and inputs.

4. The main expected users for this evaluation report are the WFP Ghana Country Office (CO), and in particular the Evaluation Manager (EM), the Evaluation Committee (EC), the Evaluation Reference Group (ERG[10]), WFP's Regional Bureau (RB), headquarters (HQ), including the Office of Evaluation (OEV), the Government of Ghana (GoG), and GAC. Other external stakeholders of this evaluation are the beneficiaries, the UN Country team, Implementing Partners, and the private sector.

5. The ENVAC evaluation serves the dual objectives of accountability and learning. As such, the evaluation will 1) assess and report on the performance and results of the ENVAC project, and 2) identify reasons why certain results were or were not achieved, in order to draw lessons and derive good practices and recommendations for learning. It will provide evidence-based findings to inform future operational and strategic decision-making.

6. The specific objectives as defined in the Terms of Reference (ToR) (Annex-1) are to:

- ✓ Assess the outcome of implementation of key activities and the results achieved.
- ✓ Identify factors and reasons for observed success/failure and draw lessons for CO's future programming.
- ✓ Identify changes needed to enable fulfilment of the potential impact of ENVAC interventions.
- ✓ Assess how the ENVAC project has contributed to gender equality and women's empowerment in the target regions (for the three pillars of ENVAC).
- ✓ Assess the effectiveness of the partnerships involved in ENVAC activities.
- ✓ Provide an analysis of how ENVAC activities were aligned with and integrated into Government policies, strategies and plans as well as the Sustainable Development Goals (SDGs).
- ✓ Provide key recommendations for future consideration.

[9] Official end of the project was 31st March 2021, but project-related activities continued beyond that date. Activities implemented between March and field mission (June 2021) were looked at. The project draft final report mentioned ENVAC activities to be implemented until August 2021.

[10] ERG includes representatives from: The Government of Ghana (GoG); Ministry of Food and Agriculture (MOFA) and the Ghana Health Service (GHS); implementing partners (IP) and subcontractors: Non-Governmental Organizations (NGOs), Industrial processor, Kwame Nkrumah University of Science & Technology (KNUST).

7. The evaluation was carried out by a team of five consultants[11] with a mix of backgrounds in the technical areas covered by the evaluation, a good gender balance, and a mix of international and national consultants. The field mission was conducted immediately after the validation of the Inception Report (IR), over a 3-week period in Ghana with 14 days in ENVAC regions of intervention in June 2021 (see Annex-2).

1.2. CONTEXT

8. Ghana is a mature and well functioning multi-party democracy with a reliable judiciary and a well developed broadcast media (USAID-Ghana, 2018). Ghana has just over 30 million inhabitants, most of them living in towns. Accra is the largest city in Ghana, the second being Kumasi (Ashanti Region). Ghana stands apart from other African economies thanks to consolidated democratic achievements as well as the pace of its economic growth since the early 2000s. The start of oil production in the second decade of the 21st century has significantly transformed the nation's economic landscape, resulting in faster growth, but also exposing the country to variations in crude oil prices. Thanks to a strong economic growth dynamic in the 2000s and following a revision of its national accounts, Ghana ranks in the Lower Middle-Income Countries category.

9. Currently, the Ghanaian economic model is over-reliant on the exploitation of natural resources and on low value-added service activities. The stronger growth of the past twenty years has produced higher per capita incomes, but it has also widened the inequality gap among the population, with the Gini coefficient increasing from 37 in 1992 to 43.5 in 2016 (World Bank). The national poverty rate dropped by more than half in 30 years, but the rate of poverty is much higher in the northern regions (USAID-Ghana, 2018). The deterioration of poverty in rural northern Ghana is worrying (Ghana Statistical Services (GSS), 2018), hence government policies and programs along with NGOs and donors have been initiated to deal with the poverty situation. Poverty is primarily a rural phenomenon in Ghana with extreme poverty most pervasive in the five regions of the north (GSS, 2018, The World Bank, 2020).

10. The agricultural sector accounts for one-fifth of Gross Domestic Product, employs nearly half of the workforce and is the main livelihood for the majority of Ghana's poorest households (The World Bank, 2018). The agricultural sector is characterized by low yields for staple and cash crops. As a result of the low productivity, Ghana continues to be a net importer of basic foods, both raw and processed, such as rice, poultry, sugar, and vegetable oils. In terms of development and land under cultivation, Ghana's agriculture sector is dominated by Smallholder Farmers (SHFs) (MOFA, 2015) who provide the raw materials for two-thirds of non-oil manufacturing industries (The World Bank, 2018). Factors that hamper competitiveness for SHFs are: limited access to storage facilities, lack of access to mechanization, lack of access to credit, and gender inequality in relation to land ownership and control over decision-making (MOFA, 2007).

11. In the agricultural sector there are several development programmes led by government and non-state actors. Significant funding is provided by various NGOs and development partners. Canada, GIZ, USAID, DANIDA, SNV, World Bank, African Development Bank, AGRA, FARA, and AFAP are some of the major players contributing to the development of the agricultural sector. The most recent strategies have been to focus on large-scale value chain initiatives in the five northern regions. These value chain initiatives focus on smallholders in relation to cereals and cash crops including soya, maize, and rice production. Several of these programmes also promote linkages to credit, markets and storage for farmers. For instance, the government's flagship agricultural programme, Planting for Food and Jobs (PFJ), and the GAC funded Modernizing Agriculture in Ghana (MAG) project, are providing support for SHFs and the agricultural sector in Ghana (MOFA, 2018).

12. The government also launched the 1D1F (One District One Factory) programme that supports development of enterprises (including warehouse and processing businesses). Several other projects and programmes also focus on constraints affecting the agricultural sector and support the development of agriculture, value chains and agri-business, and these are presented in Annex 9-D.

13. Food and nutrition security has improved in recent years but remains a significant issue in Ghana, particularly in the north. The Northern region has the highest rate of stunting. Since the 1990s, Ghana has done relatively well at reducing hunger, particularly between 2014 and 2016. In fact, Ghana is the first country in Sub-Saharan Africa to have achieved the Millennium Development Goals (MDG1) of halving

[11] And one IRAM expert in charge of Quality Assurance.

extreme poverty and hunger (Ofori-Boateng & Bab, 2015). The Food and Agricultural Organization recognized the country for reducing the number of malnourished persons from 7 million in the early 1990s to less than 1 million. Despite these achievements, hunger and poverty remain key issues in Ghana, particularly in the Northern, Upper East, and Upper West Regions (GSS, 2012). A USAID survey of households suffering from moderate to extreme hunger concluded that between 2012 and 2015, hunger decreased by about 20% whilst stunting decreased by about 23% in northern Ghana (USAID-Ghana, 2018).

14. To address the issue of malnutrition, in 2016, GoG adopted a multisectoral National Nutrition Policy (NNP-2016) ; in 2017, GoG - with the support of WFP – conducted the Ghana Zero Hunger Strategic Review and in 2019, The Ghana Voluntary National Review (VNR) Report presents the state of implementation of all 17 SDGs[12]. GoG Interventions under SDG2 include promoting the production and use of locally grown and nutrient-rich food; the introduction of attractive tax holidays to serve as incentives for enterprises engaged in agricultural production and processing; and implementation of a corporate tax rebate for food processing businesses located in regional capitals and local communities.

15. Over the last five years, the Ghanaian government has sought to move beyond development assistance towards partnerships and self-reliance (Kumi, 2020). The new Beyond Aid vision does not oppose foreign aid but instead emphasizes a long-term policy commitment towards sustainable growth, inclusion, and self-reliance. Bilateral relations in Ghana have enabled development assistance to grow in the areas of agricultural value chains for SHFs, market integration, food security, and nutrition.

16. **Gender and social equity**: Compared with other West African countries, Ghana has a relatively more equitable gender situation due to slightly higher education attainment levels and more economic empowerment for women. However, the quality of life for women in Ghana is poor in relation to global standards and human rights. Less than 50 percent of adult females have been educated beyond Primary school and over 80 percent of women in the five northern regions remain illiterate. The EFSA-2016 highlighted in the Northern regions a higher level of food insecurity among female households that can be attributed to the lack of access to resources such as land and agricultural inputs. Studies in the Upper West on food insecurity also suggest that unequal gender dynamics in relation to land ownership restrict women's control of the profits of the agricultural produce of their farms (Associates for Change (AfC) , 2012, 2015). The GoG has developed several policies to tackle gender inequality - legal provisions and laws for non-discrimination in the labour market; policy frameworks and conventions which protect and enhance the rights of women in the agricultural, social and economic spheres based on the Convention on the Elimination of All Forms of Discrimination Against Women; MoFA introduced the Gender and Agricultural Development Strategy (GADS) which should improve access to information on land rights; improve delivery of extension services; and improve access to financial services with a special focus on female farmers in the agricultural sector (MoGCSP, 2015).

17. The Livelihood Empowerment Against Poverty (LEAP) is a cash transfer programme introduced by the Government of Ghana in 2008 for extremely poor and vulnerable households. It targets orphaned and vulnerable children, severely disabled persons without any productive capacity, and the elderly. The main objective of the LEAP Program is to reduce poverty by increasing consumption and promoting access to services and opportunities among the extremely poor and vulnerable. The Specific Objectives are: 1) to improve basic household consumption and nutrition among the targeted populations; 2) to increase access to health care services ; 3) to increase basic school enrolment, attendance and retention.

18. **COVID-19 context** : The World Bank (2021) reported that Ghana's economy shrank by 3.2 percent and 1.0 percent in the second and third quarters, respectively, of 2020, putting the nation in recession for the first time in 38 years due to the effect of the COVID-19 global pandemic. However, thanks to a solid 4.9 percent growth in the first quarter of 2020, at the onset of the COVID-19 crisis, a moderate growth of 1.1 percent was forecast for the entire year of 2020. In mid-2020, the government enacted the Coronavirus Alleviation Plan and the medium-term COVID-19 Alleviation and Revitalization of Enterprises Support programme in an attempt to minimize the pandemic's effects on households and businesses. However, due to low growth in 2020 and high population growth, actual per-capita income was 1 percent lower than in 2019 (The World Bank, 2021). Prices of cassava and plantain, for example, have increased by 206 percent and 413 percent, respectively, across Kumasi markets. COVID was particularly instrumental in deepening the poverty and gender inequality gaps in deprived rural areas of Ghana : higher levels of dropout rates of

[12]Republic of Ghana VNR-2019.

youth, teenage pregnancy and women's increased levels of abuse at the home and within the community were reported during COVID.

19. **WFP activity in Ghana** spans four broad areas: private sector integration, nutrition, national food system strengthening, and capacity building and policymaking.[13] WFP's gradual exit from direct operational support began with the handover of the school meals programme to the government in December 2016. Food assistance for assets was phased out in 2017. Direct nutrition support for vulnerable populations will continue until social protection programmes such as LEAP can respond to these nutritional needs. WFP aims to exit from direct nutrition support by 2030.

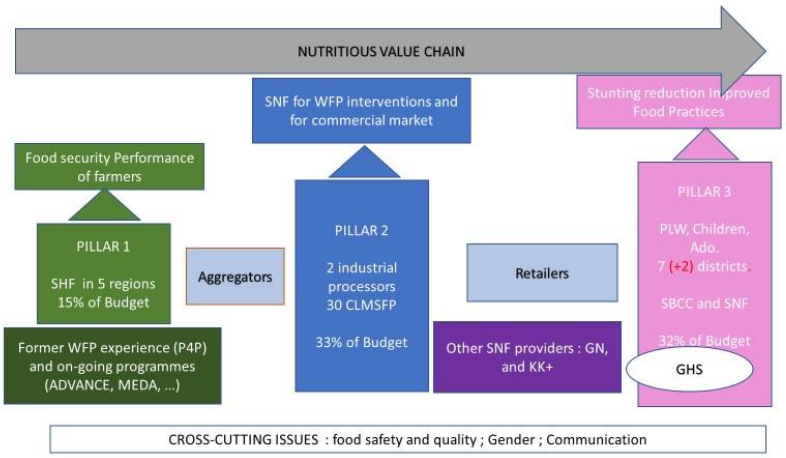
1.3. SUBJECT BEING EVALUATED

20. ENVAC began in March 2016 and should have ended in March 2021, but some of the activities are still ongoing. Fully funded by GAC, ENVAC benefited from a budget of 20 million Canadian dollars.[14] The project relies on a "market-based" approach to tackling malnutrition in Ghana. The main goals of the ENVAC intervention are: 1) improved nutrition and food security of targeted beneficiaries and 2) improved sales of staples for targeted SHFs, particularly to industrial processors.

21. ENVAC is built on three connected pillars (see Figure 1). It aimed to include SHFs in value chains (Pillar 1 - **P1**) for the development of complementary nutritious foods (CNF) by industrial and small-scale processors (Pillar 2 - **P2**), while making the general population, especially women, aware of the benefits of consuming such foods through Social Behaviour Change Communication (SBCC) (Pillar3 - **P3**). Issues involving all three pillars include ENVAC designed to address across-the-board issues such as: 1) Enhanced Food Safety & Quality (FSQ) and standards compliance among all stakeholders; 2) Gender; and 3) Monitoring and Evaluation (M&E). Some adjustments were introduced between the design phase and implementation[15] which did not change the budget or the logical framework.

22. ENVAC took into account the recommendation of the Country program midterm evaluation that encouraged the CO to support the commercial production of SuperCereal (SC); it was also intended to respond to the 2015 technical Audit by the WFP RB that assessed the readiness of local businesses to produce SC and Super Cereal Plus (SC+) to WFP quality specifications. The ENVAC approach was drew on lessons learnt from previous programs (P4P). The P3 approach was designed according to lessons learnt from the "Local Food-based Approaches for Improved Nutrition" (LoFAIN) implemented in Central Gonja in 2017

Figure 1: ENVAC – Three Pillars for a Market-Based Approach



[13] https://www.wfp.org/countries/ghana WFP Ghana Country strategic plan (2019-2023)

[14] About US$16.4m.

[15] For example, for P3: a new region was introduced in 2019; the network of retailers was not mentioned in initial documentation; inclusion of Out of School Adolescent girls (OSAG) in the beneficiaries not planned at the beginning.

23. Table 2 presents, for each Pillar: the objective, the geographic scope (see map in Annex-18), the part of the budget initially allocated, the beneficiaries, the outcomes, the main activities, and across-the-board issues that relevant to all three pillars.

24. **P1 Activities**: ENVAC aims to support 10,000 SHFs (55% women and 45% men) with whom WFP (P4P) or other partners have already collaborated, to improve their capacity, the quality of production, and their commercial capacity, in order to enable them to supply two pre-identified firms.

25. **P2 Activities**: 2 firms and 30 CLMSFPs had to be supported to develop local production of fortified food. Premium Foods Ltd (Premium) and Yedent Agro Processing Ventures Ltd (Yedent) are two businesses pre-identified and assessed by WFP; they benefit from financial and technical support, to produce quality Complementary Nutritious Foods (CNFs) that can be made available to assistance programs (such as those implemented by WFP) or marketed.

26. Premium is a large Processor and is expected to become a potential supplier for WFP's regional requirements for Super Cereal (SC).

27. Yedent is a smaller business specializing in Complementary Nutritious Foods for institutional feeding. It is expected to become a potential supplier to the Ghanaian market of Super Cereal Plus (SC+) for Children under 2 (Cu2).

Complementary Nutritious Foods (CNF) is the term used in the evaluation report to refer to all fortified products developed through ENVAC Pillar 2 and/or distributed through ENVAC Pillar 3 to beneficiaries (Pregnant and Lactating Women, Children under 2, and Adolescent Girls) to prevent malnutrition. It replaces the term Specialized Nutritious Foods (SNF) found in ENVAC documentation.

28. **P3 Activities**: ENVAC should help to 1) promote good feeding practices for Pregnant and Lactating Mothers (PLW) and Children under 2 (Cu2) (SBCC), 2) give PLW, Cu2 and Out of School Adolescent Girl (OSAG) access to CNFs developed by partner firms and facilitate the development of local demand (through the market).

29. Two assumptions are implied in ENVAC design: 1) increased demand for quality raw materials led by demand from ENVAC-supported firms is an opportunity for male and female SHFs; and 2) P3 activities (SBCC and distribution of local CNF) is likely to increase local demand for CNFs in the market (sustainable business opportunity).

30. **ENVAC's initial target numbers of beneficiaries** were adjusted during project implementation. According to project documentation most of the revised targets were reached or surpassed. Some were however drastically reduced compared to initial targets (i.e. number of persons trained on quality issues). Moreover, on P3, the areas and number of Health Facilities (HF) were almost doubled when Ashanti was included in 2019, while the number of Cu2 reached remains slightly under the revised targets. One target was not reached: on P2, only 3 CLMSFPs were supported (13 trained) instead of 30. The results framework is compiled and updated in Annex 14.

31. **Gender and Women's Empowerment**: WFP intended to place a special focus on women in each ENVAC Pillar and hire a gender specialist to develop a gender strategy. On P1, ENVAC planned to: encourage women farmers to accept training; target women-only FOs and strengthen women farmers' participation in targeted mixed FBOs; and monitor women's contributions to FO stocks during aggregation. Under P2, ENVAC planned to prioritize female small-scale processors on the component CLMSFPs. Under P3, women were the main target group for raising awareness of the benefits of consuming the selected nutritious staples.

32. **Partnership:** ENVAC was implemented with the involvement of various actors and partners.[16] P1 activity implementation involved MOFA agents, as well as NGOs and projects.[17] P3 SBCC activities were defined in conjunction with the GHS and implemented by GHS agents in targeted Health Facilities; CBT involved a network of private retailers. CNFs were provided by Premium and Yedent and two non-profit organisations based in Ghana (Project Peanut Butter (PPB) and Koko+ Foundation (KK+ Foundation). P2 involved WFP's HQ and RB, as well as CO food technologists supporting Premium and Yedent. M&E involved Kwame Nkrumah University of Science and Technology (KNUST) (P1) and GHS agents (P3).

[16] Details in Annex-3B

[17] Details regarding the different programs in Annex-9D

Table 2: ENVAC – Overview of the three Pillars and Crosscutting Issues

Pillar	**Pillar 1: Support for SHFs for increased local production, improved quality & market integration of nutritious food staples**	**Pillar 2: Support for food processors (Industrial & Community levels) for enhanced local processing capacities for complementary nutritious foods.**	**Pillar 3: Improved adoption and utilisation of good nutrition practices;**
Objective of pillar	Increased availability of safe and nutritious food staples	Enhanced Local food processing capacity for nutritious foods (Super Cereal & other blended flours)	Improved consumption of nutritious foods, adoption and utilisation of good nutrition practices
Areas	5 regions: Ashanti, Brong-Ahafo Region, Upper West, Upper East, Northern	Areas concerned: Ashanti, Brong-Ahafo Regions (Industrial)	**Initially** 7 districts in the Northern Region (Sagnerigu, Central Gonja, Gushegu, Zabzugu, East Mamprusi, Yendi and Chereponi). **2019-21**: 2 additional districts in Ashanti Region (Asokore Mampong, Bosomtwe).
Key IP & modality	NGO or MOFA services	Support from RB and HQ for the follow-up of Firms.	GHS – Health facility – Health Agents. Network of retailers
Financial Importance	15% of total budget	33% of total budget	33% of total budget
Target beneficiaries	**Initial target**: 10,000 SHFs (55% women & 45% Men) – **adjusted targets**: 20,000 SHFs and 84 Farmer Based Organizations (FBOs) or groups; 8 Nucleus farmers; 5 commodity aggregators (1 female and 4 male)	2 Firms : industrial food processors (male-led); 30 small scale food producers (Female-led)	**Adjusted targets** 20,000 PLW, 20,000 children 6-23 months (Cu2) 5,000 adolescent girls Indirect beneficiaries: 100 health staff and volunteers to receive SBCC training, 831,000 consumers.
Outcome and activities	**Outcome 1:** Increased Production & Productivity (maize, millet, cowpeas & soybeans) **Activities:** Agriculture service provision (inputs, shelling, tractor services…); Trainings on Good Agricultural Practices Farmer Organization (FO) institutional strengthening **Outcome 2**: Increased quality and safety of grains supplied to processors (including aflatoxins) **Activities:** Provision of storage & quality control equipment; training on Good Storage and PHH practices; use of Blue Box to control aflatoxins. **Outcome 3**: "Enhanced market linkages to industrial processors of SuperCereal and other small scale processors **Activities:** Facilitation of market linkages; WFP conditional contracts with industrial processors; training for SHFs/FOs on contractual procedures	**Outcome 1**: Enhanced Capacity of Industrial Processors (Premium Foods & Yedent Agro processing Ltd) to produce SuperCereal **Activities:** Financial support for specific equipment; Technical support on traceability system; Technical support on improved hygiene & quality assurance **Outcome 2**: Enhanced Capacity of selected small-scale/community-level processors of blended flours **Activities:** Provision of small milling/processing equipment & training to selected processors, women's milling & fortification groups ; training on quality & food safety	**Outcome 1**: Targeted Pregnant and Lactating Women & children attending health facilities and schools consume locally produced SC/SC+ & other nutritious foods **Outcome 2:** Increased Awareness of good nutrition practices and behaviours and consumption of nutritious foods through SBCC **Activities:** Provision of locally produced SC/SC+ to PLW (Pregnant and Lactating Mothers)/children at clinics; counselling at health clinics on nutritious foods staples and blended flours; and good nutrition practices & behaviours; cooking demonstrations; food-to-food fortification; SBCC, mass awareness by radio etc.
Cross cutting issues: Food safety, quality and standards across all stakeholders, to enhance: 1) awareness on food quality and standards among consumers, producers and processors, 2) the capacity of various stakeholders (SHFs, processors, laboratories) to meet Food Safety and Quality Standards. Gender equity: with a special attention to women farmers (Pillar 1); to women small scale processors (Pillar 2); and women constitute the main target group for Pillar 3.			

1.4. EVALUATION METHODOLOGY, LIMITATIONS AND ETHICAL CONSIDERATIONS

33. The evaluation of ENVAC was based on the OECD-DAC criteria to ensure a global picture of the intervention and allow the ET to formulate conclusions and recommendations for both accounting and learning objectives. It was also informed by a stakeholder analysis done in the inception report. Annex- 3-B includes the main stakeholders identified and included in this evaluation.

34. As stated in the ToR, this evaluation has addressed the five main evaluation questions (Q).

- ✓ Q1 is about **the relevance** of the approach to: a) the needs of targeted populations and stakeholders (with a focus on specific needs of women) b) strategies of the government, and c) WFP's policies;
- ✓ Q2 is about **the effectiveness** of ENVAC intervention and will compare planned versus actual results for each of the three pillars (for Pillar 1 it covers production and productivity, post-harvest handling and market linkage development; for Pillar 2, both support for industrial firms and CLMSFPs; and for pillar 3 both CBT and SBCC).
- ✓ Q3 aims to assess **the efficiency** of ENVAC.
- ✓ Q4 aims to explore **the impacts or long-lasting effects** of ENVAC; these will be compared to the goals of the project (as stated in the project document) but will also look at other expected or unexpected effects (positive or negative); specific gender analysis will be provided in answer to EQ4.
- ✓ Q5 is on **sustainability.**

35. Detailed questions and sub-questions based on the ToR, adapted and validated at the inception phase, are presented in Annex-3-A. From these evaluation questions the ET designed an evaluation matrix (Annex 4) that was used as the main guideline for data collection and analysis. The matrix, designed at the inception phase, covered the "area of the possible" rather than the areas of actual intervention. Therefore, and without any major change, in the matrix, the report has not given the same weight to all sub-questions and indicators to reflect on the intervention. There was specific focus on the development of a CNF value chain (from producers to consumers) and hence on the links between the three pillars. The evaluation was also based on and informed by constructive dialogue with WFP and stakeholders.

36. The evaluation also based its analysis as far as possible on data from M&E systems. The evaluation looked both at the results of the intervention and at the process engaged, as well as the quality of the intervention at different levels of implementation. The approach has been to use a before-and-after method combined with a contribution analysis. As far as possible, the ET used relevant existing qualitative and quantitative data (both internal and external to ENVAC). Data collection was done in four regions (Ashanti, Northern region, Brong Ahafo and Upper East regions). The choice of regions, districts and sites to be visited is described in Annex-3-D. Primary data collection was done by the ET through Key Informant Interviews (KII) and Focus Group Discussions (FGD) using guidelines (Annex 5) developed by the ET and shared with EM before the field mission. Annex-6 presents the people met, number of interviews and FGs set up.

37. Systematic triangulation of data obtained from multiple sources and by different methods was performed to validate the results and avoid bias in the evaluative judgment. Triangulation was done by:

- ✓ cross-referencing data collection methods
- ✓ considering different project periods and different intervention areas
- ✓ bringing together perspectives between ET members, including industry/technical expertise and methodological expertise, and in-depth knowledge of the context and actors
- ✓ bringing together different data sources:
    - different types of actors (WFP, IP, Institution, beneficiaries) and level of involvement in the ENVAC project (design, implementation, M&E)

- different types of data (M&E data18); activity reports (WFP and IP); contractual agreements (Memoranda of Understanding, - MoU), Food Supply and Distribution Agreements (FSDAs), Field Level Agreements (FLAs) etc.

38. Field mission organisation: After one day in Accra, in-country data collection was done by four consultants working in pairs consisting of one international and one national consultant: one pair focussed on Pillar 1 and connection with Pillar 2, and the other team on Pillar 3 and connection with Pillar 2. KIIs with representatives of Yedent and Premium were done by the whole team. The co-team leader conducted interviews in Accra with institutional stakeholders. Several interviews with WFP staff as well as other stakeholders were organized in Accra in the closing days of the mission (and remotely after the mission).

39. An internal debriefing meeting was organized in Accra for WFP staff. The ET presented initial findings from the field. Some clarifications were brought in by the WFP team and the main conclusions from this debriefing were discussed and taken on board by WFP staff. The meeting was an opportunity to consider the implementation results and strategy.

40. Data collection and analysis took into consideration gender. P1 sites visited covered activities by women and women's groups (100% women in the FGD), and mixed groups (FGDs always included about 50% women). Care was taken to ensure that answers to questions were given by both male and female respondents. Some questions specifically on gender issues were also put. This gender lens was also used to analyse the collected data and ensure that the findings were disaggregated by gender where relevant.

41. WFP decentralized evaluations must conform to WFP and UNEG ethical standards and norms. Contractors doing evaluations are responsible for safeguarding and ensuring ethics at all stages of the evaluation cycle. This includes but is not limited to[19] ensuring informed consent, protecting participants' privacy, confidentiality and anonymity, ensuring cultural sensitivity, respecting the autonomy of participants, ensuring fair recruitment of participants (including women and socially excluded groups) and ensuring that the evaluation results do no harm to participants or their communities. Data collected through OSAG interviews or FGs were implemented according to the standards defined by UNICEF.[20]

42. There were several limiting factors on this evaluation:

- ✓ Long delays at the beginning of the evaluation process impacted the evaluation work.[21]
- ✓ Limited availability of WFP staff at the end of field mission[22]: This constraint was mitigated by conducting necessary interviews after the debriefing, some of them remotely.
- ✓ No financial report was provided to the ET despite repeated requests. This has limited the analysis that could be done on efficiency. It was mitigated by using other data that was available, including from contracts and the MoU.
- ✓ Limited availability of stakeholders: some interviews could not be organized because stakeholders were not available. It was mitigated by interviewing enough stakeholders to be able to obtain balanced findings and conclusions, and by triangulating the information. For some stakeholders phone calls and video discussions were organized.
- ✓ Limited documentation provided to the team: there was no centralized database and document library for the project, and many documents were not available in the shared library, unless they were specifically asked for. Regarding documents and reports on activities implemented in 2020 and 2021,

[18] M&E data : WFP PdM-P3, MDCA report, KNUST surveys, GHS database. See Annex-3-G for details on M&E data.

[19] See Annex 3F

[20] https://resourcecentre.savethechildren.net/node/13733/pdf/attachment_iv-unicef_procedure_for_ethical_standards.pdf

[21] According to initial ToR, field visit was planned in May, but IRAM contract was only signed on the 24th April. Time dedicated to inception phase was short; field mission started immediately after IR validation on a Friday (04/06). 4 evaluators left Accra just after first meetings in Accra (Saturday 05/06). It was then intended that most interviews with CO staff would take place at the end of the field mission.

[22] Some key staff participated in the launch of the new production site of Premium in Kumasi when the team came back from the field; and all CO staff were out of Accra on the last day of the field mission as a CO internal seminar started on this date.

only a limited number were provided to the team before data collection. This was mitigated by asking the WFP and partners for specific reports.

✓ Limited quality of the data available due to weaknesses in the logical framework and the subsequent performance measurement framework; the poor consistency of some data (see Annex-3-G). This was mitigated by mixing quantitative secondary data and qualitative data analysis.

✓ Limits for Impact assessment: as the project ended as recently as March 2021, it was premature to pretend that the impacts of the project could be measured. This was mitigated by considering the effects generated by ENVAC and trying to estimate whether the effects are short term or long lasting (and likely to produce sustainable impact).

✓ Concerning Pillar 1, data was not collected at the ideal time: farmers were very busy on their farms preparing for the next agricultural season, and the time was not appropriate to see any post-harvest practices. This was mitigated by discussions on the results from the previous season and keeping interviews short.

43. **COVID-19** did not have major impacts on data collections (no site visits were cancelled because of COVID-19). However, precautions were taken to avoid virus propagation: International consultants were vaccinated and tested before leaving Europe, on arrival at Accra airport and when they left Ghana. During the mission, some interviews were done remotely (with CAG for example); for face-to-face meetings, outdoor meetings were favoured; ET members word a mask during indoor meetings and when in contact with vulnerable beneficiaries (PLW, Cu2); they washed their hands very often, and avoided close contact when greeting people.

2. Evaluation findings

2.1. RELEVANCE - EVALUATION QUESTION 1

Key findings: the general design of ENVAC is aligned with the priorities of the GoG and in line with WFP CSP and main WFP policies (Q1-3)

44. The ENVAC design was in general well aligned with the priorities of GoG and with the priorities of other development partners. It was also naturally in line with the WFP Country Strategic Plan (CSP), which built on long term experience of CO in capacity building with the Government, especially linked to the government's transition to market driven approaches for Purchase for Progress (P4P) and school feeding. The WFP's country strategic plan (2019-2023) aims to contribute to SDGs 2 and 17. It is aligned with WFP's Strategic Results 2, 4, 5 and 6.

45. ENVAC was also largely in line with WFP policies and priorities but placed more emphasis on achieving development through markets and less emphasis on focusing on reducing hunger across food insecure areas of Ghana. The focus on strengthening food systems is particularly relevant to Ghana and the subregion in 2021[23].

Pillar 1 - Q1-1, Q1-3

Key findings: P1 activities are aligned with Ghana government policy (Q1-1). The focus on food safety and quality on PHM is relevant. Working with SHFs previously supported by P4P is also relevant. The objective of P1 is to reduce food insecurity but the most vulnerable SHFs (especially most vulnerable female farmers) are not targeted, which reduces the coherence of P1.

46. **P1**-was aligned with the Ghana government policy framework objectives (Q1-3) as indicated in the Food and Agricultural Sector Development Policy (FASDEP II) 2008, the Medium Term Agricultural Sector Investment Plan (METASIP II) 2011-2015 and the Ghana Shared Growth and Development Agenda (GSGDA II) 2014-2017. The ENVAC project emphasized the sustainable utilization of resources and the commercialisation of products of SHFs, aggregators and processors with a market-driven approach for targeted commodities such as maize, soybean and rice, to combat food insecurity and enhance income diversification among SHFs and community level processors. ENVAC ensured greater engagement of the private sector and collaboration with other partners to facilitate implementation of the project to enhance productivity of the commodity value chain approach and the adoption of a technology that is aligned with FASDEP II. The ENVAC project was also in line with METASIP, which is consistent with the ECOWAS Agriculture Policy (ECOWAP) and NEPAD's Comprehensive Africa Agriculture Development Programme (CAADP). The latter provides an integrated framework to support agricultural growth, rural development and food nutrition security on the African continent. ENVAC was also aligned with the Ghana Shared Growth and Development Agenda (GSGDA II) 2014-2017 strategic policy of Accelerated Agricultural Modernisation and Sustainable Natural Resource Management. Other elements of ENVAC that are aligned with Government of Ghana and Ministry of Food and Agriculture (MoFA) policies include post-harvest management and gender mainstreaming particularly in relation to reaching vulnerable SHFs to improve post-harvest and market access. ENVAC is also aligned with WFP's Stategic Goals, Objectives (objectives 2, 3 and 4) and Results (Results 2, 3, 4 and 8) of WFP Corporate Strategy.

47. ENVAC P1 targeted SHFs that were already supported by P4P and other projects that were either members of an FBO or linked to an aggregator (or a nucleus farmer). There was no information available on how these Farmer-Based Organizations (FBOs) and aggregators were selected. In order to build a value chain and to link SHFs to processors, it was relevant to focus on farmers that were already able to produce and market their crops and to support them with appropriate interventions to tackle their constraints in terms of production, post-harvest, quality and marketing (Q1-3).

48. There was no specific attention given to targeting the most vulnerable farmers and no specific assessment of their vulnerability. The baseline study shows that selected farmers had a rather high asset

[23] https://www.un.org/en/food-systems-summit

score (10.19 in average) and 96% of them were food secure. Targeting vulnerable farmers was not specifically mentioned in the project document as a target for ENVAC (only SHFs were mentioned). There was no specific attention given to whether farmers were actually small (the average land size is 5.44 hectares) and it was not a selection criterion (some of the SHFs met are actually farmers with 20 hectares of land). However, there is no clear definition of what is considered an SHF in Ghana, and existing studies looking at average agricultural land size for farmers found similar or slightly lower land holdings.[24] According to observations by the ET during field visits, most of the selected farmers could be considered SHFs because they were not operated with employees only, but relied mostly on family labour. At the design stage, judging by interviews with key WFP staff, no clear choice was made between supporting vulnerable SHFs and ensuring a regular supply of produce to the selected private businesses. As a result, the project attempted to do both, even though diversified approaches and activities were required to achieve ENVAC's objectives, especially for female SHFs.

49. The needs of the value chain actors (SHFs, aggregators, FBOs) have been taken into consideration in an adequate way. ENVAC's design was built on the IFDC CASE approach (see Annex-9-A). This approach focused on clusters (gathering local actors involved in a specific Value Chain [VC]) which enabled farmers to have access to more predictable markets (formal markets) and to services (capacity buildings and inputs) through economies of scale (aggregation of products). It was particularly relevant for ENVAC not to focus on a single coordination mode in the value chain, but to encompass different product aggregation models (through FBOs, aggregators or nucleus farmers). Focusing on these intermediary actors was one of the key success factors in linking SHFs to markets,[25] as they bridged the gap (social and physical) between buyers and farmers. In the Ghanaian context, it also appeared that FBOs may not always be the most effective way to aggregate from farmers[26] and working also through aggregators or nucleus farmers was particularly relevant (see Annex-9-B). However, no study has been done on how poor and vulnerable farmers (especially female SHFs) have the same level of access to land, inputs, services, credit and markets with this aggregator model (in comparison with FBOs).

50. The development of co-ordinated commercial relations between SHFs and aggregators (or FBOs) was also aligned with the strategies and the needs of the processors, as it could reduce their direct and indirect transaction costs[27] and give them a better knowledge of potential suppliers in a context where their processing capacities were going to increase during the project.

51. The selection of crops and the targeted areas were appropriate as they are all important crops (either as staples or as cash crops). More information on the selected value chains can be found in Annex-10. However, with the objective of building commercial links with the identified processors, it was surprising that the project did not focus primarily on the regions from which they were procuring (mainly Ashanti Region and Brong Ahafo Region for maize and Northern Region for soya). Looking at the distance to factories and the production level, it did not appear realistic to expect that SHFs from the Upper East and Upper West regions would be able to supply to these businesses. Linking SHFs with CLMSFPs would be relevant, as they were very close to the farmers and provided another market opportunity.

52. At the design stage, the activities planned for pillar 1 were appropriate as they focused on some of the key constraints identified in the maize and soya VCs and built on existing and new opportunities (see Annex-10 analysis for the maize VC). The design of ENVAC was such as to tackle mainly post-harvest losses and quality in those value chains

53. The majority of current and past projects (Annex-9-D) included activities on quality and post-harvest losses, but mainly intervened on enhancing production and productivity. ENVAC's prioritization of post-harvest losses and quality was very relevant. This was only possible because the project was working with SHFs who had already been supported by other projects, and who therefore were already well aware

[24] On average, 3.8 ha in Northern Region (NR) (Kuivanen, K.S et al., 2016), 4.32 ha in Ashanti Region (AR), 5.28 in Brong Ahafo Region (BAR) (Bymolt, R., et al, 2018), 3 ha in Upper West (UW) and 1.8 ha in Upper East Region (UER) (Dr. Vincent Amanor-Boadu, 2015)

[25] Staatz, John M

[26] A study of FBOs in Ghana found less than half of FBOs engaged in economic activities with the potential to achieve for their members reduced transaction costs and improved access to various markets (Adam S. et al 2010)

[27] Wiggins, Steve et al. 2016

of good production practices. The design needed clear guidelines for ensuring this capacity was identified and tapped.

Pillar 2 - Q1-1, Q1-3

<u>Key findings</u>: The P2 (and P3) approach was aligned with national and corporate policy (Q1-3); the choice of industrial food processors did not go through a formal tender process but was relevant : WFP had previous experience of purchasing products from these companies and the support provided to firms was based on a technical audit (2015) and designed to answer those businesses' needs (Q1-1).

54. **P2-P3 - Q1-3** : ENVAC supported Premium and Yedent, two local firms (P2) to replace imported Super Cereal (SC) and Super Cereal Plus (SC+) for nutrition intervention (P3). This approach was aligned with a recommendation by WFP's Ghanaian Country Programme (CP) Mid-term evaluation. It was also aligned with WFP's nutrition policy and strategic results framework.[28] Using the needs of WFP programs to stimulate local production of quality nutritional foods (and respond more broadly to market demand) appeared very relevant in Ghana: the deteriorating humanitarian situation in neighbouring Sahelian countries increased the need for assistance in the region and increased the relevance of the approach. The approach was also consistent with the government's nutrition priorities.[29]

55. ENVAC P2 was also well-aligned with the GoG's high priority of stimulating the private sector's economic growth engine and empowering local businesses, particularly in the agriculture sector where they were able to add value using local crops. The programme took advantage of the Government's 1D1F program, as well as WFP's own sub-regional strategy to purchase CNFs locally or within the sub-region. Along with the strategic policies of several donors, including USAID and Global Affairs Canada, the design of ENVAC and its implementation were focused on empowering local firms and CLMSFPs, and strengthening market linkages between SHFs and processors in the agriculture sector, with special focus on the northern regions.

56. The choice of the two firms (P2) is overall relevant; both are long-standing partners of WFP, they purchase from Ghanaian producers (link with P1), they have already supplied processed food to WFP, and they are supported by the national 1D1F program. The arguments justifying the choice of the two partner businesses are numerous and valid. But the choice of businesses was not subject to a competitive bidding process (Open tender) and did not formally involve representatives of the Ghanaian government. However, supporting private businesses is fully aligned with Ghanaian national policies and with the willingness of GoG to support private processors (to reduce the country's dependence on raw material exports, and to develop capacity to add value and export processed goods). This policy orientation is realized in the national program "One district, one factory"[30] (1D1F), to which both Yedent and Premium are linked.

57. In April 2015, a Technical Audit by WFP's RB assessed the readiness of the two processors to produce SC and SC+ in accordance with WFP quality specifications. Both processors were found to be close to being able to meet WFP quality specifications for SC, and, in the case of Yedent, for the production of an "instant SC+ equivalent". The audit assessed the financial and technical support required for the businesses to be able to undertake the required adjustments. The support provided by ENVAC was designed to answer the needs of the firms (Q2-3).

58. Including CLMSFPs in ENVAC design was relevant; these processors could represent more accessible markets for small producers. The choice of CLMSFPs involved different public actors, which is relevant.

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[28] Alignment with WFP nutrition policy *supports an increase in local production of nutritious food products and local fortification whenever this is possible and necessary*; and with Strategic Results Framework (SRF - 2014-17) : SRF Outcome 3.2 calls for increased marketing opportunities for local food and agricultural products, and Output 3.2.2. marks WFP's commitment to increase its local procurement of nutritional or fortified products.

[29] National Nutrition Policy July 2016: with priority given to Cu2 and PLW ; needs to increase coverage of nutrition sensitive interventions ; strengthen national food systems with focus on nutrition and food safety.

[30] https://1d1f.gov.gh/

Pillar 3 - Q1-1

<u>Key findings:</u> SBCC targeting PLW and Cu2 was relevant as it covered the first 1,000 days of life, the key period to preventing malnutrition. The approach was aligned with national and WFP policies (Q1-3). Care should however be taken to prevent promotion of commercial CNF brands in HFs, especially if CNFs target Cu2.[31] CBT design was not fully relevant: it did not target the most in needs and reached PLW and Cu2 caregivers who could access CNF through the markets and did not ensure protection of minors (OSAG) (Q1-1).

59. **Q1-1: alignment with the need of beneficiaries:** The prioritized beneficiaries of P3 activities (SBCC and CBT) are PLW - from early pregnancy to the first 6 months of life - and caregivers of children between 6 and 23 months of age (Cu2). PLW and Cu2 were identified and registered by GHS agents during Antenatal Care (ANC) visits and during Child Welfare Clinic (CWC) visits. This targeting was very relevant as it covered the period of the first 1,000 days of a child's life, from conception to the second birthday, considered to be the most favourable period for malnutrition prevention interventions.

60. All PLW and Cu2 visiting the health facilities (HF) for ANC or CWC in the targeted districts were not necessary (CBT) beneficiaries. There were no specific selection criteria for inclusion: when the district target was reached, new beneficiaries could not be included. Registration in WFP's database through SCOPE[32] was not continuous: some PLW and caregivers were on a list of expecting beneficiaries, waiting for the next registration round. As the criterion of vulnerability was not used to prioritize those most in need, women who were included were more likely to be those who lived close to the HF, who already attended ANC or CWC. This limited the relevance of the targeting.

61. In late 2020, ENVAC targeted Out-Of-School Adolescent Girls (OSAGs): this was in order to expand the coverage of the UNICEF-supported Iron and Folic Acid (IFA) supplementation program, which was only reaching schoolgirls. This activity was a request of the Government (GHS) that considered low coverage of IFA in OSAGs a major challenge. Communities were sensitized on the intervention to get their consent before it could be rolled-out. However, retailers and health agents on the field were also mobilised to identify and persuade OSAGs to come to the HFs to receive IFA supplementation with CBT including CNF (MZ) and a cash transfer (CT) or value-voucher. The targeting of OSAGs was a way to reach the most vulnerable of a specific age and as such was relevant. However, OSAG targeting presented some challenges. It should involve social protection (or school) services which were not partners of ENVAC. Required safeguarding measures were missing : the girls as minors required parental/care giver knowledge and consent based on safeguarding and child protection standards. Furthermore, the project did not envisage partnerships with other actors to encourage OSAGs to return to school or provide incentives to do so, like the Government's LEAP program. For PLW, caregivers of Cu2, or OSAGs, disability criteria were never mentioned as a priority for identifying beneficiaries.

62. **P3 geographic focus:** In its initial design, ENVAC targeted the Northern Region for SBCC and CBT. This was relevant because of the high level of stunting and food insecurity in the region. However, the concentration of P3 support in Sagnerigu (Tamale North)[33] could be questioned: this district being mainly urban or peri-urban, households were less likely to be exposed to food and nutrition insecurity. WFP justified the choice of Sagnerigu with the findings of the METSS survey[34] that had been conducted in the Northern Region in 2015. It highlighted very high rates of chronic malnutrition in the Sagnerigu district: 47.6% of children under 5 years of age were stunted (28.6% severely stunted[35]). This prevalence - measured on 42 children, presented without any information about standard deviation - is difficult to interpret because it is counter-intuitive. It should be noted that the same METSS survey provided information on indicators that could reflect causal factors of malnutrition. None of these could explain the high stunting

[31] Should ensure the respect of WHO - Code of commercialisation of breastmilk substitutes.

[32] SCOPE is WFP's beneficiary identity and benefit management system. WFP.SCOPE@wfp.org

[33] 7 districts in the Northern Region are reached by ENVAC, but 36% of the HF targeted by ENVAC in NR are in Sagnerigu district; 40% of CNF rations for PLW and 30% of those for children are distributed in Sagnerigu.

[34] METSS-USAID – 2016.

[35] When the prevalence for stunted and severely stunted children under 5 was 33 and 10% in DHS-2014 in NR.

prevalence in Sagnerigu[36]. Therefore, the observed concentration of ENVAC P3 activities in Sagnerigu resulting from only one study could be questioned.

63. In 2019, the Ashanti region was targeted by ENVAC P3 activities as per the agreement signed with Japan Cooperation; one district was included in 2019 (Asokore Mampong), a second in 2020 (Bosomtwe District). WFP justified the inclusion of Ashanti by "stunting caseload": stunting prevalence was low but the number of stunted children was high due to the size of the population in Ashanti. This approach could be considered of low relevance. The inclusion of beneficiaries was not based on economic vulnerability criteria and the probability of reaching populations at risk of malnutrition was low. Note that in June 2019, when P3 activities had just started in Asokore Mampong (Ashanti), stunting prevalence amongst Cu2 beneficiaries, was estimated to be about 10% - which meant the overall ENVAC target was reached before starting implementation.[37]

64. The implementation of CBT in Sagnerigu and the Ashanti Region without clear targeting of the most vulnerable households was of low relevance to food and nutrition security issues. However, the choice of Ashanti and the focus on Sagnerigu could have been relevant if it was dictated by the intention to eventually introducing a commercial approach (higher purchasing power than in remote Northern Region rural areas). If this was the case, these points should have been clearly stated in the project documentation.

65. **SBCC:** ENVAC focused on a food-based approach to tackling malnutrition (CNF vouchers) combined with SBCC that promoted good practices that could contribute to reducing malnutrition. SBCC addressed food practices as well as other malnutrition causal factors (promotion of hygiene, malaria prevention). ANC and CWC were good opportunities to deliver SBCC messages to the population most at risk of malnutrition (1,000 days) and was designed to address some gender issues, and to some extent responded to the differential needs of beneficiaries. Therefore, the SBCC component was relevant. However, the nature of the SBCC messages delivered in HFs must be more carefully designed, as the promotion of commercial brands could pose some ethical problems. In addition, compliance with the WHO code of marketing of breastmilk substitutes should prevent a WFP supported project from promoting branded food for children under the age of two.[38]

66. **CBT:** The initial design did not give any details on the way CBTs were to be implemented. Based on learning from the LoFAIN project, the CO developed an approach involving a network of retailers, a good option that prevented GHS agents from being involved in food distribution, and that could facilitate the shift towards a commercial approach. Initially WFP intended to supply PLW and Cu2 with six months of CNF support (CBT) per year during the lean season. As the project did not manage to register enough beneficiaries, it was decided to provide support all year long.[39] The relevance of this extension of CBT to all year long, when the project design did not target the poorest households, is considered limited.

67. **Types of CNFs** delivered by ENVAC: PLW and OSAGs received Maizoya (MZ) produced by Premium, or Tom Vita (TV) produced by Yedent; MZ, based on WFP SuperCereal formula, was adapted to PLW needs. TV was developed by the Obaasima project to meet women's needs; but no research has yet demonstrated the efficacy of the product to improve women's nutrition status. Neither Yedent nor Premium managed to produce CNFs for Cu2 and therefore children received GrowNut (GN) or Koko+ (KK+). Both products were delivered to WFP by two Ghana-based NGOs: Project Peanut Butter (PPB) and Koko+ Foundation (KK+

[36] Sagnerigu appeared in the METSS survey to be the district in which the level of education and access to sanitation are the highest of all NR districts; it was the district where the prevalence of severe to moderate hunger and the prevalence of underweight women were the lowest. The situation of Sagnerigu in terms of prevalence of poverty, Minimum Diet Diversity, and Food Consumption Score was better than the average of the other districts of the NR.

[37] WFP - PPT Janvier 2020 - 2019 Post Distribution Monitoring (PDM) Follow Up; the same PDM indicated prevalence >30% in Zabzugu district in Northern Region.

[38] The WHO Code regulates the marketing of breastmilk substitutes which includes infant formulas, follow-on formulas and any other food or drink intended for babies and young children. The code was not well known to GHS nutrition agents: "*Under 6 months there is the Code, but after that it is ok to promote foods; there is no problem using posters with private brands in an HF; TomVita is also fine because it is for children older than 6 months.*"

[39] Interviews CO and Tamale Sub-office WFP staff.

foundation).[40] GN is an LNS with a formula designed for 6-23 months' nutritional needs. KK+ is a macro- and micronutrient-fortified complementary food supplement developed in Ghana. The performance of KK+ was assessed by a research study (2013-15)[41] that did not conclusively demonstrate that KK+ reduced the risk of stunting.

68. Considering previous studies implemented in Ghana to estimate the cost of a healthy diet, the limited space given to the local fresh food in the CBTs must be highlighted: there was no fresh food proposed in the PLW voucher listing; no green leafy vegetables for adolescents, even though green leafy vegetables (together with eggs[42]) were demonstrated to be the most cost-effective option for this target group (average of 30% cost reduction). Besides food products, sanitary pads were offered in some baskets to OSAGs. The introduction of washable reusable sanitary pads[43] in the voucher options could have been investigated as a more sustainable and cost-effective solution.

Quality Management - Q1-1, Q1-3

Key findings: Addressing Food Safety and Quality in all 3 ENVAC pillars is very relevant; it answers the needs of producers, processors and consumers (Q1-1) and is aligned with national priorities (Q1-3). Activities planned are however not clearly defined at the design stage.

69. ENVAC planned interventions on each of the three pillars to strengthen the safety and quality of raw materials, CNFs, and feeding practices. This is particularly relevant to the Ghana context. P1 activities focused on introducing weight and measures sensitization and post-harvest handling. ENVAC also planned to focus on aflatoxin; this was particularly relevant as this contaminant remains a major problem in West Africa, affecting trade and the value of some raw materials, along with health implications for consumers. Links between aflatoxin exposure and chronic malnutrition are identified and described in the literature.[44] Therefore, it is regrettable that the peanut sector - the one most affected by the mycotoxin - was not included in the P1 support, even though one of the products finally distributed to beneficiaries (GN) is made of local peanuts.

70. The project document mentions the involvement of national institutions responsible for defining and enforcing quality standards (Ghana Standards Authority (GSA) and Food and Drug Authority (FDA). Involving national institutions in charge of quality and food safety is particularly relevant but the project document gives no details regarding the capacity of these institutions and the way they were to be involved to ensure food safety and quality along the value chain. The document mentions the importance of food safety and quality issues and the need to reach WFP standards,[45] but does not describe the process that was to be used to assess the quality of Yedent and Premium products and guarantee the safety of CNFs[46] distributed through the voucher system (P3) to vulnerable populations (PLW and Cu2).

71. WFP regularly reviews its standards to meet changing requirements and to better respond to emerging risks. During the implementation of ENVAC, WFP-RB signed a Long-Term Agreement (LTA) with international private inspection companies operating in all West African countries to facilitate food quality

[40] Both NGOs are supported by international agri-food companies: PPB is supported by Hershey, a US multinational chocolate manufacturer. KK+ Foundation is supported by the Ajinomoto Foundation; Ajinomoto, a major Japanese Food company, acquired 33.33% of Promasidor Holdings, a Johannesburg-based food company producing YumVita (an infant fortified flour which is well distributed in Ghana) and infant formula for the Nigerian market.

[41] Ghosh S.A. et al. 2019.

[42] Eggs were however included in the OSAG basket options (2 options out of 6) for girls receiving food through vouchers.

[43] As promoted by Plan International: https://newsghana.com.gh/plan-ghana-introduces-washable-reusable-sanitary-pads/

[44] Khlangwiset P et al. 2011.

[45] http://foodqualityandsafety.wfp.org

[46] CNFs are sensible products: the last WFP internal audit of Food Safety and Quality as a Corporate Risk (2019) mention that 58% of incidents reported (January 2018 to March 2019) relate to SNFs, with Super Cereal Plus the commodity with most incidents reported.

control for Country Offices.[47] In 2019, WFP reorganized its Food Safety Quality Management Services. This involved establishing an independent unit and setting up decentralized teams in the RB.

Gender - Q1-2

Key findings: The design of ENVAC was based on extensive gender analysis by WFP and others, but the translation into concrete activities focusing on women was suboptimal (Q1-2)

72. The design of ENVAC was based on extensive gender analysis by WFP globally and in the sub-region along with gender analyses by other development partners in Ghana's agriculture, food security, and health sectors.[48] The gender analyses embedded in key government-led studies (e.g. Demographic Health Survey's (DHS), Multi-Cluster Indicator Studies (MICS) and Ghana Living Standard GLSS 7) all pointed to the need to ensure gender equity and women's empowerment. These studies all point to the need for women to have more voice and agency at the design, management and programme implementation levels to achieve equity. They also speak to the need for programmes to tackle the structural inequalities older and younger women face in these areas of deprivation, particularly in relation to access to credit and access to technology and land, when value-chain strengthening and agriculture empowerment programmes are introduced. Gender was mainstreamed across several aspects of ENVAC and the objectives were fully gender-sensitive. WFP's experience in Ghana along with successive country programmes have all ensured that the programming is pro-women's empowerment. Gender was highlighted as a key transformative indicator in the theory of change and was included in the objectives/ intention of ENVAC, but was not translated in the implementation and compliance within the project and among key project partners.

73. **P1:** As explained earlier, the project was not specifically designed to target the most vulnerable farmers, and it built on existing capacities with women's groups identified through other programmes (e.g. MEDA, ADVANCE etc.). ENVAC was intended initially to facilitate women's participation through FBOs and strengthen value chains. Women-only FBOs, and crops mainly grown by women, were selected to increase the focus on gender. There was also communication and awareness creation to increase knowledge of value chain opportunity including post-harvest and technology innovations. Women farmers benefited from these activities but key structural barriers such as access to credit and land were not addressed. Pillar 2 was designed to ensure that industrial processors purchase at least 20% of raw materials from ENVAC's SHFs, but there was no specific target - or compliance measures - for sourcing from women or vulnerable farmers. Under P2, priority was given to women for the support to CLMSFP. In P3, women constituted the main target group for SBCC; P3 also targeted OSAGs and PLW with nutritious food supplements. Gender training workshops cascaded across the ENVAC target districts (P1) were also planned.

74. Gender equality and women's empowerment are major across-the-board features under the ENVAC project, particularly in relation to value chain development and women increased economic inclusion. Unfortunately, P1 did not address the structural barriers affecting women that persisted in targeted districts (e.g. access to credit, male ownership/control of land, male-led extension service and male decision making on marketing/sales, access to market infrastructure) - these have remained barriers to women's participation and full empowerment over the lifespan of programmes like ENVAC. It was particularly relevant to focus on women-only FBOs and participation of women in FBOs; most FBOs have a majority of women members, but most leadership positions are held by men.

75. **P2:** the main beneficiaries were industrial processors (male-led), but the intention was to target 30 CLMSSPs that were mainly led by women. Working with CLMSSPs was relevant both from this gender perspective, and to reach poorer farmers in remote areas. This aspect of the design was weak due to lack of verification and compliance measures to ensure achievement. The design of Pillar 2 did not ensure that women CLMSSPs were fully engaged due to the focus of the project on building the CNFs with the industrial processors. The two processors had their own network of aggregators, mainly based in their regions of operation. From a gender and vulnerability perspective, the project would have been more relevant if it had focussed equally on the development of both industrial and local processors, with industrial processors as

[47] In November 2016 – 2 companies present in Ghana included in this LTA – SGS and Baltic.

[48] Value Chain Development, Gender and Women's Empowerment in Ghana 2016/17; The Potential of Cash based Incentives to Promote Gender Equality and Women's Empowerment

key to creating new market opportunities and facilitating an increased awareness on CNFs (developing the value chain), and with CLMSFPs also benefiting from these markets and facilitating the inclusion of poorer SHFs. Industrial partners met by the evaluation team are aware of the gender dynamics and inequalities across the target areas but they were not compelled by the program to contract with vulnerable women and therefore did not take additional steps to reach vulnerable groups of women.

76. **P3:** ENVAC project design in raising awareness and providing access to CNFs among PLW was evident, but there was very limited focus on men/husbands in nutrition activities particularly in relation to SBCC.

2.2. EFFECTIVENESS - EVALUATION QUESTION 2

Pillar 1- Q2-1, Q2-2, Q2-3, Q2-7

Key findings: The overall effectiveness of the intervention was fair and ENVAC reached over 10,000 SHFs (Q2-1). However, activities were numerous but one-off in nature, with limited follow-up. Many topics were covered but the focus was mainly on Post-Harvest-Handling (PHH) (Q2-2). ENVAC also supported aggregators to develop linkages between SHFs and firms. Yedent and Premium procure raw material from SHFs, but it is difficult to trace the proportion coming from ENVAC farmers (Q2-3).

77. The effectiveness of P1 was documented through the M&E system based on a quantitative survey conducted by KNUST as the baseline, in 2019 and 2021. However, many indicators measure the context rather than results attributable to ENVAC. Trends observed are not necessarily linked to ENVAC, especially in a context where there are several other interventions directly focused on production and post-harvest.

78. ENVAC did not directly contribute to an increased availability of safe and nutritious food staples. The findings regarding trends in marketable surplus by SHFs is mixed. During interviews and FGDs, SHFs reported an improvement for some farmers over the last 5 years, but this did not translate into the quantitative results from the M&E survey (see Annex-15-A for more information on trends in SHFs marketable surplus).

79. Targets concerning the average quantities of crops sold have not been reached in 2021 (Annex-15-B). The volumes of sales and the marketable surplus of crops do not match, and the results are difficult to interpret. However, for all crops, in 2021, volumes sold were above marketable surplus: farmers had to sell more crops to secure enough funds for their basic needs (both for their families and to prepare for the next season). Overall, and except for soya in 2021, volumes of sales from women are below volumes of sales by men (see Annex-14). Globally, the food security of targeted farmers was not mentioned as an issue by the stakeholders and SHFs whom the ET met. This was very clear in Ashanti and Brong Ahafo regions, where SHFs consider themselves commercial farmers (see box below). Most of the SHFs met in Northern and Upper East regions also mentioned that their food security has improved a lot in the last 5 years, and only a few mentioned that they were still having some difficulties.

Maize is our priority. Production is expensive but we invest in it, especially in hybrid seeds because their yields are higher (26 bags with hybrids, 18 bags with certified seeds from PFJ). None of us use traditional seeds any more. We produce maize to sell and make a profit. We prepare the season before cultivation and we make our plan: we know we need to produce more than 15 bags to make a profit, so when the conditions will not allow us to get this production we do not plant maize and we focus on other crops to feed the family. We sell maize to buyers, aggregators and the market depending on price, sales conditions and our needs. Maize is a business here now, which was not the case before. Meawyi group, Techiman

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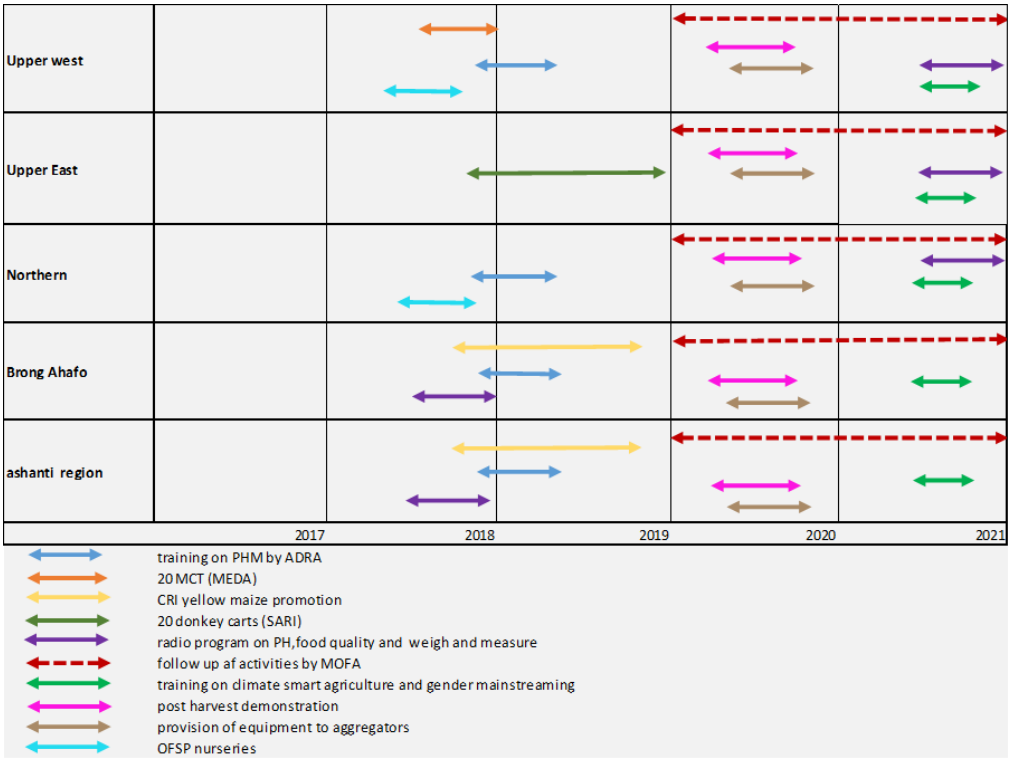
80. Field work findings revealed that the market for maize and soybean is still very dynamic and there were numerous buyers. For millet and cowpea, sales are mainly conducted in the local market. Overall, SHFs say it is easy to find buyers and that prices are good. However, it is difficult to know whether this is a real trend, or whether it is more related to last year's low production (hence high demand and high prices on the market). Still, as shown in Annex-15-C, farmers faced some constraints when marketing their crops.

81. The total number of SHFs that benefited from the project exceeded the initial target of 10,000 SHFs (for example, WFP estimates that about 20,000 SHFs benefited from the climate smart and gender mainstreaming training in April-May 2021) (see Annex-15-D for more information on the number of beneficiaries). However, the actual number of beneficiaries is difficult to assess: selected beneficiaries from one activity are not necessarily the same for another activity, and there is no monitoring of the activity of each beneficiary (data is not available for example on all the activities and support received by a specific FBO). Similarly, it is difficult to come to a general conclusion on whether and how outcomes were different for men and women because beneficiaries are difficult to trace, but in some respects (see Annex 15C for example) it seems than men benefited more (Q2-7). The entry point for most of the interventions are the FBOs and most of the interventions targeted about 20 to 30 FBOs (or aggregators). The overall effectiveness of pillar 1 is considered fair. The table in Annex-15-E shows which activities were planned and which were achieved.

82. Implementation of Pillar 1 was characterized by numerous activities that have not been repeated nor scaled up (see figure below). A brief evaluation of each of these activities is presented in Annex-15-F. Effectiveness of each of these activities is good, but there was limited follow-up and monitoring. Therefore, there was no strategy to progress from one activity to another during the implementation. There were few links between the different activities. There were no implementing partners in charge of the overall implementation of activities in each region (at least up to 2020), and partners were only involved for a few months on very specific activities. The project did not build sufficiently on the initial projects (e.g. ADRA, MEDA[49]) who provided the target beneficiaries. From 2020 to June 2021 there was a focus on post-harvest handling and on activities reaching a lot of farmers, which is very positive. There was also more follow-up and monitoring of activities through an FLA signed with MOFA in each region. Annex-15-G gives an overview of how the activities performed in terms of the number of beneficiaries reached and the contribution towards building a CNF value chain.

Figure 2: Periods of implementation of Pillar 1 diversity of activities (source : ENVAC and IP's reports)



83. Very few activities focused on improving the production and productivity of SHFs. There was no specific Good Agricultural Practices (GAP) training, no demonstration plots established, and the project did not provide inputs or services for the priority value chains. Some activities were implemented to support

[49] See annex 15-D.

the production of biofortified yellow maize (training and demonstration plots) and Orange Flesh Sweet Potatoes (OFSP) (training and provision of nurseries with a solar irrigation system). Training on climate smart agriculture also included some aspects of Good Agricultural Practices (GAPs) in the curriculum. Considering that ENVAC mainly sought to develop the CNFs value chain and is targeting beneficiaries that have already been supported (or are currently supported) by other projects, this change in focus made sense. The SHFs met by the ET were well aware of GAPs, having been trained already (ENVAC follow-up reports also indicate similar results, with 85% of FOs having received assistance in terms of production inputs in 2019 and 68% in 2021). Interest in the maize value chain was strong at farmers' level in all the regions ET visited. Farmers felt that their production and the prices on the market have increased. There has been a growing interest for soya in the three northern regions, especially since last year when the prices were very high and the market was very dynamic.

84. ENVAC had a strong focus on post-harvest handling activities, especially after 2020. The SHFs which the ET met were all satisfied with these activities, especially as regards the ZeroFly bags[50] (see text box below). Over 1,000 ZeroFly bags have been given to SHFs, and farmers also bought 60 bags during the operation. According to farmers, moisture meters[51] were effectively used (but this was not observed as it was not the season). Farmers also liked the blue silos[52] but they thought them expensive and not convenient for storing large quantities of grain. The results from the monitoring exercises for post-harvest losses at storage are in Annex-15-H, but their reliability is considered limited.

MOFA and Sesi-technology came to show us the ZeroFly bags and the silos. We stored our maize in the ZeroFly bag and in the bag we usually use and they showed us to seal it. After three months we opened the bags and we saw that in the ZeroFly bag, the maize was in good condition whereas in our normal bags most of it was spoiled. The bags are expensive but they are worth it. We purchased some bags, because they are less expensive that the other hermetic bags that we know of (the PICS bags), but there were not enough bags available for everybody. One farmer from a FBO in Garu district

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85. ENVAC planned to disseminate the bluebox system to reduce aflatoxin contamination and improve food safety and quality management, but as WFP no longer considered bluebox suitable for SHFs, the activity has not been implemented. No other alternative has been sought and promoted, even though several other projects promoted Aflasafe.[53] Given the importance of this issue for food safety, this was a significant limitation of the project's effectiveness. There was no monitoring of aflatoxin levels by aggregators or FBOs. Data collection and monitoring by WFP show that there has been an increased awareness among farmers of quality and post-harvest loss management. Monitoring data show that for maize, 33.7% of SHFs now think that there is a market for quality products (compared to 9% at baseline). For the other crops, there is no significant change and only about 3 to 6% of SHFsthink there is a market for quality products. The findings suggest that the market for quality products is very limited in the target areas and that there are several constraints that affect the adoption of higher quality post-harvest practices by SHFs (see Annex-15-I).

86. Figures from the Project Monitoring Framework (PMF) on capacity strengthening of FBOs (158 groups trained) are difficult to reconcile with data collected in the field. ENVAC has not organized specific training on group dynamics, management and governance. Some aspects of group dynamics have been included in other training courses that were delivered, but not as a key element. There is still a limited proportion of SHFs that have access to post-harvest equipment, but it seems that access to threshing and shelling services has increased over the course of the project. ENVAC has certainly contributed to this

[50] ZeroFly bags (produced by Vestergaard company) are insecticide-treated bags that ensure a full protection of grains against insect infestation, mold growth, oxidation and rancidity

[51] Grainmate moisture meters are produced by Sesi technologies and allow farmers to measure moisture from 7 types of crops with an easy-to-use device.

[52] Blue silos are hemertic plastic silos that have been designed by WFP and used in East Africa and that are now produced in Ghana through contribution from WFP

[53] Aflasafe is a biocontrol approach developed by CGIAR. It uses natural competitors (local fungi) to tackle the toxin makers in the soil rather than using chemicals

result, even though it is difficult to attribute it for certain given the large number of development interventions aimed at similar results. More information on FBO's capacities and access to services for SHFs can be found in Annex-15-J.

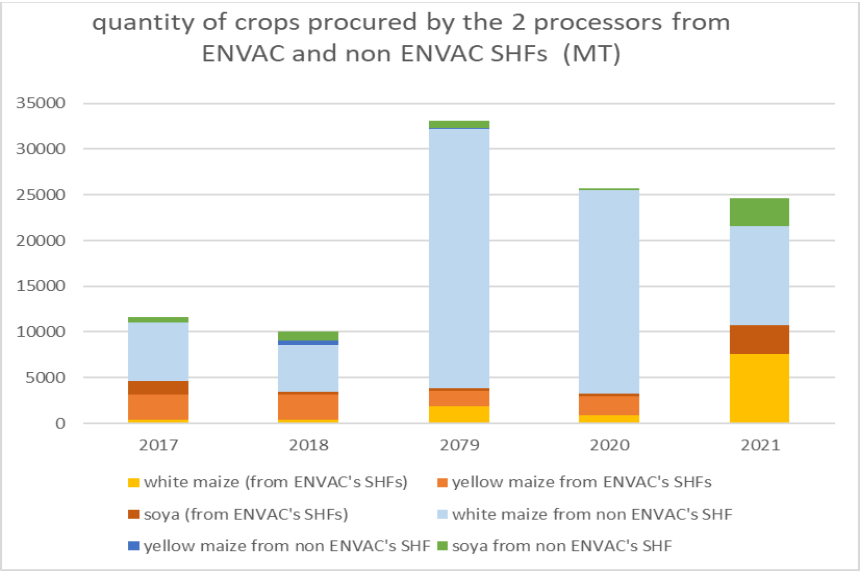
87. ENVAC's PMF results on market linkages are good, even though the number of beneficiaries reached is below target. Several market linkage events were organized. Two meetings attended by FBOs, aggregators and the industrial processors were organized and WFP contributed to the organization of the 8th pre-harvest event (organized by the AgriHouse Foundation in 2018) that attracted some 3000 participants (including 250 farmers sponsored by WFP). About half of the FBOs met during the field mission were aware of Yedent and Premium, the others were not. For SHFs who knew these buyers, there were several issues that prevented farmers from selling to them:

- ✓ Most Farmers cannot bulk sufficient quantity of products to supply to these businesses.
- ✓ Many SHFs are too far away from the processing site: the costs (and risks) of transport are too high.
- ✓ Payment terms were not acceptable to farmers: Yedent and Premium could only pay suppliers after 2 to 3 weeks, which farmers could not accept.
- ✓ There were a lot of buyers already closer to the farmers' area, or buyers who have agents buying on the ground (mainly poultry feed processing companies).

88. With regard to the percentage of raw materials sold by ENVAC's farmers to Premium and Yedent, there were some inconsistencies between the PMF data available and the ENVAC technical reports. The Evaluation Team based their analysis on the PMF figures (Annex-15-L). Figure 3 below shows there was an increase in the quantity of crops procured by the two processors. Overall, during ENVAC's implementation, the two industrial processors procured 93,876 MT of maize (both yellow and white), 21.8% of which came from ENVAC's SHFs; and 11,107.4 MT of soya, 50.18% of which came from ENVAC's SHFs. Based on these data, the target (20% of raw material procured from ENVAC supported farmers) was achieved. Annex-15-L gives more detail on procurement trends during the implementation period of ENVAC.

89. These figures should be viewed with caution because there was no effective traceability system (see Annex-15-K). However, it is important to note that both businesses procured maize from Ghanaian farmers only, because of the ban on imports of maize and soybean.

Figure 3: Crops procured by Yedent and Premium from ENVAC and non-ENVAC farmers (source: WFP ENVAC PMF)



90. P1 (and P2): The key issues for both businesses concerning procurement were to get easy access to quantities of raw material at a reasonable price and with a high-quality standard. Both are private sector actors that need to make profits to be able to pay back their investments. Both firms procured maize from their own networks of aggregators (20 for Premiums and 15 for Yedent), with whom they signed a contract

every year. These aggregators were not initially ENVAC's supported aggregators, but a few of them were supported in 2020 by the project. Both businesses mainly procured maize from aggregators focused on Ashanti and Brong Ahafo regions and soya from aggregators focused on the northern region. The two businesses also purchased from any aggregator that had the required quantities of maize and soya available to sell. Both businesses had tried to procure directly from FBOs in the past, but they stopped due to the poor quality of the product. They also explained that working with FBOs was costly and complicated (as they only aggregated small quantities) and risky (high risk of defaulting). The two businesses felt that their core business was processing, not aggregating from SHFs.

91. None of the FBOs met during the evaluation field work ever signed a contract with Yedent and Premium. Monitoring data show that the quantity of products aggregated by ENVAC from FBOs increased from baseline to endline 2021 (from 277 MT to 775 MT). Still, this was only a very small portion of total production by FBOs. All FBO members sold the largest part of their harvest individually. Of the ten FBOs met, only two were aggregating at the FBO level, and individual members of five FBOs were selling to aggregators. For the remaining three, members were selling only to the market. Aggregators were mentioned in the project document as a type of farmers' organizations to be supported. During ENVAC's implementation, it became clear that aggregators could potentially play an important role in linking SHFs to industrial processors (or other big market actors like feed processors and poultry farmers). Therefore, ENVAC adapted its implementation and partially shifted its entry point from FBOs to aggregators (see 9-B and 9-C).

92. Aggregators received equipment to facilitate post-harvest handling and quality improvement, for an overall value of about USD 69,500.[54] The aggregators met by the ET were satisfied with the equipment that seemed to be functional (based on stakeholder interviews, equipment was not used during field visit period), yet the requirements and demands by the project on the aggregators (based on the Field Level Agreement (FLA) between CO and aggregators) were not realistic. Aggregators are not development partners or big companies and it was not feasible to ask them to sensitize farmers, run a traceability system to monitor the quantity of products received from FBOs and individual farmers, and then send in quarterly reports. Also, while the idea of improving purchasing conditions at farmers' level was relevant, conditions in the FLA were not collectively decided with aggregators and farmers, and conditions could not be met given the economic realities of aggregators (for example, asking them to purchase from specific FBOs without verifying that the FBOs were interested; asking them to carry out data collection on production at farmers' level, without mentioning who is going to pay for the service).

93. Without an effective traceability system and considering that the support (equipment) was only received in 2020 by the five aggregators, it was difficult to assess whether these aggregators were in a position to achieve increased aggregation from working with ENVAC's SHFs. The monitoring survey conducted in 2021 showed that the quantity of products aggregated (by FBOs, aggregators and nucleus farmers) had increased from 1,289 MT at baseline to 6,190 MT in 2021. Data collection conducted with four aggregators supported by ENVAC revealed that the quantity they aggregated in 2020 from farmers and the market was about 1,300-1,400 MT (in a good year, quantity aggregated might be as much as to 3500-4000 MT by our estimates). Only one of the aggregators met was actually supplying Yedent. During KIIs and FGDs with aggregators and farmers supplying to the businesses, both mentioned that farmers had better access to services and that this helped the relationship between farmers and aggregators. Farmers mentioned that selling to aggregators was easier than selling to the market and that the terms were very suitable (use of weighing scale, appropriate terms of payment, credit for inputs).

Pillar 2 - Q2-4

<u>Key findings:</u> Support provided by ENVAC has enabled Yedent and Premium to each build a new production site. Both businesses have produced and supplied CNFs for PLW, but they have not been able so far to produce SC+ for Cu2 meeting WFP requirements. Under P2, ENVAC planned to support 30 CLMSFPs, but only three of them have been supported with equipment at the time of data collection.

[54] Equipment received by aggregators: rice huller machine, air compressor and a blower, 2 maize shellers, tarpaulins, a fergusson plough and a multicrop thresher

94. **Support to Yedent and Premium**: Most of the activities implemented under pillar 2 were focused on support to the businesses Premium and Yedent. Support for CLMSSPs was limited to only a few CLMSSPs; only 3 (out of 30 planned) were supported with equipment and this was only provided at the very end of the project (see Annex-16).

95. Indicators used to monitor the outputs of Pillar 2 activities were the volume of raw materials processed into SC along with other blended foods. The total volumes of SC (Yedent and Premium) indicate a decrease (see Annex-14). However, the Evaluation Team found that this could be due to the unreliability of the data rather than the performance of the program.[55]

96. However, financial (and technical) support provided by ENVAC (and supplemented by other contributions, which were substantial in the case of Premium[56]) enabled each of the businesses to build a new production site. The new Premium site is a large-scale industrial site that ET was not allowed to visit, because an audit mission was in progress. The new Yedent site was visited: the equipment and process line were in place, but the production line was not running at the time of the visit.

97. During ENVAC's implementation, both businesses supplied fortified flour to WFP: Maizoya (MZ), an SC, in the case of Premium, and TomVita (TV) in the case of Yedent. These CNFs were purchased by ENVAC for the P3 activities targeting PLW and OSAGs. These products were registered with the Ghana FDA. The businesses did not produce these CNFs for Cu2, but CO staff were optimistic regarding this issue, considering that Premium should be able to produce SC+ to WFP standards very soon.

1. The most tangible achievement of Pillar 2 is the official launch of Premium's new factory in June 2021.[57] The business went through all the WFP audit processes in order to be accredited and authorised to sell SC to WFP. The first consignment (600 Mt) was produced in 2021 and was procured by WFP-RB for the WFP food assistance program in Burkina Faso.

98. **FSQ** : Some major quality issues occurred during the project. Quality management support was provided to Premium and Yedent by the CO's food technologist, and other technical assistance was provided by experts from HQ and the RB (remote and in-country missions). The quality of CNFs produced under P2 and distributed under P3 was tested regularly. The analyses – shared with the ET - were either conducted by the food processors (internal analysis) or ordered by the firms and carried out by national laboratories in Ghana (Food Research Institute or KNUST) [58]. None of the CNF quality tests shared by CO were ordered by WFP, or done by external and independent inspection services. These quality management practices were not compatible with WFP FSQ standards.

99. In January 2020, a mission of HQ and RB experts pointed out weaknesses in the Yedent CNF production line. The firm had not applied previous recommendations and the new production line set-up with ENVAC funding was not being used for TomVita production but for another product. Following this visit, WFP asked Yedent to suspend production and distribution of TomVita under the ENVAC project (6-02-2020). WFP-HQ requested an independent analysis from an international laboratory that revealed (11-02-2020) significant quality defects (protein and fat content lower than expected, and, more importantly , aflatoxin and coliform levels exceeding the admissible thresholds)[59]. WFP intended to reassess the situation once Yedent would have transferred its production of TV to the new factory. An audit (October 2020) asked Yedent for additional improvements. During the ET field visit, the new TomVita production line was in place but TomVita distribution had not restarted.

100. For the CLMSFPs, equipping of the three sites supported by ENVAC was on-going at the very end of the project and the planned interventions (FLA-CLMSFP) for improving on-site quality management were

[55] In Annex-14, for example: data in Year 3 reported in the last PMF differs from Year 3 data reported in previous annual reports; Confusion in relation to the data concerning Yedent and Premium..

[56] 2M°US$ provided by ENVAC for a total investment of 39 M°US$ for the new PREMIUM production site.

[57] The president of Ghana was present, as well as representatives from the donor and from WFP HQ, RB and CO.

[58] Those laboratories had weaknesses according to a prior assessment done by the RB food technologist.

[59] It should be noted that analyses by the company (internal laboratory) just one month before did not reveal such defects of conformity. However, concentrations of aflatoxin were close to the maximum authorized threshold.

not implemented as of June 2021 (see Annex-16). The FDA is supposed to provide technical follow-up and support on quality management systems after the end of the project.

Pillar 3 - Q2-1, Q2-5

Key findings: Health agents in targeted HFs were trained on SBCC and supplied with SBCC material by the project (Q2-5). P3-beneficiaries received commodity vouchers to access CNFs, whether or not they were produced by the two supported businesses. Monthly redemption monitoring data indicates some periods with regular distributions and periods of shortage.

101. **The objective of P3 (Q2-1)** was to improve consumption of nutritious foods and adoption and use of good nutrition practices. Indicators linked to this objective in the logical framework are the output indicators,[60] which do not capture the P3 objective. The effect of the P3 activities is analysed in section 2.4 on the effect and impacts. The linkage between Pillar 2 and Pillar 3 worked only partially as both supported enterprises were unable to provide CNFs for Cu2. WFP managed to purchase CNFs through other suppliers in order to provide the nutritional support to the Cu2. It changed the project's approach: this reduced the expected return on investment through the discounts on CNFs purchases from Premium and Yedent. However, most of the pillar's planned activities were implemented.

102. **SBCC has been conducted (Q2-5)** in all targeted districts: 92 HFs were reached (versus 50 planned), 801 health agents were trained, and SBCC materials were produced (i.e. posters, flyers, flipcharts). SBCC targeting of PLW, caregivers, and adolescents was implemented at HF level through various media (i.e. radio, Durbars, etc). WFP estimates that 589,790 persons were reached through SBCC. In 2018, regular M&E of SBCC through MDCA[61] showed a very high rate of nutrition counselling or education (almost 100%).[62] In 2020, SBCC effectiveness monitored by WFP through random calls to beneficiaries was not as obvious : half of the caregivers and PLW called (beneficiaries of CNF redemption) reported that they had not been counselled one-on-one or in a group during CWC or ANC visits.[63] These figures do not align with some of the achievements reported in the PMF.[64]

103. **CBT - beneficiary target :** According to the final report, the total number of beneficiaries of CBTs (CNF voucher, commodity voucher or cash transfer) greatly exceeded targets in the last year of ENVAC implementation (145% of the PLW target, 99% for Cu2 and 92% for OSAGs), but only 69% of the target population participating in an adequate number of distributions. Annex-11 presents the number of PLW, Cu2 and OSAGs reached every month through CNF vouchers; significant variations during the implementation period can be observed. Some errors of inclusion were observed by the ET in Ashanti; for instance, schoolgirls enrolled as OSAGs in Asokore Mampong, or mothers of children older than six months (Bosomtwe) were receiving Premium MZ. Analysis of GHS monitoring of attendance to CWC and ANC visits in Northern Region compared to WFP redemption follow-up (Cu2 and PLW) indicates some potential errors of inclusion in four districts of Northern region.[65]

104. **CBT – baskets** : All P3-beneficiaries received commodity vouchers to access CNFs. Various options were implemented including a range of CNFs, other food and/or non-food items, and cash distributions. A variety of CNF products were distributed depending on the targets, the district, and the period of implementation (see table 3). The products delivered differed over time and between geographic locations

[60] Proportion of eligible population who participate in nutrition intervention programme; proportion of target population who participate in an adequate number of distributions.

[61] Source: 2018 Annual Report - Stunting Prevention Programme-v2 (based on MDCA data saved in MDCA folder). Data collected through MDCA are incomplete - in 2018 the rate of submission of MDCA data was low (about 20%). No data available for 2019. MDCA was abandoned in early 2020.

[62] "All beneficiaries who were interviewed in 2018 received at least three key messages either through nutrition counselling or nutrition education. All districts recorded over 90.0% in each of the months under review."

[63] Source: WFP. Review of Social and Behavioural Change Communication (SBCC) implementation through remote calling and beneficiary feedback mechanism – Annual report 2020.

[64] For example, for the last year of intervention PMF recorded 54, 223 PLW as beneficiaries reached with SBCC activities who consume nutritious foods (target 30,000) with the number of PLW receiving CNF being 28,929.

[65] In Northern Region the number of WFP redemption was higher than the number of GHS visits with a delta = 60,000 in 2.5 years of intervention; figures from four districts. See Annex-12-C.

mostly because of the capacity of partners to deliver the products. For instance, no Cu2-CNFs from Yedent and Premium was available as planned initially, since the businesses had not yet developed CNFs suitable for Cu2. Maizoya was not available in 2017, and TomVita was abandoned due to quality issues raised by WFP in 2020. In 2019, WFP received Japanese funding for a two-year intervention that was conditional on the introduction of KK+ in Ashanti Region. KK+ replaced GN in Northern Region in 2020, since GN was not available.[66] Cash transfers were introduced at the end of the project in areas where the retail shops were well supplied.[67] The complexity of the design and the multiplicity of options during implementation made it very difficult to learn from the project.

Table 3: Type of CBT - targets, area, period covered

Target	CBT Modality		Aera (region and district)		Period
PLW	TomVita + Oil & salt		NR	Sagnerigu	Nov 2017 - March 2020
	Maizoya	+ Oil & Salt	NR	6 Districts	June 2018 - 2021
			NR	Sagnerigu	April 2020 - 2021
	Maizoya	+ Cash transfer (CT)	Ashanti	Asokore M	June 2020 – 2021
			Ashanti	Bosomtwe	Nov 2020 - 2021
Caregivers - Cu2	GrowNut		NR	7 districts	May 2018- July 2020
			NR some districts		2021
	KoKo+		Ashanti	Asokore M	Aug 2019 - 2021
			Ashanti	Bosomtwe	Aug 2020 – 2021
			NR some districts		Aug 2020 - 2021
OSAGs	Maizoya	+ cash	NR	Sagnarigu & Gushegu	Nov 2020 - 2021
			Ashanti		2021 (1 cycle)
	Maizoya + 1 basket with (6 choices : Value Voucher)		NR	6 Districts	Nov 2020 - 2021

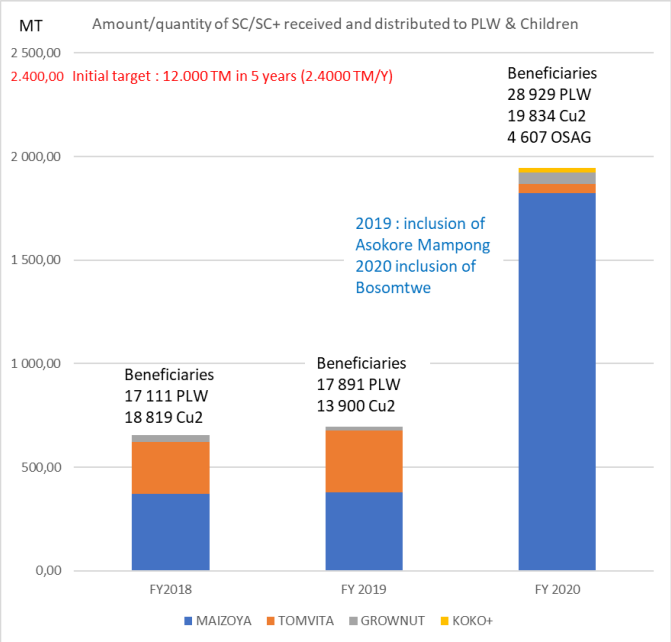
105. **CBT - CNF in MT targeted**: The volume of CNFs distributed over 5 years is far below the target (3,382 MT versus 12,000 MT planned). It was less than 700 MT in 2017-18 and 2018-19, but almost 2,000 MT in the last year of ENVAC implementation (MZ from Premium representing 94% of CNF volume in 2019-20). (See Figure 4 below.)

106. Local actors (retailers, GHS) mentioned disruptions in CNF supplies, which was also visible in the monthly tracking of redemptions (Annex-11). For PLW, there were six months of shortages between June 2018 and April 2020 (6 out of 35 months). For Cu2, between August 2018 and March 2021, there were nine months without CNF vouchers in almost all districts. For OSAGs, the number of cycles implemented in March 2021 was very limited with only five CNF cycles implemented in the Northern Region and only one cycle in the Ashanti region.

[66] Access to premix was difficult because of COVID restrictions.

[67] Ashanti for PLW and OSAGs ; and Sagnerigu district for OSAGs.

Figure 4: Volumes of CNF and number of beneficiaries per year - Source ENVAC PMF.



107. **CBT – Cash transfer (CT)**: Regarding CTs for PLW in Ashanti and for OSAGs in Ashanti, and Sagnerigu and Gusheigu districts, there was no CT target in the PMF (not planned initially), but in Northern region the transfers did not work well. The adolescents met during the field mission received only one[68] (or no) transfer. Some stakeholders interviewed reported that they thought that girls gave their relatives' phone numbers and that the girls were not aware the money was sent. In Ashanti, WFP did not manage to implement CT for PLW on a monthly basis and proceeded with a single transfer in March 2021. About half the PLW CT beneficiaries in Ashanti region received more than one month of transfers in a single transfer, when this transfer was supposed to replace the fortified oil and iodised salt for the month.[69]

108. **P3 Beneficiaries and partners feed-back**: The beneficiaries encountered were often very satisfied with the support they received from ENVAC. However, some complaints were reported by PLW, caregivers and adolescents, as well as GHS agents and retailers. They reported long delays between registering with the HFs and obtaining the Scope Card that allows them to withdraw the CNFs from the retailer. Some women explained that when the card was finally received, they were no longer eligible. They also mentioned difficulties with Scope Cards in terms of disruptions or delays in the supply of CNFs, and the discontinuity in cash transfers. WFP set up a complaint management system with a person responsible for answering a toll-free number. Most beneficiaries met did not seem to know about the toll-free number, the toll-free number changed at some point, and the vast majority of scope cards did not indicate the right number.[70] During the ET field mission, the program was about to end (June 2021), but most women encountered were not aware of the programme's closure. Neither GHS agents nor retailers considered it was their role to inform the beneficiaries of the programme's closure.

109. **CNFs for PLW**: PLW liked porridge made out of CNFs compared to the local porridge. In Sagnerigu, women who used to receive TomVita (TV), preferred TV to Maizoya (MZ), because it was "more delicious" and cheaper to prepare. Female beneficiaries explained that they brought MZ to the mill for additional grinding and they also had to add sugar and sometimes peanuts to MZ to make it more palatable. They also reported enjoying the TV since it is an instant flour and does not have to be cooked.[71] TomVita and Maizoya

[68] 1,061 OSAG (out of 1,346 registered in November) received 1 Cash transfer in November 2020.

[69] WFP-CBT report : March 2021 Ashanti : 1465 PLW received GhC 14.1 (1 month CT) whereas others (1586) received 2, 3 or 4 months CBT in a single transfer. The transfer failed for about 5% of PLW.

[70] This could explain why only 28 complaint calls were received by WFP between January and April 2021.

[71] According to GHS agents some women complained about MZ because they prepared it as an instant flour, and were not aware MZ has to be cooked.

– CNFs dedicated to PLW - are considered not just by mothers but also by nurses and retailers to be very suitable for children's needs. Whether it was TV or MZ, the women interviewed explained that the product was often shared within the family, including with the children. Retailers confirmed that TV - currently marketed in its TomVita-X form – was often purchased as an alternative to Cerelac[72] and served to children under one year of age.

110. **CNFs for Cu2**: Cu2 CNF-vouchers were generally much less popular among the beneficiaries than the PLW vouchers. This was not surprising as PLW received six kilos of fortified flour (TV or MZ) plus 1 litre of fortified oil and iodized salt (or with a cash transfer of 13.5 Ghana Cedi (GhC)), whereas Cu2 received "only" GN or KK+. According to GHS staff, WFP staff and retailers, this 'lack of attractiveness' explained why the redemption rates for children's CNFs were lower than for PLW.

> "Products given for babies are not attractive enough. For a 30-minute walk to get KK+, mothers do not consider it worth the effort. Moreover, women do not add KK+ to the food, they give the KK+ and the baby sucks it as it is". (Female Retailer in Sagnerigu, District, Northern Region)

111. **OSAG baskets**: In Northern Region, (five districts out of seven), OSAGs were supposed to choose between six different baskets (using a Value Voucher). This modality was difficult for small shop retailers in the target regions to manage. The first girls served had the choice of the baskets, but the last OSAGs served had to take whatever was left. Also, some retailers explained that they offered only one basket that they considered the most popular among girls.

112. **Network of retailers, relevant implementation option:** Retailers were not initially identified as partners or beneficiaries in ENVAC. There was no target for these stakeholders in the PMF. Identified by WFP, based on their storage capacity and proximity to an HF, retailers were trained by WFP to use the magnetic card reader device and manage the CNF-beneficiaries redemption process. Some of the retailers (38 out of 78) were inspected and trained by FDA on quality management.

113. Retailers received a commission for the service provided, which was equivalent to GHC 1 per PLW per cycle from Yedent. For MZ, retailers had to pay for truck off-loading and received a commission of GHC 1 per PLW per cycle in the Northern Region, as compared to 2 GhC in the Ashanti region. The retailers received GHC 3 per child per month from the KK+ Foundation. WFP fixed a price for retailers for the delivery of oil and salt, which was considered not enough in the Northern Region, since it was below the market price. The commission from WFP to retailers was GHC 1 when beneficiaries were served at the retailer's shop and GHC 3 for each PLW when the retailer had to deliver to several communities and transport the food. Income generated by the retailers depended on the number of beneficiaries they served. Small shopkeepers estimated that they had made about GHC 2,000 a month by the end of the program in Sagnerigu.

114. There were different profiles of ENVAC retailers; some were small shopkeepers and others were larger traders, with the majority of retailers being women (68%). Large-scale retailers were mostly male. Retailers met during the field mission were all very satisfied with their participation and involvement in the project. They were key partners for Pillar 3 activities and naturally motivated to identify beneficiaries to get high redemption rates, since the more beneficiaries they served, the higher their commission.

Food safety and Quality - cross cutting issues:

115. As mentioned previously, quality activities planned under P1 were not implemented. Under P3, recommendations on hygiene and food preparation (including cooking TV and MZ) contributing to food safety and quality were given during SBCC sessions.

116. Regarding CNF quality (P2 and P3): CNFs delivered are referenced by the national FDA. CNF quality was controlled by the businesses, which involved internal (or external) laboratories conducting standard analyses. The analyses seen did not show any evidence of threshold limits being exceeded. However, as mentioned previously, no independent inspection and analysis was ordered by WFP before the distribution of commodity vouchers started.

[72] Nestlé's fortified flour marketed for children older than 6 months. Leader on West African markets.

117. The FDA was contracted by the CO not to carry out controls and ensure compliance by businesses, but to strengthen the capacity of retailers, train them in quality management and inspect some of their shops. The FDA had also to collect CNF samples (MZ, TV and GN) from shops to conduct analyses. CNFs were sampled in 38 out of 78 ENVAC retailers involved in ENVAC, but this work was unsuccessful due to sampling errors.

118. Yedent CNF distribution to PLW in Sagnerigu stopped in February 2020 due to problematic test results (see Pillar 2) and was replaced by Premium CNF distribution. Retailers did not mention that WFP had stopped the distribution - they thought that TomVita had stopped because the Yedent was not able to deliver the required quantity. In most shops visited, TomVita-X was available for sale during field visits.

Capacity building - Multi-pillar activities

119. Institutional strengthening was developed as part of the design and included emphasis on building the capacity of MOFA and the GHS. Monitoring and Evaluation training was provided to all MOFA extension staff engaged in monitoring and evaluation under Pillar 1. In eight districts across the four regions of the country MOFA extension officers were trained to regularly monitor and collect data for WFP using digital platforms. A large-scale trainer of trainers' workshop was also conducted to provide MOFA with climate smart agriculture and gender equality mainstreaming training, covering all intervention districts. Unfortunately, this training was implemented at a very late stage in the project cycle (i.e. the last two months of the project).

120. For Pillar 3, a large number of nurses/health care officers (over 800) were trained in the promotion and use of CNFs. Service providers and WFP collaborated with the GHS to provide training for Social and Behaviour Change Communications (SBCC) in order to design effective communication materials for the target groups. Community health workers and nurses were trained to use these SBCC messages and posters for their maternal health and child welfare clinics in the intervention districts.

121. There was much less capacity building and training in relation to food safety for the relevant government agencies (e.g. Food Research Institute, Food and Drugs Authority and the Ghana Standards Authority), particularly in the regions of operation. The Ghana Standards Authority benefited from some equipment for a few district offices. The majority of resources for capacity building, equipment, factory development and training were focused on the private sector under Pillar 2.

Factors that impacted the achievement of ENVAC's objective and targets - Q2-6

122. Absence of feasibility studies: For the connection between Pillars 1 and 2, there was no feasibility study to assess where and how businesses were procuring and whether it was feasible (and on what conditions) to link the businesses to previously supported SHFs. Similarly, the question of whether it was worthwhile and profitable for SHFs to sell to these processors was not assessed. The same questions apply to P3: ENVAC distributed CNFs and priority was given to reaching a planned number of beneficiaries through CBTs, when the objective of the programme was to create a demand.

123. There was a lack of local and national coordination between different implementers and partners in the project, with limited space for sharing progress and learning lessons. Implementation was mainly done by each pillar and there was no project manager in charge of the overall supervision and project implementation to ensure synergy across the three pillars.

124. For Pillar 1, three external factors have affected achievements. First, at design level, there was a clear focus on leveraging interventions by other partners throughout the project's implementation period. However, most of the other projects stopped during ENVAC's implementation. WFP had not built long-term partnerships with these projects and their withdrawal affected the support and follow-up received by SHFs and FBOs. Factors that usually affect agriculture also affected ENVAC. For instance, commodity price volatility, climate hazards (and their effects on production), as in the latest production season when a late start of the rain resulted in a very bad harvest. The third factor had a positive effect on Pillars 1 and 2: as the Government has not issued any import permits during the last two years for the selected crops, formal imports of maize and soya are currently not possible in Ghana, which means there is a strong incentive for processors to procure from local SHFs. If this ban is removed, then, given the increased processing capacities of processors, it is difficult to assess whether it will continue to be profitable to procure from several aggregators compared to procuring in bulk from major exporting countries.

125. The reorganisation of WFP's Food Safety Quality Management Services may have affected support from HQ/RB to ENVAC under P2 and the quality management in relation to the three pillars.

126. For Pillar 3 : previous collaboration with the GHS on a similar project (LoFAIN) contributed to the achievements, since some lessons learnt were used to design ENVAC Pillar 3 activities (for example the choice of retailer network to redeem the vouchers). The inclusion of two additional districts in 2019-2020 substantially increased the numbers of PLW, Cu2s, and OSAGs reached by WFP. The increased number of SBCC and CBT beneficiaries may not be attributable to ENVAC alone as the two districts[73] received additional funding from Japan, which contributed to increased CNF supply and SBCC activities. Other programs also contributed to SBCC activities such as the DSM funded project implemented through NGOs such as Savanah Signature in Sagnerigu District and Alpha communication in the Ashanti region. These organisations involved GHS agents in the implementation in the same areas as ENVAC.

127. One factor which has limited the achievements of Pillar 3 is the lower than planned volume of CNFs distributed because the first distributions started late (to women across seven districts in June 2018, to children in August 2018, to adolescent girls in late 2020). There were also interruptions between distribution cycles (four months in 2019 for Cu2 and PLW), and the type/basket of CNFs distributed changed from fortified flours to GN and KK+. Very ambitious (and unrealistic) P3 targets[74] further explain why the objectives were not reached.

128. Probably the socioeconomic profiles of beneficiaries also impacted the achievements of ENVAC. If the targeted areas and vulnerable persons had been more relevant (see Q1), achievements could have been higher. For example, in 2014, 83% of pregnant women in rural areas in Ghana had four or more ANC, versus 92% in urban areas (DHS, 2014). To improve attendance at ANC, it was relevant to target rural areas and exclude urban areas in ENVAC. Targeting the poorest districts, and poorest households in the most food insecure areas, for CNF distribution to PLW and Cu2 could have led to more visible effects on HF attendance.

Covid-19 impacts on ENVAC implementation - Q2-8

129. COVID disrupted ENVAC's activities in 2020; some delayed activities, which started only in 2020, were particularly affected by the restrictions resulting from COVID (e.g. post-harvest demonstrations), support to the CLMSFPs (P2) and activities targeting OSAGs under P3 were mostly affected. COVID has limited the possibility of conducting training and demonstration programmes (P1 and SBCC - P3).

130. For CNF distribution, monthly monitoring (Annex-11) highlights a drop in PLW redemptions in March 2020 (down 20%) that might be due to COVID restrictions and/or to the discontinuation of TomVita[75] before the deployment of Maizoya in the Sagnerigu district.[76] However, this drop was only short-lived. Between April and September 2020, distribution of CNFs to PLW was working well despite COVID.

131. For child CNFs, the COVID pandemic caused a disruption of international trade, which created difficulties for PPB importing its Premix from the USA. The CO chose to extend the areas covered by KK+ to districts in the Northern Region to limit the months without Cu2 support.

132. COVID restrictions also meant anthropometric measurements could not be carried out in 2020, so no measurements of chronic malnutrition were conducted in 2020. COVID also prevented WFP missions

[73] As ENVAC reports mention activities in Ashanti region, the ET regards them as implemented with ENVAC funding. As no financial reports were shared (see efficiency chapter), this can be just assumed ; however, in the documentation consulted in Accra there was no contract between Premium and WFP to deliver MZ in Ashanti ; GHS reports on SBCC activity implemented in Ashanti with WFP directly to Japanese Cooperation ; the contribution of Canadian funding and ENVAC to the activity in Ashanti might be limited and does not allow us to assume that achievement in Ashanti region was due to ENVAC.

[74] For example (Treated in Impact section), the objective for malnutrition prevention is to get stunted prevalence down 10% (initial target) which was revised (down 13%) in last the PMF ENVAC report which is very ambitious in the Northern Region where stunting is usually above 30%. Target for Minimum Acceptable Diet (MAD) was over 70% (initial target, revised to 30% in the last PMF report) of children 6-23 months with MAD as against less than 10% of children 6-23 with MAD at national level.

[75] See quality section

[76] Addendum to Premium FSDA to include Sagnerigu in Premium scope – was signed early April 2020.

from the RB or HQ from visiting Ghana along with other international inspectors, which explains the delays in accreditation of the industrial producers (Pillar 2).

2.3. EFFICIENCY - EVALUATION QUESTION 3

Key Findings: The cost-efficiency analysis was limited by the absence of financial reports (Q3-1). ENVAC management efficiency was hampered by a lack of coordination, and weaknesses in time management, as well as, to a strong degree, by COVID restrictions. The contractual agreement with industrial processors was not very efficient as the two commitments from the enterprises, upon which ENVAC support was conditional, were difficult to monitor (Q3-2). WFP invested in a large M&E system that did not properly capture the effects of the activities. CNF transport and delivery was managed by CNF providers and a network of retailers, which worked efficiently (Q3-3).

133. In accordance with the ToRs, the ET also evaluated the cost-efficiency of activities implemented (Q3-1), the efficiency of the process (Q3-2) compared to alternative options, the efficiency of the personnel structure and contracting arrangements (Q3-3), and external and internal factors influencing efficiency (Q3-4). The efficiency analysis is based on collected documentation, interviews, and field visits. Since no financial reports could be shared with the ET by WFP or the donor, analysis remains very limited. The level of disbursement on each pillar each year, and the comparison between actual and planned budget spend, could not be calculated by the ET since this information was not available. The CO mentioned to ET reallocation of funds from one pillar to another during implementation but was not able to give more detailed information neither could this be verified without access to budget and expenditure tracking documents from the Country. According to the final narrative report, the total ENVAC budget was not fully spent in March 2021, but the ET does not know which items are under/over-consumed. In addition, the efficiency analysis is complicated by the fact that some ENVAC achievements may result from other initiatives in which WFP is involved, and which might sometimes be reported as ENVAC activities by other partner organisations (and by WFP).

- ✓ Pillar 1 achievements cannot be attributed to ENVAC alone as many other projects have been implemented over the course of ENVAC and have supported the same SHFs and FBOs (e.g. MAG, PFJ, Advance, MEDA). There has been some duplication of activities; for example, in some areas climate smart training was conducted using training materials developed by and already used in the Advance project.
- ✓ Regarding P2, Premium and Yedent received technical support from the Obaasima project; the set-up of the Premium production site is not only due to ENVAC funding, but the ET had no detailed information on other supports received by the firm[77];
- ✓ Regarding P3, SBCC is implemented in the same districts and the same HFs, and therefore probably the same GHS agents through other funding and/or other actors (DSM - Obaasima; Japan - KK+). CBTs with CNF distribution implemented by WFP is also funded by Japan.

Activities cost-efficiency - Q3-1

134. Cost per Beneficiary: Without financial reporting from WFP, it is difficult to estimate the cost per beneficiary, per component as requested in the ToR.

135. For Pillar 1, it is hard to assess the cost per beneficiary since it is difficult to determine the number of direct beneficiaries. Most of the activities were capacity building activities, including training of trainers and step-down training, but there was limited monitoring of how the step-down training was implemented and whether good practices were adopted. As a consequence, it is difficult to assess the efficiency of these activities.

[77] Premium received other financial support through grants or loans that could– according to a Premium representative – amount to a budget of $39m. The US$2m provided by ENVAC is comparatively modest but it would have helped Premium gain access to loans, according to this informant.

Table 4: Total Value of CBT - ET estimate based on FDSA signed with CNF suppliers and addendum & redemption rate

Target	CBT	ET estimation USD
PLW	CNF for PLW	3 500 000
	Oil/salt or GHC	1 250 000
Cu2	KK+ or GN	735 000
OSAG	CNF + Cash or basket	200 000
TOTAL		5 685 000
Initial Budget planned – Project document "Procurement and distribution of SC for PLW and SC+ for malnourished children under 5 (at a discounted rate)" (3,591,887 Canadian $ = 18% of initial ENVAC project)		2 760 000
ET Estimate: Budget spent on CBT (ENVAC - with potential added funds from Japan) / planned (ENVAC)		206%

136. The ET analysed the available documents (FSDA and addendum,[78] reimbursement rates, currency rates), and estimated the value of CBTs targeting PLW, Cu2 and OSAGs (CNF voucher), the basket for OSAGs (Value voucher), and cash transfers. According to these estimates, the value of the transfers was approximately twice what was initially planned (see Table above). The total number of planned beneficiaries was only reached in the last year of project implementation and the number of CBT cycles was lower than planned. Based on these estimates, the efficiency of CBT activities can be considered low. It should be noted as well that the budget allocated to CBT targeting for ENVAC beneficiaries was increased by the Japanese contribution.

137. Timely planning of activities: The fact that industrial processors had been identified before the project started was an efficient point. It helped to quicken some processes at start-up since the CO did not have to go through an identification/selection process, which is often very long.[79] Despite this, it took more time than planned to negotiate and finalise the agreements with the processors. The CO felt that these agreements had to be finalised before other activities could be started. Many activities were therefore delayed, when they were actually independent of the agreement with Yedent and Premium. Identification of and support for 30 CLMSFPs, and even SBCC activities, could have started much earlier.

138. WFP's contracting with the IPs since they were already partners with the CO were long processes that the partners under Pillar 1 complained about.

139. Many activities planned were not started in 2020, and the COVID crisis also caused several new delays. In late 2020 and early 2021, as ENVAC was drawing to an end, the CO launched several activities, for which CO will not be able to implement adequate follow-up during project life cycle. For instance, for the ToT on climate and gender, support/equipment to CLMSFPs activities were implemented in the last four months of the project. Some activities are still ongoing (radio programme on Post-Harvest Handling [PHH] for example) and there will be no follow-up of their results within the ENVAC timeframe. Initiating CBTs to OSAGs at the very end of the project is also questionable in terms of efficiency as it is very complex in its design (six different voucher baskets) and it requires starting new registration processes (known to be quite long) for a very limited number of CBT cycles. For Pillar 1, because of the project's imminent ending and because of the slow start-up of the contract, radio programs on post-harvest handling were aired at

[78] ET had access to FSDA hard copies in Accra. FSDA signed with Premium, Yedent, KK+ Foundation, and PPB.

[79] For example, the Altaaq project 2015-2020 – it took more than 2 years for WFP to sign the agreement with Senegalese and Malian companies.

inappropriate times (e.g. during the planting season). Based on these findings, the ET considers the efficiency of the ENVAC project in terms of time management limited.

140. Some evidence shows that there was a maximum output achieved with minimum inputs for some activities:

- ✓ On **P1:** There was a shift towards higher efficiency based on the type of activities implemented between the first phase of the project (2017-2019) and the last phase (2020-2021). During the last phase of the project activities were more focused on PHH and reached more beneficiaries, being implemented through MOFA and partnerships with Farm Radio. Concerning MoUs signed with MOFA, the amount paid (USD 500 per quarter) was very low considering the tasks to be carried out by MOFA.

- ✓ On **P3:** as cost for TV was higher than for MZ, WFP limited the districts where TV was distributed to a single district in the Northern region (Sagnerigu), while focussing MZ distribution on a larger number of beneficiaries.

141. However, other evidence demonstrated the opposite:

- ✓ **P1** activities were scattered with not enough focus on the global WFP strategy and on the links between the activities. Leveraging of other projects was limited to the selection of beneficiary groups and this affected project efficiency. Some support was provided to actors that have been heavily supported in the past, or not to the most vulnerable in the neediest areas (e.g. Ejura/Ashanti farmers). This resulted in assistance going to farmers who were fully able to participate in the value chains without WFP support (see Annex-15-M on the Ejura farmers and warehouse).

- ✓ **P2**: regarding support to CLMSFPs, the initial budget planned was US$ 1,022,000 for support to 30 processors (about US$35,000 per processor). In the end, only 3 operators were supported, each receiving between US$ 60,000 and US$ 90,000 equipment for a total budget of US$ 237,000 for the equipment[80] (a quarter of the initial budget) which represents higher amounts of assistance per actor.

- ✓ **P3:** as mentioned before, the extension of the distribution period to all year long, instead of supporting PLW and Cu2 during the lean season only, in combination with limited targeting in the same areas for SBCC, resulted in an overconcentration of support to the same individuals.

142. Efficiency of the contractual agreement with industrial processors**:** The project provided substantial support to two enterprises, including technical and financial support, and access to non-competitive and "acquired markets" under the P3. This was conditional on the enterprises committing to 1) buy 20% of raw material from SHFs supported by the project, and 2) sell CNFs to WFP at a discount price. This second condition should provide a "return on investment" to WFP.[81] The first condition is complex and difficult to monitor since businesses buy mainly from aggregators who are not always able to trace the origin of their raw materials (see Annex-15-K). Another key difficulty is related to the identification of ENVAC's supported SHFs, whose number increased from 10,000 to 20,000 during the period. The second condition for the Industrial processors to sell the product to the WFP at 10% below the market price is also complex to monitor. The agreements between WFP and the businesses defined a price that integrates production and transport/delivery costs at the retail level. In the case of TomVita, WFP and Yedent set a price per Metric Ton (MT) of TV delivered to the retail level in Sagnerigu which was far below the market prices charged by Yedent. In the case of Premium, MZ was not marketed yet, and the industry had no experience in marketing fortified food products, so it is difficult to establish the "market price" and verify the application of a "discount price". Moreover, the selling price of MZ to WFP - which is the most widely distributed CNF - has risen sharply since 2017 (up 50% in GHC). The revision of FDSA with Premium did not demonstrate efficient negotiation on MZ sale prices. (see Annex-13).

[80] Support might have been provided also for building the production site.

[81] Return on investment that was mitigated by the fact that CNF for Cu2 was not provided by the supported companies.

Table 5: Cost movement for both TomVita and Maizoya in GHC and in USD

Evolution of production and transport cost	TomVita – Yedent (2017-2019)	Maizoya – Premium (2017-2020)
In GHC	+ 5%	+ 50%
In USD	-21%	+17%

Efficiency of process - Q3-2

143. **Lack of external and internal Coordination**: there was no formal ENVAC steering committee with a clear mandate and composition, regular meetings, reporting and decision-making processes. Some of the IPs complained about lack of coordination; some did not know about the wider ENVAC project, they only knew the pillar (or even the activity) they were working on. At CO level, there was no coordinator with an overview over the three pillars.

144. **Beneficiaries' registration and cash transfers:** For Pillar 3, registering beneficiaries to meet project targets was a key step for WFP. Retailers were naturally motivated to expand the number of beneficiaries attached to their shop and help identify PLW, Cu2, and OSAGs. They also encouraged people to attend HFs in order to register and receive the CBTs. Retailers were efficient but could also increase the risks of making mistakes by including less appropriate beneficiaries or using resources to support retailers' relatives and neighbours. GHS agents were key to the registration of Pillar 3 beneficiaries and for entering beneficiaries' personal data in the WFP SCOPE system. To carry out this service, WFP payed the GHS agents in question directly with a cash transfer (GHC1/registered beneficiary)[82]. An alternative would have been to include this activity in the MoU linking the GHS and WFP. The method chosen undoubtedly quickened the registration process and improved the efficiency of the project. However, it diverted the agent from his or her normal activities, which can be detrimental to the overall functioning of the services, by helping to build a database that GHS has no access to. The same process was followed in Pillar 1 to pay for fuel and incentives to Agriculture Extension Agents (AEAs) for the implementation of the climate smart and gender mainstreaming training, while there was a MoU signed with MOFA at regional level.

145. After registering through HFs, PLW and Caregivers of Cu2 must wait to get a SCOPE-card as the process is not continuous. Many complaints were reported by retailers, beneficiaries, and partners (Koko+ Foundation) regarding the management of the SCOPE card. The system did not work well: the SCOPE card was meant to avoid manual redemptions, but some stakeholders reported that half the redemptions were carried out manually in one locality. The CBT reports that ET consulted do not mention manual redemptions and felt that failed transfers were quite limited (about 5%).

146. **P3 - SBCC:** Several actors were involved in the same locations/areas, working in the same HFs in order to promote good feeding practices and fortified food. This led to an overabundance of SBCC materials in the same HFs (see Annex-17). In some cases, too many materials were printed. For example, 5,000 flyers were printed in October 2020 to describe the different baskets to the girls when only five out of nine districts were affected (less than 3,200 girls). Many posters were printed: some promoted fresh foods without mentioning any brands (promoting diversity), and therefore can be considered as a long-lasting investment. Others boards promoted branded products. Some of the CNFs promoted were not available on the market (GN, MZ). Others (TomVita and KK+, both produced by Yedent) could be found on the market. TomVita, which was dropped by ENVAC because of the quality issues, was still being promoted on WFP-ENVAC posters in visited HFs.

147. **M&E : large investment, poor efficiency** : The project document states that '*the project will focus on and deliver M&E in terms of staffing and financial resources*[83] *because of the complexity of the project*'. Since ENVAC was an innovative learning project, with an approach that broke with previous WFP intervention

[82] Payment method differs between Northern Region and Ashanti. In Northern Region it is a cash transfer to District Nutrition Focal Point, whereas in AR uses a Cash Transfer to HF focal point.

[83] 32% of the Pillar 1 operational budget was devoted to "M&E and other associated costs" in the initial budget (10% for Pillar 2, 15% for Pillar 3).

practices, the emphasis on M&E was justified. The plan developed in the project design[84] was not fully followed, but a significant amount of data was collected over the lifespan of the project.[85] Some weaknesses were observed by the ET across each of the three pillars.

- ✓ **P1**: Three large surveys were conducted by KNUST, which provided information on changes in the project context but did not investigate the effect of the activities conducted by WFP through ENVAC. For P1, no post-distribution or post-training monitoring (PTM) was conducted to monitor the effects of Pillar 1 activities.

- ✓ **P2:** The traceability system that was supposed to track the flows of raw materials required the involvement of aggregators who were not able to provide this information. There is no information on the gender of SHFs supplying to the businesses. Premium and Yedent were supposed to provide regular reports but did not do so.

- ✓ **P3**: Effects of the interventions were monitored by periodic surveys (baseline, midline and endline), but the three surveys were implemented in different geographic areas. It is not possible to use the data from these surveys to conclude whether there was any improvement in children nutrition status. Regular ENVAC monitoring relied on SCOPE for registration and redemption data but also used mobile data collection and analytics (MDCA) for the monthly monitoring of beneficiaries' perceptions and children's measurements; GHS agents were trained to do data entry. MDCA was abandoned in January 2020.[86] Some analysis was carried out, but the limited data on which this was based undermined its reliability.[87] In 2020 a new system was set up with random telephone calls to beneficiaries, implemented by WFP-staff. Regarding the survey (Scope and MDCA), the GHS complained about not receiving reports about surveys or data collection that they had contributed to. Findings from the ET suggest that there was no attempt to validate the GHS M&E system (DHIMS) in order to monitor ENVAC effect and impact.

148. **CNF Supply - P3:** each CNF provider (Yedent, Premium, PPB and KK+ foundation) managed the transport from production site to retailers. Grouped transport of GN and MZ (both produced in Kumasi area) could have reduced transport costs, but if one product was missing, all distributions could have been impacted. Therefore, the chosen option can be considered efficient. No loss of product was reported in the documentation or by stakeholders. Monthly redemption rates (Annex-11) show that the process worked correctly during certain periods, while shortages were also experienced every year. The cost of transport and retailers' commission were paid by the CNF producers. Each company decided individually on what level of commission to give the retailers, with substantial differences that demonstrate room for improvement in terms of cost efficiency.

149. **Efficiency of food safety and quality management:** At the industrial site level (P2), FSDA noted that, due to the short turnaround times, the businesses' quality control was first mobilized to ensure the CNFs were safe. WFP reacted quickly when food safety concerns regarding TV - Yedent were raised by the RB/HQ mission in January 2020. WFP acted immediately by stopping the distribution of TV produced by Yedent. This prompt reaction is positive in terms of efficiency. However, after this decision was taken: 1) it is not clear whether TV already delivered to retailers was distributed to ENVAC beneficiaries or not;[88] 2) WFP

[84] Recruitment of an M&E Consultant was planned (but not achieved) to design the M&E System and develop M&E Tools; 5 annual survey for Pillar 1 and Pillar 3, biannual market survey, etc – see project document pages 36-37.

[85] Three surveys conducted by KNUST for Pillar 1 monitoring; MDCA, SCOPE and two PDMs conducted for Pillar 3 monitoring; data are collected by WFP, by partners (MOFA, GHS), and by private actors (retailers, aggregators).

[86] On the field, GHS agents do not understand why it was stopped: "*Maybe because we did not use it well*?"

[87] In 2018 the rate of submission of MDCA data was about 20%, so the reliability of the figure is debatable. There is no MDCA data available for 2019, and MDCA was eventually abandoned in early 2020.

[88] CO notified Yedent early in February 2020 to stop the distribution of TV. A letter was sent to Yedent before receiving results on aflatoxin concentration on tests requested by WFP-HQ. According to CO-key staff, WFP asked the company to remove the products from stores. Retailers we met did not mention any concern regarding quality and did not speak about this episode (But ET did not ask specific questions about this issue – the evaluators got the details about this quality incident after the field mission). To ensure continuity of the programme, the FSDA with Premium was extended to include Sagnerigu district in addition to the six other districts of NR already supplied with MZ; this was done in early April 2020, two months after WFP interrupted the contract with Yedent. However, PLW in Sagnerigu redeemed CNFs in

did not ask for systematic external analyses of other products delivered under the ENVAC project. The absence of systematic external inspection and analysis on CNFs distributed by WFP through commodity vouchers is a weak point of the project.

Efficiency of personnel and of contractual arrangements - Q3-3

Personnel arrangements:

150. **P1:** the choice of partners was appropriate; WFP selected experienced partners who were running projects in the targeted areas and had existing links with local stakeholders. This had a positive impact on the efficiency of the project. However, the partnerships were not actively managed, and partners were mainly used as service providers. There was limited involvement of partners to consult and discuss implementation strategies.

151. **P2:** WFP has been a partner of Yedent and Premium for a long time. An audit was conducted in 2015 to confirm the relevance of this choice. However, a formal selection process would have been useful to ensure transparency and efficiency.

152. The equipment for CLMSFPs was provided at the very end of the project and not by processes that could have ensured cost-efficient choices: equipment was supplied by a local company, who was also responsible for assessing the production needs and capacity of the processor in terms of equipment and machines. The equipment was purchased without any competitive process; no other equipment providers were asked for quotations.[89]

153. **P3**: In some districts, a small number of HFs were supposed to manage large groups of PLW and Cu2 beneficiaries of ENVAC. In the district of Gushiegu, only 2 HFs were partners of the project. Each of them managed on average more than 1,000 beneficiaries per month in 2020, whereas in Central Gonja each of the 12 HFs managed on average 126 beneficiaries per month.[90] This overload of beneficiaries may have impacted the quality of the service.

154. Retailers (P3) were selected based on capacity assessments. They had to be close to the HFs, able to supply oil and iodized salt, and able to stock CNFs. In some cases there was no retailer near the HF. WFP then identified retailers who were able to make deliveries near the HFs. Overall, the system worked and retailers were satisfied with the arrangements. The advantages of the retailer system were multiple: 1) the GHS was not involved in food distribution, which was a wish expressed by GHS managers[91] (“*the health service must remain outside of food distributions that do not fall within their mandate*”), 2) it avoids the need for WFP to set up costly ad hoc distribution systems, and 3) it can promote sustainable behavioural change when the store is close to the health centres; beneficiaries can get used to picking up the nutritional products (when available) for their children and it promotes the transition to a commercial approach.

Contracting arrangement:

155. **P1:** Different kinds of contracting arrangement were signed with IPs. Using IPs only for specific activities and short-term contracts, instead of asking them to implement the totality of Pillar 1, hampered the efficiency of ENVAC. From 2020 onwards the involvement of MOFA (with FLAs signed in each region) to play this role probably had a positive impact on the efficiency of the project, even if it is difficult to see the results of this change (only one and half years of implementation, affected by COVID).

156. **P2 to P3:** For both companies the FDSAs provided a long-term framework for supplying partner retailers with a monthly volume at a fixed price. However, this modality posed problems. As production and transport costs vary, the contract became a straitjacket on CNT providers. There were two risks: the companies could stop supplying WFP, or they could make losses that affect the sustainability of the business. During ENVAC, all CNF suppliers requested a reconsideration of the price agreed when signing

February and March (See Annex-11). It can be assumed that TV was delivered to PLW in February and March 2020 after the contract between WFP and Yedent was interrupted and the aflatoxin content results received.

[89] CO interview ; Supplier Report and Proformar.

[90] Problem was already mentioned in the 2018 MDCA Report. 2018 Annual Report - Stunting Prevention Programme-v2.doc

[91] It is not always respected, in Ashanti a Nurse can assist the retailer on the redemption day.

the FDSAs, to a committee composed of CO representatives who had to meet and decide. At the time that the FDSAs were signed, WFP and the suppliers did not define a method of calculating the price of the MT delivered, with precise details of the prices, so that they could be readjusted (upwards or downwards) on a regular basis, taking into account changes in production and transport costs.

IP capacity building:

157. **P1**: Capacity building of IPs and IPs' staff was limited. The partner that benefited the most from capacity building through ENVAC was MOFA. Through the MoU signed with SRID, MOFA agents received training on data collection that they considered very useful. Through ENVAC, AEAs' capacity in the targeted areas were strengthened on PH, climate smart agriculture and gender mainstreaming.

158. **P3:** GHS agents were trained on SCOPE and MDCA management. These training sessions were designed to improve the efficiency of the project's implementation. However, the overall efficiency of the system is questionable. The ENVAC project did not use the GHS tracking system and built parallel databases (some of which were abandoned during the course of the project). The project provided incentives for health workers to do this work, which may have disengaged them from other activities, ultimately affecting the management and functioning of the HF/Districts services. Retailers have also been trained in the use of the magnetic card reader device to track beneficiaries. Overall, these tracking systems did not work very well. MDCA was abandoned in January 2020 and replaced by the CO's M&E system to conduct random interviews of beneficiaries. SCOPE presented challenges and led to numerous manual voucher redemptions without electronic registration, which may have been a source of errors and greater workloads for retailers.

Internal and external factors influencing ENVAC efficiency - Q3-4

159. ENVAC efficiency was challenged by the high turnover of human resources, in particular the ENVAC coordinator and the nutrition manager who left in 2019 and in 2020. The M&E manager was also absent for a long period (4 months). Other challenges to the efficiency of the project included the closure of the Upper West and Upper East sub-offices, the launch of nutrition activities in Ashanti without a suboffice in Kumasi to monitor activities, the absence of internal coordination and management of project documentation, and the technical expertise for the implementation of a gender strategy, and the M&E system being planned but not implemented. The implementation of Pillar 2 involved the mobilization of WFP experts from the RB and HQ, but missions were not enough and the mission period was not always appropriate for both enterprises.

160. Many External factors impacted on ENVAC's efficiency. Most were constraints such as: COVID in the last year of implementation (See – Chapter Effectiveness - Covid Impact), poor internet connections (difficulties encountered with SCOPE in some locations), the low production levels in 2021, and low availability of products on the market leading to high prices. The fluctuation in the national currency against the dollar impacted the cost price of SNFs that included the imported premix. Other support (sometimes of the same nature) is provided to FBOs, businesses and health centres without any formal coordination. This represents a risk of low project efficiency that is difficult to assess as financial information was not shared.

2.4. IMPACT - EVALUATION QUESTION 4

Key Findings: The effects and impacts (Q4-1) on food security and malnutrition were not adequately captured by the M&E system. Some positive effects of P1 or P3 were reported by key stakeholders, but they cannot necessarily be attributed to ENVAC activities, or reflected by M&E data. The main outcome of the project was the accreditation of Premium as WFP-SC provider, which could quickly be extended to accreditation for SC+. ENVAC facilitated WFP's procurement of CNFs and is likely to contribute to reducing the dependency of WFP-West African programmes on imported CNFs. ENVAC's impact on quality management remained limited.

Expected and Immediate effects (Q4-1)

161. The expected effects of the project are an improvement in the food security of SHFs, and an improvement in the nutritional status and feeding practices of children under two years of age. These effects were also envisaged for the populations benefitting from the project.

Effect and impact on SHFs' food security, yield and income:

162. Based on PMF data, there is no evidence of effects on the food security of farming households that were already in a good situation at baseline level. The PMF also did not show an improvement in the yields of the targeted crops. This is not surprising as the project's focus was not on production. However, SHFs who were met in the field considered that their situation in terms of food security and income had improved compared to five years earlier. It is not possible to attribute this to ENVAC only, but ENVAC has definitely contributed to these results. It is difficult to assess the effect of ENVAC on farmers' incomes, but there are some elements indicating that some changes have happened. There was strong interest from farmers in maize cultivation and interest in soya also increased. ENVAC's SHFs have developed their capacities for post-harvest handling and there is increased awareness of market opportunities.

163. With Pillar 3, ENVAC was supposed to improve children's diet diversity and reduce the prevalence of stunting in children under 2, with very ambitious initial targets that were adjusted downwards during project implementation.

Effect and impact on stunting:

164. The project's M&E system did not cover the stunting indicator in a proper manner. Baseline, follow-up and endline surveys were not implemented in the same areas and therefore cannot be compared.[92] Moreover, the prevalence of chronic malnutrition was measured among ENVAC beneficiaries without specifying when they benefited from the project. If an impact of the intervention on chronic malnutrition was to be observed, it was likely to occur on a child who benefited from regular CNF intake, and whose mother had benefited from CNF support throughout pregnancy. The nutritional status of a child who had only recently been included in the program could not show the benefits of the interventions. In addition, many factors related to project design and implementation reduced the likelihood of the interventions having any noticeable impact on stunting. CNFs for PLW were frequently shared, and the benefits to foetus and breastfed child development were therefore not optimal. In addition, the effectiveness of some distributed CNFs at preventing stunting is not established (for example KK+), the distributions were relatively irregular with periods of several months without distribution, and the rate of redemption remained relatively low. As beneficiaries were not targeted based on economic vulnerability, the beneficiaries were not those most exposed to malnutrition, and therefore it was more difficult to show any effect from the project. Finally, in some localities, poor access to safe drinking water may be a causal determinant of chronic malnutrition that reduced the effects of ENVAC on the nutritional status of children.[93]

Impact on food consumption diversity:

165. The PMF shows no evidence of improvement of the Minimum Acceptable Diet (MAD) since the baseline. The targets (initially 70%; later revised to 30%) were not met. For this indicator as well, the differences between the areas surveyed at baseline, midline and final survey make comparisons difficult.

Adherence to ANC and CWC/SBCC (P3):

166. GHS representatives interviewed[94] had a very good perception of the activities implemented under Pillar 3 and said that SBCC and CBTs had contributed to improved attendance at ANC and CWC visits. ET conducted an analysis of GHS monitoring data (DHIMS), which did not provide clear evidence of this positive impact of the project (see analysis in Annex-12). However, it can be reasonably assumed that the project has contributed to giving prominence to SBCC activities, promoting good feeding and care practices for Pregnant Lactating Women and Children Under Two years of age. It has also enabled health workers to develop skills in this area. The GHS intended to expand SBCC's activities to other regions of Ghana, which is a very positive spin-off of the project. However, health agents' motivation was certainly been assisted by incentives received from ENVAC and could regress with time.

[92] The project final report claims ENVAC had an impact on stunting when comparing stunting rates amongst beneficiaries in Northern Region (2018) baseline - with stunting rate of beneficiaries in Northern and Ashanti Region (whereas in Ashanti the stunting rate is about 10%) in 2019. This analysis is irrelevant.

[93] Reported by Central Gonja health representatives.

[94] Nutrition officers at central, regional and district level as well as head of health facilities.

Household food security (P3):

167. For pregnant women, the rations provided by the project have reduced household food expenditures. This is a beneficial effect in particular for the poorest households that benefited from the project. This economic effect mainly benefited men who are most often responsible for food expenditure.

Risk factors:

168. Most P3 risks anticipated by ET in the evaluation matrix were not observed on the field:

169. CNFs given out for free were often shared within the family, but no sales were observed or reported. If the project had targeted the most vulnerable this risk would have been higher. The risk of overconsumption of CNFs by children and PLW that could have contributed to overweight and obesity was never reported and probably did not occur: the level of sugar in all Obaasima products (including TomVita) is limited (<10%)[95] and the fat level is quite low; GN was probably more risky (high levels of fat and sugar), but the product was not on sale and only available through distribution; KK+ was consumed as a treat by schoolchildren, but overconsumption does not seem to have been a risk at this stage.

170. As ENVAC promoted branded processed fortified foods, one risk of the intervention could have been a devaluation of unprocessed local foods. However, no evidence was found in the field to support this risk. The GHS has continued to promote the 4-star diet (based on fresh food) to encourage dietary diversity by mobilizing local foods, which is a good thing. Another risk was that the image of local fortified products could have been depreciated, limiting people's willingness to pay for them because of the free distributions. However, this negative side-effect was also not observed at this stage for TV and KK+[96]: KK+ Foundation did notice massive drops in sales of its products after free distributions of KK+ started, but the foundation considered that this was not necessarily due to the free distributions, but probably due to their lower investments on KK+ promotion[97]. In Sagnerigu, where Tom Vita was distributed for free for more than two years, the product (TomVita-X[98]) was available for sale in the shops of ENVAC's retailer partners. Retailers said the product was selling well as infant food, despite competition from Cerelac[99] and YumVita[100].

171. It should be noted that the products were promoted for specific targets, but product consumption was often not aligned with these targets. In Asonkore Mampong, KK+ was promoted to enrich infant porridge, but the sales were mainly driven by school children who ate it like candy. TomVita was being sold as a baby food, while it was given for free to PLW for their own needs. Once on the market, products have their own life, agencies and projects have no more control. It is therefore important to formulate products for PLW anticipating that they may be shared and consumed by 7-month-old babies (avoid micronutrient concentrations that could be harmful).

Observed effects and potential impact

172. It is premature at this stage to consider the impacts of ENVAC (some activities are still being implemented). It is more relevant to consider "potential impact" in order to consider monitoring for the next steps.

173. Although this was not presented as such in the project document, the main outcome of the project is the accreditation of Premium as a WFP SC provider, which could quickly extend to accreditation for SC+. An immediate effect of this accreditation is an SC order placed by WFP-RB for Burkina Faso. In the short term, ENVAC's results are likely to: 1) facilitate WFP's procurement of CNF , 2) reduce the dependency of WFP-West African programs on imported SC from Turkey and Europe, and donations from the USA, and 3) contribute to the local economy. In addition, the development of large-scale CNF production capacities is

[95] Source Sight&Life interview; no mention of Glucose concentration on TV the packaging

[96] Maizoya and GN not available for sale.

[97] ESM and KOKO Plus Foundation – December 2021 – Internal note - Impact of symbiosis of a market-based approach and free distribution in Urban/Peri urban area and Rural area

[98] Developed by Yedent with the support of Obaasima and ENVAC, it is processed with extrusion when Tom Vita was roasted.

[99] Fortified infant flour of Nestlé ; processed in Ghana ; leader on the market according to retailers.

[100] Fortified infant flour of Promasidor (company in which the Ashinomoto Group recently acquired a stake).

likely to reduce production costs and allow market access to quality nutritional products for many people in Ghana. However, these effects and impacts will have to be monitored.

Quality

174. ENVAC's impact on food safety and quality management remain limited. Capacity of SHFs and P1 stakeholders were strengthened, but quality management at farm/storage level (to reduce and control aflatoxin contamination rates in particular) remains an issue. Validated as a WFP SC provider, Premium's capacity was increased. In the case of Yedent, by 2020, after 4 years of intervention, its quality management was still unsatisfactory according to an external audit. Activities for CLMSFPs were implemented late, and training sessions were one-off in nature and likely to produce little effect and impact. ENVAC did partner with some national institutions in charge of quality, but these were dealt with more as service providers than as real partners. ENVAC did not contribute to building a real strategy in Ghana to strengthen the technical capacities of national quality management institutions.

Gender dimensions - Q4-2 to Q4-6

175. Key Findings: effects and impacts of ENVAC on gender were weak; no improvement was captured under P1; under P2, the activity targeting women (CLMSFPs) had just started in 2021; under P3, female retailers were financially empowered and CNFs exposed women to alternative food sources to supplement the household food basket, while lessening the burden of women. Regarding OSAGs, an unexpected negative outcome of this activity could be that some girls are incentivised to remain out of school.

176. The factors in women's lives which hindered women benefiting fully from the ENVAC project included the fact that SHFs in general needed more visibility and market links to aggregators who could ensure their products would be purchased by large industrial processors. For women, structural barriers include post-harvest losses, lack of credit and a stable market. (Q4-2)

177. There is some evidence that ENVAC contributed to women's empowerment through the women's agricultural groups who were provided with appropriate post-harvest technologies (ZeroFly bags) to improve their harvest and minimize post-harvest loss. This happened to far fewer women's groups than originally planned (3 instead of 30). What was much less clear due to lack of qualitative monitoring data was whether women's influence on decision-making within households linked to productive resources improved. Only anecdotal evidence was available that in a few cases women were in more control of the sale of their produce and were able to make more decisions about their agricultural production, post-harvest handling, and marketing activities. (Q4.3)

178. Unfortunately, the ENVAC project did not contribute to women's access to credit /financial services and access to other productive resources. There was some evidence that information, skills and knowledge and access to markets improved in a few women's groups, but this could not be fully attributed to ENVAC since several other interventions were also running at the same time (MEDA, MAG and ADVANCE). (Q4.4)

179. There were some very important gender specific impacts, especially in relation to women's empowerment, but on a small scale and only where appropriate technologies were introduced and training provided. (Q4-5)

180. Pillar 3 : The CNFs exposed women to alternative food sources that can supplement the household food basket, and which therefore can lessen the burden on women. Out of School Adolescent Girls benefitted from the CNF basket, but their households also benefitted. The unexpected outcome of this incentive could have been that some girls would remain out of school. This unintended outcome, identified as a risk by WFP, would need to be fully investigated for WFP's future programming. Better designed programming would enhance the LEAP approach of only providing nutritional support to vulnerable households on condition that they send all their girls to school. Lastly, female retailers were financially empowered through project, although this was not an expected outcome. (Q4-6).

Partnership framework - Q4-7

181. There was no clear positive effect from ENVAC on the partnership framework. Especially under Pillar 1, other development projects and MOFA were only partially linked to the project. Many actors have been included in ENVAC, and in most cases they were service providers rather than implementing partners. The short duration of the contracts did not contribute to building synergies. Nonetheless, partners were

involved according to their mandates and their key competences, which is very positive. Partners were broadly satisfied with their involvement with WFP, in spite of the implementation difficulties (they had to reduce the scope of their proposals as there was not enough budget available[101] and the contracting process was very long). They considered that partnering with WFP brought them exposure. ENVAC did not consider partners' implementing approach on the ground, which probably had negative effects. For example, WFP gave out equipment for free (e.g. MCT, Donkey carts) in areas where partners contributed only partially to the purchase of such equipment by SHFs. There was not enough consultation and dialogue with partners to ensure consistency among interventions.

182. Regarding Pillar 3: Through other projects, WFP[102] partnered with various actors all involved in the promotion of CNFs for children or women. The close linkages between the different interventions, which mobilized the same businesses, the same CNFs and identical approaches (SBCC, involvement of the GHS, and availability of CNFs in local sales outlets accessible via distributions or by purchase) can be taken as a positive point. On the other hand, the over-concentration of funding to a few intervention areas limits the potential impact of the investments.

2.5. SUSTAINABILITY - EVALUATION QUESTION 5

Key findings: (Q5-1) The availability of CNFs processed locally from local agricultural produce is not fully ensured, as firms can be tempted to use equipment supported by ENVAC's investments for other purposes. If import permits were to be issued, the businesses would be likely to purchase raw material on foreign markets. The market-based approach should be a warranty of sustainability, but the CNF -VC developed by ENVAC is not really market driven : Ghanaian consumers' willingness to pay for CNFs is not yet demonstrated. Sustainable adoption of approaches promoted by P1 is not ensured. (Q5-2) Partners, including government actors, were often used as service providers and capacity building of institutions was limited.

183. **Availability of CNFs produced from local raw materials in WFP assistance programmes is not ensured**: If policies regarding imports of raw material change, there is no guarantee that businesses will continue procuring from SHFs. And even without policy change, the two supported businesses may decide to develop their own large-scale farm (actually this possibility was mentioned by the businesses).

184. There is no guarantee, either, that Premium will carry on providing CNFs to WFP. The industry may be tempted to change strategy and use equipment and production lines supported by WFP-ENVAC investments to supply either:

- ✓ Brewery companies that are very interested by high quality standard cereals, which are profitable markets for Premium (and Yedent).
- ✓ Multinational baby food producers: Premium used to provide millet to Nestlé for the production of Cerelac. This partnership stopped because the quality of the millet was not satisfactory. It would be somewhat ironic if Premium got value out of ENVAC equipment and support by supplying Nestlé – as WFP cannot envisage a partnership with Nestlé or any other provider of infant formula.
- ✓ Commercial poultry farms that are already Yedent and Premium customers, and which have a very high demand for animal feed (already produced by both Yedent and Premium) driven by increasing consumption of animal products in accordance with the improved standards of living and increased urbanization in Ghana.

185. High prices and low quality of local food are the arguments usually justifying the use of imported CNF in assistance program. To sustain/strengthen the achievement of ENVAC, improvements in quality management are still required, but CNF prices should be also be negotiated and closely monitored to avoid having local CNFs disqualified by their prices (cf. efficiency, para. 140 and Annex-13).

[101] Reported by most P1 partners.

[102] According to budgets indicated in project concept notes shared with ET, nearly US$ 500,000 were received by WFP from DSM for the period 2020-21 to collaborate with the Obaasima project, and US$ 5 million from the Japanese Cooperation for 2019-2020 for a partnership with the Ashinomoto Foundation and KK+.

186. This is a risk, but it is also an opportunity for these businesses to develop a sustainable business model based on several products that require different grades of raw material. Even if the commercial / institutional market for CNFs does not become their main market and their main source of income, they could rely on other business opportunities and develop several ranges of products that would extract value from their production equipment and support their business. That could also contribute to easier inclusion of SHFs and the development of "pro-poor" value chains as a quality requirement as some of these opportunities are not as demanding as for CNFs.

187. **Market-based approach is a driver of sustainability, but ENVAC is built on an artificial market-based approach:** In a market-driven approach, consumer demand stimulates production by businesses that stimulate supply by farmers, but the CNF market was largely dependent on the project. It was not consumers demand but WFP demand under Pillar 3 that stimulated CNF production. Retailers with guaranteed margins engaged in the project without risk. Institutional purchase of CNFs has a role to play in building sustainable CNF chains, but without demand from the mainstream market sustainability is limited. Consumers' willingness to pay for CNFs has yet to be demonstrated. The lack of data on commercial sales of CNFs (Yedent), and on investment in production of commercial CNFs (Premium[103]), makes it difficult to assess the sustainability of the project's approach.

188. On a smaller scale, activities to support value chains were not fully built on a market-based approach. Support for aggregators and FBOs was given for free, without any contribution paid by SHFs. This clearly negatively affects the sustainability of the equipment and contributes to the development of a "wait-and-see" attitude from stakeholders, as well as to an overdependence on donors and development projects. This can have adverse effects on the development of the value chains, as some farmers and FBOs are not willing to pay for services or equipment that they expect to obtain for free. The introduction of some small-scale technologies, which showed signs of uptake, may improve post-harvest losses in future years (e.g. ZeroFly bags and the moisture meters). However, not enough attention was given to developing access to this equipment on a commercial basis for farmers, at least in the case of the ZeroFly bags. Data collected showed that some farmers are ready to purchase this equipment on a regular basis, but it is currently not produced in Ghana and not available at retailers or input-dealers. Concerning blue silos, a company has recently started producing some in Ghana, which could be very positive in terms of sustainability, but they have not yet been distributed and sold by the company. Silos are more expensive and less popular with SHFs, so sustainability is not guaranteed.

189. **Pillar 1 also does not demonstrate a high level of sustainability** with SHFs due to the absence of linkages developed between SHFs in the north and potential community-based medium and small-scale processors, and the very limited linkages developed between FBOs/aggregators and the large scale processors in the middle belt (Ashanti/Brong) region. The focus on supporting aggregators and not only FBOs to facilitate market access and link farmers to processors seems to be good for sustainability, but this shift came too late in the project to actually strengthen the value chain both up and downstream. There was not enough focus (for both aggregators and FBOs) on building their capacities on organisation, governance and business management. A factor that also hindered sustainability was the one-off approach of most of the capacity building activities. There were no long-term implementing partners to follow-up and build capacities of those organisations.

190. Considering that ENVAC aimed to promote production and consumption of CNFs, there are some questions to raise concerning the agricultural development model promoted. ENVAC, in line with government policies and most development projects in Ghana, was based on an intensive production model with improved seeds, access to mechanization, and use of chemical inputs. In fact, chemical inputs were used by all farmers we spoke to (artificial fertilizers, weedicides, pesticides and other products). In spite of awareness raising and training, these products were not always used according to recommendations (in terms of dose and in terms of the use of personal protective equipment). In addition, a lot of farmers did not buy the official products that were certified by the government but cheaper products imported illegally from other countries (Nigeria for example). There was a risk of contamination of food by these products, which was not monitored. Awareness of these issues was low among producers and consumers. Working on fortifying food products without ensuring food safety on this issue questions

[103] Obaasima project (DSM funding) worked on market demand; Premium was a partner company in this project; at the end of the DSM project, marketing of Premium's commercial product (LOVIT fortified flour) had not started.

the sustainability of the model. The same question applies to the sustainability of the practices promoted in terms of environment and climate change. The practices promoted by ENVAC are sustainable and based on GAP, but in a context of climate change, it is probably worth going further and considering agroecology and conservation agriculture.

191. **Low-key leadership on the part of government**: Key institutions that could have improved and strengthened the value chain for community-based medium and small-scale processors were not involved in the areas of food safety, and regulatory oversight. Capacity building was limited to only a few topics directly related to projects' needs (for example building capacities of SRID on data collection). There was very limited institutional capacity building, and no consolidation of existing systems. For example, the data collected by SRID for WFP were not used by the project, and the data was never shared with MOFA at regional and district level.

192. The GHS was empowered to deliver ongoing SBCC, which may be sustained in the long term. But, as mentioned previously, GHS agents functioned rather as service providers and not as partners.

3. Conclusions and recommendations

3.1. CONCLUSIONS

Conclusion 1:

In a context of funding reductions, ENVAC offers a new perspective on the type of actions that can be envisaged and it provides lessons for WFP to better support Ghana on its development trajectory.

193. Due to the country's economic development, attracting aid and funding for development programs in Ghana is difficult. This difficulty faces all actors, including WFP. The Ghana Beyond Aid national strategy promotes endogenous development (independent of aid), based on local industrialization and collaboration between the private sector and public institutions.

194. ENVAC supported Ghanaian private industries that supplied CNFs for national interventions (involving the GHS) but also for other West African countries supported by WFP. This achievement offers some relevant perspectives that should be considered for the next Ghana CSP.

Conclusion 2:

FSQ management was a key point in the project document that was not translated into robust activities. CO and national institutions did not have enough capacity to handle FSQ, and there was not enough focus on building the capacities of national institutions. The new quality management support programme of WFP was not able to fully strengthen CO with its FSQ activities under the ENVAC project. Several initiatives encourage production of fortified food specially formulated for fragile consumers (PLW, Cu2) in Ghana, while national institutions are not fully able to guarantee the quality of these CNFs.

195. ENVAC planned to work on quality issues, with "quality" activities planned for each of the pillars: post-harvest management (P1), introduction and promotion of an aflatoxin control system for SHFs (P1) (an activity that was not carried out), implementation of an effective traceability system (P2), strengthening of partner enterprises on quality management with the support of the RB and the HQ, which was hampered by a reorganization of WFP quality management, strengthening of quality control institutions (GSA and FDA), and promotion of good practices among consumers, through SBCC.

196. During the implementation, poor quality management was observed in one of the supported industries (Yedent); external/independent analysis revealed high levels of aflatoxin in their products. These problems may have been caused by quality problems with the raw materials, poor consideration of quality issues by the firm, or defects in the firm's internal control and national analysis systems (on which WFP relied for quality control of the CNFs distributed at retailers' level). After this incident, WFP rightly stopped distributing the product until the firm had improved its quality control system. However, there is no evidence that all products were withdrawn from the market. Thus, a product with quality issues that WFP, through ENVAC, has helped to produce and promote, may have been consumed by fragile beneficiaries (PLW, or even Cu2). Following this alert, no clear change in the quality control process was adopted. WFP received the analyses from Premium and KK+ (hence from Yedent) without cross-checking them through analyses by independent inspection companies (when a Long-Term Agreement (LTA) signed at RB level committed CO to rely on such services) and laboratories.

197. Several initiatives in Ghana support the production of fortified foods and nutritional claims are flourishing on processed foods packaging. Stakeholders believe that national agencies are not able to monitor fortification levels and guarantee the veracity of the claims made.

Conclusion 3:

The ENVAC strategy of developing the capacities of local private industries to process produce CNFs was pertinent and could contribute to a sustainable increase in access to SC and SC+ for nutrition interventions at local, national, and regional level.

198. The fact that Premium is now validated for the production of SC is a key achievement of ENVAC. Some issues are still pending: No SC+ is produced at this stage for Cu2, and Yedent is not yet validated as a supplier for WFP. The sustainable development of CNF production in Ghana remains uncertain as Premium has no experience in commercial markets for these products and both companies have other market opportunities for which the equipment to which WFP has contributed financially can be used. So there is a risk that the two firms will abandon the production of CNFs if the market is not profitable enough or too difficult to access.

199. Because of the financial and technical support provided and because WFP is a major CNFs client for these industries (CBT/nutrition program), it was legitimate for WFP to impose conditionalities on the industry. In principle the two main conditions (20% procurement of raw materials from ENVAC's supported SHFs and sale of CNFs at a discount price to WFP until the amount of the investment is reimbursed) are relevant and not too demanding for the businesses. However, the implementation of these conditions was not investigated and discussed sufficiently with those businesses. For procurement especially, what matters is that businesses procure maize, soya and millet from SHFs, but there is no point in artificially linking them to SHFs in areas outside their usual procurement areas when they already have an existing network of aggregators and farmers that could have been strengthened. These two conditions are also difficult to monitor and the systems that were implemented cannot guarantee that they are respected.

Conclusion 4:

Support for SHFs and FOs to develop production and sales of raw materials for CNF production was relevant but was insufficiently focused on the areas and conditions that could make a difference and lead to increased volumes of quality raw materials produced and sold

200. Collaboration with SHFs is very relevant. Important aspects were taken into consideration by ENVAC, such as supporting quality improvement and post-harvest handling and supporting market linkages initiatives. The activities were however too dispersed to have real effects on production and productivity levels. From 2020 onward, ENVAC started to focus on activities that can have an effect at a large scale for the promotion of post-harvest handling practices, but too little attention is being given to how farmers will access innovations after the end of the project. As regards storage, ENVAC mainly focused on improving storage conditions, whereas the key limiting factors that prevent farmers from storing are more to do with financial needs at harvest time. Support for SHFs and FOs to develop production and sales of raw materials for CNF production was very relevant but was insufficiently focused on areas and conditions that could make a difference and lead to increased volumes of quality raw materials produced and sold. Nevertheless, ENVAC identified additional opportunities that can be further explored to sustain the approach, such as greater engagement with other projects and MOFA programmes on production, climate smart agriculture, access to market for SHFs and access to affordable financial services.

Conclusion 5:

Targeting PLW and Cu2, the population at risk of malnutrition, by combining SBCC and facilitated access to CNF through market and vouchers is relevant and innovative. However: 1) CBT (voucher) beneficiaries were not targeted based on their vulnerability, which hampered the impact of the intervention; 2) at the end of the ENVAC project, there is no evidence that industries are better equipped to position their products on the local markets and that the CNFs market is going to develop sustainably; 3) the boundaries are not always clear between SBCC promoting good practices (involving GHS agents) and commercial promotion of branded product.

201. CBT targeting PLW and Cu2 without focusing on the most vulnerable households, areas and seasons was not relevant. Targeting OSAGs could have been more relevant, because leaving school early is often associated with economic vulnerability. However, the targeting of OSAGs was not conducted in accordance with international child protection guidelines and risked leading to negative externalities (CBTs stimulating leaving school early).

202. The project document envisaged that the products developed by the industries were to be made accessible through voucher-type interventions, but also through commercial markets. The market dimension has been investigated by other projects with which WFP collaborates; but products from Premium are not commercialized and are currently inaccessible to consumers except for free distributions. PLW cannot access the product after the project ends. Premium is considering developing a range of CNFs,

but targeting mainly urban areas (Accra, Takoradi and Kumasi). Yedent's CNF (TomVitaX) is on the market but the breach of the supply contract between WFP and Yedent hampered the exchange of information on the commercial results of TV on the market.

203. The collaboration between WFP and the GHS on Pillar 3 activities was generally approved of by both sides. However, the effects of the SBCC were poorly monitored by the ENVAC results framework. Health workers and beneficiaries see them as very positive even though the impact on ANCs and CWCs is not revealed by M&E analysis.

204. There is some confusion in the approach, with for example identical brand advertising posters in health centres and in retailers' shops. The involvement of health workers can exceed their prerogative; some are inclined to promote commercial brands. This is problematic in relation to the marketing code for breastmilk substitutes, when it comes to foods designed for children between 6 months and 2 years of age (or foods that families and some health workers consider suitable for children over 6 months of age).

205. Health agents are also involved in the enrolment of beneficiaries, which can pose ethical problems when the number of beneficiaries is limited, or when beneficiaries must be recruited outside of medical visits (in the case of OSAGs). In addition, heavy use was made of health agents to monitor the project, even though the monitoring tools are not managed by the GHS but by WFP.

Conclusion 6:

ENVAC's CNF food chain approach is likely to exclude vulnerable SHFs and especially female SHFs from WFP programs supporting farmers. ENVAC had no impact on the food security of SHFs because the project was not designed to target the most vulnerable SHFs (including women), nor to answer their specific needs.

206. ENVAC did not specifically target the poor and vulnerable farmers, but the assumption was that through working with SHFs in northern regions, poor and vulnerable farmers would be included. The project tried to link SHFs from those areas (Upper East and Upper West regions) to industrial processors in Ashanti and Brong Ahafo regions. This attempt to link economic actors was made without a prior feasibility study. The initial assumptions were not verified. The companies do not procure from these areas and cannot, given the distance and the cost of transport. Yedent and Premium procure maize from Ashanti and Brong Ahafo region and soya from Northern region.

207. ENVAC did reach women. The project targeted women in some specific activities (donkey carts, multicrop threshers) but reached only a limited number of women and were not directly related to building a CNF value chain through linkages with processors. Women were included in all project's activities but there was no focus on the key factors that limit their inclusion in the value chain (access to land, capital, production inputs). Nor was specific attention paid to empowerment of women and to their participation in FBOs and the aggregators' model. As a result, for similar support received, women have less capacity than men to seize new economic opportunities.

208. The project made little or no attempt to investigate market opportunities tailored to the needs and capacities of vulnerable SHFs (especially women). The CLMSFPs supported by ENVAC are located in the north could have provided more accessible markets, but the number of entities supported, the budget, and the time dedicated to this activity is much lower than programmed. There was no attempt to link these CLMSFPs (that are already engaged in processing activities) with ENVAC-supported SHFs.

Conclusion 7:

Time management was not optimal. Many activities started late (like support for CLMSFPs) and delays were made worse by COVID restrictions.

209. ENVAC time management was not optimal; almost no activities were launched before signature of contracts with the industries, even though many activities could have been implemented before.

210. Delays in implementation have increased with the COVID pandemic; many key activities have been undertaken during the last year (support for aggregators, post-harvest handling demonstration), and even the last few months of implementation (equipping CLMSFPs, training on climate smart agriculture and gender mainstreaming, purchase of large volumes of MZ from Premium). It is too early to see the effects of

these late activities, which also means a post-project strategy cannot be put together, thus hampering the sustainability of the support given.

Conclusion 8:

Lack of technical capacity (Gender, FSQ management) at CO's level impacted the implementation of ENVAC and poor project management limits the opportunities to learn from the project.

211. The project was not implemented the way it was planned. The initial scheme for HR was not respected (with an ENVAC project manager who coordinates the activities of the three pillars; a gender expert; an M&E expert), and there was a lot of turnover (few current staff were involved in the design and in the initial years of implementation).

212. The M&E system that was used was not designed to capture the actual changes and effects that resulted from the interventions, and only limited attention was given to knowledge management and documentation.

213. The ENVAC project was implemented in silos, without enough attention given consistency, and to links between activities, and between activities and project strategy. The absence of financial reports in the documentation is also a weak point that prevents analysing .

214. Similarly, ENVAC's interaction with other relevant projects, including projects by the government (like PFJ for instance) was limited. Implementing partners and government institutions were service providers rather than real partners (no steering committee meetings, and no regular technical meetings were organized).

3.2. RECOMMENDATIONS

Recommendation 1:

WFP's next country strategy plan (CSP) for Ghana should include a CNFs value chain approach based on the lessons learnt from ENVAC and it should be tailored to the Ghana Beyond Aid context. WFP should position itself as a provider of technical support to national institutions (MOFA, GSA and FDA, GHS and LEAP programme) and plan its exit strategy.

215. Review the position of WFP towards national institutions to prepare WFP's progressive exit strategy: WFP should start positioning itself as a technical support and not a direct implementing actor, progressively leaving national institutions in charge of actions to be taken and building on lessons learnt from the School Feeding Program. This means that in the succeeding period and succeeding projects WFP should support and strengthen the capacities of national institutions to implement interventions that are aligned with the government's priorities. This is clearly the case for actions supporting agriculture and value chain development (MOFA), quality control and quality management (GSA and FDA), and stunting reduction (GHS). WFP should also develop partnerships with other actors that are key to implementing a pro-poor approach; the LEAP program could in the medium term adapt ENVAC strategy and include locally produced nutritious food in its support to vulnerable people.

216. WFP support to national institutions would contribute to increasing the efficiency and sustainability of interventions. Partnerships with these actors should be signed over a longer period, because improvements in their capacities and results to show for it require long implementation. Priorities in terms of capacity strengthening of national institutions should be food safety & quality and post-harvest management (MOFA, GSA and FDA), and M&E (all institutions). WFP should only directly implement interventions when they are very innovative, and on a pilot basis.

217. Ensure good coordination between CO and RB and HQ (which are likely to manage future orders of CNFs) to ensure consistency in terms of quality requirements and conditions imposed on companies (prices / sourcing).

Recommendation 2:

WFP should help to improve FSQ management systems at all stages of the CNF production chain in Ghana. This will involve in particular strengthening the regulatory framework in Ghana (and the region – links with ECOWAS), norms and standards for CNFs. Meanwhile, ensure safety of all CNFs distributed by WFP's projects.

218. The improvement of food safety and quality management throughout the value chain has several objectives**:** 1) ensure good FSQ of the final products and protect consumers, especially the most vulnerable (like Cu2 and PLW); 2) allow SHFs and food processors to be financially rewarded for the efforts they make to improve the quality of their products; 3) allow the WFP to purchase safe local CNFs (SC and SC+) that comply with its standards; 4) and, of course, protect the consumer from unsafe, low quality, misbranded or contaminated food.

219. Improve FSQ of raw materials: At SHF level, this approach should facilitate access to markets and marketing of good quality raw materials to food processing units. Particular attention must be paid to the issue of aflatoxins. With MOFA, producers, aggregators, and research institutions: Help identify the critical points to reduce contaminants; support and participate in research and development work to prevent aflatoxin contamination. Develop and promote low-cost solutions to monitor raw materials for contamination. Promote strategies that ensure quality products are paid a fair price (for instance label, and raise awareness of processors, and consumers).

220. Strengthen the capacity of national institutions responsible for standardization, accreditation, and control (including reference laboratories) to enhance the reliability of local processed foods, especially fortified foods. Identify all the actors currently involved in quality management along the value chain. Develop feedback platforms between public institutions and private operators. Contribute to the development / adoption / promotion of national norms to manage fortification processes. Strengthen control structures so that they are able to guarantee 1) the safety of CNFs and 2) the truthfulness of nutritional claims made by manufacturers. All claims made on a label should be guaranteed in the long term by national institutions. This will also require investing in awareness raising at the consumer level on fortification, labels and quality norms. Regarding food safety, vigilance is required in CNF formulation to avoid overdosing as foods are not necessarily consumed by the initial target group (example: MZ and TV consumed by Cu2).

221. Ensure FSQ of CNFs delivered through WFP CBTs: When WFP uses commodity vouchers, it is responsible for FSQ of distributed CNFs . As long as the reliability of the controls carried out by national institutions remains uncertain, WFP must use private or foreign providers whose reliability is guaranteed (private inspection companies, international laboratories).

Recommendation 3:

If Recommendation 2 is validated, pursue partnerships with the two private actors to facilitate a sustainable supply of locally produced quality CNFs for both PLW and Cu2 (through both commercial markets and CBT). Access to WFP support (financial, technical and CBTs) by companies should be conditional upon 1) fair trade conditions with SHFs/aggregator suppliers of raw material, and 2) investments by industries in commercial markets. 3) Transparency on price of CNFs delivered to WFP, as well as on terms and conditions for price revisions.

222. **In the short term:** Follow up on Premium's accreditation for SC+ and follow up on investment by Premium in commercial markets, with its LOVIT-branded CNF. Follow up on Yedent's accreditation for SC (and SC+) production: Yedent's accreditation process should be continued, to avoid WFP being dependent only on Premium. Working with Yedent is also encouraged because they already have commercial market experience. For CNFs, other actors should also be identified in Ghana or the sub-region (especially in case Yedent fails to meet WFP's quality requirements and in order to increase a wider local supply of CNFs).

223. **In the medium term**: for possible subsequent support to private businesses, or the next round of CBTs with FSDAs signed with businesses: partnership conditions must be relevant, feasible and monitorable to increase sustainability.

224. The setting of CNF purchase prices must be based on detailed production and transport costs and must allow sufficient margins to the industry for the maintenance of equipment and the development of a commercial network. The arrangement should specify in advance the procedures for revision that will be used in case of changes in the cost of production (currency fluctuations etc.). Access to “CBT markets” should be conditional upon 1) fair trade conditions with SHFs/aggregator suppliers of raw material (see Recommendation 4) and investment in CNF commercial markets, to ensure wide access to the CNFs and to avoid companies’ becoming dependent on assistance markets only (sustainability). This engagement should be monitored (e.g. budget invested in marketing and sales activities).

Recommendation 4:

Strengthen partnerships with development actors and MOFA, to develop and upscale the Value Chain approach to improve market linkages between SHFs (Male and Female) and industrial processors of any kind and focusing on WFP's specific added value (quality and PHH).

225. WFP should avoid "forced marriages" between pre-identified SHFs (partners of P4P – for example) and specific firms when implementing VC project. If the project – like ENVAC intends to support specific firms : an assessment / inventory of the situation should be conducted before the start of the project to identify: who are the industries's suppliers? how is the value chain organized? what is the place and proportion of products from SHFs (Male and Female (M&F) in firms' supplies and what is the policy of the firm regarding its suppliers? what difficulties do SHFs (M&F) encounter in entering these markets and linking with these firms? Are these markets worth entering for SHFs (M&F) ? What can be the targets in the future, that can be profitable to SHFs (M&F) and to firms? This assessment is required to define the appropriate measures to adopt to ensure (and monitor) commitment of supported private companies in including SHfs suppliers and especially female SHFs.

226. Develop value chain projects: investigate best market opportunities for SHF (M&F) including off-takers like agro processors, millers, livestock and feeds processors, institutional buyers, or linkages to structured markets like the Ghana commodity exchange Warehouse Receipt Systems (WRS) and work on how to support farmers to have access to these markets (working on the value chain constraints and on how to lift them : access to finance, access to services, capacity building…)

227. Provide long term support to farmers' organizations (operational and institutional capacity building) based on an assessment of their needs to accompany change. Do not focus only on FBOs but also identify other current or potential aggregators that can supply industrial processors and work on improving their linkages up and down the value chain.

228. Focus WFP's interventions on specific support for the development of CNF value chains (post-harvest handling and quality improvement), with more attention to sustainability and market-based approaches for the provision of post-harvest equipment (develop sustainable commercial access to Zerofly bags for example). Support and strengthen projects and interventions tackling these issues so that they can benefit from WFP's experience. and ensure – through long term partnership - incorporation of financial services in future projects

Recommendation 5:

Strengthen and formalise the innovative strategy that combines nutrition assistance, promotion of good feeding practices, and market access for local CNFs : the targets of free distribution should be defined based on beneficiary vulnerability using national criteria (LEAP program); the role that each actor should play according to its mandate (Health, Social protection, Education) should be clarified; the impact of free distribution on commercial sales should be monitored.

229. WFP should contribute through its food assistance mandate to provide an outlet for local businesses with CBTs that give access to CNFs to targeted beneficiaries.

230. Large-scale free distributions over long periods of time to people who could purchase the products themselves should be avoided, because: 1) they are not justified from a humanitarian point of view; and 2) they may be counterproductive (image of CNF can be devalued by free distributions). Distributions should be conducted in chronically food and nutrition-insecure areas, and during a specific season (lean season), and target the most vulnerable people.

231. WFP needs to closely collaborate with other Government programmes such as the LEAP--Livelihood empowerment programme under the Ministry of Gender and Social Protection; it also should collaborate with the Complementary Basic Education Programme under the Ministry of Education in order to target out of school adolescent girls and ensure that they are transitioned back to school using the nutritional supplement as an incentive.

- Social protection, LEAP, humanitarian organisations should be responsible for targeting beneficiaries according to vulnerability criteria (this should not be done by health workers that do not have the authority or the skills to do it).

- Intervention targeting OSAGs should respect child protection system, and encourage girls to go back to school. This requires partnership with education sector

232. Promotional activities should be carried out by business (possibly supported by projects, with or without collective brands – like Obaasima) and relayed by retailers.

233. Advertising approaches should be distinct from SBCC messages transmitted by health workers. Health workers should focus on SBCC but should not be encouraged to promote a specific brand, especially when the products are intended for (or perceived to be intended for) children over 6-23 months. WFP should encourage the GHS to expand HFs and Districts reached with SBCC activities and avoid concentration in a few areas.

234. The involvement of retailers in CNF redemption should be pursued; it benefits local economic actors and can pave the way for a more sustainable market-based approach.

235. As the approach is innovative, it would be relevant to conduct studies and/or design monitoring tools to assess the relevance of a voucher/commercial approach combination, and to analyse the conditions under which positive synergies can be observed.

Recommendation 6:

Develop specific interventions to support vulnerable SHFs in Ghana in line with the Global Food Security Strategy adopted in Ghana. Support the roll-out of the national strategy and the implementation of ad hoc programs that target vulnerable SHFs and especially women SHFs to improve food security of the most vulnerable.

236. This requires identifying the production and potential markets that are best suited to vulnerable, poor SHFs' capacities and interests (based on SHFs' location, production capacity, and economic opportunities in the production basin).

237. Trying to connect vulnerable SHFs at all costs to markets that are out of their reach can be counterproductive (for both businesses and SHFs).

238. Support to vulnerable SHFs requires local and continuous support to mitigate the constraints that limit their access to the market (issues with land tenure, access to credit, women's empowerment, etc) that cannot be achieved with one-off activities.

Recommendation 7:

Ensure implementation and monitoring of on-going ENVAC activities (e.g. support for CLMSFPs – Training on gender and Climate Change) and draw lessons from these activities before the end of 2021.

239. Priority attention should also be given to following up Yedent's accreditation for SC, as well as on the accreditation of Premium for SC+ (see Recommendation 3).

240. WFP should continue the on-going implementation of activities with CLMSFPs. The project should not end with the distribution of the equipment. There is still a lot to be done to build the capacities of the processors (on quality management and maybe even more on business management), to help them develop linkages with relevant SHFs and FOs, to help them find solutions with new issues arising with improved processing capacities - developing their market and developing their access to finance to be able to procure enough raw materials to run their equipment in a profitable way. This is a key priority, because the risk is actually very high that these business would collapse without appropriate support.

241. In the coming month WFP should also organise a follow-up and post-training monitoring for all the activities implemented (Pillars 1 and 3) from 2020 to the end of the project (climate smart agriculture and gender training, post–harvest demonstration, effects of the radio programmes). Lessons should be drawn to guide design of subsequent projects.

Recommendation 8:

Strengthen CO capacity with the skills required for future activities: capacity building, institutional strengthening, partnership management, M&E and capitalisation; as well as technical skills in FSQ and gender.

242. WFP should invest in strengthening the Ghana CO's capacities in project management, M&E (with RB and possibly HQ support), knowledge management, and capitalization (to improve project and institutional memory).

243. It is essential to ensure at project level a managerial position with someone able to have an overview of the implementation of the project, (CO-Head of program). Even if the funds are managed through the CSP, WFP should be able to provide financial report on a specific project to ensure a measure of efficiency and assess the improvement achieved with time.

244. CO's capacities should be strengthened as well in Food Safety and Quality management as this issue is key for the next CSP.

245. A dedicated Gender expert is absolutely needed on the programme team to ensure gender targets are achieved and gender mainstreaming across project activities, M/E and build capacity with partners.

246. Favour long-term relationships with annual action plans for both NGOs and public entities; avoid short term contracts and "service provider" positions and ensure coordination between the different partners and the different pillars.

Table 6 : Recommendations

	Recommendation	Type	Responsibility	Other contributing entities	Priority: High/medium	By when
1	Recommendation 1: WFP's next Country Strategy Plan (CSP) for Ghana should include a CNF value chain approach based on the lessons learnt from ENVAC. It should be tailored to the Ghana Beyond Aid context. WFP should position itself as technical support to national institutions and programme (MOFA, GSA and FDA, GHS and LEAP programme) to prepare its exit strategy.	Strategic – medium term	CO support of RB	*with National Institutions*	Medium	After CSP evaluation; drafting of next CSP
2	Recommendation 2: WFP should help to strengthen FSQ management systems at all stages of the CNF production chain in Ghana. This means among other things strengthening the regulatory framework in Ghana (and the region – links with ECOWAS), norms and standards for CNF. Meanwhile, ensure all CNFs distributed by WFP's projects are safe.	Strategic – long term	CO with the support of RB FSQ	*local institutions (GSA, FDA, National laboratory, inspection society).*	High Priority. Condition other recommendation	To be strengthened in next programmes and in next CSP
3	Recommendation 3: *(if Recommendation 2 is validated)* Pursue partnerships with the two private actors to facilitate sustainable supply of quality CNFs for both PLW and Cu2 (through both commercial markets and CBT). Access to WFP support (financial, technical and CBTs) should be conditional upon 1) fair trade conditions with SHFs (M&F)/aggregator suppliers (M&F) of raw materials, and 2) investment by businesses in commercial markets. 3) Transparency on price of CNFs delivered to WFP, as well as on terms and conditions for price revision.	Strategic – medium term	CO with the support of RB	*Company partners*	High priority	Short term

4	Recommendation 4: Strengthen partnerships with development actors and MOFA, to develop and upscale the Value Chain approach to improve market linkages between SHFs (Male and Female) and industrial processors of any kind and focusing on WFP's specific added value (quality and PHH).	Strategic – medium term	CO	*Partnership with MOFA NGOs*	Medium priority	Subsequent projects / programmes
5	Recommendation 5: *(if Recommendation 2 is validated)* Strengthen and formalise the innovative strategy that combines nutrition assistance, promotion of good feeding practices, and market access for local CNF : targets for free distribution should be defined based on beneficiary vulnerability using national criteria (LEAP program); the role that each actor should play according to its mandate (Health, Social protection, Education) should be clarified; the impact of free distribution on commercial sales should be monitored.	Strategic – medium term	CO with support of RB	*National partners: GHS, Social protection (LEAP), network of retailers, Companies,*	Medium priority	Subsequent projects / programmes
6	Recommendation 6: Develop specific interventions to support vulnerable SHFs (Male and Female) in Ghana in line with the Global Food Security Strategy adopted in Ghana. Support the dissemination of the national strategy and the implementation of ad hoc programs that target vulnerable SHFs and especially women SHFs to improve food security of the most vulnerable	Strategic medium term	CO	*Partnership with MOFA WIAD and NGOs.*	Medium priority	Subsequent projects / programmes
7	Recommendation 7: Ensure implementation and monitoring of on-going ENVAC activities (e.g. support for CLMSFPs – Training on gender and Climate Change) and draw lessons from these activities before the end of 2021.	Operational	CO	ENVAC key IP MoFA, GHS	Short term – high priority	Coming Months – before end of 2021
8	Recommendation 8: Strengthen CO capacity with the skills required for future activities: capacity building, institutional strengthening, partnership management, M&E and capitalisation; as well as technical skills in FSQ and gender.	Operational	CO with support from HQ or RB		Short term	Subsequent project/programme

Annexes

ANNEX 1. SUMMARY TERMS OF REFERENCE

247. This evaluation is commissioned by the World Food Programme Ghana Country Office and will cover the period of ENVAC project from March 2016 to March 2021. The final valuation is being commissioned by WFP Ghana Country Office to assess the performance of programme operations and associated interventions for the purposes of accountability, learning and sustainability of the ENVAC interventions. The specific objectives are to:

- Assess the outcome of implementation of key activities and the results achieved.
- Identify factors and reasons for observed success/failure and draw lessons for WFP Ghana's future programming.
- Identify changes needed to enable fulfilment of the potential impact of ENVAC interventions.
- Assess how the ENVAC project has contributed to gender equality and women empowerment in the target regions (for the three pillars of ENVAC).
- Assess the effectiveness of the partnerships engaged in the implementation of ENVAC activities.
- Provide an analysis on how ENVAC activities were aligned with and integrated into government policies, strategies and plans as well as the SDGs.
- Provide key recommendations for future consideration

Subject of the evaluation

248. The ENVAC project (2016-2021) has been based on a market-based approach to tackling nutrition problems in Ghana and aimed at including SHF into value chains for the development of nutritious complementary foods, while sensitizing the general population especially women, on the benefits of consuming such foods. The evaluation aims at assessing the performance of the 3 pillars of the project as well as key results accomplished or unaccomplished. The pillars of the ENVAC are:

- Pillar1: Support to SHF for increased local production, improved quality & market integration of nutritious food staples.
- Pillar 2: Support to food processors (Industrial & Community levels) for enhanced local processing capacities for complementary nutritious foods.
- Pillar 3: Promotion of consumption of processed nutritious foods and nutritious crops among the target population, particularly adolescents, women and children to address malnutrition.

249. The main goals of the ENVAC intervention are:

- Goal 1: Improved Nutrition and Food Security of targeted beneficiaries.
- Goal 2: Improved sales of staples for targeted SHF, particularly to industrial processors.

Stakeholders analysis

250. A number of stakeholders both inside and outside of WFP have interests in the results of the evaluation and some of these will be asked to play a role in the evaluation process; Beneficiaries (SHFs, FOs, processors, PLW and caregiver of children aged 6-23 months…), Government (MOFA, GHS, FDA, Food Research Institute, CRI, SARI, KNUST…), private sector (GHX, Project peanut butter), NGOs (ADRA, MEDA-GROW, FRI, ACDI-VOCA), UN Country team (FAO, UNICEF).

Evaluation approach

251. The evaluation will cover the three components of the ENVAC project, including all crosscutting activities and processes related to its formulation, implementation, resourcing, monitoring, evaluation and reporting relevant to answer the evaluation questions. The evaluation will focus primarily on the following three activities:

- Review of relevant documents including project documents, internal/external administrative records, collected data (baseline/follow-up survey), monitoring plan and reports and Performance Measurement Framework (PMF);

- Field visits to WFP ENVAC sites to conduct surveys and interviews with beneficiary households and individuals targeted under the project; Interviews with WFP programme team and staff members of governmental and non-governmental implementing partners,
- The Evaluation will assess Gender Equality and Empowerment of Women (GEEW) across all the three pillars of the ENVAC.

252. The evaluation should analyse how GEEW objectives and GEEW mainstreaming principles were included in the intervention design, and whether the ENVAC activities have been guided by objectives on GEEW. The GEEW dimensions should be integrated into all evaluation criteria as appropriate.

Evaluation questions

253. Evaluation questions are based on OCDE-DAC criteria of relevance ; effectiveness ; efficiency ; impact ans sustainability. ToR proposed a first set of evaluation sub-questions that were updated during inception phase and are presented in Annex 3-A.

Methodology

254. The methodology will employ the relevant evaluation criteria mentioned above: relevance, effectiveness, efficiency, impact and sustainability. It will demonstrate impartiality and lack of biases and use mixed methods to ensure triangulation of information. The voices of the beneficiaries and partners should be incorporated in the evaluation. The sample size for the on-site data collection and interview would be drawn from the list of beneficiaries across the 3 pillars of ENVAC. Before and after intervention methodology would be employed to ascertain the level of achievement of results. The evaluation should apply an evaluation matrix geared towards addressing the key evaluation questions taking into account the data availability challenges, budget and timing constraints.

Roles and responsibilities

255. Evaluation Team: The evaluation will be conducted by a team of consultants combining experience agricultural economics, food systems and rural development, nutrition and social & behaviour change communication, supply chain background including food safety and quality, socio economy, gender expertise.

256. Evaluation Manager: The evaluation manager will manage the evaluation process through all phases, ensure that quality assurance mechanisms are operational, consolidate and share comments on reports, ensure that the team has access to documentation, facilitate the team's mission.

257. Internal evaluation committee: The committee ensures the independence and impartiality of the evaluation. It will select and establish the Evaluation Reference Group (ERG), review and approve Terms of Reference, select and approve the evaluation team and budget, brief the evaluation team on the subject of the evaluation, review draft inception and evaluation reports and approve, provide responses to comments using the comments matrix, facilitate access to data and information, respond to interview questions, participate in field work debriefing, lead the preparation of management response and dissemination to key stakeholders which helps to maintain distance from influence by programme implementers.

258. Evaluation Reference Group: The ERG gathers representation from key internal and external stakeholders for the evaluation. The ERG members will review and comment on the draft evaluation products and act as key informants in order to further safeguard against bias and influence.

259. Regional Bureau: The Regional Bureau will take responsibility to advise the Evaluation Manager, participate in discussions when required, provide comments to reports and support the Management report to the evaluation.

260. Stakeholders: WFP stakeholders at country, regional and HQ level are expected to engage throughout the evaluation process to ensure a high degree of utility and transparency. External stakeholders, such as beneficiaries, government, donors, implementing partners and other UN agencies will be consulted during the evaluation process.

Communication:

261. To ensure a smooth and efficient process and enhance learning from this evaluation, the evaluation team should place emphasis on transparent and open communication with key stakeholders. Following the approval of the final evaluation report, the communication team could post and share the

report with key stakeholders. A brief will be produced for all DE by RBD Evaluation Unit and key findings will be disseminated during events or as an exhibit.

Evaluation Schedule:

- Preparation: November 2020-February 2021
- Inception: March-April 2021
- Data collection: May-June 2021
- Analyze data and report: June-August 2021
- Dissemination and follow-up: September 2021

ANNEX 2. EVALUATION TIMELINE

Table 7: updated detailed timeline of evaluation

Main Phases		Timeline	Tasks and Deliverables
	ET & CO	Briefing core team	Monday 26th April at 10:00 (Accra's Time)
	ET	Desk review of key documents by evaluation team	26 April -11th May ;
		Remote Interview of key stakeholders	Interviews organized with the support of EM
		Draft inception report (IR) (including matrix and guide for interviews and FGD)	Thursday 13th
	CO	Sharing of draft IR: with outsourced quality support service (DE QS) and quality assurance of draft IR by EM using the QC	13th – 24 May
	CO	Sharing draft IR with ERG asking for	18th – 24th May.
Phase 2 - Inception	CO	Consolidation of comments received from ERG.	25th of May.
	CO	Share all comments with ET ERG : all ERG comments consolidated in one single matrix QA : in one matrix	25th of May
	ET	Revise draft IR based on feedback DE QS and ERG received by EM	26-28th May , 2021
		Submission of revised IR based on DE QS and EM QA and ERG comments	28st May, 2021 This version will also include final detailed mission timeline.
	CO	Submit the final IR to the internal evaluation committee for approval Sharing of final inception report with key stakeholders for information	31th May, 2021 1st June 2021
Phase 3 – Data collection			
	ET international	Travel to Ghana	3rd of June
	C0&ET	Briefing evaluation team at CO	4th of June
	ET	Data collection	4th June – 21 June field data collection (4 members out of Accra) and data collection in Accra.
	CO & ET	In-country Debriefing (s)	21 June, 2021
	ET international	Travel back to Europe	22nd of June
Phase 4 - Analyze data and report			
	ET	Draft evaluation report	24 Jun–20 July, 2021
	CO	Sharing of draft ER with outsourced quality support service (DE QS) and quality assurance of draft ER by EM using the QC	21-27 July 2021
	ET	Revise draft ER based on feedback	28 July -6 August

Main Phases		Timeline	Tasks and Deliverables
		received by DE QS and EM QA	
		Submission of revised ER based on DE QS and EM QA	6th August
	CO	Circulate draft ER for review and comments to ERG, RB and other stakeholders such as GHS, MOFA, Farm Radio etc	7th- 20th August
		Consolidate comments and share with ET	25th August, 2021
	ET	Revise draft ER based on stakeholder comments received	September
		Submission of final revised ER	30th September
	CO	Submits the final ER to the internal evaluation committee for approval	October
		Sharing of final evaluation report with key stakeholders for information	October
Phase 5 - Dissemination and follow-up			
		Prepare management response	October
		Share final evaluation report and management response with OEV for publication	October

ANNEX 3. METHODOLOGY

Annex 3-A. Evaluation questions and sub questions

Table 8: evaluation questions validated at inception phase

Proposed EQ and subquestions evaluation matrix
Evaluation Question 1: How appropriate was the intervention?
Q1-1 : To what extent are the ENVAC activities (Pillar 1, 2 and 3) in line with the needs of different beneficiaries (Smallholder farmers (SHF), processors, children, women and men, government institutions)?
Q1-2: To what extent did the ENVAC project address specific challenges and constraints faced by women (women farmers, women processors, PLW, caregivers)?
Q1-3: To what extent is ENVAC approach aligned with Government, WFP, partner UN agencies and donor policies and priorities?
Evaluation Question 2: How effective was the intervention?
Q2-1: Have the objectives of each of ENVAC tree pillars being reached?
Q2-2: PILLAR 1: Has the provision of productivity and post-harvest quality enhancement interventions been effective? PILLAR 1 (out come 1-A and 1-B)
Q2-3: How effective are the interventions for value chain activities of Small Holder Farmers? PILLAR 1 - outcome 1-C
Q2-4 : How effective are the activities to enhance Local food Processing Capacity for nutritious foods (Super Cereal & other blended flours) Pillar2 - Outcome 2
Q2-5 : Has the social behaviour change communication been effective? PILLAR 3 - outcome 3
Q2-6 : What were the major factors influencing the achievement or non-achievement of the outcomes/objectives of the intervention?
Q2-7 : Are the outcomes (1A to 1C - pillar 1) different for women and men producers? If so, why?
Q2-8 : How has COVID-19 impacted the implementation of ENVAC activities and achieving the intended results?
Evaluation Question 3: How well are resources used?
Q3-1 : Were activities cost-efficient?
Q3-2 : Were the ENVAC activities implemented in the most efficient way compared to alternatives? [PROCESS]
Q3-3 : Were ENVAC activities delivered through the most appropriate personnel and contracting arrangements? [STRUCTURE]
Q3-4 : What were the external and internal factors influencing efficiency?
Evaluation Question 4 : What difference is the intervention making?
Q4-1 : What were the short and medium term (expected and unexpected, positive and negative) effects of the ENVAC intervention (3 pillars) on beneficiaries (M/F) lives and activities ? Q4-2 : What factors in women's lives favoured or hindered women's benefits from this project?
Q4-3 : To what extent ENVAC has contributed to women empowerment ? improve capacity of women to influence decisions over productive resources along agricultural value chains?
Q4-4 : To what extent has the project contributed to women's access to credit/financial services, information, skills and knowledge, markets?
Q4-5 : What were the gender-specific impacts, especially regarding women's empowerment?
Q4-6 : How has women participation in Farmer based organizations contributed to their economic empowerment?
Q4-7 : To what extent has the partnership framework achieved its goals and what was the impact?
Evaluation Question 5 - Will the benefits of ENVAC last ?
Q5-1 : To what extent are the benefits of the ENVAC intervention likely to continue (or not) after the end of project in March 2021? (for each items, Positive and potential Negative factors to be considered.
Q5-2 : What is the level of national, regional or community levels buy-in for adoption of ENVAC approach into their own development plans?
Q5-3 : Are there any mechanisms in place for leveraging on existing programmes like Modernizing Agriculture in Ghana (MAG) and Planting for Food and Job, etc?

Annex 3-B. ENVAC's main stakeholders:

Table 9: Main stakeholders involved in ENVAC's implementation

	P1	P2	P3
Main beneficiaries	Smallholder farmers Farmers' organization (FBOs, aggregators, nucleus farmer)	Yedent and Premium CLMSFP	PLW Children aged 2-24 months and their caregivers Adolescent girls
Direct support actors to the beneficiaries (at regional and district level)	MOFA-Rad (and the AEAs) Government program supporting SHFs (MAG/PFJ) Development actors (MEDA-GROW, ADVANCE, ADRA, FRI) Research stations (CRI, SARI)	FDA National board for small enterprises	Health facilities Retailers CNF supplier (Yedent and Premium, as well as PPB and KK+Foundation) Direct support - through other projects (not ENVAC) implemented in same areas: • DSM-Obaasima Project: SBCC supported by NGOs (Alpha communication, Savanna Signature) ; Retailers and Food processors supported by Sight&Life for market approach • Japanese funding : supply of CNF, of SBCC material.
Actors involved in the implementation strategy and monitoring	Specific departments of MOFA (WIAD, SRID) KNUST/UDS	WFP CO WFP RB WFP HQ	GHS WFP CO
Actors involved for orientation of the intervention	MOFA GAC WFP CO WFP RB WFP HQ	WFP CO WFP RB WFP HQ GAC	WFP CO WFP RB WFP HQ

Annex 3-C. Description of the methodology for the evaluation

262. The evaluation looked at how the activities implemented lead to an impact for beneficiaries. Specific attention was given also to the processes engaged and to the quality of the project's approach and strategy. Technical approaches, quality of the partnerships, inclusion of beneficiaries' perceptions in the project, participation are key issues taken into account. Impact were not yet visible (the project has not actually ended in the field), but the team captured elements showing that change is occurring and will eventually leads to impact. The evaluation analysed the intervention at different levels (household, organization, district and regional level as well as how it contributed to an enabling environment.

263. The situation at the start of the intervention was analysed through document review, data from the baseline survey and interviews with stakeholders. Et compared information collected with the situation at the end of the intervention to establish what changes have taken place and used interviews and focus groups to bring on deeper analysing and understanding of the changes noticed. The before and after design was combined with a contribution analysis approach. This deemed particularly important in the context of this intervention as there are a multitude of different actors at local level providing support and services to SHFs and their FOs, some of them included in ENVAC (for a part of their beneficiaries).

Annex 3-D. Methodology to target areas for field visit

264. A detailed explanation on the approach for each pillar was elaborated in the inception report. The general approach is presented below.

265. Regions, districts and sites targted for field visits were chosen in order to

- Cover the three pillars, (knowing that geographic coverage is different for each pillar)
- Cover a diversity of situations (Food insecurity, Performance of agricultural sectors, Poverty, agro ecological context etc.)
- Get a good sample of the different activities implemented by ENVAC
- Meet large range of partners
- Limit travel time to have more time to dedicate to data collection (interviews, site visits and Focus groups).
- Favor areas where links and synergies between the different pillars is implemented
- And where the approach of nutritious value chain can be easily highlighted; favor areas where the two pairs of consultant (Anne and Terry – Pillar 3 and 2) and (Laure and Isaac – Pillar 1 and 2) can debrief regularly on their findings.

Annex 3-E. Data collection

266. The whole team contributed to preparation of data collection tools. Before data collection, ET had specific meetings to ensure that tools developed are used thoroughly and in the same manner by all team members. Most of the time, all members of the ET worked in the same regions and had regular debriefings and discussions on the findings.

267. KII were used to gather detailed information and to obtain stakeholders' views and opinions of value chain actors value chain actors (SHFs, aggregators, services providers, processors, retailers), support actors (local NGOs, radio station, health agents), as well as local authorities and decentralized units from MOFA and GHS. At national level, interviews were organized with WFP and its partners, as well as other relevant national level actors. These interviews followed a semi-structured format, drawing from the priority areas identified in the evaluation matrix.

268. Focus group discussions: were organized with FOs leader and SHFs, beneficiaries of nutrition activities (PLW, caregiver of children 6-23, adolescent girls. This type of tool allowed the ET to assess collective processes and capacity development and to understand in depth decision making processes. A participatory approach was used to ensure that point of view and opinions of all participants are expressed and captured.

269. In addition to meeting project stakeholders and target groups, in site observations were conducted to observe activities and outputs, related to each of the 3 pillars, as well as better understanding the context in which the interventions took place.

Annex 3-F. Ethical considerations

270. ENVAC evaluation conformed to the 2020 United Nations Evaluation Group (UNEG) Ethical Guidelines. Accordingly, IRAM ensured safeguarding and ethics at all stages of the evaluation cycle. This included, but is not limited to, ensuring informed consent, protecting privacy, confidentiality, and anonymity of participants, ensuring cultural sensitivity, respecting the autonomy of participants, ensuring fair recruitment of participants (including women and socially excluded groups) and ensuring that the evaluation results in no harm to participants or their communities.

271. The informed consent of all adult participants in this evaluation were obtained before engaging them in any interviews in the study. The evaluation guaranteed the confidentiality of participants and information provided in the course of the assessment. In this regard, researchers conducted interviews with participants respecting their privacy (no other individuals present, unless specifically requested by the respondent).

272. The ET was also equipped with masks and alcohol-based hand rub to minimize the risks associated to COVID-19. When possible, interviews were conducted outside, in particular for beneficiaries' interviews and FGDs. In all cases, a distance of 1,5 m was maintained between the ET and their interlocutors. 1.

Annex 3-G. Availability and quality of monitoring data and limits to the evaluation

Analysis of Monitoring data

ENVAC M&E system

273. As ENVAC activities concern different sectors of intervention, ENVAC's Performance Measurement Framework (PMF) completion relies on different tools / M&E's systems:

- 3 surveys implemented by KNUST (baseline, 2019, Endline) to document mainly effects of pillar 1's activities.
- Regular WFP monitoring to document outputs (mainly for pillar 1 and 3) like number of persons trained , number of FBO strengthened; …
- A Traceability system reports that was established to monitor linkages between Processors and SHF/aggregators. This system appears to be not fully functional.
- Post Distribution Monitoring (4) that were implemented by WFP M&E to follow effects of activities on pillar 3. Last PDM (pillar 3) was implemented, a resume is available but no full report.
- WFP scope platform with data from pillar 3 being reported through mobile data collection and analytics (MDCA) tool by GHS.

274. To get a full picture of ENVAC progress, figures were gathered from the different systems and integrated in the same PMR (Performance Measurement framework).

GHS data

275. ET analyzed also data from District Health Information Management System (DHIMS) that were shared by GHS – regarding attendance to CWC and ANC in the Northern regions.

Limits due to Framework results weaknesses to measure effects of ENVAC:

276. Indicators monitored by ENVAC M&E system are not appropriate to demonstrate some of the expected effects of the intervention; many objective and outcome indicators reflect rather outputs than effects of the activities implemented. For example :

- Post-Harvest Handling (PHH) activities were monitored with the number of persons trained; ENVAC framework of results did no document reduction in post-harvest losses.
- Value Chain linkages: the outcome indicator monitoring linkage between SHF and industrial processors was the "Number of functional & institutional market linkages established" when the output indicators were the "Number of FO/groups and SHF linked to quality markets (WFP + Others)" and the "Amount/quantity of various food sold to buyers". There was no M&E data following the increased profits neither made by SHF, nor monitoring of the evolution of sales prices of agricultural commodities by SHF that could demonstrate the access to more remunerator markets for SHF.
- An objective of food safety and quality was associated to the outcome 2 of pillar 1. M&E indicated how many SHF were trained but did not provide any information about the effect of the training on quality management at field level neither on the quality of the raw products.
- There were no Indicators following gender and women empowerment: the number of women is most of the time counted104 and monitored, but no M&E of number of Women in leadership positions; no follow up of women's time use, to assess reduction of workload when equipment is delivered. Some key indicators do not give disaggregated figures: example, for the Output 1133, the indicator is the "*Number of SHF & Groups/FOs capacity enhanced on contractual procedures disaggregated by gender*" ; the number of FO is documented but not the number of SHF, no information about the gender of people trained or strengthened.

Quality of available data

277. Data consistency was not optimal; for example :

- the indicator of objective "*b. Average quantity sold (MT)*" was very similar to indicator of goal "b. *Average Marketable surplus (MT)* »; but figures collected were slightly different; marketable surplus being sometimes higher sometimes lower than average quantity sold; moreover, it was difficult to understand why targets for both indicators were the same for maize (5MT) and millet (1MT) but different for cowpeas (5MT Surplus and 3MT sold) and soya (1MT Surplus and 2MT sold).
- Pillar 2 and follow up of market linkages: the narrative of PMF 2019 indicated: "The traceability system was not fully functioning as most of the purchases by the 2 industrial processors were done through the aggregators, so the plan is to re-establish the traceability system at the selected aggregation centers in 2020";

ANNEX 4. EVALUATION MATRIX

Evaluation Question 1: How appropriate was the intervention?		Criterion: Relevance		
Sub-questions	indicators	Data collection Methods	Main sources of data / information	Data Analysis Methods / triangulation
Q1-1 : To what extent are the ENVAC activities (Pillar 1, 2 and 3) in line with the needs of different beneficiaries (SHF (SHF), processors, children, women and men, governement institutions)?	a) The extent to which ENVAC design was informed by vulnerability/needs assessments and analysis and adress the priority of : - farmers (M/F ; Small holder/FBO/ Nucleus/Aggregator) (Pillar1), - processors (Industrial / SMS processors M/F) (Pillar 2), - PLW and children 6-23 and adolescent girls (Pillar 3) -Staff from government institutions (cross cutting) b) The extent to which ENVAC strategic outcomes and activities focus on the most vulnerable groups (including women and people with disability) c) Appropriateness of selection criteria to target/ select : regions/ districts/ health facilities (HF) of intervention, groups of beneficiaries/FO. Transparency and clarity on selection process d) Appropriateness of activities : Activities respond to a need expressed by population or identified by previous study	Document review (content analysis) Focus group discussions with beneficiaries Semi-structured interviews with CO, government officials, implementing partners. Focus group discussion with beneficiaries	ENVAC project document Analysis and studies conducted to design /adapt the project : EDS 2014 ; MICS 2017-18; EFSA 2016. * Value Chain Development, Gender and Women's Empowerment in Ghana 2016-17. * Gender Analytical; (WFP EFSA 2016 report, USAID 2020 Ghana Gender Analysis report) Framework for Assessing	Anaylisis of secondary data Discourse analysis of primary data (interviews key stakeholder and FG beneficiaries)
Q1-2 : To what extent did the ENVAC project address specific challenges and constraints faced by women (women farmers, women processors, PLW, caregivers) ?	a) Evidence that ENVAC design is based on a gender analysis b) Evidence that challenges (like access to land, to credit and to markets and inappropriate use of technologies) and opportunities (inclusion of women in the different value chains) from the perspective of gender and women's empowerment were identified and that ENVAC was designed to contribute to positive changes in gender roles, power relations. c) Evidence that responsibilities of men and women regarding nutrition issues of Children under 2 ans PLW are taken into consideration d) Perception of stakeholders of gender's mainstreaming and women's empowerment in ENVAC.	Document review (content analysis) and analysis done before ENVAC design : Semi-structured interviews FG with beneficiaries	ENVAC project document * Value Chain Development, Gender and Women's Empowerment in Ghana 2016-17. * Gender Analytical Framework for Assessing Value Chains 2016. Gender and market; VAM Case Study - Value chain development in Ghana. with CO, government officials, WIAD - gender focal point at CO ;	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder) and FG beneficiaries)

			implementing partners	
Q1-3 : To what extent is ENVAC approach aligned with Government, WFP, partner UN agencies and donor policies and priorities?	Evidence of matching between ENVAC (strategic outcomes and activities) and a) National priorities/objectives outlined in government policies, strategies and plans ; Coherence of the objectives of each pillar with the objectives set out the corresponding sectorial policy and strategy: ·Pillar 1 and 2 :AGRICULTURE and AGROFOOD SYSTEM / · Pillar 3: NUTRITION and HEALTH b) WFP policies (Global and regional level) and lessons learnt from similar project of based on inclusive value chain for nutrition implemented in other context. c) Ghana WFP CSP (contribution of ENVAC to outcomes of WFP Country Strategic Plan). c) UN agencies in Ghana ; UNDAF d) Donor priorities e) Level of participation and involvement of government stakeholders in the ENVAC design f) Perception of stakeholders on the degree of alignment of WFP objectives and interventions with national policies, strategies and plans	Document review (content analysis) Semi-structured interviews	ENVAC project document Government policies, plans and programmes (FASDEP II, METASIP I, II, CAADP-Malabo Declaration, Ghana Shared Growth and Development Agenda II, National Nutrition Policy - 2016) WFP policies (Gender, Food security, Nutrition) ; GHANA WFP CSP Zero Hunger Strategic Review ; WFP Country Strategic Plan UNDAF key informants :CO and key RO and HQ staff, government officials, UN (FAO, UNICEF), Canadian Affair, USAID	Thematic analysis of secondary data. Discourse analysis of primary data (Interviews)
Evaluation Question 2: How effective and efficacious was the intervention				

Q2-1 : Have the objective of each of ENVAC tree pillars beeing reached ?	Pillar 1 : Increased availability of safe and Nutritious food staples a) Increase in volume of sales of targeted staples (actual versus planned) b) Proportion of SHF producing marketable surplus (actual versus planned / M&F) c) Perception of IP and SHF on ENVAC contribution on the improvement of food availability Pillar 2 : 1200: Enhanced Local food Processing Capacity for complementary nutritious foods (SC & others) c) Volume of raw materials mobilized by processors from target Farmers each year (actual/ planned / M&E). d) Monitary value of mobilized raw materials from target Farmers (actual versus planned / M&F). e) Volumes of raw materials mobilized by Aggregators from target Farmers (actual versus planned / M&F). Pillar 3 : Improved consumption of nutritious foods, adoption and utilisation of good nutrition practices f) Proportion of eligible population who participate in nutrition intervention programme (Coverage) g) Perception of GHS on the contribution of ENVAC on the nutrition program coverage	Data analysis Semi-structured interviews VAM (CO) and KNUST key Staff. Semi-structured interviews with implementing partners (NGO, GHS, MOFA at Field level Semi-structured interviews and FG with beneficiaries (Pillar 1 and 3).	KNUST survey (Baseline line Fup and Endline) for Pillar 1 WFP monitoring (Pillar 2) PDM for pillar 3 traceability system VAM (CO) and KNUST key Staff. Implementing partners reports Semi-structured interviews with implementing partners (NGO, GHS, MOFA at Field level; Food processors Semi-structured interviews and FG with beneficiaries (Pillar 1 and 3).	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)

Q2-2 : PIillar 1 : Has the provision of productivity and post-harvest quality enhancement interventions been effective? PILLAR 1 (outcome 1-A and 1-B)	<u>Results :</u> a) Level of Production & Productivity (maize, millet, cowpeas & soybeans) of targeted Farmers (actual versus planned) b) Level of Quality & safety of grains supplied to Processors (including aflatoxins free)(actual versus planned) c) Level of adoption and production of orange fleshed sweet potatoes in targeted community d) Level of post-harvest loss estimated by implementing partners or by stakeholders (not included in the PMF) e) Level of quality of raw product (results of analysis ; progress) ; (not included in the PMF) f) Increased yield/benefits of target crops (Maize, Millet, Cowpea and Soybean) ; g) Increase in the interest from farmer in the target crops (Maize, Millet, Market) ; I <u>Level of implementation of related activities :</u> a) Agricultural inputs & services to Small Holders and Equipment for storage and quality control, (actual vs planned) Number of beneficiaries (Direct and Indirect, M/F) (actual versus planned) of training : 1) on Good storage and PHH practices 2) on GAPs; b) Number of FBO reached by capacity strengthening activities (actual vs planned) c) Challenges associated with the adoption of the Production and Post-Harvest Technologies by target Farmers	Data Annalysis (PMF) Documents review : Semistructured interviews with CO Program manager and key implementing partners ADRA, MEDA, MOFA. FG with SHF (F/M)	Surveys report and database : 3 KNUST Surveys (2017, 2019 and 2020) MOU & project agreement with different Implementing partners (IP) versus partners report. Project document, Annual workplan, WFP reports the Donor. Semi-structured interviews and FG with beneficiaries (Pillar 1 and 3).	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)

Q2-3 : How effective are the interventions for value chain activities of Small Holder Farmers? PILLAR 1 - outcome 1-C	<u>Results :</u> Level of market linkages of Smallholder (M/F) to industrial processors and small scale processors supported (or not) by ENVAC a) number of contracts signed between FOs and buyers b) quantity of products aggregated by FOs (FBO, aggregator/nucleus) c) volumes of sales from SHFs d)) eval of access to services from SHFs (training, finance, advice, market information inputs...) e) capacities of the FOs to be, to do, to relate and to perform h) Evidence of better Information of SHF on prices of goods, good timing for sales i) Evolution of sales prices of raw material by SHF (compared to market prices) (based on IP M&E or perception by SHF, not included in PRF) <u>Level of implementation of related activities</u> : a) Number of beneficiaries (Direct and Indirect, M/F) (actual versus planned) SHF/FOs (F/M) of capacity building on contractual procedures (actual vs planned); b) Proportion/volume of raw material sourced from supported SHF by ENVAC processors (actual vs 20% planed) c) number of market linkages events organized	Data Analysis Documents review : Semistructured interviews with CO Program manager and key implementing partners ADRA, MEDA, MOFA. With FBO, aggregators and processors. FG with SHF (F/M)	MOU & project agreement with different Implementing partners (IP) versus partners' report. Project document, Annual workplan, WFP reports the Donor. Industrial, medium scale and community level processors documents FO's documents	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)

Q2-4 : How effective are the activities to enhance Local food Processing Capacity for nutritious foods (Super Cereal & other blended flours) PILLAR2 - Outcome 2	Results : a) Volume of raw material processed per year into Super Cereal and other nutritious blended foods (industrial processors) with WFP standards to feed direct targeted beneficiaries (actual vs planned) b) quantity of nutritious food (super cereals and other blended flours)produced by processors) c) successful report/audit/certification from FDA d) successful report/audit/certification from WFP e) Quality of processed food (results analysis ; progress - including aflatoxin) (if available) Level of implementation of related activities : a) Number of food processor (M/F led, industrial and small scale) supported (actual vs planned) b) Volume of appropriate equipment purchased by processors with WFP's support (Financial support provided to Industrial processors to acquire specific processing equipment ($ actual vs planned) c) Traceability system developed and functional (industrial processors) d) Number of persons (M/F)trained in improved Hygiene & quality assurance system e) Number of small scale processors equipped, and number of persons (M/F) trained on the production of fortified food	Data Analysis Documents review : Semi-structured interviews with CO Program manager ; CO food technologist ; with RO-Dakar ; With key staff of industrial processors and representative from small scale processors. In Site Observation. Interview of PPB that provides ENVAC with Grownut.	Contracts with the different processors (industrial / small scale) versus partner's report. Project document, Annual workplan, WFP reports the Donor. Mission report of RO food technologist; Audit report (2020). Visit of the two industrial sites (Yedent and Premium) and of a selection of small scale food processors. Review of the quality monitoring processes implemented by processors	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder) Observation of production site.

Q2-5: Has the social behaviour change communication been effective? PILLAR 3 - outcome 3	Results: Number of beneficiaries (PLW, children 6-23 months, caregivers, school children, adolescent) (actual vs planned) of 1) SBCC; of 2) distribution of locally produced SNF by processors supported by ENVAC. Number of Health staff trained on SBCC (actual vs planned) Volume of local SNF distributed Quantity of locally produced SC/SC+ to PLW/children at clinics (and Retailers) : (actual vs planned) Level of implementation of activities on pillar 3 compared to initial workplan : Counselling at Health Clinics on Nutritious foods staples and blended flours; and good nutrition practices & behaviours Cooking Demonstrations; food-to-food fortification SBCC, mass awareness through Radios etc.	Data analysis: SCOPE. PDM implemented for Pillar 3 activities Documents review : GHS annual reports Semi-structured interviews with CO Program manager and GHS representative. FG or semi-structures interview of PLW of caregivers and of adolescent	PDM implemented for Pillar 3 activities MOU with GHS versus partners' report. Project document, Annual workplan, WFP reports the Donor.	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)
Q2-6: What were the major factors influencing the achievement or non-achievement of the outcomes/objectives of the intervention?	For Each of the 3 pillars: Evidence of external and internal factors that has influenced the achievement or non-achievement of the outcome objectives of the intervention. Project design : Evidence that the target defined initially were (and have remained) in adequation with the context Evidence that Mechanisms / process in place to allow articulation between pillars work to lead to the achievement of the outcome and objectives of the intervention External : Change in the policy, in the standard of quality for SNF Climate hazard *Covid not to be considered here (see Q2-8) ; Question related to Ressource : HR (Capacity, availability, position at WFP, IP, Processors), funding (level of funding, process to deliver funding) or logistic treated in efficiency (Q3)*	Data Annalysis Documents review : Semi-structured interviews	Literature covering the period in Ghana ; Law and Standards (GoG ; WFP). WFP CO top management ; GoG partners ; CO Program manager ; with RO-Dakar ; Implementing partners ; processors	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)

Q2-7: Are the outcomes (1A to 1C - pillar 1) different for women and men producers? If so, why?	Number of women beneficiaries equipped with knowledge and skills to be empowered Extent to which project focused on targeting vulnerable groups like women in the value chain Evidence of gender constraint that could penalize women outcome 1A 1B and 1C and 1C (access to land, to credit ; workload ; access to inputs, literacy, area cultivated, level of production, productivity, access to resources, sales and capacity for women compared to men in the different value chains, participation of women in FOs Evidence of measure, targeting, specific activities that mitigate these constraints	Data analysis ; document review Semi structured interviews FG	M&E Survey (KNUST) ENVAC report (WFP and IP) WIAD ; IP; WFP program manager FG of SMH (female / Male)	
Q2-8: How has COVID-19 impacted the implementation of ENVAC activities and achieving the intended results?	a) Evidence of COVID pandemic impacts on ENVAC context of intervention : change in needs of targeted beneficiaries ; changes in WFP's and IP ability to deliver on time ENVAC planned activities : b) Evidence of any adjustments in the timeframe duly justified to changes in context due to COVID : Adaptation in intervention's targeting and coverage in response to COVID crisis. Adaptation in M&E. Adaptation in the types of activities implemented in order to address new needs of targeted beneficiaries.	Document review Semi structured interviews FG	WFP-ENVAC final report and CSP 2020 annual reports. IP 2020 reports. AFC Covid-19 response in Ghana CO Program manager ; IP Beneficiaries	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)

Evaluation Question 3: How well are resources used?		Criterion: Efficiency		
Q3-1: Were activities cost-efficient?	The extent to which resources were optimally planned and used in relation to intended outputs and outcomes. a. Cost per beneficiary, by component and type of beneficiary ; b. Timely planning of activities by component ; delays in decision marking ; Evidence explaining initial delays (between agreement with Donor and first agreement signed) : c. Density of assistance in relation to the context, to the needs of the population, of the partner, and the presence of other actors implementing connected or similar activities d. Evidence of over concentration of resources on particular needs or among certain population / groups or in specific geographical areas e. Efficiency of the contractual agreement with industrial processors (support for equipment vs supply of SNF at low cost) : Calculation of return on investment planned vs actual. f. Evidence showing that there was a research of maximum output achieved with minimum inputs g) level of disbursement; for each pillar per year (actual/planned); Level of budget consumption in March 2021. Reason for under/over-consumption?	Document review Semi structured interviews	WFP Program/M&E Implementing Partners and/or other actors implementing activities in the same area on the same field Financial report to the donor Field Mission Reports Site visits	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder) Observation

Q3-2: Were the ENVAC activities implemented in the most efficient way compared to alternatives? [PROCESS]	a) Evidence of existing/functioning Steering committee for ENVAC: with key mandate ; composition ; frequency of meeting or workshop; reporting ; process of decision. b) Evidence of Efficiency of M&E systems: process in place & adapted to needs, (including tracking gender indicators and disaggregating data by sex; post-training monitoring); analysis ; dissemination ; and adjustment of the activities. - Precision of M&E tools: definitions/instructions - Consistency of data collected (type of data collected/submitted) with the indicators tracked - Management of data: precision & appropriateness of submission & analysis of the data - Completion of the reports submitted by the different IP. - Evidence that M&E was tailored to capture progress / and was used as a tool to take decision c) Evidence of research of efficiency in Resource management : - Time needed to insure funding reached the different group of beneficiaries ; - Evidence of Added value for the Donor to contract with WFP compared to direct subvention to GoG, or implementing organizations. d) Supply : For each pillar : evidence of delays, shortage due to inefficient supply management (Intern or extern) SNF supply management : evidence that transport from industrial site to HF / retailers is optimal (quality/time /cost) e) Quality management : evidence of efficient response and follow up in case of emerging issues related to food safety or food quality (field level ; storage ; processors, retailers)	Documentation analysis Semi structured interviews	M&E database Financial report CO Management staff; M&E Donor GHS/MOFA NGOs	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)
Q3-3: Were ENVAC activities delivered through the most appropriate personnel and contracting arrangements? [STRUCTURE]	a) Evidence that efficiency criteria was used to select : Implemented partners (NGO or Public Institutions)/ Processors (industrial and small Scale) / retailers / aggregators and nucleus farmers b) Evidence that efficiency criteria were considered to choose the contracting arrangement (Long term MoU, short term contract; FSDA, FLA, etc.) adopted for each partner c) Evidence of capacity building to IP key staffs and Processors provided by WFP to improve efficiency of ENVAC approach. h) Evidence of efficient monitoring and management of partnership by CO : (capacity building, technical assistance ; follow-up of the activities, of partners commitments etc.)	Documentation analysis Semi structured interviews	ENVAC report WFP Staff ; IP key staff ; aggregators, retailers ; processors	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)

	d) Evidence of CO staffing adapted to ENVAC planned arrangement / needs of project coordination and monitoring.			
Q3-4 : What were the external and internal factors influencing efficiency?	Internal factors a. HR : * Rate of national staff turn-over & promotion ; * Number of staff development training sessions by year ; *% of budgeted staff positions filled ; * Gender staff ratio b. Operational Effectiveness : * Type and quality of management systems ; * Quality of logistics system of WFP & Partners c : Technical support provided by the R0 and WFP Rome: * Number and type of missions ; Appropriateness of mission recommendations ; Follow-up of the recommendations. External factors a) Change / evolution of national policies and politics non attributable to the project that influenced its implementation ; (See also Q2-7) b) CLIMATE hazard ; (see also Q2-7) c) COVID pandemic (see above) ; (see also Q2-8) d) Price/availability of essential products (imported premix for SNF, price of staple ; price of fuel, ..), e) security issues			
Evaluation Question 4 : What difference is the intervention making?		Criterion: Impact		

Q4-1 : What were the short- and medium term (expected and unexpected) effects of the ENVAC intervention on beneficiaries (M/F) lives and activities ?	<u>Evidence for the achievement of expected effect on beneficiaries lives and activities : Based on the Logical framework indicators and Prodoc</u> a) Food Consumption Score for targeted SHF (actual vs planned M/F) b) Prevalence of stunting for children under 2 in targeted areas (actual vs planned) c) Prevalence of underweight for children under 2 in targeted areas (actual vs planned) d) Percentage of children 6 to 23 months meeting minimum acceptable diet (MAD) (actual vs planned) e) Percentage of children 6 to 23 months meeting minimum acceptable diet (MAD) (actual vs planned) f) Change in targeted SHF key welfare indicators : a. HH Asset Score (HAS) ; b. Average or % of Food Expenditure (per annum) (actual vs planned)	Data analysis Document review Semi structured interviews FG with beneficiaries In site Observation	M&E Baseline, FU, endline survey for pillar 1 and Food consumption of SHF PDM - for Pillar 3 WFP ENVAC report and IP reports Interviews of WFP program managers and IP key staffs. Interviews of retailers FG with targeted SHF (M/F) FG or interviews of Caregivers and PLW Interview of consumers in areas where products from supported Food processors are sold.	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)
	<u>Research of Evidence for other positive impacts on beneficiaries lives and activities, for example :</u> a) Empowerment of SHF (M/F) through contract arrangement with "non Envac" aggregators / food processors b) perception of farmers (F/M) of their income , food security and dependence to the market c) Perception (and consumption) of locally processed food improved in Pillar3 targeted areas d) Evidence that industrial processors have modified their strategy of sourcing raw material e) Evidence that Food processors access new markets and improved quality of diet of consumers (targeted or not by ENVAC) f Improvement of nutrition of PLW g Evidence of positive impact of ENVAC on the commitment of PLW / caregivers/ adolescents to health/nutrition prevention program (frequency in visit to health centers to access to SNF ; change in behaviours ; improvement of health ; etc.) h) evidence of increased awareness/involvement of partners on inclusive nutrition value chain issue (new projects ; new partnership) i) Improvement of the professional attitude of healthcare workers and health seeking behaviours of pregnant women and children.			

	Research of Evidence for unexpected /potential negative impact, for example s) Targeting women (Pillar 1 and 2) induces increase workload for women t) Market linkages contribute to a depressed quality of food consumed by SHF household. u) Market linkages between SHF and processors benefit unhealthy value chain (e.g. Brewery/junk food) v) Perception of locally processed food depressed, as the product is given "for free" ; willingness to pay for it decreasing and negative impact for food processors. w) SNF distributed by ENVAC do not profit to the targeted beneficiaries (sold on the market ; or shared with all family members) x) Overconsumption of SNF by children that could contribute to overweigh and obesity			
Q4-2: What factors in women's lives favored or hindered women's benefits from this project?	a) Evidence of factors that positively influenced women's level of participation in ENVAC project. b) Evidence of factors that may have caused women to drop out as beneficiaries of the program (inability to continue participation in program) c) Evidence of ENVAC program design identification of possible hindrances and structures set in place to address the occurrence of these hindrances. d) Awareness creation of local stakeholders who will help drive the success of the program.	Document review (content analysis) In site observations Semi-structured interviews FG with program beneficiaries	ENVAC Documentation: Studies conducted prior to the design of the program design. Interviews with Implementation partners. Interviews with WFP managers and key field staff. Semi-structured interviews and FG with women beneficiaries	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholders, FGDs with women beneficiaries) Observation
Q4-3: To what extent ENVAC has contributed to empower women to influence decisions over productive resources along agricultural value chains?	a) Gender disintegration of programs measurement of outcomes on beneficiaries. b) Evidence women beneficiaries gaining influential roles in value chain market. c) Evidence of women's access to capital to give them leverage to engage in decision making process of the agricultural chain at different levels	Semi structured interviews FGDs with women beneficiaries	ENVAC Documentation: Annual progress reports and field Mission reports. NGOs and CBOs working with women in targeted areas	Analysis of secondary data documentation Analysis of primary data (interviews with representatives of NGOs and CBOs)

Q4-4: To what extent has the project contributed to women's access to credit/financial services, information, skills and knowledge, markets?	a) Evidence of ENVAC partnership framework focused on engaging financial bodies (local credit unions, international/national financial institutions, private sector bodies) to facilitate access to financial services and ensure women's economic empowerment. b) Evidence of ENVAC program design including components of training on financial management and value chain markets provided to female beneficiaries.	Semi structured interviews with local credit facilities and financial institutional partners	Interviews with implementation partners (Financial Institutions, local credit facilities, private sector bodies). Interviews with MoFA representative for ENVAC project. FG with women beneficiaries. Interviews with women group leaders within targeted project sites	Analysis of primary data (Interviews and FGDs)
Q4-5: What were the gender-specific impacts, especially regarding women's empowerment?	Research of Evidence for positive impacts on women lives / activities, for example : a) Empowerment of women at household level job Reduction of workload for women (access to equipment - Pillar 1 and 2; access to ready to eat food) give time to rest or to develop other activities) c) Empowerment of women in FBP organization	Site visits: Documentation review (Impact Analysis of ENVAC components targeting women, MoGCSP documentation)	Impact Analysis using Gender Documentation (WFP EFSA 2016 report, USAID 2020 Ghana Gender Analysis report). Interviews with government officials (MoFA, MoGCSP). Interviews with local NGOs working with women in the project area	Analysis of primary data (interviews with stakeholders, FGDs with women beneficiaries)
Q4-6: How has women participation in Farmer based organizations contributed to their economic empowerment?	a) Evidence of participation on FBOs having a positive correlation with beneficiaries economic empowerment	Document review (M&E reports, Annual reports). Semi structured interviews with key women stakeholders in project target areas, national level women stakeholders)	Analysis of M&E reports. Interviews with women leaders in Farmer Based Organizations. Interviews with Market Queens within project target sites. Interviews with key staff (program managers, field facilitators)	Analysis of secondary data (project activities alignment with expected outcome in terms of women empowerment). Primary data analysis
Q4-7: To what extent has the partnership framework achieved its goals and what was the impact?	a) Evidence that the partnership framework designed in ENVAC project document was effectively implemented : involving (Government Partners & Research Institutions ; NGOs, Foundations & Development Projects ; Private Sector Partners) b) Appreciation of involved partners regarding : 1) the impact of such partnership, 2) their contribution, to the achievement of	Document review Semi-structured interviews	ENVAC Documentation WFP top management ; ENVAC IP ; GIZ UN representatives Other actors initially	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)

	ENVAC and 2) the contribution of ENVAC to their own objectives / mandate c) Appreciation of WFP-CO and of beneficiaries regarding the commitment of partners (NGO, National services and institution, Processors) in the ENVAC strategy d) Evidence of synergy (supported by WFP) between the different partners involved in the same pillar, or on different ENVAC Pillars. e) Evidence of synergy between ENVAC and other projects and activities implemented by WFP in Ghana (Japanese project, Obaasima for example) f) Evidence that ENVAC contributes to catalyze initiatives and favor synergies between other projects / actors involved in the development of local nutritious value chain g) Reason why some expected partners were finally not included (eg : UN Partners (FAO, UNICEF, etc.) ; AGRIUM ; Christian Relief Service (CRS) or World Vision etc. (list to be completed)		identified as potential partners.	
Evaluation Question 5 - Will the benefits of ENVAC last ?		**Criterion: Sustainability**		
Q5-1: To what extent are the benefits of the ENVAC intervention likely to continue (or not) after the end of project in March 2021? (for each items, Positive and potential Negative factors to be considered.	a) Level of sustainability of agriculture practices promoted (level of dependence to inputs, soil conservation, seeds). * b). Willingness / interest and capacity of SHF (M/F) to adopt sustainably quality practices on PHH: Are target farmers recommending Production and Post-Harvest Technologies to non-beneficiaries? Are non-beneficiary farmers adopting Production and Post-Harvest Technologies introduced by ENVAC? Are target Aggregators recommending Post Harvest Technologies to non-beneficiaries? Are non-beneficiaries Aggregators adopting Post Harvest Technologies introduced by ENVAC? c). level of sustainability of the value chain organization/aggregation models promoted (willingness, interest, capacity of each VC actors to maintain current arrangements) d). Willingness/Interest of SHF (M/F) to maintain market linkages with processors established with ENVAC e) Willingness/Interest of processors (industrial and small scale M/F) to maintain market linkages with SHFs (M/F) established with ENVAC f). Willingness, interest, capacity of processors (industrial and small scale M/F) to carry on producing SNF for PLW, and to develop SNF for children 6-23 months. g) Willingness, interest of processors to carry on selling SNF to	On site observation. Documents review : Semi structured interviews FG	Field level observations of agricultural practices) ; market observation (local fortified products availability) WFP-ENVAC technical report ; IP 2020 reports. FBO farmers leaders Processors WFP staff (3 pillars) IP Key staff (3 pillars) Beneficiaries : SMH (P1) and Caregivers, PLW (P3) Retailers	Observation Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)

	WFP for Ghanaian programs ? for West African programs ? And willingness interest of WFP to buy SNF to Premium and Yedent for future project in Ghana and n West Africa? h). Willingness, interest, capacity of Government and national institution to contribute to support of local quality value chain ; (ex. FDA capacity (finance/HR/logistic and equipment) to insure quality control of local SNF production and retailers) i). Capacity, willingness and interest of processors (industrial and small scale M/F) to insure availability and affordability of SNF dedicated to PLW and Children 6-23 in areas targeted by SBCC j). GHS capacity to afford distribution of local quality SNF targeting PLW, Children 6-23 and adolescent to continue the intervention after the end of ENVAC. k) Willingness / Capacity of PLW, Caregivers, Adolescent to adhere to SBCC recommendations after the end of ENVAC and to purchase and consume local SNF after the end of ENVAC? Sustainable change in food consumption; increasing demand for SNF or other nutritious food?			
Q5-2: What is the level of national, regional or community levels buy-in for adoption of ENVAC approach into their own development plans?	a) Level of implication of community, regional, national authority in the design, the implementation and follow-up of ENVAC approach b) Understanding of the interest of the design and willingness to adopt similar approach c) Example of development plans that integrate similar approach or /lessons learnt from ENVAC or from similar project	Documents review : Semi structured interviews	ENVAC documentation and National regional development plan analysis Representatives from community ; from regional authority	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)
Q5-3: Are there any mechanisms in place for leveraging on existing programs like Modernizing Agriculture in Ghana (MAG) and Planting for Food and Job, etc?	a) Level of implication of MOFA and GHS to the ENVAC design and follow-up b) Impact of activities implemented by WFP to favor buy-in at government level - advocacy at GoG level - capacity building of GHS for SBCC and promotion of local SNF - capacity building of FDA For quality control and management - capacity building MOFA Market Price Standard measure etc.	Documents review : Semi-structured interviews	ENVAC documentation ; National Position of key Institution built based on ENVAC (or other similar approach) CO Top management ; Key institutional partners	Analysis of secondary data Discourse analysis of primary data (interviews key stakeholder)

ANNEX 5. DATA COLLECTION TOOLS

278. ET developed a set of Data collection tools that was shared with CO before field visit (Inception phase) and used as guide on the field to conduct data collection.

279. List of the collection tool developed

- Pillar 1: data collection tool – WIAD
- Pillar 1: data collection tool – MOFA
- Pillar 1: data collection tool – SHF
- Pillar 1: data collection tool – Implementing Partners
- Pillar 1: data collection tool – FO
- Pillar 2: data collection tool – WFP food technologist
- Pillar 2: data collection tool – industrial and CLMSFP
- Pillar 3: data collection tool retailer interview
- Pillar 3: data collection tool GHS – National, Regional, District interview
- Pillar 3: data collection tool GHS – Health facilities (Head of HF / Nurses) interview
- Pillar 3: data collection tools beneficiaries - PLW; caregivers of Cu2; OSAG – Male husband/ father of beneficiaries
- Pillar 3: data collection tool WFP
- Cross Cutting issues – Collection tools – Donor

280. Some examples are presented below.

P1: Interview Guide for MoFA Staff Central / regional /district level

DECENTRALIZED EVALUATION FOR EVIDENCE-BASED DECISION MAKING

We are conducting an evaluation assignment of the Enhanced Nutrition and Value Chains (ENVAC) Project in Ghana from 2016 to 2021 by the World Food Programme (WFP). As you know, ENVAC has ended hence the need to evaluate the project to provide learning opportunities to the WFP and its stakeholders. You have been identified as a key Ministry and agency to provide information to achieve the objectives of the evaluation. The interaction session is expected to last for about 45 minutes. Please respond frankly to the questions on this interview guide. Be assured that all the information provided will be used for the intended objectives and will be kept confidential. Your practical recommendations will be used to improve the control of future programmes by the WFP. Your phone number and other details have been requested to assist us in reaching out to you again for follow up questions.

Background Information

1. Name: _____
2. Phone: _____
3. Region: _____
4. District: _____
5. Position in MoFA : _____
6. Age at last birthday: _____ years
7. Sex of Respondent: Male [ ] Female [ ]
8. Years of experience: _____ years
9. Level of education of respondent:
   Certificate [ ] Diploma [ ] Bachelor's [ ] Masters [ ] PhD [ ]

Relevance of ENVAC

1. How have you been involved in ENVAC? What do you know about ENVAC? (national/regional/district level)
2. What was the level of participation and involvement of MoFA at the National, Regional and Districts level in the ENVAC design?
3. Have you been involved in the selection of project's areas? Do you know what criteria have been used? Do you think the area selected are well adapted to the objectives of the project? (national/regional/district level)
4. Have you been involved in the selection of value chain (maize, millet, cowpeas, soya bean but also OFSP and yellow maize) ? Do you know what criteria have been used? Do you think it was relevant to selct these value chains? (national/regional/district level)

5. Have you been involved in the selection of beneficiairies? Do you know what criteria have been used? What is your view on the selection of beenficiairies ? (district level)

6. To what extent are the ENVAC activities (Pillar 1) in line with the needs of different beneficiaries ; (regional/district level)
   a. Smallholder farmers (SMF)
   b. Government institutions (MoFA)
7. What are the main constraints/challenges faced by SHFs/Fos in terms of .
   a. Access to land
   b. Access to Agricultural Inputs (Certified Seeds, Fertilizers, Agrochemicals)
   c. Access to Sustainable Market opportunities
   d. Access to credit
   e. Access to agricultural information (Good Agricultural Practices)
   f. Post Harvest Losses
   g. Capacity building
   h. Food security/food availability
8. To what extent did the ENVAC project address them? (regional/district level)
9. To what extent is ENVAC taking into consideration women and vulnerable people (national/regional/district level) ?

10. To what extent is the ENVAC project design aligned with Government of Ghana Policy Framework on Agriculture? FASDEP II, METASIP II etc (Probe for Gender equity in agric sector). (national level)
11. To what extent is ENVAC project's align with MOFA's intervention (regional/district)?
12. What is the perception of Government stakeholders on the degree of alignment of WFP interventions and project objectives with national policies and strategic plans? (national level)
13. What do you think about the approach promoted by ENVAC : tackling malnutrition with a market based approach through working with industrial processors? Do you think ENVAC project managed to do it? How? What it MOFA's view on the promotion of SNF? (national/regional/district level)
14. Who are the main partners of MOFA in the selected region/district? What are the other interventions/projects that intervenes on agriculture/food security/nutrition in the area? How have they been taken into account by ENVAC? (national/regional/district level)
15. Is there a mechanism to facilitate alignment between ENVAC and other interventions ? (national/regional/district level)
16. What are the relation of MOFA with other public stakeholders involved in ENVAC (WIAD/GSA/FDA)? Has ENVAC provided areas for dialogue/collaboration?
17. What are the relation of MOFA with private companies involved in ENVAC (Yedent/Premium)? Has What are the relation of ENVAC with Modernizing Agriculture in Ghana (MAG) and Planting for Food and Job, etc? How these programmes have been taken into account? What are the main synergies and differences in the approach?

Effectiveness of ENVAC

18. Are you informed on the activities implemented by ENVAC and their results? Do you receive reports? (national/regional/district level)
19. Did you participate to some activities ? (district/region level)
20. What is your view on ENVAC's activities implemented and results on (district/region level) :
    - SHFs and FOs capacity building?
    - Access to services for SHFs
    - Adoption of GAP/PHH good practices?
    - Mechanized Threshing Technology to Reduce Post-Harvest Losses
    - Transportation Technology to reduce post-harvest losses and enhance market access for women farmers.
    - OFSP dissemination
    - Yellow maize dissemination
    - Development of market linkages/contracts with processors?
    - Use of radio to disseminate information related to agriculture/markets?
    - Commodities price
21. Do you think ENVAC has reached its objectives in term of improvement of marketable surplus from farmers? Increase in the volume of sales? Improvement of food availability and security? (national/regional/district level)
22. Have you been involved in market linkages events? (national/regional/district level)
23. Have you been involved in contracts between farmers and aggregators? Nucleus farmers? (district level)
24. Have you been involved in contracts between aggregator/FBO.nucleus and Yedent or Premium? (national/regional/district level)
25. According to you, what are the main challenges met by ENVAC for the implementation of activities? Do you think it could have been improved and how? (national/regional/district level)

Efficiency of ENVAC

26. Have you been involved in ENVAC's steering committee (national/regional level)? What was its role and what was discussed?
27. Were the activities ENVAC cost-efficient? (national/regional/district level)
28. How can you compare ENVAC's budget/ number of beneficiairies/Activity level/results in agriculture/value chain in comparision with other interventions (the one mentionned in the part on relevance) ? (national/regional/district level)

29. Do you think ENVAC has a specific value added in comparision with other internvetion? What is it? (national/regional/district level) Were the ENVAC activities implemented in the most efficient way compared to alternatives? (national/regional/district level)
30. Were ENVAC activities delivered through the most appropriate personnel and contracting arrangements? Do you consider working through implementing partners (NGOs) is an appropriate way in term of efficiency? Why not MOFA directly? (national/regional/district level)

Impact of ENVAC

31. What were the short- and medium-term (expected and unexpected) effects of the ENVAC intervention on beneficiaries (M/F) lives and activities? (national/regional/district level)
32. Have agricultural yields/productivity increased. To what extent to you think it is due to ENVAC activities? (/district level)
33. Is there an increase in the income of farmers over the last 5 years? To what extent do you think it is due to ENVAC interventions? (district level)
34. Has there been improvement in the livelihoods and welfare of farmers due to ENVAC (probe for vulnerable women)? (/district level)

Sustainability of ENVAC

35. Have you benefited from capacity building from ENVAC? On what topics? (national/regional/district level)
36. To what extent are the benefits of the ENVAC intervention likely to continue after the end of project in March 2021?
37. Have you been involved in the post-ENVAC's reflection and strategy?
38. Do you consider the approach promoted could be more broadly adopted? How? Is there a buy in from community? MOFA?
39. Are there some elements of this approach that have already been integrated into MOFA's plans/strategie or approaches? Which ones?
40. Are there any mechanisms for leveraging existing programs like Modernizing Agriculture in Ghana (MAG) and Planting for Food and Job, etc?
41. What are your final recommendations to WFP..

P3 : Interview Guide for Retailers

DECENTRALIZED EVALUATION FOR EVIDENCE-BASED DECISION MAKING

We are conducting evaluation assignment of the Enhanced Nutrition and Value Chains (ENVAC) Project in Ghana from 2016 to 2021 by the World Food Programme (WPF). As you know, ENVAC has ended hence the need to evaluate the project to provide learning opportunities to the WFP and its stakeholders. You have been identified as a key actor to provide information to achieve the objectives of the evaluation. The interaction session is expected to last for about 25 minutes. Please respond frankly to the questions on this interview guide. Be assured that all the information provided will be used for the intended objectives and will be kept confidential. Your practical recommendations will be used to improve the control of future programmes by the WFP. Your phone number and other details have been requested to assist us in reaching out to you again for follow up questions.

Background Information

10. Name: _____
11. Phone: _____
12. Region of Retail Shop : _____
13. District of Retail Shop : _____
14. Position of respondent in the Retail Shop : _____
15. Sex of Respondent: Male [ ] Female [ ]

RETAILER

Observations :

1. Storage capacity; storage quality; maintenance and cleanliness of the shop and storage area, (picture)
2. Products available in the shop, especially product dedicated to 6-23 months children :
    a. are they local or imported?
    b. Are they fortified or not?
    c. Note the price/weight for each of them.
    d. Check expiry date
    e. Are there any products of Yedent / Premium in the shop? Visible on the shelves? If yes : picture + price/weight + expiry date.
    f. Check also
        i. Oil available in the shop /: local brands / imported/fortified or not.
        ii. Tin Fish and other products delivered to teenaged girls

Interview of the retailer

3. How have you been selected as a retailer for the voucher-based modality implemented by the ENVAC project? When did you start being an ENVAC partner?
4. Was it the first time you collaborate with WFP? If no: what other programs ? was it a good experience?
5. Have you received any training? By whom? about what? Did you find it useful ?
6. What product do you deliver to ENVAC beneficiaries ?
7. Can you describe the way it works :
    a. Who delivers the products to you?
    b. How often? How many deliveries since the beginning of the project?
    c. Delivery at your shop, or you have to go somewhere to get the products?
    d. What volume each time?
    e. How do you manage the stock: storage in the shop? Elsewhere? is the capacity ok? Are you responsible for alerting when the stock is at low levels?
8. Did you experiment with shortage during the period? When? How long? How was the problem solved?
9. On the contrary: do you sometimes have old stocks/ short expiry date
10. Regarding quality:
    a. did FDA inspect you?
    b. Do you remember what they said after the inspection?
    c. Did they give you a document; list of recommendations?
    d. If yes: did somebody check if you applied or not the recommendation ? Who?
    e. Any visit from WFP since the beginning? Who? Any visit from GHS?

11. Beneficiaries: How many persons are supposed to receive the products in your shop? Do you know all of them? Were they regular clients, before ENVAC, or they come to the shop because of the project?
12. Do you know who can be the beneficiary of the ENVAC Project? Do you know PLW or children 6-23or girls adolescent who do not get the cards to receive products?
13. Do you sometimes find yourself with beneficiaries who lost their cards, voucher, etc and begged to get the product: how do you deal with that?
14. How often do they come to get the product? Is there a pick in the visits, or it is regular throughout the month?
15. When they come to get their basket, do they usually buy something else? What kind of products? (Any products dedicated to kids?)
16. When beneficiaries are not anymore included in the program (Children >6 months; woman, not PLW anymore, adolescent ?): do they carry on visiting your shop? Do they ask for Yedent/premium products? Do they ask for similar products?
17. Regarding products for children 6-23 months available in the shop : (cerelac, others) : what is the premium product? What is the most popular? Is there an essential demand for these products? Trends? have you notice a reduction in the demand since the project is delivering groundnut for children? Did you order less than before?
18. Same question regarding vegetable oil. Regarding Tin Fish.
19. What are they key benefits you get from the project?
    a. Funding/profit: Benefit/bag delivered?
    b. New customers?
    c. Relationship with WFP/ with GHS?
    d. Other?
20. What are the constraints?
21. Overall, is it interesting for you to be a partner of ENVAC?
22. What would you like to see done differently in future?

P3 : Interview Guide for Ghana Health Service

Central / regional /district level

DECENTRALIZED EVALUATION FOR EVIDENCE-BASED DECISION MAKING

The objective of the interview / FG: Evaluation of ENVAC ;

Who we are: we are not WFP staff; independent evaluators ;

Get oral consent from participants (especially Beneficiaries of pillar 3; and pillar 1) who should agree to be part of the evaluation. Privacy and confidentiality have to be ensured

> Process of evaluation; we're going to interview many stakeholders in different regions; we try to understand through the interviews and FG, the points of view of different actors; based on this information, we are going to provide recommendations to WFP for future programs; so you need to present honestly your point of view; what has worked well / what has not, to help WFP to progress.
>
> Confidentiality : we're not going to write any names nor give any information about the FO/HF that gives such or such information. You should feel free to says exactly what you think.

NB : For all informants (stakeholder, beneficiaries, authorities, …) crosscutting issues (Gender & Food quality and food safety) have to be introduced discussed.

Background Information

16. Name: _____
17. Phone: _____
18. Region of location: _____
19. District of location : _____
20. Location: _____
21. Position of respondent in the GHS : _____
22. Sex of respondent: Male [ ] Female [ ]
23. Level of education of respondent:
    Diploma [ ] Bachelor's [ ] Masters [ ] PhD [ ]

PILLAR 3 :

GHS – Central level / regional level / district level

1. To what extent did the ENVAC project address specific challenges and constraints faced by women and children concerning nutrition? What do you think about ENVAC's strategy? About the choice of areas targeted by ENVAC?
    a. At the regional level: Do you know how the district targeted by ENVAC were selected? Who was involved in the selection? What criteria were used?
    b. Idem at district level: Do you know how the Health facilities targeted by ENVAC in your district were selected? Who was involved in the selection? What criteria were used ?
2. Who are the main partners of GHS for the prevention of malnutrition of PLW and children 6-23? How do you assess the collaboration between the actors?
    a. Regarding program working with local fortified products: Obasima, Japanese project; ENVAC: what coordination? Do you see any risks of overlapping?
3. What is the value-added of the main activities implemented by ENVAC/WFP :
    a. SBCC: training for health staff and community health volunteers + development of SBCC material
    b. supply of nutritious food
    c. Monitoring (with Mobile Data Collection and Analytics (MDCA) tool and register beneficiaries. :
4. From your point of view: What have been the main constraints that affected the overall ENVAC implementation?
5. What were the short- and medium-term (expected and unexpected) effects of the ENVAC nutrition intervention on pregnant and lactating women, adolescent girls and children?

    a. To what extent is behavioural change communication been seen among PLW/ caregivers /adolescent girls in target communities?
    b. Has the project contributed to health coverage / contributed to making effective/practical (or to improve attendance to) the activities of Antenatal (ANC) and Child Welfare Clinics (CWC) facilities?
6. To what extent are Antenatal (ANC) and Child Welfare Clinics (CWC) facilities maintained to ensure sustained nutrition outcomes post ENVAC?
7. Gender issue: how male (husband/father) were taken into consideration in the SBCC strategy?
8. Equity: do you think ENVAC manage to reach the poorest PLW, caregivers of children under 2?
9. How was the quality of products delivered ensured? What messages regarding food storage, cooking practices linked to the sanitary quality of food in SBCC materials/sensitisation?
10. Quality of the partnership with WFP?
    a. Central level: How far have you been involved in ENVAC design?
    b. Information sharing; a decision is taken; MoU management etc
11. Recommendation for next phase: what should be reconducted? What should be improved?
12. Central level: Does GHS intend to invest in the distribution of local quality SNF targeting PLW, Children 6-23 and adolescent to continue the intervention after the end of ENVAC/WFP support.

<u>+ Recommendation and data useful for field mission :</u>

    a. At the regional level/district level: we're going to visit HF and retailers in X districts of the region. We want to see a diversity of situation: Have you heard of HF where the program is working well? And other where the program is affected by specific constraints?
    b. Any updated health statistic at regional or district level: nb of health facilities; staff, coverage of ANC and CWC etc
    c. Any information regarding the types of HF targeted in the district (Class A to D; rural / urban; etc)

ANNEX 6. LIST OF PEOPLE INTERVIEWED – AND PEOPLE MET

Institution	Position	Name	Type of meeting
WFP - CO	*Country Director*	*Rukia Yacoub*	*Debriefing*
	Deputy Country Director	*Anna Mukiibi-Bunnya*	*Briefing, debriefing*
	M&E manager / EM	*John Sitor*	*Briefing, debriefing and Face to face (FTF) Interview*
	SO1 MANAGER, Nutritionist	*Patience Asiedu*	*Briefing, debriefing and FtF Interview*
	Finance Officer,	*Seidu Sarunah*	*FtF Interview*
	Comm. and Partnership Officer	*Vera Boahene*	*Briefing*
	SO2, Manager Sustainable Food Syst	*Chris Ibyisintabyo*	*Briefing, debriefing and FtF Interview*
	Procurement Off. NOB	*Thomas Yeboah*	*Briefing, debriefing and FtF Interview*
	Prog. Officer (CBT)	*Christian Asilevi*	*FtF Interview*
	Food Tech	*George Akonor*	*Briefing, FTF and Remote Interview*
	Prog. Assoc. Food Systems	*Millicent Omala*	*Briefing, debriefing and FtF Interview*
	Envac coordinator (left in 2019)	*Nanga Kaye*	*Remote interview*
	Head of Human resource	*Saraphine Vedomey*	*FtF Interview*
WFP sub office Tamale	*Interim Head of SO*	*Gyamila Abdul-Wahabi*	*Briefing, debriefing FG, Briefing sub office; FtF interview*
	Nutritionist	*Alexander Osei-Yeboah*	*Briefing sub office ; FtF interview*
	Prog. Policy Off. (Food Systems)	*Francis Essuman*	*Briefing sub office ; FtF interview*
	Prog. Associate (Nutrition)	*Sulemana Tuahir*	*Briefing sub office*
WFP - RB	*Sr. Regional Nutrition Adviser*	*Katrin Ghoos*	*Remote ; FtF interview*
	Head of regional FSQA	*?*	*FtF interview*
	Fortification expert	*Clémence Maurin*	*Remote*
	Food technologist	*Soukeina Mbodj*	*Remote*
UNICEF	*Nutrition Officer*	*Ruth Situma*	*Remote*
GA Canada		*Corey Huntington*	*Remote*
		Eric Chimsi	*Remote*
GHS	*GHS – national head of nutrition*	*Cynthia Charity Obbu*	*Face to face*
	Head Of Nutrition – Northern region	*Patricia Amadu*	*Face to face*
	Northern region Nutrition officer	*Bernard Oppong*	*Face to face*

	Director of Nutrition Sagnerigu District	*Rodgers Kpankpari*	*Face to face*
	Director of Nutrition Central Gonja	*Emmanuella Anyorikiyea*	*Face to face*
	Director of Health – Central Gonja		*Face to face*
	Ashanti regional head of nutrition	*Olivia Atimpo*	*Face to face*
	Director of Health Asokore Mampong	*Rev Salomon Anum Doku*	*Face to face*
	Head of Nutrition Asokore Mampong	*Sabina Appiah*	*Face to face*
	Bosomtwe head of District	*Timothy Appiah*	*Face to face*
	Bosomtwe District nutrition officer	*Martha Gyamfi*	*Face to face*
Industrial	*Yedent - Chief of quality*	*Richard Yow Antwi*	*Face to face + Site visit*
	Yedent Supply Chain	*Steve Lartey*	*Face to face+ Site visit*
	Premium General manager	*Gladys Sampson*	*Face to face*
Health / P3 partners and Actors	*Savanah Signature – DSM project manager*	*Raphael Adomey*	*Face to face*
	Alpha Communication: field level *Alpha - Central level*	*Kingsley Asisiriwa (also GHS agent) (M)*	*Face to face*
		Tony community volunteer (M)	*Face to face*
		Comfort Yankson	
	Sight and Life – Project manager	*Daniel Amanquam*	*Face to face*
	KokoPlus Foundation Project manager	*Yusuke Takahashi*	*Face to face*
	FDA Chief Regulatory Officer at Food and Drugs Authority	*Maria Lovelace-Johnson*	*Face To face*
	Project Peanut Butter Executive Director	*Juliana Akosua Amparbeng*	*Face to face*
Retailers	*4 health Districts*	*10 retailers (6F/4M)*	*8 Shop Visits*
	Sagnerigu	*1 female retailer*	*Face to face + Shop visit*
	Sagnerigu	*1 male retailer*	*Face to face + Shop visit*
	Sagnerigu	*1 female retailer*	*Face to face + Shop visit*
	Sagnerigu	*1 male retailer*	*Face to face*

	Central Gonja	*1 female retailer*	*Face to face + Shop visit*
	Central Gonja	*1 male retailer*	*Face to face*
	Ashanti- Asokore M	*1 female retailer*	*Face to face + Shop visit*
	Ashanti- Asokore M	*1 male retailer*	*Face to face + Shop visit*
	Bosomtwe -	*1 female retailer*	*Face to face + Shop visit*
	Bosomtwe	*1 female retailer*	*Face to face + Shop visit*
Health facility	*11 HF in 4 health Districts*	*27 health Staffs : 18 F and 9 M.* *> 50 Beneficiaries; > 37 PLW or caregivers of Cu2 (3M) and 13 OSAG*	
	Sagnerigu HF1 - Kanvila	*1 nurse*	*Face to face*
		1 nurse / also beneficiary as PLW and caregiver of Cu2	*Face to face*
	Sagnerigu HF2 – Melchugu	*OSAG : 7* *Cu2 Caregivers : 7* *PLW >10*	*Face to face : 3 FG*
		Head of HF (Male)	*FTF*
	Sagnerigu HF3 – CHIPS Garizegu	*Head of HF (F)* *Nutrition Officier (M)* *2 Nurses (F)*	*Face to face*
	Central Gonja HF1 - Kusawgu	*Head of Nutrition (M)*	*Face to face*
		OSAG : 2 *PLW : 5* *Cu2 : 2* *Fathers :3*	*Face to face : 3 FG*
	Central Gonja HF2 -Wambong CHPS	*Head of HF (M)*	*Face to face*
		PLW : 4 *Cu2 : 3* *OSAG: 2*	*Face to face : 3 FG*
	Central Gonja HF3 - Buipe – RCH Center	*Nurse 2 (F) (both also beneficiaries from ENVAC)*	*Face to face*
	Asokore mampong HF1 - Amaamata maternity	*Nurse : 1 (F)* *Director of the clinic : 1 (M)*	*Face to face*
		OSAG : 2	*Face to face*
	Asokore mampong HF2 - VAC - HF	*1 midwife* *3 health assistants* *4 community nurses*	*Face to face*

	Bosomtwe HF1 - medical Methodist Center	*1 head of HF (M)* *1 Nurse in charge of ENVAC activities (F)* *1 Midwife - Nurse*	*Face to face*
		3 Cu2 Caregivers (F) *1 PLW*	*Face to face : 1FG*
	Bosomtwe HF2 - Divine Mercy	*1 head HF* *1 administrator* *1 Nurse*	*Face to face*

	Institution	***Position***	***Name***
MoFA	*MoFA Agricultural Engineering Services Division*	*Post-Harvest Coordinator*	*Johnson Panni*
	MoFA National SRID Office	*SRID – National Coordinator*	*Albert Banini*
	MoFA National Office	*PPEMD – National Coordinator*	*Patrick Ofori*
	MoFA Northern Region	*Regional Crops Office/ENVAC Focal Person*	*Slyvester De Clecq*
		Regional WiAD Coordinator	*Bridget*
		Regional SRID Officer	*Alhassan Abdul-Fataw*
		AEA Tolon District	*Atchulo Abukari*
	MoFA Upper East Region	*Regional Crops Office/ENVAC Focal Person*	*Joshua Diedong*
		Regional WiAD Coordinator	*Felicity Adorbah*
	MoFA Bono Region	*Regional Crops Office/ENVAC Focal Person*	*Bernard Marfo*
	MoFA Ashanti Region	*Regional Crops Office/ENVAC Focal Person*	*Eric Sarkodie*
	MoFA-Modernizing Ghanaian Agriculture	*National Coordinator*	*Miss. Ruby Neil Palm*
IP	*Sesi Technologies*	*Executive Director*	*Isaac Sesi*
	Agrihouse Foundation	*Project Officer*	*Micheal Opuni-Frimpong*
	Farm Radio International	*National Programme Coordinator*	*Benjamin Fiafor*
	ADRA-Amplifiers Project	*Project Coordinator*	*Dr. Isaac Kankam-Boadu*
	KNUST	*Senior Lecturer*	*Dr. Robert Aidoo*

	CSIR-Crop Research Institute	*Research Scientist*	*Dr. Mamfred Ewool*
	Ghana Commodity Exchange	*Chief Operating Officer*	*Robert Dowuona Owoo*
	Zaa Radio Tamale	*Deputy Station Manager*	*Alhaji Alhassan S. Kayaba*
	Quality FM Garu	*Agriculture Programme Host*	*Atubilla Abraham*
CLMSFP	*Marvmay Enterprise*	*Proprietor*	*Mary Ai Laar*
FBO	***FBO – Name***	***District / region***	***Number of people met (F/M)***
	8 FBO	*In 4 regions*	*More than 80 persons* *34 M and 48 F*
	Kpalsi Zisung Development Association	*Tamale Metro/Northern Region*	*10 (M = 5, F = 5)*
	Bobgu Nye Yaa Farmers Group		*15 (M = 5, F = 10)*
	Suglo Tung-teeya Association	*Tolon/Northern Region*	*4 (M = 1, F = 3)*
	Anongtaaba Wemen Group	*Bongo/Upper East Region*	*2 (F = 2)*
	Asongtaaba Farmers (Farmers)	*Garu/Upper East Region*	*25 (M = 10, F = 15)*
	Takoore Farmer Group		*13 (M = 2, F = 11)*
	High and Mighty Outgrowers	*Tachiman/Bono Region*	*5 (M = 4, F =1)*
	Ejura Coalition of FBOs	*Ejura Sekyere Dumasi/Ashanti*	*8 (M = 7, F = 1)*
Aggregators	***Aggregators – Name***	***District / region***	***Number of people met (F/M)***
	5 Aggregators	*In 4 regions*	*4 M and 1 F*
	Savannah Farmers Marketing Company	*Tamale Metro/Northern Region*	*1 (M = 1)*
	Gumaya Enterprise		*1 (M = 1)*
	Esther Akabzaa	*Bongo/Upper East Region*	*1 (F = 1)*
	High and Mighty	*Tachiman/Bono Region*	*1 (F = 1)*
	Yamful Farms	*Ejura Sekyere Dumasi/Ashanti*	*1 (M = 1)*

ANNEX 7. FINDINGS CONCLUSIONS RECOMMENDATIONS MAPPING

Recommendation	Conclusions	Findings [by number of finding]
Recommendation 1 CO next country strategy plan (CSP) should be tailored to the Ghana beyond aid context: Next CSP should include a CNF value chain approach: based on the lessons learnt from ENVAC, (current but also on-going achievement to appreciate next year). *CO in partnership with National Institution* 281. It implies to • Review the position of WFP towards national institutions: WFP should start positioning itself as a technical support and not a direct implementation actor, progressively leaving national institutions in charge of the actions to be taken, building on lessons learnt from School Feeding Program. And preparing WFP progressive exit strategy. It means in the next period and next projects WFP should support and strengthen the capacities of national institutions to implement the intervention as long as it is aligned with the government priority. This is clearly the case for actions supporting agriculture and value chain development (MOFA), quality control and management (GSA and FDA), and on stunting reduction (GHS). It would	**Conclusion 1: In a context of funding reduction, ENVAC offers new perspective of actions and should provide lessons learned for WFP to better accompany Ghana in its development trajectory.** 282. Because of country economic development, mobilizing aid and funding for programs in Ghana is difficult. This difficulty concerns all actors, including WFP. The Ghana Beyond Aid national strategy promotes endogenous development (independent of aid), based on local industrialization and collaboration between the private sector and public institutions. 283. ENVAC achieved to support Ghanaian private companies that supplied CNF for national intervention (involving GHS) but also for WFP West African countries. This achievement offers some relevant perspectives that should be considered for next Ghana-CSP.	Ghana : low-medium income country/reduction of aid and WFP is planning its exit strategy (2035). WFP has changed its approach already from implementation to capacity building on the school feeding program. (context, relevance) High priority for the GoG to ensure that private sector's engine of growth is driven by local businesses from the agriculture sector (relevance) No clear decision taken on where to put the balance between focusing on vulnerable farmers and building a CNF value chains based on industrial processors (relevance). demand for CNF in west africa, global shortage worldwide (relevance) Activities implemented in pillar 1 are one-off with limited follow up and monitoring. The actual number of beneficiaries is difficult to assess (effectiveness pillar 1) Interest of SHF on maize and soya bean is high. Limited activities on production and productivity were done (effectiveness pillar 1) Premium supplies CNF to RO in June 2021(effectiveness pillar 3). Support from RO and HQ with some changes in the responsibility regarding quality management (effectiveness pillar 3) Relation with MoFA / GHS : GHS: sometimes considered as "implementing partners" : GHS enter data but do not have access to reports / the national M&S not considered by the project. Change in the approach is needed, and should be anticipated(efficiency/sustainability)

contribute to increasing the efficiency and sustainability of the intervention. Partnership with these actors should be signed over longer period, as change in their capacities and for fields' result requires longer time. WFP should also include other actors key to implement a pro-poor approach (LEAP, social protection). Priorities in terms of capacity strengthening of national institutions should be on quality and post-harvest management (MOFA, GSA and FDA), M&E (all institutions). WFP should directly implement interventions when they are very innovative, and on a pilot basis. • Ensure good coordination between CO and RO (that is likely to manage future commands of CNF) to ensure coherence in terms of quality requirement and conditionalities imposed to the companies (prices / sourcing).		Lack of external and internal coordination (no steering committee, no project coordinator position) (efficiency)
Recommendation 2: Contribute to strengthen food security and quality (FSQ) management system at all stages of the CNF production chain in Ghana and ensure safety of all CNF distributed through WFP project. CO with the support of RO and local institutions. High Priority. 284. The improvement of quality management throughout the value chain has	**Conclusion 2: Food Safety and Quality (FSQ) management was a key point in the project document that was not translated in a robust strategy. CO and national institution were not strong enough to handle this issue, and there was not enough focus on building their capacities. The new quality management at WFP was not set-up to fully support CO in its task. Several initiatives support production**	Maizoya is adapted to PLW needs, no research has demonstrated the interest of TM to meet women's need (relevance) no study shows that Kokoplus product, have a clear effect on the risk of stunting for children (relevance) Focusing on quality and aflatoxin at raw material level is relevant: constraint both for the sales of the products and for nutrition. focus on post-harvest handling for SHFs and FOs (capacity building and equipment) but activities were one-off in nature, with no links and without enough follow-up. Farmers appreciate the equipment

several objectives**: 1)** ensure the sanitary quality of the final products and protect consumers especially the most fragile (like Cu2 and PLW); **2)** allow SHF and food processors to financially reward the efforts they make to improve the quality of their products; **3)** and, of course, to allow the WFP to purchase safe local CNF (SC and SC+) that comply with its standards. 285. **Improve FSQ of raw material**: At SHF level, this approach should facilitate access to markets and the marketing of good quality raw materials to food processing units. Particular attention must be paid to the issue of aflatoxins. With MOFA, producers and aggregators, as well as research institution: Contribute to identify the critical points to reduce contaminants; support and participate in research and development work to avoid aflatoxin contamination; to develop and promote low-cost solutions to ensure the monitoring of raw material contamination; to promote strategy that insures quality products should be paid a fair price (Label; raise awareness of processors, and consumers). 286. Strengthen the capacity of national institutions responsible for standardization, accreditation, and control (including reference laboratories) to enhance the reliability of local processed foods, especially fortified foods. Identify all the actors currently involved in quality management along the value chain; Develop exchange platforms between public institutions and private operators; contribute to the development / adoption / promotion of national norms to manage fortification processes; strengthen control structures so that they are	**of fortified food, specially formulated for fragile consumers (PLW, Cu2) in Ghana – when national institutions are not fully in capacity to guaranty the quality of the CNF.** 288. ENVAC planned to work on quality issues, with "quality" activities planned for each of the pillars: post-harvest management (P1), introduction and promotion of an aflatoxin control system for SHFs (P1), an activity that was not carried out; implementation of an effective traceability system (P2), strengthening of partner enterprises on quality management with the support of the RO and the HQ, which was hampered by a reorganization of quality management at the institutional level, strengthening of quality control institutions (GSA and FDA); and promotion of good practices among consumers, through SBCC. 289. During the implementation, poor quality management were observed in one of the supported company (Yedent); external/independent analysis revealed high level of aflatoxin in the product; this may point out: quality problems with raw materials ; poor consideration of quality issues by the company; defects in the company internal control and national analysis systems (on which WFP relied for quality control of the CNF distributed at retaillers'level) ,. After this incident, WFP accurately stopped distributing the product until the company improved its production system. However, there is no evidence of all products being withdrawn from the market. Thus, a product that WFP, through ENVAC, has helped to produce and promote and that might	and there are some signs of take on. (effectiveness). Some activities on aflatoxin control were not done. (effectiveness pillar 1) Both companies provided CNFs to ENVAC and Premium was launched in June 2021. Both companies are certified by FDA (effectiveness pillar 2). Quality control of CNF distributed done by companies ;companies; no external control from WFP (effectiveness pillar 2) . during HQ/RO visits to the enterprises: some issues of quality management at Yedent ; distribution is stopped ; external analysis ordered, showing level of aflatoxine upper the limit. WFP asked CBT to stop with this product, but no anticipated mechanisms to withdraw products from the shelves (effectiveness pillar 2). Only one external control ordered to FDA (at shop level) ; not completed – because of sampling error (effectiveness pillar 2) Out of 30 initially planned, 14 CLMSFP were trained and 3 selected to receive equipment. Equipment were not installed at the time of the evaluation (effectiveness pillar 2) The selection process was long but transparent (efficiency) CNFs delivered are referenced by FDA but quality is controlled by the 2 companies, there is no independent analysis done at company's level. WFP is responsible for the quality of products delivered through vouchers and the lack of controls is a negligence. FDA collected samples at retailers' level and conducted some analysis but the work was not successful (effectiveness and efficiency pillar 2) Many claims regarding the nutritional quality of CNF (Envac and other) : low capacity of control of national institution (effectiveness pillar 3) . No reflection on the agricultural model promoted and the links with food safety (use of pesticide, weedicide…) (sustainability)

able to guarantee 1) the safety of CNF and 2) the truthfulness of nutritional claims made by manufacturers. all claims made on a label should be guaranteed in the long term by national institutions. This will also require to invest in awareness raising at consumers 'level on fortification, labels and quality norms. Sustainable mechanisms must be envisaged, to ensure quality management can be pursued at the end of a project like ENVAC. Regarding food safety, vigilance is required in CNF formulation to avoid overdosing as foods once marketed are not necessarily consumed by the initial target (example of MZ and TV consumed by Cu2);. 287. **Ensure FSQ of CNF delivered through WFP CBT:** When WFP uses commodity vouchers, its responsibility regarding FSQ is engaged. If the reliability of the controls carried out by national institutions remains uncertain WFP must use private or foreign providers whose reliability is guaranteed (private inspection companies, international laboratories) as long as national institutions are not able to offer an equivalent service,	have been consumed by fragile target (PLW, or even Cu2) may present some serious quality issues. After this alert, no change in the quality control process was clearly adopted. WFP received the analyses from Premium and KK+ (so from Yedent,) without cross-checking them through analysis implemented by independent inspection companies (when a LTA signed at RB level should engage CO to rely on this kind of service) and external laboratory. 290. Beyond food safety issues, several initiatives in Ghana support the production of fortified foods and nutritional claims are flourishing on processed foods packaging. Several stakeholders believe that national structures are not able to monitor fortification levels and guarantee the veracity of the claims made.	
Recommendation 3 (*if Recommendation 2 is validated)* : **Pursue partnerships with the two private actors to facilitate sustainable supply of quality CNF for both PLW and Cu2. Access to WFP support (financial, technical, or access to CBT market) should be conditioned by 1) Fair trade conditions with SHF/aggregator suppliers of raw material; and 2) Investments**	**Conclusion 3: The strategy of ENVAC to develop local capacities of private companies to produce CNF () was relevant and could contribute to a sustainable increased access to SC and SC+ for nutrition intervention at local and regional level.** 292. Premium being now validated for the production of SC is a key achievement of	Thanks to ENVAC both companies have developed their production capacities; Premium succeeded in producing SC for WFP-RO, but has not yet produced SC+ ; moreover the company is not used to sell fortified product for commercial market. There is a risk – if no contracts with WFP is signed – that the company comes back to its previous activities (sell poultry feed, brewery, or provide

of companies on commercial market. (to avoid dependence on WFP), 3) Price of CNFs delivered to WFP should be detailed as well as the terms and conditions for revising the price. *On a short term:* Ensure WFP's supply of CNF: Avoid the risk of WFP relying only on one supplier (that is de facto in a monopoly situation in West Africa), and getting no supplier if a company abandons CNF production ; avoid the risk of shortage if the demand for SC is large. ✓ *Follow-up Yedent accreditation for SC (and SC+) production:* Yedent accreditation process should be carried on, to avoid WFP being dependent on Premium. Also, working with Yedent is to be encouraged as they already have commercial market experience. For CNFs, other actors could be identified in Ghana or the sub-region. (Should Yedent fail to meet WFP's quality requirements and in order to increase local supply of CNFs) ✓ *Follow-up Premium accreditation for SC (and SC+) and follow-up investment of Premium on commercial market (LOVIT;)* Condition access to CBT markets to an investment in CNF commercial market in order to insure a large access to the CNF and avoid companies' dependence to assistance markets (sustainability).	ENVAC.Some issues are still pending: No SC+ is produced at this stage for Cu2, and Yedent is not validated as a supplier for WFP. The sustainable development of CNF's production in Ghana remains uncertain as Premium has no experience in commercial markets for these products and as both companies have other market opportunities that can valorise the equipment that WFP contributed to finance (there is a risk that the two companies could abandon the production of CNFs is the market is not profitable enough or too difficult to access). 293. Because of the financial and technical support provided and as WFP is a major CNF client for these companies (CBT/nutrition program), it was legitimate from WFP to fix conditionalities to the company. On principle the two main conditionalities (20% procurement of raw material from ENVAC's supported SHFs and selling CNFs at a discount price to WFP until the amount of the investment is reimbursed) are relevant and not too demanding for the companies. Yet, implementation strategy was not investigated and discussed enough with companies). For the procurement especially, what matters is that companies procure maize, soya and millet from SHFs, but there is no point in artificially linking them to SHFs in areas out of their procurement areas whilst they already have existing network of aggregators and farmers that could have been strengthened. Those two conditionalites are however difficult to monitor and the systems implemented cannot guarantee that they are respected.	Nestlé with local quality flour). (effectiveness pillar 2 and sustainability pillar 2) A large number of nurses were trained on SBCC There was some institutional strengthening done (MOFA and GHS) but they were mainly used as service providers in the project. Capacity building of other agencies was limited (lateral effectiveness) Difficult to procure CNF from abroad (cost of transport should be paid by the GoG). Local production is a good option. Demand for CNF in West Africa ; and in a larger scale shortage in the CNF for WFP programs. "Creating a local demand" with CNF distribution for these companies is relevant **if** the people receiving the products are people in need (see below – see conclusion 4) and if companies are forced/encouraged to develop a commercial approach to ensure sustainability of the investment . It was legitimate for WFP/and the donor to set supply counterparts (20% supply from SHFs and discount price) to the companies support, but the agreement was not efficiently managed (efficiency) (efficiency and sustainability) . Yedent and Premium supported through different investments : (efficiency) Yeden not qualified yet to produce for WFP ; but experienced in marketing fortified food on ghanaen market (impact) No regular Follow up of the companies ; mainly during RO/HQ visits ; WFP food technologist based in Accra not the best option (effectiveness pillar 2).

291. On a medium *term*: for next support to private companies, or next round of CBT with FSDA signed with companies: Partnership conditions must be relevant, feasible and monitor able to increase sustainability. ✓ The setting of CNF purchase prices must be based on detailed production and transport costs and must allow sufficient margins to the company for the maintenance of equipment and the development of a commercial network. The arrangement should specify in advance the methods of revision that will take place in case of changes of the cost of production (currency fluctuations, …) ✓ <u>Condition support to private companies to the investment on commercial market.</u> (budget invested in marketing, sales activities, …)	294.	No real accountability from companies, conditions not very clear (what quantity of product to be provided to wfp at a discount price? How this is applicable in a context where envac is over? Lack of financial report : always an issue to appreciate a project ; a major issue when there is partnership with private companies ; and when several projects are implemented with the same actors (KK+ with yedent, Obasima with Yedent and premium) (efficiency) Price of Maizoya important increased in 3,5 years ; Yedent did not manage to convince WFP to increase that much the price of TV. Some documents explain TV is more expensive than MZ to justify increase of price of MZ which seems not fully relevant (different packaging and different formulation) but cannot be discussed because there is no cost-detail regarding MZ (efficiency). No tender mechanisms to identify the companies ; no tender mechanism for the equipment of CLMSFP (efficiency) Availability of CNF produced from local raw material is not ensured. Premium qualified to produce SC. But no experience in commercial market (in direct sale to consumer); relying on institutional markets is a risk : for the company (unpredictable market) ; for WFP : to get a single company partner is a risk ; the company can go back to other market it is more used to (brewery, poultry feed, and Nestlé). a single company in a situation of "monopoly" is not desirable on mid-term (sustainability). ENVAC market-based approach is artificial because it is very project dependant. Willingness of consumers to pay for CNFs is not demonstrated.
Recommendation 5 : Meanwhile strengthen partnerships with development actors and MOFA in order to develop and upscale value	Conclusion 4: Support to SHFs and FO to develop production and sales of raw material for CNF production was very relevant but was	5 aggregators received equipment to improve PH services for SHFs but were also asked to conduct tasks that are not their mandate, without adequate capacity building and late in the project

chain approach to intensify market linkages between SHFs and industrial processors of any kinds. CO with the support of RO FSQ, in partnership with local institutions. High Priority. ✓ Avoid "forced marriage" between pre-identified SHF (partners of P4P – for example) and specific companies.) Conduct an assessment / inventory of the situation before the start of the project to identify: who are the company's suppliers; how is the value chain organized? what is the place and proportion of products from SHFs in companies' supplies and what is the policy of the company regarding its suppliers? what difficulties do SHF encounter in entering these markets and linking with these companies? Do not focus specifically on FBOs but Identify current or potential aggregators that can supply industrial processors and work on improving their linkages upstream and downstream the value chain, Support investment in capacity building and long term support to FBOs and aggregators to accompany change, ✓ <u>Strengthen partnerships with development actors and MOFA in order to develop and upscale value chain approach to intensify market linkages between SHFs and industrial processors of any kinds.</u> and develop a strategy	not focused enough on the areas and conditions that could make a change and conduct to increased volumes of quality raw material produced and sold. 295. There is still a need for support to SHFs on production and productivity, especially concerning the development of climate smart agriculture practices and the access to finance. There was not enough leveraging of ENVAC with other projects and with MOFA's program and too much dispersion of activities in order to really have effects on production and productivity levels. This dispersion of activities also affected activities on post-harvest losses reduction in the first years of the project. From 2020, ENVAC started to focus implementation on activities that can really have an effect at a large scale for the promotion of post-harvest handling practices, but without enough attention on how farmers will access innovations promoted after the end of the project. And concerning storage, the attention is still mainly on improving storage conditions whereas the key limiting factors that prevent farmers from storing are more linked with financial needs at harvest time. 296. Capacity building of farmers' association is still a key to improve both production and marketing of agriculture products. ENVAC has not invested enough on capacity building of FO, especially group dynamic and management (it is very clear for example with the warehouse in Ejura). Yet, there are several evidences showing that FBOs may not be the best model to work on	(sensitization, training, monitoring of farmers, traceability) (effectiveness pillar 1) Higher efficiency in the pillar 1 activities implemented from 2020 on post-harvest handling (efficiency). There are elements showing that changes is happening on capacity of SHF to handle post-harvest (impact) ENVAC makes donations without contributions to private actors : FBOs etc. whereas previous projects (MEDA, ADVANCE etc.) required a contribution (sustainability) Market linkages between farmers and CLMSFP have not been developed. Supporting aggregators to link SHFs to market is positive in terms of sustainability but came too late in the implementation. There was not enough attention given to capacity building of aggregators and FBOs (sustainability) Producing CNF is an opportunity for companies to develop a sustainable business model based on several products and different level of quality of raw material. That could contribute to easier inclusion of SHFs (sustainability) Yedent and Premium need a reliable supply of raw material to sustain their investment. They both procure maize from farmers, through a network of aggregators mainly from Ashanti and brong Ahafo region, and Soya from Northern region. They do not purchase in Upper East and Upper West.(effectiveness pillar 1) There is no operating traceability system at aggregator and company level (effectiveness pillar 1 and 2) Support were given to farmers for free and there was no attention given on developing access to post harvest equipment on a commercial basis. (sustainability)

involving actors in direct support to SHFs (MoFA, NGO, Bank or credit providers, aggregators, …) to facilitate fair market inclusion of SHFs. ✓ Focus WFP's direct intervention on WFP's specific value for the development of CNF value chain (post-harvest handling and quality improvement), with a stronger attention to sustainability and market based approach for the provision of post-harvest equipment (development of a sustainable commercial access to ZeroFly bag for example) ✓ Support innovative approach that aims at developing access to formal markets and improvement of quality at SHFs level (GCX trading platform for example).	marketing of agricultural products in Ghana. After years of support by different projects, farmers still appear reluctant to aggregate through FBOs, and lack of collective business vision. ENVAC was instrumental not to limit its support to FBO but to also include and support aggregators. However, the support came late and the conditions associated (traceability system, training and monitoring farmers etc.) was not adapted (and was actually not implemented by aggregators).	
Recommendation 4: Strengthen and formalise the innovative strategy that combine nutrition assistance, promotion of good feeding practices, and market access for local CNF: targets for free distribution should be defined based on vulnerability criteria; the role that each actor should play according to its mandate should be clarified; the impact of CBT on commercial sales should be monitored. 297. WFP should contribute through its food assistance mandate, to provide an outlet for local businesses with CBT that gives access to CNF to	**Conclusion 5**: **The combination of activities to promote good feeding practices (SBCC) & nutritional support using locally produced CNFs for those most at risk of food and nutritional insecurity & access to CNF via the market is relevant, innovative and interesting. However, ENVAC CBT beneficiaries targeting was not accurate which hampers the effects on the intervention.** 299. Targeting PLW and Cu2 without focusing on the most vulnerable households and areas or season was not relevant. Targeting	Targeting Cu2 and PlW through antenatal care visit is relevant for stunting prevention, but there were no specific vulnerability criteria taken into account to select most vulnerable households (relevance) Targeting OSAG allows to reach the most vulnerable girls but social protection was not involved and identification of these beneficiaries was not conducted in accordance with international child protection guidelines (parental consent) and there was no partnership to encourage return to school (relevance, effectiveness pillar 3) , Concentration of pillar 3 activities in Sagnarigu district and in the Ashanti region without specific targeting of the vulnerable is a

targeted beneficiaries. Large-scale free distributions over long periods of time to people who can otherwise purchase the products should be avoided as they: 1) are not justified from humanitarian point of view; and 2) may be counterproductive and lead to product depreciation. Distributions should be conducted in chronically food and nutritionally insecure areas; during specific season (lean season); and target the most vulnerable people. ✓ **Social protection, LEAP, humanitarian organisation** should be in charge of targeting beneficiaries according to vulnerability criteria. (this should not be done by health workers that do not have the mandate nor the skills to identify vulnerable people). ✓ **Retailers** involvement should be pursued; it benefits local economic actors and can pave the way for a more sustainable market-based approach. ✓ **Promotional activities should be carried out by companies** (possibly supported by projects, with or without collective brands – like Obaasima) and relayed by retailers; advertising approaches should be distinct from SBCC messages transmitted by health workers. ✓ **Health workers should focus on SBCC** but should not be encouraged to promote a specific brand, especially when the products are intended for (or perceived to be intended for) children	OSAGs could more relevant because early school leaving often goes with economic vulnerability but OSAG inclusion was not conducted in accordance with international child protection guidelines and could lead to negative externalities (CBT motivating School abandon). **The combination of voucher and commercial approach initially envisaged is interesting but was not fully implemented. At the end of ENVAC, there is no evidence showing that companies are better equipped to position their products on the local market and that the CNFs market is going to develop sustainably.** 300. The project document envisages that the products developed by the companies could be accessible through voucher-type interventions but also through commercial market. The market dimension has been investigated by other projects with which WFP collaborates; but products ffrom Premium are not commercialized and currently inaccessible to consumers outside of free distributions. PLW cannot access the product when the project ends. Premium is considering developing a range of CNFs, but targeting mainly urban areas (Accra, Takoradi and Kumasi).Yedent's CNF (TomVItaX) is on the market but the breach of the supply contract between WFP and Yedent does not facilitate the exchange of information on the commercial results of TV on the market. **Limits are not always clear between SBCC promoting good practices (involving**	weak point as the probability to reach vulnerable household is weak. Implementing CBT is those areas could be relevant with the objective to develop a commercial approach (relevance) Combining SBCC and CBT can contribute to reducing malnutrition (relevance) The total target number of beneficiaries of CBT was overpassed. There were inclusion mistakes. Products delivered changed over time and areas depending on the capacities of companies to supply. The volume of CBT distributed is far below target (effectiveness pillar 3) Beneficiaries (PLW) are satisfied in spite of sometime long delay between registration and redemption of CBT. Products are appreciated (mainly Tomvita) and shared with the whole family, including children. Vouchers for Cu2 are less appreciated because they appear very small compared with vouchers for PLW. (effectiveness pillar 3) Distribution of CNF was done through a network of retailers that received commission and that contributed to the effectiveness of the registration and distribution (effectiveness pillar 3) There is an overabundance of SBCC in the same areas (from ENVAC and other project),(efficiency) International food industry leaders are interested in ghanean food market (Nestlé in Ghana, for ex) ; expected to experience rapid change due to strong population growth and the expansion of the middle class consumer segment. Investment of international private business in nutrition sector is more important in Ghana than in other west-african countries because of the economical perspective (not because malnutrition is higher in ghana).

over 6-23 months. WFP should encourage GHS coordination of SBCC activities to enable deployment and avoid concentration in a few areas. 298. As the approach is innovative, it would be relevant to conduct studies and/or design monitoring tools to assess the relevance of a voucher/commercial approach combination and to analyse the conditions under which positive synergies can be observed	**Health agents and implemented in HF) and commercial promotion of branded product** 301. The collaboration between WFP and GHS on Pillar 3 activities is generally appreciated by both sides, but the effects of the SBCC activities were poorly monitored by the ENVAC results framework. Health workers and beneficiaries see them as very positives even if the impact on ANC and CWC is not revealed by M&E analysis. 302. There is some confusion in the approach, with for example identical brand advertising posters in health centres and in retailers' shop. The involvement of health workers can exceed their prerogative; some are inclined to promote commercial brands, which is problematic - in relation to the marketing code for breastmilk substitutes - when it comes to foods designed for children from 6 months of age (or that families and some health workers consider suitable for children over 6 months of age). 303. Health agents are also involved in the enrolment of beneficiaries, which can pose ethical problems when the number of beneficiaries is limited, or when beneficiaries must be recruited outside of medical visits (in the case of OSAGs); In addition, health agents were strongly mobilized for the monitoring of the project, even though the monitoring tools are not mastered by GHS but by WFP (Recommendation 1)	These actors could contribute to reduce malnutrition in west Africa, but public and international institutions like WFP have to ensure private investment will also contribute to the poorest and most vulnerable and not only to the middle class. Vouchers and free access to nutritious products produced and purchased by supported companies thanks to public funding should only concern the poorest people. Targeting and identification of the most vulnerable people should not be carried out by GHS (which does not have the role of "targeting" patients); nor by retailers; but by social protection actors who have not been involved so far (sustainability) . A Partnership with GHS : important financial support to GHS to develop SBCC strategy and documentation ; but also incentives to health agent to manage project monitoring not handle by GHS (efficiency and sustainability), GHS has a very positive opinion on the activities implemented and they consider that it contributes to an increased attendance to ANC and CWC visits, even is it does not appear clearly in the analysis of GHS data (impact) M&E does not allow to capture effect on stunting and several aspects limits the likelihood of ENVAC to have an Impact (sharing CNF with family member, irregular distributions and relatively low redemption rate. Product consumption if not always aligned with recomandations (impact) No evidence of improvement of the MAD, targets are not met. Rations provided by the project have reduced household expenditures (impact)

		There is no evidence that CNFs distributed were sold and no evidence of overconsumption. No risks noticed of the devaluation of unprocessed local food and of locally fortified product!;(impact)
Recommendation 5: Support the adoption of a national strategy and the implementation of ad'hoc programs that target vulnerable SHF and more especially women SHF to improve food security of the most vulnerable. CO in partnership with MOFA and NGOs. Medium Priority. 304. This implies identifying the markets that are best suited to vulnerable poor SHF capacity and interests (based on SHF's location, production capacity, and economic opportunities in the production basin). Trying to connect vulnerable SHF at all costs to markets that are out of their reach can be counterproductive. Support to vulnerable SHF requires local and continuous support, to mitigate the constraints that limit their access to the market (problem of land tenure, access to credit, women empowerment, etc) that cannot be achieved with one-off activities.	Conclusion 6 : WFP CNF food chain approach is likely to exclude vulnerable SHF from WFP programs supporting farmers. ENVAC had no impact on food security of SHF because the project was not designed to target the most vulnerable SHF (including women) nor to answer their specific needs. 305. ENVAC did not specifically targeted the poor and vulnerable farmers, but the assumption was that through working with SHFs in northern region, poor and vulnerable farmers would be included. The projects tried to link SHFs from those areas (Upper East and Upper West regions) to industrial processors in Ashanti and Brong Ahafo regions. This attempt to link economic actors was tempted without a prior feasibility study. The initial hypotheses were not verified. As companies are not (and cannot do it looking at the distance and the cost of transport) procuring from these areas. Yedent and Premium procure maize from Ashanti and Brong Ahafo region and Soya from Northern region. 306. The project did not investigate (or marginally) market opportunities tailored to the needs and capacities of vulnerable SHFs (especially female). The CLMSFP supported by ENVAC are located in the north could have constituted more accessible markets, but the number of structures supported, the budget and time dedicated to this activity is much	*The WFP's mandate is to ensure the food and nutritional security of the most vulnerable populations.* In Ghana poor household are still exposed to food insecurity and malnutrition. Food Insecurity persistent in rural Northern Ghana especially amongst female SHF. No criteria to target vulnerable farmers/focus on previously supported SHFs (see relevance), no specific activities to answer their needs. M&E seeks to measure the project's effect on SHF food security but the targeted SHF were not vulnerable nor exposed to food insecurity at baseline. The project did not address local vulnerability issues (relevance, effectiveness) The project was not designed to target vulnerable women, but to use best practices by building on existing capacities within women groups previously supported (relevance) . ENVAC has did not address the structural barriers that affect women in agriculture and value chain (relevance and effectiveness) : No impact of ENVAC on food security, yield and income of SHFs (impact) Condition to partner with Premium/Yedent not suitable for SHF (Payment à 60 days) Vulnerable SMF mostly in northern regions far away from companies targeted by ENVAC

	lower than programmed. There were no attempts to link these CLMSFP (that are already engaged in processing activities) with AC supported SHFs.	Existing links between companies and their suppliers at the time of design not considered initially (but consider after at implementation stage) Aggregators not clearly identified at design stage appear to be key to link companies to farmers: difficult to mobilise them on ENVAC (some support at the end of the project: how to condition support to ENVAC had several objectives difficult to combine; intention to reduce vulnerability of SHF (with gender focus) Pillar1, linking them to preidentified processors and Pillar 2 ask the processors to process local raw material (bought to SHF at a good prices), and to supply WFP at a reasonable price with CNF, that should be given to beneficiaries (Pillar3) to prevent malnutrition (effectiveness).
Recommendation 6: Finish the implementation of activities and draw lessons (before the end of the year) CO. Short term – high priority… 307. ENVAC should continue with the on-going implementation of activities concerning CLMSFP. The project should not end with the distribution of the equipment. There is still a lot to be done to build the capacities of the processors (on quality management but also and maybe even more on business management), to help them develop linkages with relevant SHFs and FOs, to help them find solutions with new issues arising with an improved processing capacities (developing their market and developing their access to finance in order to be able to procure enough raw material to run their equipment in a viable way. This is a key priority because the risk is actually very high to see these	**Conclusion 7: Time management was not optimal; delays were made worse by COVID restrictions.** 310. ENVAC time management was not optimal; almost no activities were launched before signature of contracts with the companies yet many activities could have been implemented before. Delays in implementation have increased with COVID ; many key activities have been undertaken during the last year (support to the aggregators , post-harvest handling demonstration) and even last months of implementation. (equipping CLMSFPs, trainings on climate smart and gender mainstreaming, purchase of large volumes of MZ from Premium). 311. This is too early to see effects and it does not allow either to build a post project	Distribution of CNFs late (effectiveness pillar 3) Very little activities on Y1 and Y2 (as the companies has first to be contractualised : not relevant. CLMSFP could have be identified in YA (no dependence between activities) Activities implemented in pillar 1 are one-off in nature with limited follow up and monitoring. The actual number of beneficiaries is difficult to assess Limited activities on production and productivity were done and there was no specific GAP training (effectiveness pillar 1) Limited monitoring of step down training (effectiveness) 5 aggregators received equipment to improve PH services for SHFs but were also asked to conduct tasks that are not their mandate, without adequate capacity building and late in the project

business collapse without an appropriate support. 308. There should be also attention given in priority on the follow up of Yedent accreditation for SC, as well as on the accreditation of Premium for SC+. Both companies are very close to have all the conditions in place, so even if ENVAC is over WFP should support them. At the same time, this is an opportunity to discuss and review how conditions of the contracts with these two companies are going to be applied after the end of ENVAC (procurement from SHFs and pricing conditions). 309. In the coming month WFP should organised a follow up and a post training monitoring for all the activities implemented (pillar 1 and 3) from 2020 to the end of the project (climate smart and gender training, post – harvest demonstration, effects of the radio programs. Lessons should be drawn to guide design of upcoming projects.	strategy, hence hampering the sustainability of the support given.	(sensitization, training, monitoring of farmers, traceability) (effectiveness pillar 1) There is no operating traceability system at aggregator and company level (effectiveness pillar 1 and 2) Out of 30 initially planned, 14 CLMSFP were trained and 3 selected to receive equipment. Equipment were not installed at the time of the evaluation (effectiveness pillar 2) No regular Follow up of the companies; mainly during RO/HQ visits ; WFP food technologist based in Accra not the best option. In 2020: many activities impossible to implement because of COVID (effectiveness pillar 1, 2, 3) A lot of activities launched in 2021 : not possible to really evaluate (effectiveness pillar 1 and 2)
Recommendation 7: Strengthen CO capacity with the skills required for future programs : capacity building, institutional strengthening, partnership management; M&E and capitalisation. 312. WFP should invest on strengthenning CO project management capacity as well as m&E capacities (with RO and possibly HQ support) and knowledge management as well as capitalization (to improve project and institutional memory.	**Conclusion 8: Poor project management quality limits the capacity to learn from the project.** 315. Implementation was not done how it was planned. The Initial scheme for HR was not respected (with an ENVAC project manager who coordinates the activities of the 3 pillars; a gender expert, an M&E expert), and there was a lot of turn over (few current staff were involved	No criteria to target vulnerable farmers/focus on previously supported SHFs (see relevance), no specific activities to answer their needs. M&E was not efficient (efficiency) M&E seeks to measure the project's effect on SHF food security but the targeted SHF were not vulnerable nor exposed to food insecurity at baseline. The project did not address local vulnerability issues (relevance, effectiveness)

313. It is essential to develop at project level a managing position with someone able to have an overview on the implementation of the project. Even if the funds are managed through the CSP, WFP should be able to provide some financial report on a specific project. WFP should; 314. Favour long-term relationships with annual action plans for both NGO and public entity (avoid short term contract and position of "service provider" and ensure coordination between the different partners and the different pillars.	in the design and in the first years of implementation). 316. M&E system in place was not designed to capture the actual changes and effects that could result on the intervention and there was limited attention on knowledge management and documentation. 317. Implementation of ENVAC was done in silos without enough attention on the coherence of the implementation and on the links between activities, and between activities and project's strategy. The absence of financial reports in the documentation is a weak point also. Similarly, ENVAC's leverage on existing project was limited and not built on Government projects (like PFJ). 318. Implementing partners and government institutions were in a position of service providers and not real partners (there was no steering committee and no regular technical meetings organized). This can explain to some extend some of the weaknesses identified during evaluation.	Activities implemented in pillar 1 are one-off in nature with limited follow up and monitoring. The actual number of beneficiaries is difficult to assess (effectiveness pillar 1) Leveraging on other projects supporting value chain development was limited (effectiveness and efficiency pillar 1) Relation with MoFA / GHS: sometimes considered as "implementing partners": GHS enter data but do not have access to reports / the national M&S not considered by the project (sustainability) Lack of external and internal coordination (no steering committee, no project coordinator position) (efficiency) Capacity building of IP and IP staff is limited and there were mainly involved as service providers for very specific activity over a short period of time (efficiency) A lot of actors have been involved in ENVAC's implementation, bu mainly as service providers even if they were involved according to their mandates. Especially for pillar 1, development projects and MOFA were only partially associated to the project, They was not enough dialogue and not enough regular reflection on the project' strategy (impact) ENVAC market-based approach is artificial because it is very project dependant. Willingness of consumers to pay for CNFs is not demonstrated. (sustainability)

ANNEX 8. DETAILED PRESENTATION OF THE CONTEXT

319. Ghana has consistently been ranked as one of Africa's top three press-free countries with a large broadcast media landscape topmost among which is radio. Press freedom has helped Ghana build a strong system of social capital. Ghana is naturally endowed with several resources compared to many other West African nations, with a population of about 29.6 million (2018 estimate) and a population growth rate of around 2.3% per year; and a total land area of 23,884,245 hectares (Ghana Statistical Service, 2019). Women make up half of the population and have made progress in the legislature, judiciary, industry, and academia, but they continue to face inequities in property, agricultural inputs and productive resources, finance, family planning, education and health care, resulting in economic and social inequity (USAID-Ghana, 2020). Ghana's main economic weaknesses are related to public finance management and debt dynamics. The country's public debt rate nearly tripled between 2006 and 2016, rising from 26 to 74% of the GDP.

320. Like many less developed countries (LDCs), Ghana's economic structure changed beginning in the 1990s. The agriculture sector's share has progressively declined to the benefit of other sectors. Like several African countries, the decrease of the share of agriculture in Ghana's GDP has occurred principally in favour of the tertiary sector (non-tradeable). Agriculture's share still reached one third of added value in 2006. On the other hand, following the start of oil production in the 2010s, this share shrank considerably in 2017. In Ghana, the tertiary sector predominates, its activity being essentially concentrated in informal sector and low value-added activities (examples: retail trade, the hotel business and the food industry). Yet these activities, intensive in unskilled labor, provide little potential for productivity gains and technological diffusion. Furthermore, the recent rise in financial services and insurance should be noted, as they could favor the upgrading of the tertiary sector (AFD, 2019)

321. According to the Ghana Living Standard Survey (GLSS 7), the poor are those who live on less than two-thirds of the national average per capita income (GSS, 2018). Ghana established a measure of the standard of living based on household consumption expenditure, covering food and non-food items, including housing (consumption poverty). There are two poverty lines as established: the upper poverty line (also known as the poverty line which is GH₵ 1,314 per adult equivalent per year) and the lower poverty line (which is referred to the extreme poverty line of GH₵ 792.20 per adult equivalent per year). Ghana's national poverty rate has dropped by more than half since 1991 (The World Bank, 2015). This is a remarkable achievement for the country since not many other Sub-Saharan African countries have been able to reduce poverty at such a rapid pace and with such consistent patterns (Molini & Paci, 2015).

322. Poverty is primarily a rural phenomenon in Ghana with extreme poverty most pervasive in the five regions of the north. Poverty trends indicate that, regardless of ecological zone, the rural population have higher poverty rates than the urban populations (GSS, 2018). The national poverty rate is improving, but there are divergent patterns in poverty reduction across the board (The World Bank, 2020). For instance, in the savannah ecological regions of the Upper West, Upper East, and Northern Regions, 60%, 79%, and 72%, respectively, of the population are in the lowest income bracket while the Ashanti, Western, and Central regions have just 7%, 6%, and 5%, respectively, of their populations in the bottom bracket (USAID-Ghana, 2018). The growing poverty in rural Northern Ghana is worrying (GSS, 2018), hence government policies and programs along with NGO's and donors have been initiated to deal with the poverty situation.

323. Darfour and Rosentrater (2016) reported that around 5% of Ghana's population is food insecure, and another 2 million people are at risk of becoming food insecure. The authors noted that in recent years, agricultural growth has been faster than non-agricultural growth, with an average annual rate of 5.5% compared to 5.2% for the economy as a whole. The food security situation in the country is improving. The WFP in the 1st edition of the Food Security and Nutrition Monitoring Systems (FSNMS) Ghana released in June 2020 revealed that, almost all of the households surveyed (91.5%) were food safe, with only one in ten being moderately (7.7%) or extremely food insecure (0.8%). The few households that were considered moderately or extremely food insecure were from the Bono, Bono East, Northern, Greater Accra, and Ashanti regions (WFP, 2020a). According to the report, the harvest of the 2020/2021 major season was expected to boost food security. Food security at the turn of 2020 was improving, thanks to the widespread

harvest of staple grains, which has helped households to recover from food scarcity that marked the lean season (WFP, 2020b). Assessments of maize, rice, sorghum, and millet production during the 2020/2021 cropping season revealed a general increase in yield as compared to 2019 and the five-year averages (WFP, 2020a).

324. As the World Bank showed in 2007, the development of Ghana's economy has been somewhat harmful to natural resources. Therefore, to ensure sustainable development and to strengthen social cohesion, responding to the problems linked to climate change and the environment becomes crucial [6] . The Ghanaian economy is dependent on climate-sensitive sectors such as agriculture, fishing, tourism and forestry.

325. In 2012, agriculture contributed 23% to the national Gross Domestic Product (GDP) and declined in the ensuing years up to 2016 (Bawa, 2019). However, in the last few years, the agricultural sector has experienced substantial growth as a result of increased activities. The growth rate of real agricultural GDP increased from 2.9% in 2016 to 6.1% in 2017, and 4.8% in 2018 and accounted for more than 30% of export earnings (MoFA, 2020). The agriculture sector recruited 33.5% of Ghana's labour force in 2019, making the sector the second largest employer in the economy (Israel's Trade and Economic Mission to Ghana, 2020). The agriculture and agribusiness sector account for a large portion of smallholder farmers' economic activities and livelihoods (Diao, Hazell, Kolavalli, & Resnick, 2019). For instants, between 2018 and 2019, agriculture value added, or net output of the industry, stood at 11.98 billion USD (Israel's Trade and Economic Mission to Ghana, 2020). As a result, agriculture is widely regarded as a critical component of Ghana's economic growth and development (Benin, 2019).

326. The agriculture sector is hampered by several challenges:

- Poor financial support: Access to financing is vital for the growth of the agriculture sector in Ghana mainly for working capital such as acquiring inputs (seedlings, farm fertilizer) and for hiring labour. Actors from the finance sector consider agriculture as high risk since there are uncertainties like changing climate conditions, unstructured markets and unreliable supply chains. The interest rates are therefore very high.

- Poor transportation and storage facilities, leading to post-harvest losses

- Lack of information and data. The agriculture sector in Ghana has no centralized structured data accessible for all. Data in the sector is fragmented. Farmers and other stakeholders do not get fair prices for their goods.

- Inadequate agriculture extension service: The extension officer to farmer ratio stands at 1:706- as compared to FAO standard of 1:500

- Low mechanization/poor adoption to technology

- Land tenure system

327. USAID has developed the Global Food Security Strategy (GFSS) Country Plan for Ghana (USAID-Ghana, 2021) to strengthen agricultural production growth, resilience, and nutrition in northern Ghana's Northern, Upper East, and Upper West regions, where poverty and nutrition statistics are the worst. It should enable Ghana to answer its sub-national poverty and nutrition dilemmas while also strengthening its capacity to maintain and finance its strategic move towards self-sufficiency (Nkegbe & Mumin, 2021).

328. Before GFSS, the USAID-funded Ghana Agricultural Development and Value Chain Enhancement (ADVANCE) I & II projects supported the expansion of agricultural investments to value chain actors to gain competitive advantage of Ghana's maize, rice, and soybean value chains. SHF were linked to markets, finance, inputs, equipment, and information via larger commercial farmers and traders who have the ability and opportunity to invest in smallholder production. These linkages strengthened SHF' ability to increase the productivity of their farm businesses through improved production and post-harvest handling practices (Bellon, Kotu, Azzarri, & Caracciolo, 2020).

329. The Canadian Government's support to Ghana known as the Modernizing Agriculture in Ghana (MAG) project. The project provides direct funding to the Ghanaian government to improve food security at the same time it modernizes equitable and sustainable agriculture. The project aims to implement a comprehensive market-oriented farming approach and strengthen agricultural extension services

330. The COVID–19 pandemic significantly curtailed Ghana's economic growth momentum. Real GDP growth was estimated to decelerate from 6.5% in 2019 to 1.7% in 2020, due to the slump in oil prices and weakened global economic activity. Nonetheless, growth will be sustained by a budding recovery in construction and manufacturing sectors, combined with favorable gold and cocoa prices. Inflation is expected to reach 10% in 2020 from 8.7% in 2019 due to pandemic-related interruptions in supply chains and expansionary monetary policy aimed at mitigating the economic impacts of COVID–19. The fiscal deficit is expected to widen to 10.5% of GDP in 2020 from 4.8% in 2019 due to revenue shortfall from weak economic activity and unanticipated increased health expenditure. The current account deficit is expected to narrow to 2.5% of GDP in 2020 from 2.8% in 2019 because of reduced demand for imports. Foreign exchange reserves maintained the previous year's level of 4.0 months of import cover as of October 2020. The Ghana cedi depreciated by 3.1% in 2020, compared with a 10% depreciation in 2019. Ghana remains at high risk of debt distress in the International Monetary Fund's 2019 Debt Sustainability Analysis because of solvency and liquidity risks. The public debt-to-GDP ratio reached 71% in September 2020 from 63% a year earlier. A banking sector reform, including recapitalization of banks and liquidation of insolvent financial institutions, has enhanced the overall resilience of the sector. Firm and household surveys reveal that during the partial lockdown, about 770,000 individuals experienced reduced wages, and 42,000 lost their jobs (AFDB, 2020).

ANNEX 9. RELEVANCE PILLAR 1

Annex 9-A. Case framework

331. The CASE framework is based on three pillars (A. Maatman)

✓ Agribusiness cluster formation, or the strengthening of local level capacity for innovation and entrepreneurship, involving a diversified array of actors and stakeholders

✓ Value chain development, aiming to link farmers to consumer segments, emphasizes the integration of other local actors (i.e., the local entrepreneurs who are also part of the agribusiness cluster)

✓ Transaction governance capacity-building, which involves both public and private stakeholders, and fosters improvements in the institutional environment for agribusiness development

332. Market integration is risky and it would be wrong to suggest that local actors simply stand to win from participation in value chain development. In fact, without sufficient information and bargaining power, SHFs may quickly see their economic rents squeezed and captured by better organized actors, up or down the commodity value chain. SHFs are also the main risks bearer. Therefore, the effective and largely profitable participation of local agents, and above all farmers in commodity supply chains depends on the capacity of those actors to learn and work together, to innovate and to implement coordinated action. Agribusiness cluster formation aims to strengthen individual and collective competencies, and professional inter-farm and farm-firm relationships at a local level.

333. CASE promotes the use of a very specific actor-oriented notion of a VC (value chain). The VC, involves only those actors that effectively engage in the transactions of a product on its way to its final form and destination. Value chains are supported by financial and business service providers. In doing so, those actors are considered as part of the value chain or the business system, who really have something to share. They stand out to gain directly from knowing each other better (i.e., trust), from learning together and/or sharing of information, and from improved coordination of action (and investment).

334. The third pillar of the CASE approach was initially labelled as the 'strengthening of the institutional environment for agribusiness' or 'lobbying and advocacy for an enabling agribusiness environment. In fact, the CASE approach is not meant to address the huge challenge of improving overall institutional frameworks at regional and (sub-)national levels but to draw attention specifically to those essential elements of the agribusiness environment that directly stimulate the expansion of trade. Cluster formation and value chain development have a greater chance to flourish when the rural (or agribusiness) investment climate improves. Governance here refers to all sorts of institutional arrangements that facilitate and generate coordination.

Annex 9-B. Limits of the FBO model in Ghana

335. In recent years, there has been renewed interest among both public and private organizations to establish farmer based organizations (FBOs) in Ghana. This interest is based on the premise that FBOs give farmers bargaining power in the market place, enable cost-effective delivery of extension services, and empower FBO members to influence policies that affect their livelihoods. Despite the recent dramatic rise in the number of FBOs, the evidence suggests that it is unreasonable to expect that many of them will evolve to sustainably undertake profit-generating activities.

336. The overarching incentive for farmers to organize themselves originates from the social and economic benefits that cooperation will generate for them. However, if the costs of cooperation are too high or when similar benefits can be accessed by individual farmers from other providers at lower costs, little incentive remains.

337. The study made by IFPRI in Ghana finds out that less than one half of FBOs engage in economic activities with the potential to deliver for their members reduced trans-action costs and improved access to various markets, and only about 13% of FBOs jointly market farm produce. Findings from the ENVAC's evaluation also show that there is a limited number of FBOs that currently aggregate their products and that the majority of farmers met sell individually.

338. In terms of motivation for forming groups, many FBOs are formed with the hope of receiving free goods or services from development programs. Only a few FBOs farm collectively to generate revenues. The revenue from group farms is shared or used to meet ad-ministration costs. Although most FBOs claimed group production was an important source of revenue for the groups, only a few groups actually seemed to view it as a profit-oriented enterprise. For the rest, group farming appeared to be used as a way for members to receive support from external agencies.

339. The bulk of the FBOs have not become bankable in the sense of being able to raise resources on their own to continue their collective activities. FBOs waiting for additional help are not necessarily maturing into groups capable of functioning independently. Many FBOs are relatively inactive, waiting for support for as long as five to six years. Despite limited progress, FBOs that are primarily engaged in production and are not profit-oriented continue to work together in the anticipation of more benefits, suggesting that they have benefited from past free goods and services received. While the vast majority of these groups have succeeded in attracting training and other external assistance, this study was not able to assess whether or not they have actually benefited from participating in the group.

340. There was also concern from a study [105]on institutional procurement of staples from smallholder in Ghana (based on the P4P programme) on the capacity of FBOs to actually aggregate and link with other market actors. The capacity of some of the FBOs selected by P4P was assessed as very low, especially the groups in Northern region and there were some clear doubts on whether these groups could meet P4P supply requirements, even if training is intensified.

[105] Anaadumba, Peter, et Stephanie Gallat. « INSTITUTIONAL PROCUREMENT OF STAPLES FROM SMALLHOLDERS », s. d., 23.

Annex 9-C. Aggregators/evolution of the model

341. Studies show that working with intermediate level actors (traders or processors) offers advantages for inclusive business development, as opposed to partnering only with the larger scale processors. Aggregators have a proximity with SHFs and can adjust easily to the local conditions and be more flexible. Local aggregators also face fewer barriers in terms of language and culture. Business terms and conditions can therefore be easily communicated. Most importantly, the locally-based aggregators have a better ability to build trust with local suppliers compared to the large end-buyers in the VC. Aggregators have known better the SHFs they are working with, especially in order to determine if they are creditworthy and if they can be counted on to follow recommended practices.

342. There is also a more direct interest in improved business relation with local actors as they are highly dependent on the success of their sourcing strategy (more than for final buyers). Even though they act as intermediaries, aggregators (or nucleus farmers) suffer less from the usual negative perception that SHFs have of brokers and middlemen.

343. Because buyers are often not close to farmers (either geographically or socially), this creates a market opportunity for intermediaries who know the farmers better and who may have specialized logistical skills and capacities to act as product aggregators for the agro processor or exporter. This system, that started from the private sector is now also encouraged by MOFA (MOFA has initiated out grower scheme).

Annex 9-D. Overview of the main programs and projects working on value chain development in the targeted areas

Purchase for Progress (P4P) Ghana Project

344. P4P aims to enhance the lives and livelihoods of smallholder farmers in Ghana by increasing agricultural production, minimizing post-harvest losses, strengthening market infrastructure, and connecting them to quality markets, such as the World Food Programme. Smallholders received training in a range of areas, and their organizations have been given tools at a reduced cost.

345. Farmers were able to increase the quantity and quality of their crops as a result of their efforts. WFP created a market for this higher-quality surplus by acquiring it through direct contracts and soft tenders, mostly for its Ghana school-feeding programme. Some P4P-supported farmer's organizations (FOs) marketed their goods to markets other than the World Food Programme (WFP) in 2015, including a commercial processing company and school meals.

346. Improving lives and livelihoods: P4P-supported FOs have improved their capacity to provide services to their members (48 percent of whom are women), and smallholder households have boosted their maize sales. Members enhance their families' fortunes by properly feeding their children.

347. School feeding: A P4P-supported FO in the north sold to school caterers since 2014: by April 2015, 13 metric tons of mixed food commodities (rice, beans, and maize) worth US$6,230 was sold to 15 school caterers to feed over 4,000 students in 15 schools. This was made possible because to a collaboration with SNV World, which facilitated loans from the Bonzali Rural Bank, allowing the caterer to expand.

348. Equipment: In addition to the cost-sharing post-harvest handling tools provided by P4P, a lead farmer of a P4P-supported FO in the North acquired a maize sheller with the assistance of P4P and a matching grant granted by a Feed the Future ADVANCE project. He was able to offer shelling services to his fellow farmers, providing a source of income.

349. Sales to WFP: Thirteen P4P-supported FOs in the Ashanti region sold US$ 1.7 million worth of white maize (3,822 mt) to WFP, while five P4P-supported FOs in the Northern region sold US$ 81,000 worth of white maize (263 mt) to WFP, and a Partner-supported nucleus farmer in the same region sold US$ 24,500 worth of white maize to WFP (87 mt).

350. Market beyond WFP: A P4P-supported FO in Ghana's Ashanti area sold US$ 15,000 worth of white maize (50 mt) to Premium Foods Limited, one of the country's largest private processing enterprises. The company was pleased with the quality of the product, and a feasible commercial relationship for a long-term cooperation was developed.

Feed the Future Ghana Agricultural Development and Value Chain Enhancement (ADVANCE) II Project

351. The Ghana Agricultural Development and Value Chain Enhancement (ADVANCE) II project implemented by Agricultural Cooperative Development International/Volunteers in Overseas Cooperative Assistance (ACDI/VOCA) supported agricultural investments and scaling in order to increase the competitiveness of Ghana's maize, rice, and soybean value chains.

352. The project assisted smallholder farmers to build capacity to raise the efficiency of their farm operations through improved production and post-harvest handling practices through market linkages. The ADVANCE II approach was unique as it helped both emerging commercial agriculture and smallholders at the same time.

353. Objectives: Increase agricultural productivity in rice, maize, and soy value chains ; Increase adoption of agricultural technology (e.g. hybrid seed, mechanization, climate-smart practices, etc.); Increase market linkages; Strengthen local capacity for advocacy and development

354. Activities and Approaches**:** Facilitate smallholders' access to local commercial agricultural services (e.g. tractor services, threshing, advisory). Facilitate agricultural financing for smallholder and commercial farmers who are just starting out. In collaboration with input suppliers, demonstrate technology packages (hybrid seed, fertilizer, and excellent farming practices) (e.g. Dupont Pioneer, Yara, etc.). Organize annual pre-planting and pre-harvest agricultural fairs to let buyers and sellers connect. Create long-term

possibilities for women and men along specific value chains, as well as detect and address gender inequity through increased public and private sector knowledge and stronger networks. advancing gender equality.

355. Project Results: Participating farmer income increased by 30%. 100,000 individuals benefited directly from the project. A total of 60,000 farmers adopted new technologies

Greater Rural Opportunities for Women (GROW) Project

356. The Greater Rural Opportunities for Women (GROW) project implemented by Mennonite Economic Development Associates (MEDA) was funded by Global Affairs Canada with a budget of CAD 20.00 million. GROW's ultimate purpose was to provide nutritious food to 20,000 smallholder farmers in the Upper West Region all year round by increasing agricultural production of women farmers, establishing market linkages, diversifying the food they produce, and improving their nutritional knowledge.

357. The project began in 2012, ended in November 2018, and implanted for six-and-a-half-years. The aim of project was to help women and their families in some districts in Upper West Region of Ghana. It was implemented with support from Key Facilitating Partners (KFPs), which are Non-Governmental Organizations that operate in the project area.

358. The GROW Project focused on enabling women farmers to expand and diversify agricultural productivity, marketing, and household nutrition using market-based approaches. Soybeans were chosen for promotion above other crops due to their market potential and nutritional benefits.

359. The Project used market based approaches and focused on three areas:

1. assisting women farmers to increase and diversify farm production resulting in more food available to the family throughout the year;
2. helping women sell their products – particularly soybean- to high value markets so that they have increased income to buy food needed to supplement what they produce; and
3. helping families improve household nutrition by providing information about the nutritional needs at each stage of life and demonstrating combinations of food that increase micronutrients in the diet.

360. Grow had impact on the women smallholder farmers, their families, their communities, and the region. At the end of the 2018, GROW reached 23,368 women soybean farmers in Ghana's rural Upper West Region, as well as 163,879 secondary beneficiaries. The following are some of GROW's accomplishments and impact:

- The beneficiaries recorded a 105 percent increase in income, for example, women farmers' average annual income in 2012 was GH₵ 538 (CAD 135), compared to GH₵ 1,104 (CAD 278) from soybean sales in the 2017 farming season.
- GROW assisted 21,500 farmers in harvesting 13,643 hectares of soybeans in 2017, resulting in an output of 14,632 metric tons.
- Soybean yields for GROW women farmers increased by 200 percent from 0.73 metric tons per hectare in 2012 to 1.11 metric tons per hectare in 2017.
- GROW farmers sold 11,169 tons of soya at an average price of GH₵ 200 per 100kg, netting GH₵ 22.3 million (about CAD 5.6 million).

Assisting in the Management of Poultry and Layer Industries with Feed Improvement and Efficiency Strategies(AMPLIFIES) Project

361. The USDA-funded AMPLIFIES Ghana program was implemented by ASA/WISHH over a five-year period. The project contributed to the USDAFFPr goals of enhancing agricultural production and trade by promoting the application of improved agricultural techniques and technology among target groups and establishing market linkages between buyers and sellers. Additionally, the project was set up to boost Ghana's agriculture industry's downstream value chain capability, notably market linkages for locally produced maize and soy commodities used in feed and poultry production.

362. The three main objectives of AMPLIFIES Ghana are:

- Increase agricultural productivity in the poultry value chain by increasing the quantity and decreasing the cost of poultry feed by reducing post-harvest losses and primary feed ingredient procurement inefficiencies;
- Improve chicken feed quality through increased feed testing capacity and demonstration of the benefits of high-quality feed to increase agricultural output in the poultry sector.
- Increase egg trade through public awareness campaigns and commercialized poultry feed trade through better distribution and marketing.

Modernizing of Agriculture in Ghana (MAG) Project

363. The MAG project, funded by Global Affairs Canada, gave the Ghanaian government direct funding to increase food security and make the agriculture sector modern, equitable, and sustainable. The goal of the project was to develop a comprehensive market-oriented strategy to farming while also strengthening and modernizing agricultural extension services. The project will help 2.8 million agricultural households, including many female farmers, across the country at the national, regional, and district levels. The following are some of the project's activities: 1) offering agricultural extension services and market-oriented training to farm households, with a special emphasis on giving information related to enhanced cultural practices and the relevant technology, fertilizers and pesticides; 2) providing extension materials, equipment, and logistical support to District Agricultural Departments and Regional Agricultural Departments; 3) funding innovative, demand-driven, and market-oriented research to address current challenges faced by smallholder farmers; and 4) updating and reorienting a standardised curriculum for agricultural colleges and farm institutes to be more market-oriented, gender-sensitive and climate-smart; and 5) Improving the enabling (administrative and legal) environment to make agricultural production more accessible to local and international markets.

364. Global objective :Improve food security and making the agricultural sector more modern, equitable and sustainable

365. Expected results:

✓ Increased adoption of relevant, productivity-enhancing technologies, which would result in yield increases in maize and rice, and a reduction of post-harvest losses

✓ Increased adoption of market-oriented approaches to farm management, which would result in increased volume of produce marketed and agribusiness agreements signed

✓ Increased private sector investments in sustainable agricultural input supply, production, marketing and processing, which would result in increased number of farmers accessing input suppliers, loans, and equity investment to grow their businesses.

366. Duration: 4 years: 01/02/2017 - 31/03/2021

367. Localisation: The project the national, regional and district levels of Ghana.

368. Beneficiaries: 2.8 million farm households, including many female farmers

369. Budget: CAD 135 million

370. Implementation: Government of Ghana through the Ministry of Food and Agriculture

371. Training Topics Covered During the Project: Agriculture & value chains, climate, climate change & adaptation, employment & revenues, food security & zero hunger, gender, governance & capacity-building, local actors & livelihoods, markets, prices & trade, natural resource management, rural-urban issues, youth

372. Targets: Institutions, poor households, vulnerable small-scale farmers, women, youth

373. Agric Pillars

✓ Pillar 3: Sustainably improve agricultural and food productivity and the incomes of the most vulnerable households and improve access to food

✓ Pillar 4: Strengthen governance in food and nutrition security

Planting for Food and Jobs Project

374. Smallholder farmers dominate the food crops subsector in Ghana, with cropping practices defined by: 1) insufficient use of productivity-enhancing technology; 2) poor use of quality seeds and fertilizers; and 3) weak market linkages. All of these factors collectively hamper farm productivity. The government, under the Ministry of Food and Agriculture (M0FA), responded by launching the first flagship module– Planting for Food and Jobs(PFJ) campaign in 2017. Planting for Food and Jobs is the government's flagship agricultural campaign, which has five (5) implementation elements. The first module, PFJ (Crops), aims to increase food security by ensuring the timely availability of certain food crops on the market, as well as creating jobs. On April 19, 2017, in the then Brong Ahafo Region, H. E. President Nana Addo Dankwa Akufo Addo officially launched this module at Goaso. The programme was expected to increase the production of maize by 30%; rice by 49%; soybean by 25%; and sorghum by 28% from the prior production levels in 2017. The five Modules are: 1) Food Crops (PFJ); 2) Planting for Export and Rural Development (PERD); 3) Greenhouse Technology Villages (3 Villages); 4) Rearing for Food and Jobs (RFJ); 5) Agricultural Mechanization Services (AMSECs)

375. Tenets of the campaign:

✓ Motivate farmers to adopt certified seeds and fertilizers.

✓ Empower the beneficiaries with knowledge and skills to maximize the benefits of used subsidized inputs.

✓ Improve the marketability of the increased food produced under the campaign through strong linkages among producers, aggregators, public institutions, private food and feed enterprises.

✓ Use information and communication technologies (ICT) for efficient targeting of beneficiaries of the campaign.

✓ Increase job-opening opportunities as a result of higher levels of productivity.

✓ Stimulate enterprises operating along the supply chains of inputs and marketing of outputs to create jobs and develop technical and human capacities in rural and urban areas.

✓ Overcome food deficits, reduce importation of basic food commodities and increase exports to the neighboring countries.

376. Goal

The Goal of the Campaign is to modernize the agriculture sector of the economy in order to;

✓ 1) Improve food security;

✓ 2) Create employment opportunities and

✓ 3) Reduce poverty.

377. The Objectives

✓ To ensure immediate and adequate availability of selected food commodities.

✓ To provide job opportunities for the teeming unemployed youth in the agriculture and allied sectors.

✓ To create general awareness for all formal workers and public institutions to farm and establish backyard gardens.

✓ To serve as food imports substitution.

378. Implementation Approach; The adopted approaches aim to:

✓ 1. Motivate farmers to use input and output markets.

✓ 2. Create employment opportunities along the commodities' value chains.

379. Motivating Tools; The program focuses on providing:

✓ 50% subsidy of the cost of inputs (seeds and fertilizers)

✓ Complementary Services such as Extension Services and Marketing of outputs

Annex 9-E. overview of the alignment of ENVAC with other value chain development projects

Table 10: Overview of ENVAC and other programs alignment

	WFP-P4P	USAID-ADVANCE II	MEDA-GROW	ADRA-Amplifiers	MAG	PFJ
Objectives of the project	• To improve smallholder farmers' lives and livelihoods by increasing agricultural productivity, reducing post-harvest losses, improving market infrastructure and linking them to quality markets, including WFP	• Increase agricultural productivity in rice, maize, and soy value chains • Increase adoption of agricultural technology (e.g. hybrid seed, mechanization, climate-smart practices, etc.) • Increase market linkages • • Strengthen local capacity for advocacy and development	• Assisting women farmers to increase and diversify farm production resulting in more food available to the family throughout the year; • Helping women sell their products – particularly soybean- to high value markets so that they have increased income to buy food needed to supplement what they produce; and • Helping families improve household nutrition by providing information about the nutritional needs at each stage of life and demonstrating combinations of food that increase micronutrients in the diet.	• Increase agricultural productivity in the poultry value chain by increasing the quantity and decreasing the cost of poultry feed by reducing post-harvest losses and primary feed ingredient procurement inefficiencies; • Improve chicken feed quality through increased feed testing capacity and demonstration of the benefits of high-quality feed to increase agricultural output in the poultry sector. • Increase egg trade through public awareness campaigns and commercialized poultry feed trade through better distribution and marketing.	• Increased adoption of relevant, productivity-enhancing technologies, which would result in yield increases in maize and rice, and a reduction of post-harvest losses • Increased adoption of market-oriented approaches to farm management, which would result in increased volume of produce marketed and agribusiness agreements signed • Increased private sector investments in sustainable agricultural input supply, production, marketing and processing, which would result in increased number of farmers accessing input suppliers, loans, and equity investment to grow their businesses.	• To ensure immediate and adequate availability of selected food commodities. • To provide job opportunities for the teeming unemployed youth in the agriculture and allied sectors. • To create general awareness for all formal workers and public institutions to farm and establish backyard gardens. • To serve as food imports substitution.
Targeted region	Ashanti and Northern Region	Ashanti, Brong Ahafo and Northern Region	Upper West Region	Greater Accra, Ashanti, Brong Ahafo and Northern Region	Nationwide	Nationwide
Number of beneficiaries	1,524 Smallholder farmers	131,493 beneficiaries	23,368 women soybean farmers	4,961 crop and poultry farmers	2.8 million farm households	1.2 million
Focal Crops	Maize, Rice	Maize, Rice Soya bean	Soya bean	Maize, Soya bean	Maize, Rice, Soya bean, Millet, Sorghum, Cowpea	Maize, Rice, Soya bean, Millet, Sorghum, Cowpea

FBO capacity building activities (in terms of management, instructional capacity…)	Group Formation, Nurturing and Development	Group Formation, Nurturing and Development	Group Formation, Nurturing and Development	Group Formation, Nurturing and Development	Group Formation, Nurturing and Development	No
Support for provision of inputs/farm equipment	Yes	Tractors, inputs, seeds (During the 2019 planting season five Nucleus Farmers supported 52 outgrowers groups which provided 1,006 smallholder farmers with ploughing, certified seeds, fertilizer, and agrochemicals support of $706,695 worth of both cash **($9,263)** and in-kind credit **($697,432**) to support their production.)	Tractors service, Certified Seeds, Inoculants	No	No	Certified Seeds, Fertilizer, Tractors Service MoFA provided subsidies of GH₵ 248,175,615 and GH₵ 365,965,367 in 2017 and 2018, respectively, for both seeds and fertilizers
Training on GAPS	Yes	Yes	Yes	Yes	Yes	Yes
Training on post-harvest and storage	Yes	Yes	Yes	Yes	Yes	No
Provision of equipment or infrastructures for PHH	Warehouses, Sheller	Warehouses, Crop Sheller, Tarpaulins	MEDA received a 50,000 USD grant to provide 20 threshers. GROW communities that were also part of the World Food Programme's ENVAC project. Through this initiative, 20 GROW groups received a multi-crop thresher, were trained on its use and maintenance.	Warehouses	No	No
Support to processing	Yes	Yes ; Technical Support and Market Linkage with Nucleus farmers and Aggregators	Yes, Market Linkage with Aggregators	Yes ; Technical Support, Capacity Building Training and Market Linkage with Farmers and Aggregators	No	No

Marketing and market linkages	Yes P4P SHF to markets opportunities through the Ghana School Feeding Programme	Yes ADVANCE II Linked farmers to PFL, Yedents, Agricare Ltd, National Buffer Stock Company	Yes GROW linked female Soybean farmers to Aggregators and Sales Agents, the entrepreneurial woman intermediaries trained by the GROW project	Yes AMPLIFIERS linked farmers to Poultry Farmers and Poultry Feed Processing Companies like Boris B and Agricare Ltd	Yes MAG is designed to link farmers to market opportunities across the agricultural values through the Regional Agri-business WhatApp Platforms created in the various regions in the country	No
Support to aggregators	No	Yes Training and Capacity Building, Equipment Grants and Market linkage	Yes Training and Capacity Building and Market linkage	Yes Training and Capacity Building, Equipment Grants and Market linkage	Yes Training and Capacity Building	No
Focus on gender?	Yes	Yes	Yes	Yes	Yes	Yes
Focus on vulnerable farmers?	Yes	Yes	Yes	Yes	Yes	Yes
Focus on climate change/climate smart agriculture	Yes	Yes	Yes	No	Yes	Yes
Policy building/capacity building of MoFA or other government institutions	Yes	Yes	Yes	Yes	Yes	Yes

ANNEX 10. ENVAC TARGETED VALUE CHAINS

380. Maize is an important crop for Ghana, with a production of 3 million MT in 2019 (MOFA-IFPRI). It is both a very important commercial crops in the selected areas and an important staple. A quarter of calories consumed by Ghanaian HH come from maize (MOFA-IFPRI). Maize is also a priority crop for the GoG (under PFJ initiative). Maize is the main cereal used in the production of SC/SC+. The choice of soybean is also relevant. Soya is becoming a very important cash crop in the northern regions of Ghana (mainly UW and NR) and there is a strong demand driven by a growing poultry industry. As a legume, growing soya contributes to maintaining soy fertility and SHFs consider that soybean is less attacked by pest. Soya has also an interesting potential for nutrition and is used in the production of SC/SC+. The choice of millet for value chain development and linkage with processors is more questionable as it is mainly grown on a very small scale and for family consumption. However, it is very important for food security in the growing area (it is considered as a hunger breaker and it can tolerate droughts). It is also included in SC and SC+ (on a limited scale). The same questions can be asked about cowpea. It is a highly nutritious crop, but it is only sold at a very small-scale, and is not needed to produce SC/SC+.

Maize value chain

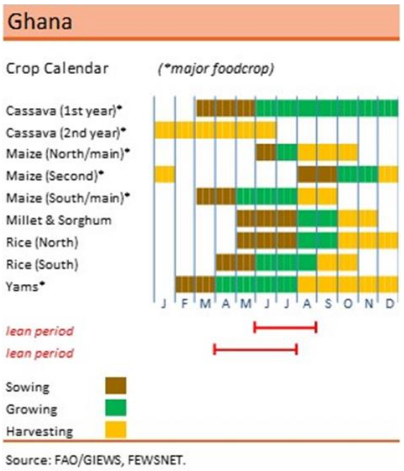
381. Maize is grown throughout Ghana however the leading producing areas are mainly in the middle-southern part (Brong Ahafo, Eastern and Ashanti provinces) where 84% of the maize is grown, with the remaining 16% being grown in the northern regions of the country (Northern, Upper East and Upper West provinces).

382. Currently, the national average maize yield is estimated at 1.6 tonnes per hectare. Using improved technologies, yields of 4-5 tonnes per hectare have been recorded in on-farm demonstration fields. Lower yields have been attributed to traditional farming practices, the use of low-yielding varieties, poor soil fertility and limited use of fertilizers, low plant population, and inappropriate weed control.

383. In the northern regions of Ghana, the majority of farmers still rely on their own seeds (that they keep from the previous harvest). However, they have also access to certified seeds (produced in Ghana) and they regularly purchase some (depending on their financial means). In the southern areas, the majority of farmers use certified seeds and when they have financial means they also purchase hybrid seeds.

384. All farmers apply some fertilisers, but only a few of them can actually apply the recommended amount of fertilizers, even if fertilizers are subsidized in Ghana. The amount of fertilizers applied mainly depend on their financial means. A study[106] made in 2015 indicates that as high as 65.8% of the farmers applied fertilizer below the MOFA recommended dosage. All the farmers interviewed use herbicide (they consider that some weeds are not possible to be destroyed manually). Spraying farms with pesticides is also very common and SHFs met consider that attacks of pests become more and more of an issue, especially concerning armyworms. Fertiliser costs represent about 20% of the total production costs[107].

Figure 5: cropping patterns in Ghana-source FAO



385. The following figure show the cropping pattern for maize in Ghana. In the Southern regions of Ghana, Maize is usually grown for two seasons (main season starting in March and minor season starting in August). In the northern parts of Ghana maize is only grown for one season (starting in June). With climate change, rain patterns become harder to predict and, in the south, farmers tend not to be able

[106] Abdul-Rahman F. A., Donkoh S. A. Analysis of the Maize Value Chain Development in the Northern Region, the case of the Association of Church Development Programme (ACDEP), UDS, Ghana Journal of Science, Technology and Development, 2015

[107] Isaac Kankam-Boadu, Joseph Sarkodie-Addo and Francis Kweku Amagloh, 2018. "Profitability of maize production in the northern region of Ghana", International Journal of Development Research, 8, (09), 22861-22869.

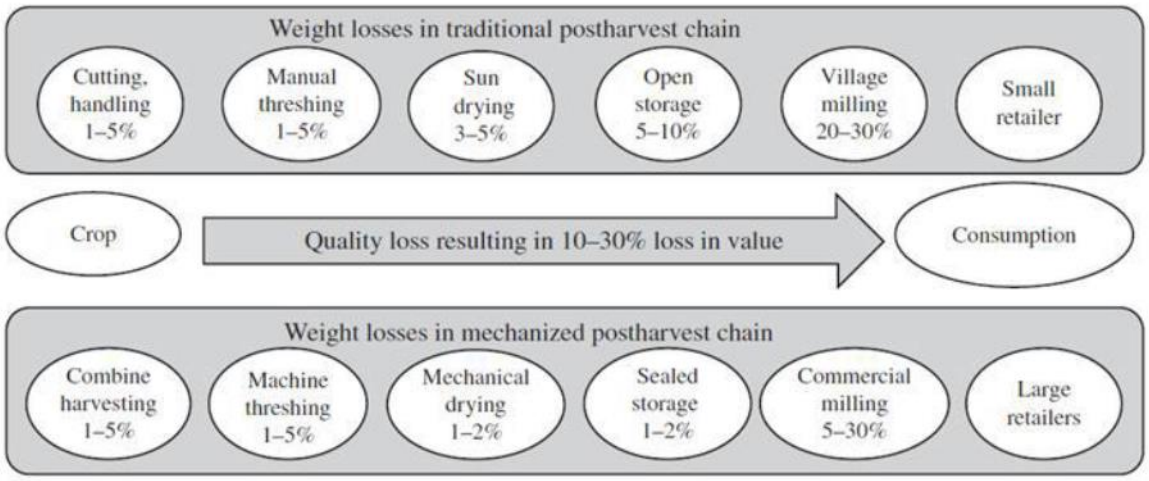
to grow during the major season, and focus only on the minor season (especially for a crop like maize that is water demanding).

386. Majority of SHFs plan maize in mono-cropping systems. There are some cases where it is intercropped with soya or other crop, but as farmers consider maize mainly as a commercial crop, they tend to grow it without mixing. In the South, all the land preparation is done with tractors. In the norther regions, tractors are also largely used but some farmers (especially in UR) use bullocks. When tractors services are not easily available, it can cause some delays in land preparation, as farmers have to wait for the tractor to prepare their land before planting. Most farmers use paid labourer as well as their family members for all the farming activities. Access to labour is often difficult and costly, especially as young people tend to leave rural areas or to look for other jobs than farmers. A study made by KNUST finds out that labour costs ranges between 27 and 32% of the total production costs.

387. Harvesting and Dehusking and shelling is often done on farms and requires use of paid labourers. Most farmers use mechanised maize-sheller driven by tractors. A major processing stage of maize in Ghana is drying, this is normally done manually by on-farm sun drying on cobs and drying at home on open field after shelling. However, this system is prone to theft, and interruption by rainfall thereby resulting in losses and poor quality of grains.

388. There is no recent study from MOFA on PHL but studies report between 10 to 20% post-harvest losses for the maize VC in Ghana. The following figure (figure 6) show that losses incurred at each step: piling of husked ears or ears on stalks on the ground in the field for long periods of time after harvest (pre-drying in the field); lack of proper drying of maize which results in molding and increase in aflatoxin levels; physical losses during harvesting, transportation, shelling, and bagging; and insect infestation.

Figure 6: post-harvest losses along the maize value chain in Ghana-KNUST



389. A majority of farmers sell the biggest part of their maize right after harvest, but keep a bag or two for household consumption. Farmers that store usually sell either when the price are more favourable or when they are in need of cash. They usually avoid storing it for a long period (not more than 3 months), as the risk of losses and attacks by insects becomes higher with a longer storage period.

390. A rough estimate of profitability of maize production for one hectare (made from data collected during the evaluation) show that growing maize is indeed profitable for farmers, even when they do not use improved seeds and apply less than the recommended level of fertilizers. However, maize become much more profitable for farmers that can invest in seeds and fertilizers (see Table 11).

Table 11: crop budget for maize cultivation (source = data collection)

with improved seeds and appropriate level of fertilizer	
costs	**in GHC**
land preparation	400
seeds	375
fertilizer	300
weedicide	200
labour for production	150
labour for harvest	200
threshing	200
bag	60
total	**1885**
Sales	
production (=15*160 bags)	2400
profit/hectare	515
profit/bag	25,75

with own seeds and lower fertilizer application	
costs	**in GHC**
land preparation	400
seeds	0
fertilizer	200
weedicide	200
labour for production	150
labour for harvest	200
threshing	200
bag	60
total	**1410**
Sales	
production (=10*160 bags)	1600
profit/hectare	190
profit/bag	9,5

391. Most of the maize for human consumption is sold in bulk from farmers to collector or to aggregators, and from aggregators to retailers or directly from farmers to the market.

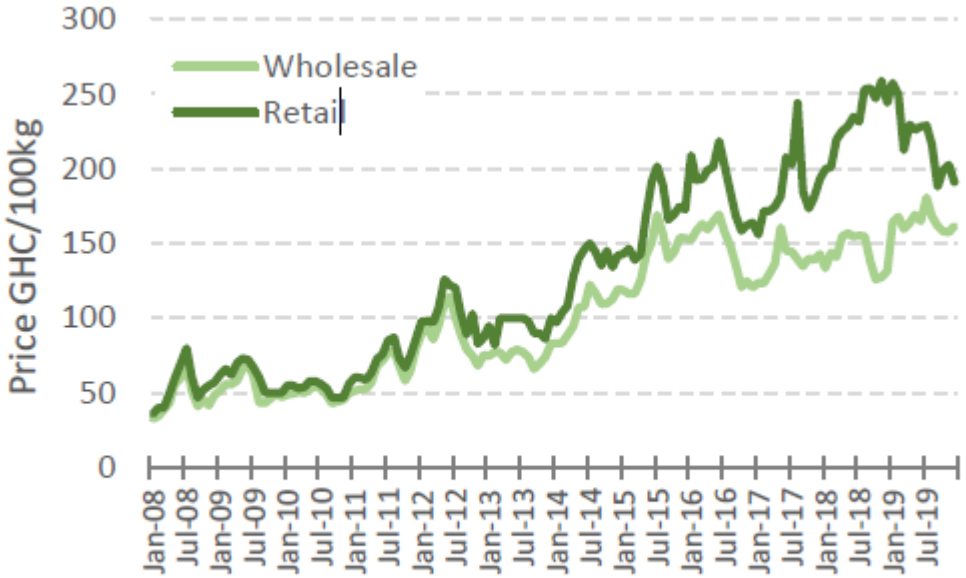
392. Collectors buy maize directly from farmers at community level or at the local market place and usually retail to domestic consumers, food processor or itinerant traders/aggregators. On the other hand, the large scale, high quality maize off takers and processors have networks of aggregators, as well large scale and nucleus farmers that supply maize to the firms.

393. The main feeder markets of Accra and the coastal areas are Teshiman in the transition zone and Tamale in Savannah zone. Ghana is self-sufficient in white maize production, and imports and exports – mostly informal and undocumented – have a negligible effect on domestic supply (FAO 2016).

394. In 2016, it was estimated (IPFRI-MOFA), that 45.7 % of the production of maize is retained at producers 'level (of which about 15% is lost during post-harvest handling and storage), 18.2% is consumed also directly by private households, 23.1% is for the feed sector and 13% for industrial processing. Guinness, that is the main breweries company in Ghana requires at least 6,000 MT/year, that are processed into grits.

395. Maize production is seasonal. Consequently, prices are low immediately after the harvest when supply is abundant but rise over the course of the marketing season. The markup of retail over wholesale prices partly reflects the costs of handling and repackaging maize into smaller retail quantities. However, whereas the markup was around 20% between 2008 and 2016, it has averaged more than 40% during the PFJ era (2017-2019), as shown in the figure below . The decline in wholesale prices may be linked to input subsidy-induced production cost declines at farm-level. Last season (2020-21), prices of maize have been very high again (starting the season around 160 GhC/bag and reaching over200 GhC/bag for wholesale price at the peak). SHFs (and MOFA) consider that it was a very bad production season as the rain came very late, and that the demand for maize was very high, which resulted in high prices.

Figure 7: wholesale and retail price of maize in Ghana 2008-2019 (Source : MOFA)

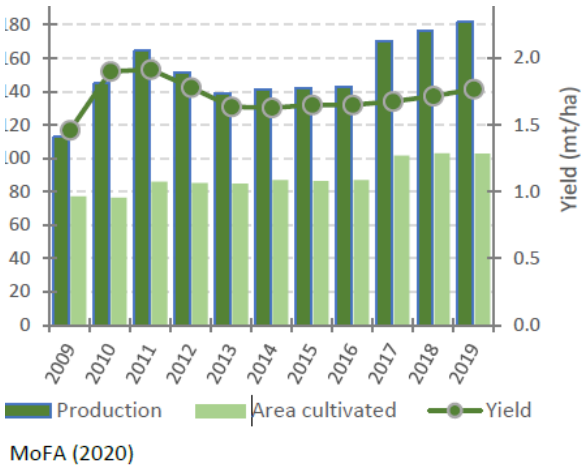


Source: MoFA (2020b)

Soya value chain

396. Soya bean is a non-native, non-staple crop in Ghana and is predominantly used as livestock feed. Production support initiatives for soya bean in Ghana have been largely donor-initiated in the past, but the crop is gradually attaining commercial status as more producers are becoming aware of the opportunities of growing soya bean as a cash crop. Soya bean was selected as a priority crop under PFJ owing to its production expansion and import substitution potential and associated socioeconomic benefits. As primarily an industrial crop, soya bean could become an important traded commodity in Ghana. Ghana's northern regions are major producing areas for soya bean. Northern region alone contributes about 70% of national soybean area and about 77% of national production (SRID, 2012) From here soya beans are transported to urban areas in the south for further processing.

397.



MoFA (2020)

Figure 8 : area cultivated, production and yields for soybean in Ghana (2009-2019)

398. Over the last years (see figure 8), the area cultivated in soya as slightly increased. The average yield at SHFs' level is about 1mt/ha (according to data collection), but It can reach 3 MT/ha with good practices. MOFA (see figure above) is indicated an average yield about 1,7 mt/ha. The yield the benefits of soybean over other grain legume (such as groundnut and cowpea) include lower susceptibility to pests and diseases, better storage quality and larger leaf biomass which translates into soil fertility benefit to subsequent crops. Soya bean production is also being promoted in rural areas as a nutritious crop by training women especially in production and food preparation methods, with products such as dawadawa, soy meat and soy milk. Its diverse consumer segments demonstrate both its versatility as a food or cash crop and the significant market potential that exists.

399. Soybean used to be considered as a women crop, because it was mainly cultivated by women, but this is changing over the last year. As the demand and the prices are increasing, men are starting to grow soybean on their plots as well.

400. Soya bean requires considerable processing. In the case of small-scale producers, threshing is typically done manually, or with a tractor. Manual threshing involves piling soya bean plants on a tarpaulin or putting soya bean pods in sacks and gently beating them with a stick. Sometimes, instead of beating them with sticks a tractor is used to roll on the soya pods. Mechanical threshers are used in large-scale production.

401. The relationship between the actors, especially up the chain, is very informal and actors are independent of each other. This implies that standards of quality and measures are not applied. This applies up to the local or district aggregator level. Actors beyond this point apply standards as the off-taker (processing firms) demand quality and only deal in standard measures. Producing household retain less than 10% of annual soybean production.

402. On the demand-side there is a thriving market for soya bean in Ghana, with domestic demand consistently outstripping domestic supply. Soybean production is driven by Ghanaian poultry industry. Ghana's poultry and aquaculture sectors are both growing rapidly. Both are also major demanders of soya bean meal, a key ingredient in animal feed. The poultry industry alone demands about 75% of the total soya bean demanded annually in Ghana. The size of Ghanaian commercial poultry production is pivotal to accurately assessing the volumes of imported soybean meal (and feed concentrates). Domestic soybean processing is meeting roughly 45,000 MT of the soybean meal demanded with the balance imported as soybean meal or feed concentrate (containing partial protein requirements). Soybean meal is a high-quality protein, which makes up between 20% and 28% of a poultry ration. It gives better quality eggs and meat. Crude soy-oil and refined oil are by-products from processing meal.

Figure 9 wholesale and retail price of soya in Ghana 2008-2019 (Source : MOFA)

Source: MoFA (2020)

403. International prices of soya have been relatively stable. In Ghana however pricse are increasing but are very volatile. SHFs met during data collection considered that last year, the prices were very high (up to

400 GhC/100 kg bag) and that there are a lot of buyers on the markets. Aggregators and processors mentioned that there are some foreign buyers (mainly from Turkey) that purchase in Ghana, because soybean produced in Ghana is non-GMO

Millet

404. The production of millet in Ghana is limited (about 160,000 MT according to MOFA in 2018) and yield are about 0,6 MT for traditional varieties (which are mainly grow), even if improved variety could give yield up to 2T/ha. Millet is cultivated in the 3 northern regions. Its importance is more pronounced in Upper East Region where it serves as a hungerbreaker immediately after the long dry season. The most important characteristic of millet is the crop's unique ability to tolerate and survive under adverse conditions of continuous or intermittent droughts, as compared to most other cereals like maize and sorghum[108].

405. For the SHFs met during data collection, millet is not a commercial crop and they only grow it on very small plots of lands. They do not consider it as a priority crop but a diversification crop. Millet is first in importance as food and less in importance as a cash crop. It is a traditional crop grown by most households for food, and sold only as a last resort for money.

406. Millet is an interesting crop for its nutritional value. The grain of pearl millet contains appreciable amounts of micronutrients especially Fe and Zn compared with cereals such as maize, rice, wheat and sorghum. The protein content (11%) of millet is not only high, but of exceptionally good quality; the lysine content is reported to be 3.68 mg/g protein compared to 2.24 for wheat, 3.36 for rice, 3.0 for maize, and 3.2 for sorghum.

Cowpea

407. In Ghana, cowpea is second to groundnut in terms of area under cultivation and quantity produced and consumed annually. An average of 143,000 MT is produced annually on about 156,000 ha making Ghana the fifth highest producer of cowpea in Africa.

408. Cowpea is important in human dietary need, especially for resource-poor families, as a source of quality protein for human and animal nutrition.109 Cowpea is used in controlling soil erosion due to its tendency to produce a heavy vegetative growth that provides full ground cover and as a legume it contributes to soil fertility conservation. Cowpeas are grown in rotation or mixed with cereals.

409. During data collection, cowpea was not mentioned as a priority crop for farmers. Cowpea is however a source of income for many rural household families in Ghana who are dependent on agricultural employment through cultivation of the crop, processing, and sales of cowpea products though in relatively small quantities. It is an important crop for woman as they are mainly responsible for cowpea cultivation and because it is considered cheap to grow (it does not require a lot of chemical inputs). It is also a crop that is widely consumed (it is often preferred to soya).

[108] Kanton, R., P. Asungre, E. Ansoba, Baba Inusah, J. Bidzakin, Mutari Abubakari, P. Toah, L. Haggan, C. Totoe, et F. Akum. « Evaluation of Pearl Millet Varieties for Adaptation to the Semi-Arid Agro-Ecology of Northern Ghana ». Journal of Agriculture and Ecology Research International 3, nº 1 (10 janvier 2015): 1-11.

[109] Haruna, Peter, Aaron T. Asare, Elvis Asare-Bediako, et Francis Kusi. « Farmers and Agricultural Extension Officers Perception of Striga Gesnerioides (Willd.) Vatke Parasitism on Cowpea in the Upper East Region of Ghana ». Advances in Agriculture 2018

ANNEX 11. EFFECTIVENESS PILLAR 3 (Q2) - MONTHLY REDEMPTION

Figure 10 : ENVAC-P3 : PLW monthly redemption 2017-21 – Source database WFP Tamale & CO

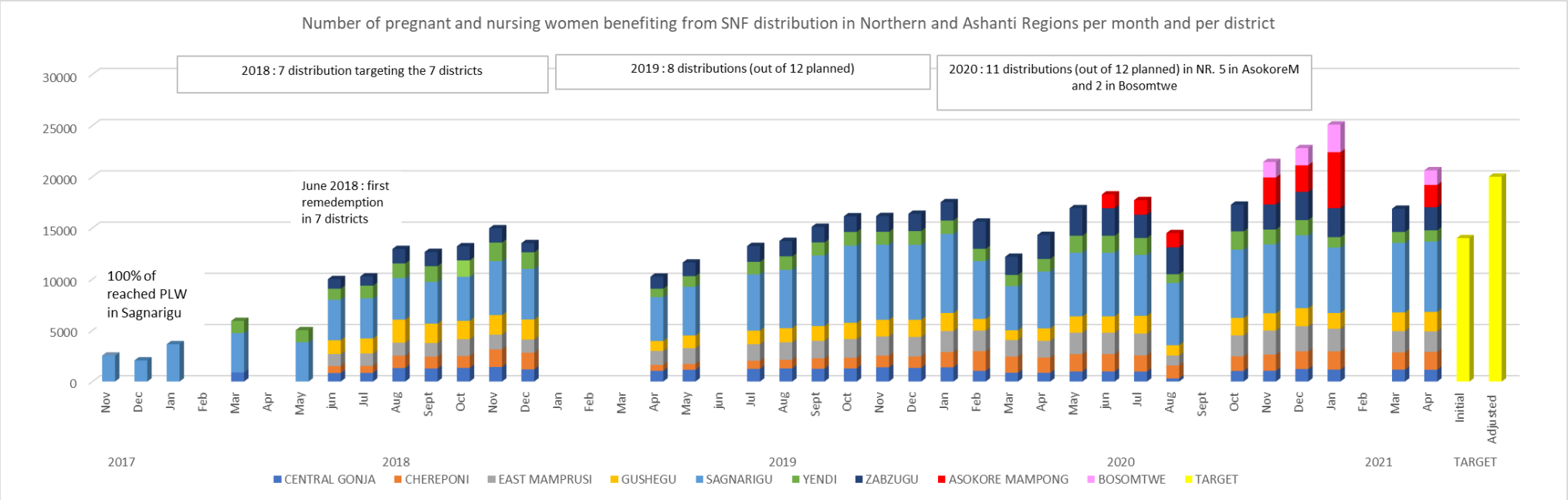


Figure 11: ENVAC-P3 : Children 6-23 months - monthly redemption 2018-21 Source database WFP Tamale & CO

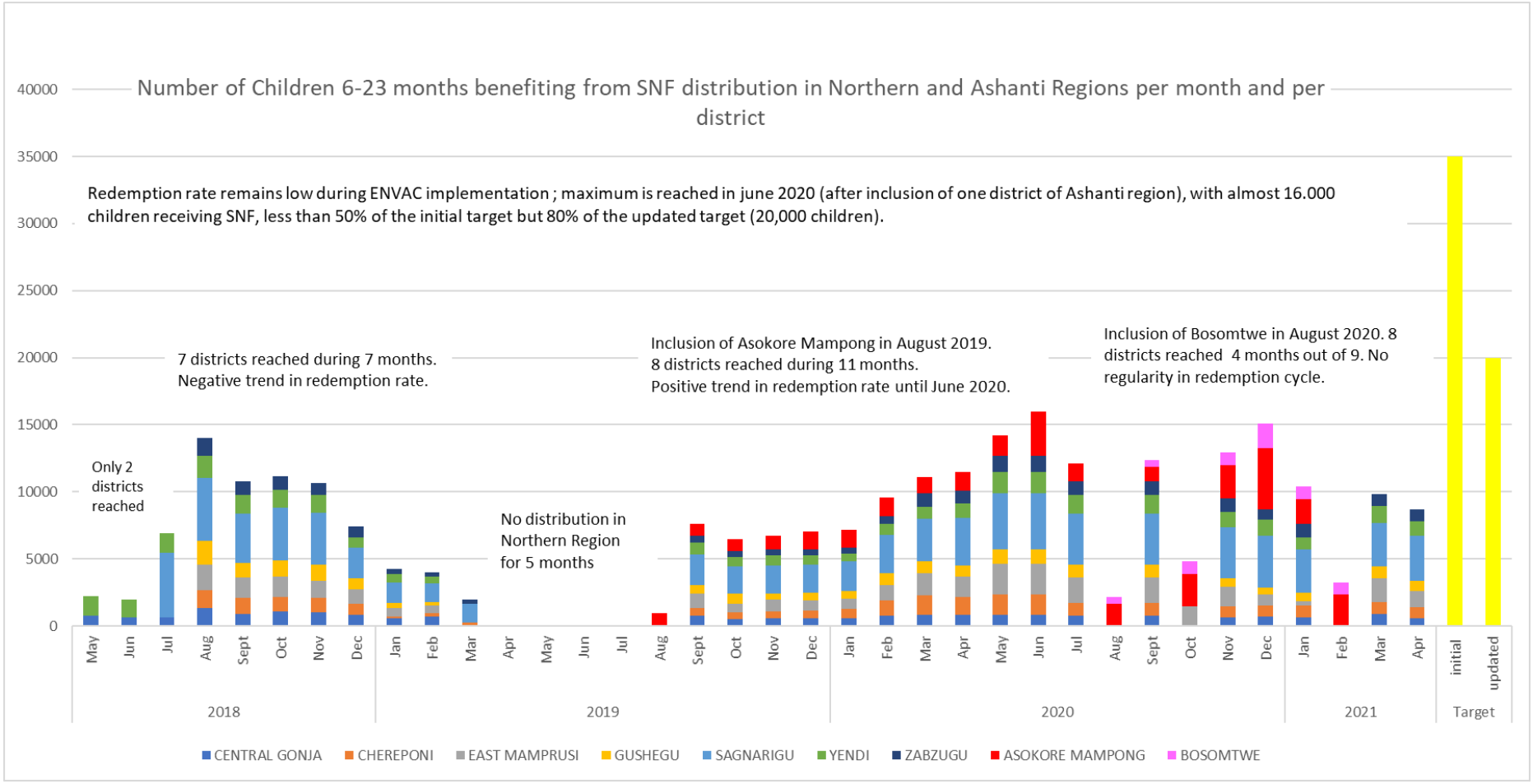
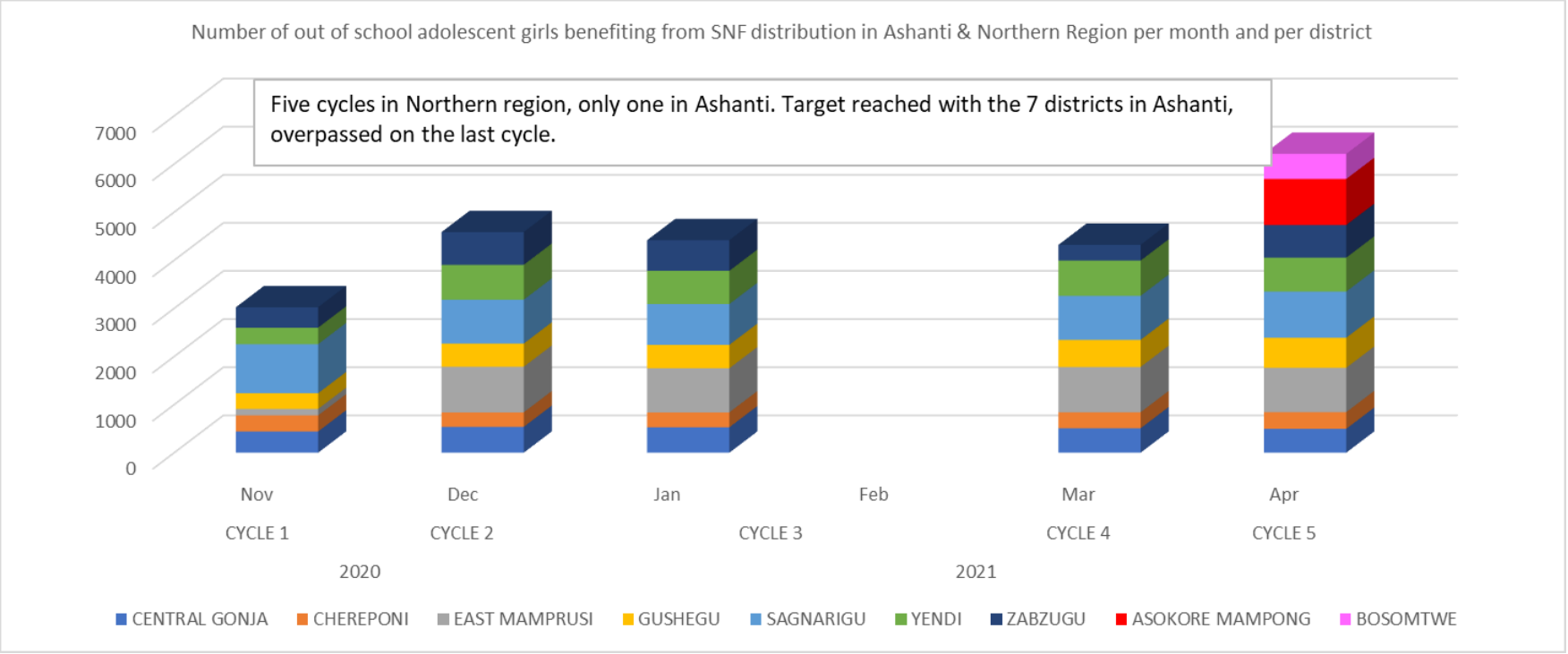


Figure 12: ENVAC-P3 : Out of School Adolescent Girls - monthly redemption 2010-21 Source database WFP Tamale & CO



ANNEX 12. P3 - M&E ANALYSIS

Annex 12-A. Effect and impact of ENVAC Pillar 3 on attendance to ANC and CWC in Northern Region

411. ENVAC-PMF does not include any indicators to measure effects on ANC and CWC attendance. To appreciate the potential effect of ENVCA Pillar3 on CWC and ANC, ET used MDCA reports, GHS data, and WFP redemption monitoring.

412. **MDCA – 2018:** in Northern region in 2018, health agents collected some indicators through interview of beneficiary captured with MDCA system. WFP considered that ENVAC had an impact on ANC and CWC attendance, demonstrated by increased number of antenatal visits and increased number of children weight control (see figures below). However, MDCA-data are partial; in 2018 the rate of submission of the MDCA data was about 20%, so the reliability of the figure can be discussed; there is no MDCA data available for 2019, and MDCA was finally abandoned in early 2020.

Figure 13: Evolution of the number of visits to HF during pregnancy between January and November 2018.

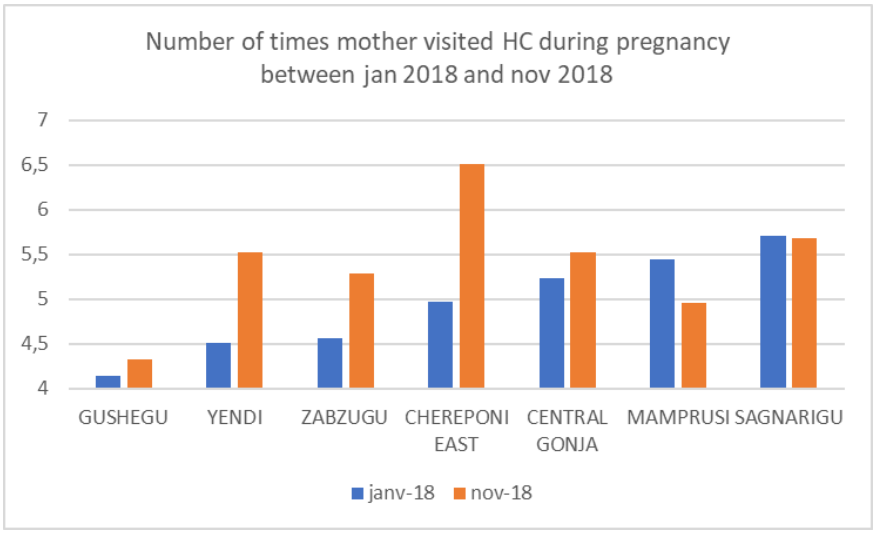
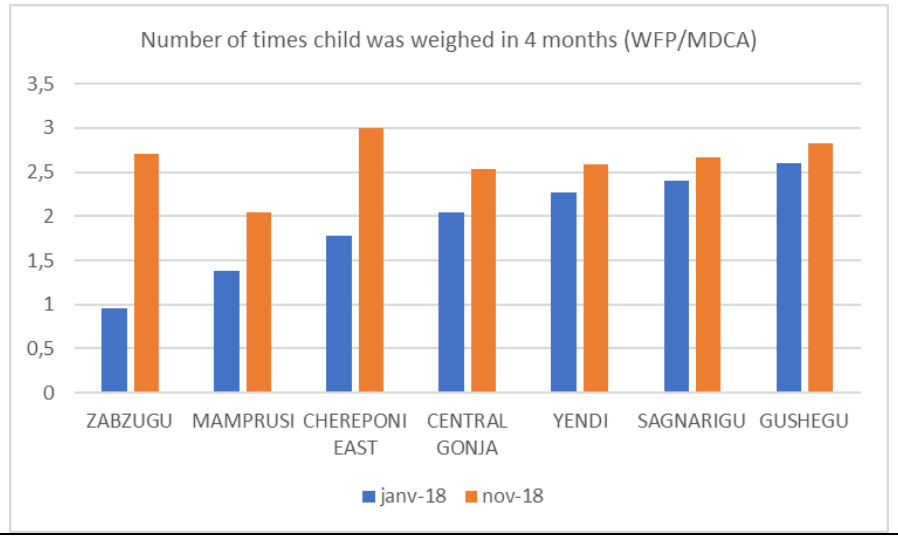


Figure 14: Evolution of the number of times child was weight in 4 months between January and November 2018.



Source: 2018 Annual Report - Stunting Prevention Programme-v2 (based on MDCA data saved in MDCA folder).

413. **GHS – DHIMS**: Data shared by GHS (DHIMS) presenting monthly ANC and CWC visits per HF in Northern Region (2017-2020) were analysed by ET; Data were desegregated to analyse the trends in the ENVAC supported HF (HF where some PLW and caregivers are entitled CNF-vouchers) and in the non-supported HF. The increase in the number of ANC/CWC visits may result from better adherence of women to ANC (linked to the improvement of the service and its promotion) but also from demographic growth. Increase in some HF can also reflect patient bypassing their primary health care provider to attend another one.

414. It appears that in the whole NR (19 districts), there was an increase in the number of CWC/ANC visits (figure 20 next page) and figure 18 on the right). In the 7 districts where the project was implemented : CWC and ANC visits increased in ENVAC-targeted HF as well as in the non-targeted HF.

415. Between 2017 and 2020, the progression in the number of CWC visits in targeted HFs (+28%) is slightly higher than in non-supported HFs (+23%) On the other hand, the progress in the number of ANC visits is significantly higher in non-supported HF (+55%) than in supported HF (+24% - see figure 5). The start or interruption of CNF-voucher does not produce a visibly impact on the CWC or ANC number of visits. **M&E data analysed do not demonstrate a consistent effect of ENVAC on attendance to CWC and ANV.**

GHS – DHIMS Details ANC : In the Northern region (all 29 districts) the ANC visits increased of 19% between 2017 and 2020. In the 7 supported districts, the number of ANC visits in the supported HF (SBCC & CNF voucher) increased of 24 % between 2017 and 2020, but of 55% in the non-supported HF. GHS data do not highlight any positive impact of ENVAC on the attendance to ANC.

Figure 15: Trends in the number of ANC visits 2017-2020 (GHS)

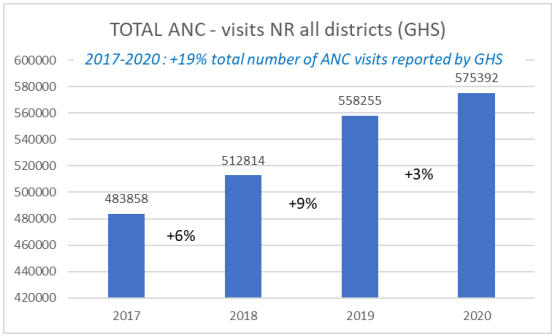
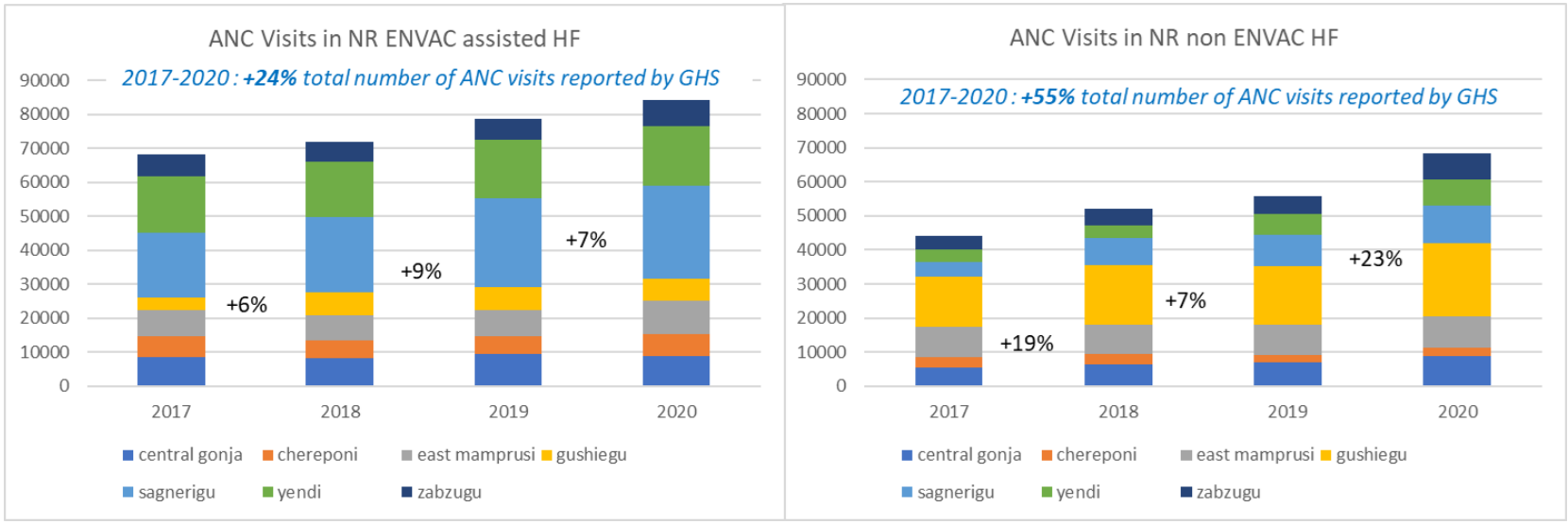


Figure 16: Trends in the number of ANC Visits in the seven districts targeted by ENVAC in the Northern Region - in the HF supported by ENVAC (left) in the non-supported HF (right)



GHS – DHIMS Details CWC : Between 2017 and 2020 in the 7 districts targeted by the project, the number of CWC visits in the supported HF (SBCC & CNF voucher) increased of 28 % ; a rate higher than that observed in HF not supported by the project (23%). The difference of trends is mainly due to an important increase between 2017 and 2018 in the supported HF (+23%) when there is no progress between 2019-2020. - Figure below

The trends in these 7 districts (both Supported and non-supported HF) is however higher than that observed at the Northern Region level (+10%) - figure on the right .

Figure 17: Trends in the number of CWC visits 2017-2020 (GHS)

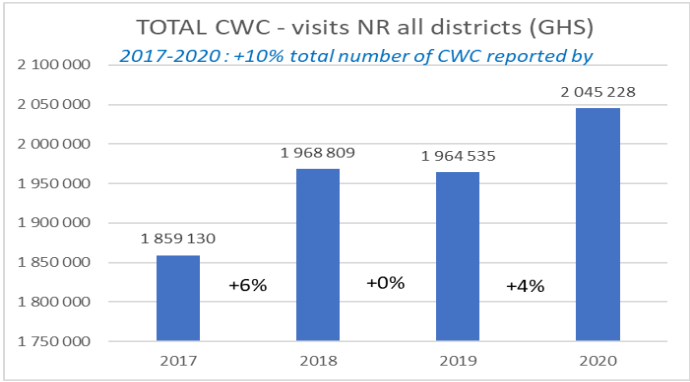
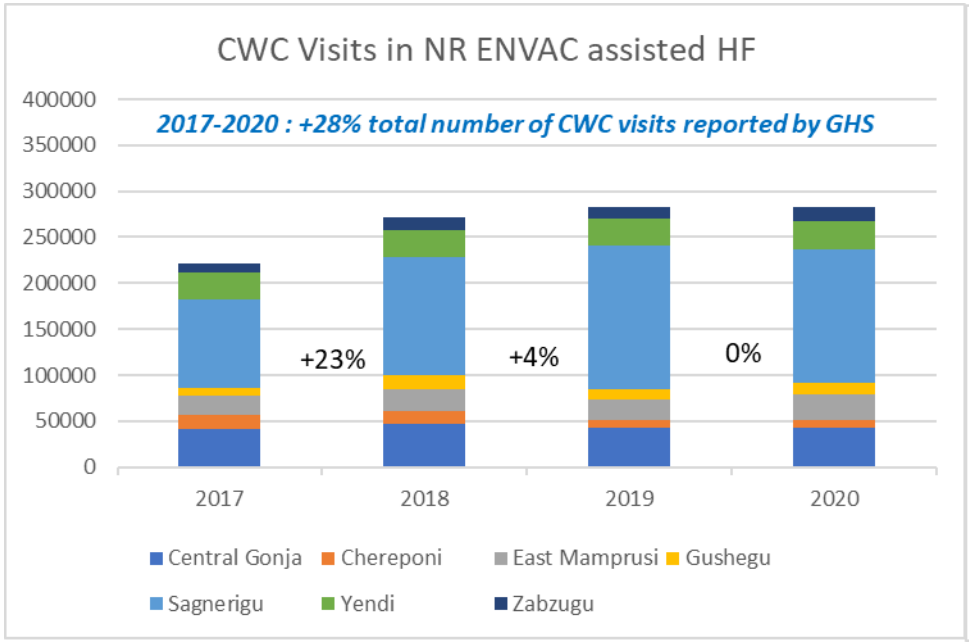
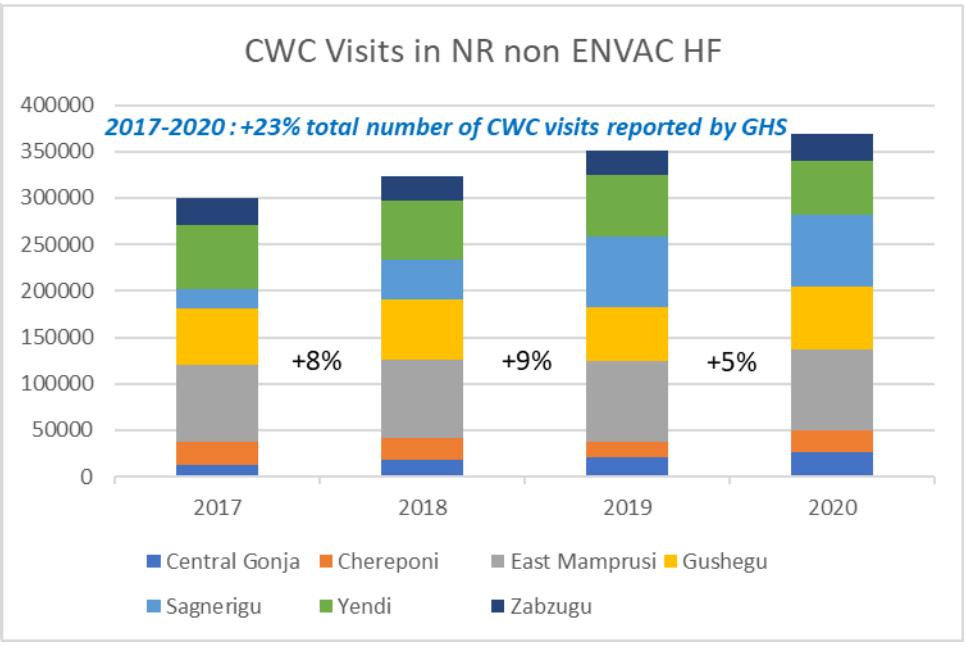


Figure 18: Trends in the number of CWC Visits in the seven districts targeted by ENVAC in the Northern Region - in the HF supported by ENVAC (left) in the non-supported HF (right)



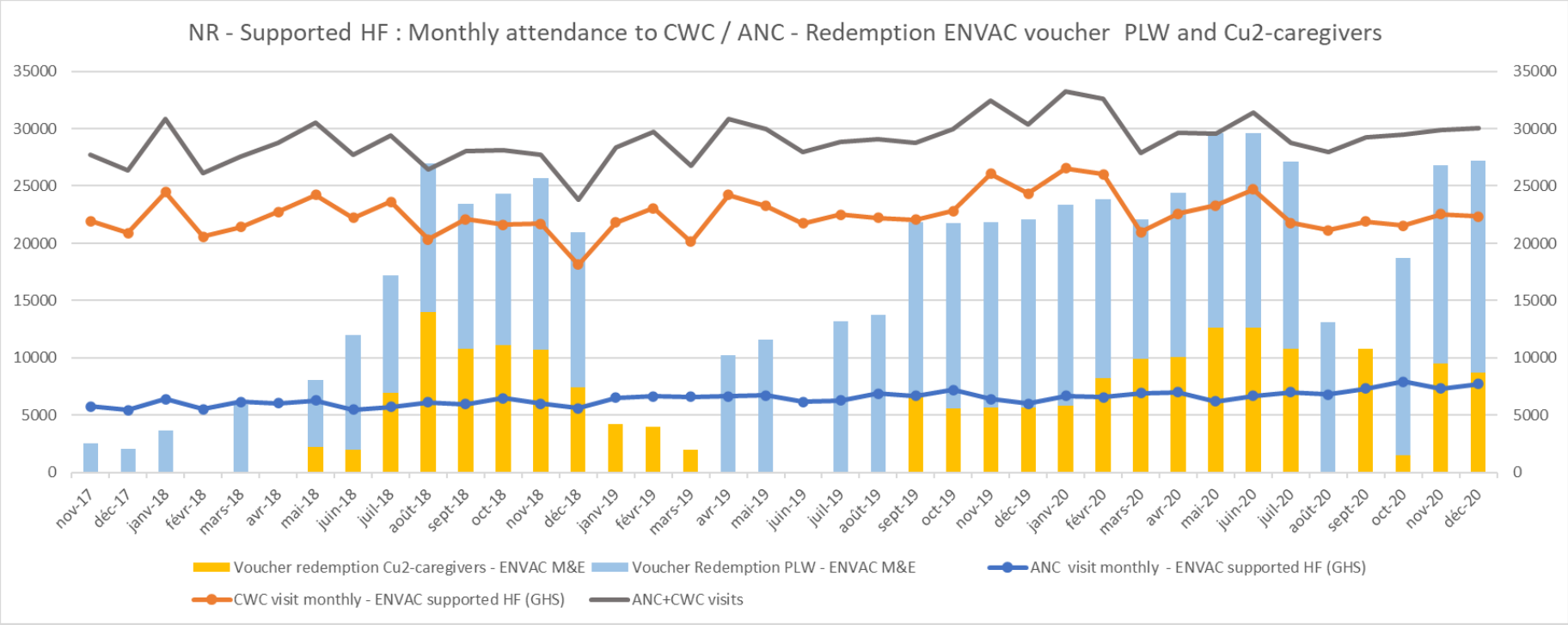


Annex 12-B. Monthly follow up of ANC and CWC attendance versus Envac voucher redemption.

The figure below was drawn by ET using data shared by GHS on ANC and CWC visits in Northern Region, and monthly redemption (WFP).

It presents the number of CWC and ANC visits in the ENVAC supported HF of the 7 districts in the Northern Region and the voucher redemption for both PLW and Cu2 caregivers in the same HF. The introduction of CNF-vouchers does not produce major changes in ANC and CWC attendance. The interruptions in CNF voucher activities (January to March 2019 for PLW, April to august 2019 for Cu2) do not visibly impact the CWC or ANC visits.

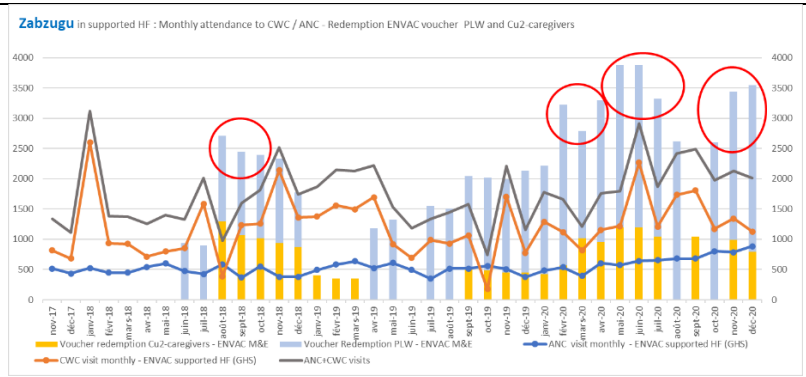
Figure 19: Number of visits CWC and ANC (Source GHS) and Redemption ENVAC voucher for PLW and Cu2 caregivers (Source WFP M&E), in all supported HF (7 districts – NR), per month. November 2017 to December 2020,

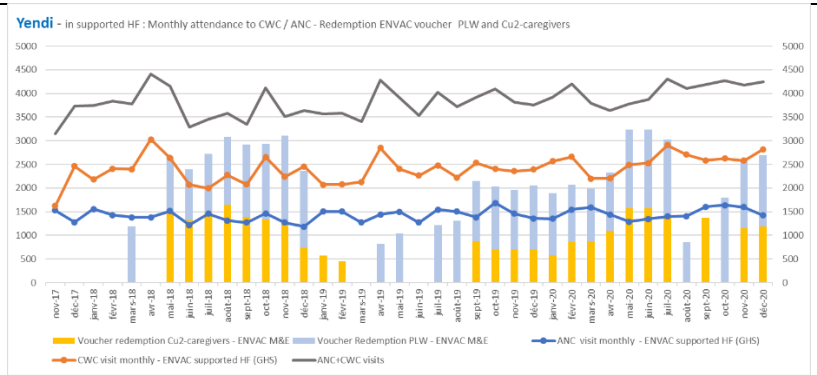


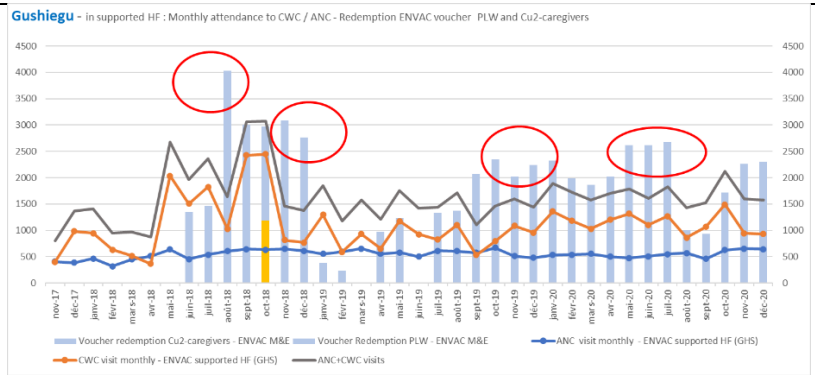
Annex 12-C. P3, consistency in M&E data – DHIMS / WFP M&E.

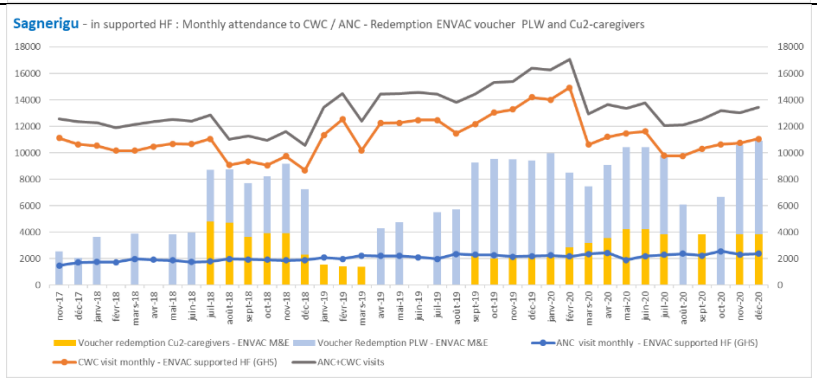
In Central Gonja, Sagnerigu, and Yendi (Column on the left blow): the monthly number of voucher redemptions (Cu2 + PLW) is always below the total number of CWC and ANC.

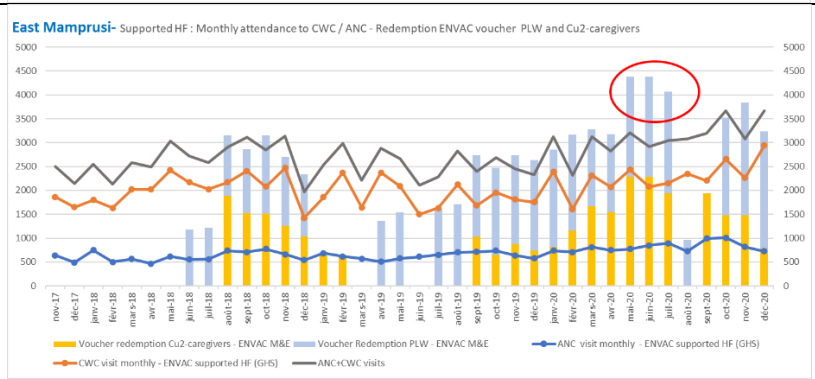
In 4 other districts East Mamprusi, Chereponi, but especially in Zabzugu and Gushiegu: the number of voucher redemptions can be higher than the number of CWC + ANC visits, which is – theoretically – impossible (Column on the right): either GHS data regarding CWC and ANC visits are underestimated; or the number of redemptions is abnormally high, that can happen if beneficiary redeem vouchers but did not go to HF for ANC or CWC visits. The total delta in the 4 districts (2018-2020) is about “60.000” redemption cases more than number of CWC and ANC visits.











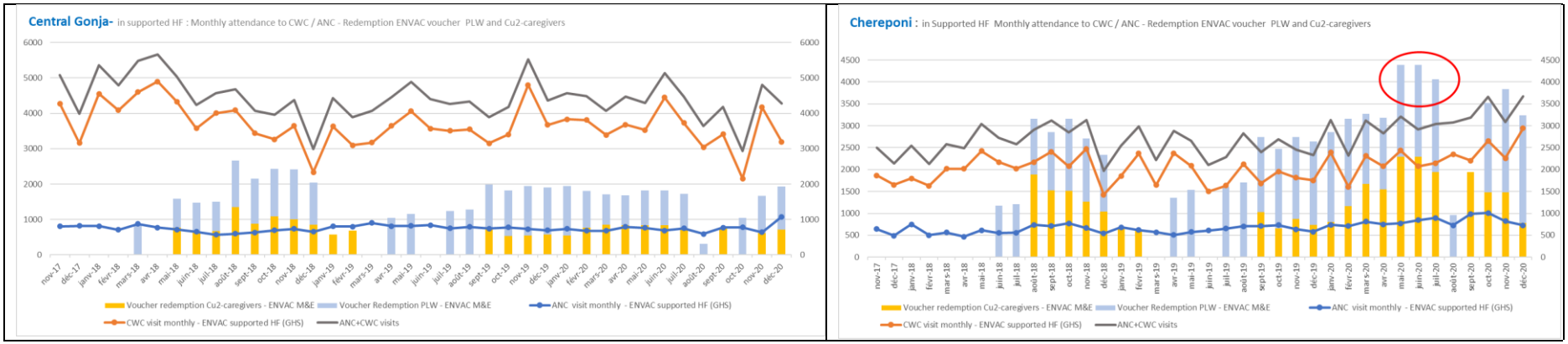
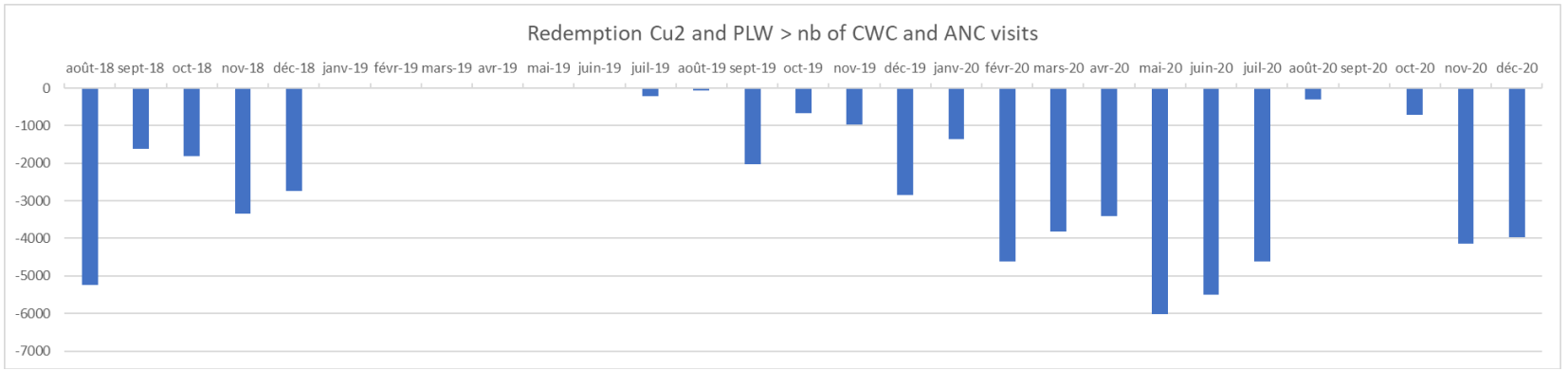


Figure 20 : Monthly case of Redemption rate Cu2 PLW (WFP) is superior to Attendance rate (GHS)



ANNEX 13. EFFICIENCY (Q3) - PILLAR 2 PRICE OF CNF FROM PREMIUM AND YEDENT

416. FSDA were signed between WFP and Yedent and Premium in 2017; they described the products the companies should deliver; indicated the monthly volume planned, the areas targeted, the cost for CNF production and transport to retailers' place.

Price of Maizoya

417. The cost per Metric Ton (including production, transport and commission to retailers) of Maizoya was invoiced by Premium to WFP 3,865.5 GHS in 2017, and 5,800 GHS in 2020, i.e. a 50% increase in the price in GHS. Reasons mentioned to explain the first increase in the cost in November 2018 (4,442 GHS/Mt) is an initial underestimation of transport costs; WFP explained also that the price of Maizoya remained at this stage 46% lower the price of TomVita considered as "a similar product", which was not really the case as

- ✓ Tom Vita was packaged in a portion sachet (when Maizoya was packaged in 6kg bags);
- ✓ it was ready to eat (no need to cooked);
- ✓ it included sugar that increased the cost of production (and reduced the cost for the beneficiaries who often added sugar to MZ).

418. In June 2020, Premium increased the price of MZ to 5800 GhC (+50% since 2017)[110] ; it was justified by the cost of new packaging (1,5kg) and a substantial increase in the commission to retailers (+200%). The new packaging was however not effective in June 2021 (Field Mission). Regarding the retailers' commission: increased in retailers' commission was observed in Ashanti area (+100% or 2 GhC / PLW/cycle) but was not effective in Northern Region (1 GhC/PLW/Cycle). This difference in the commission left to retailers is difficult to understand.

419. In June 2020: the addendum to the FDSA that fixed the price of MT 5,800 GHS (or 1,018.97 USD/Mt) indicated also that the price of GHS 5,800.00/Mt "*may be reviewed after six (6) months based on the prevailing USD/GHS exchange rate*". Cost indexation on the dollar exchange rate is difficult to understand for a FSDA that concerned the purchase and delivery of CNF bought in Ghana for distribution in Ghana. Variation in the change rate would mainly impact the cost of premix which is imported. Other raw materials used to produce Maizoya being locally produced, they should not be impacted by USD/GhC exchange rate.

Price of TomVita

420. The cost per MT (including production, transport and commission to retailers) of TomVita was invoiced by Yedent to WFP 6,501.36 GhC in 2017, and 6,800.43 GhC in 2019, i.e. a 5 % increase in the price in GHS. Reasons mentioned to explain the increase in the cost in 2019 is the increased cost of production due to GhC depreciation (which is only relevant for imported premix). In USD the price in 2017 was 1,512US$, it was only 1,193US$ in 2020; it means a reduction of the price in US$ of 21%.

421. FDSA signed with Yedent provided detailed cost of production and distribution; Prices in 2019 were in fact higher than in 2017 because of the cost of inputs (local raw material + 8 to 20%; packaging material ; imported premix +114%, due to GhC devaluation) ; Yedent mention in its cost : margins applied on production cost, and a distribution margin calculated on the total cost (production plus distribution). The margins for 1 Mt of Tom Vita was – based on the documentation consulted in Accra - 1070 GhC in 2017 (16,5% of total cost) and 984 GhC in 2019 (14,5%). In US$ the margins are 249US$ in 2017, and 172 US$ in 2019.

[110] Based on annual average change rates since 2017, the cost of Mt-delivered Maizoya was about 875US$ in 2017 ; It is 1019 US$ is in 2021 (+17% / compared to +50% in GhS).

Figure 21: Evolution of cost of production and delivery Maizoya (GhC) – based on agreement with Premium.

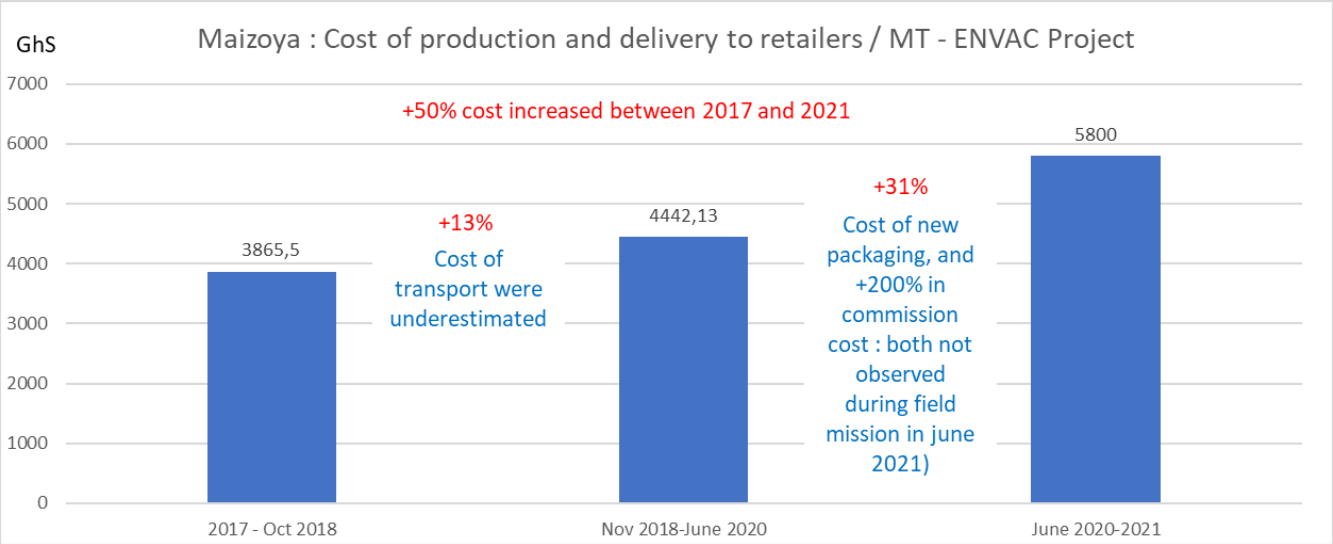
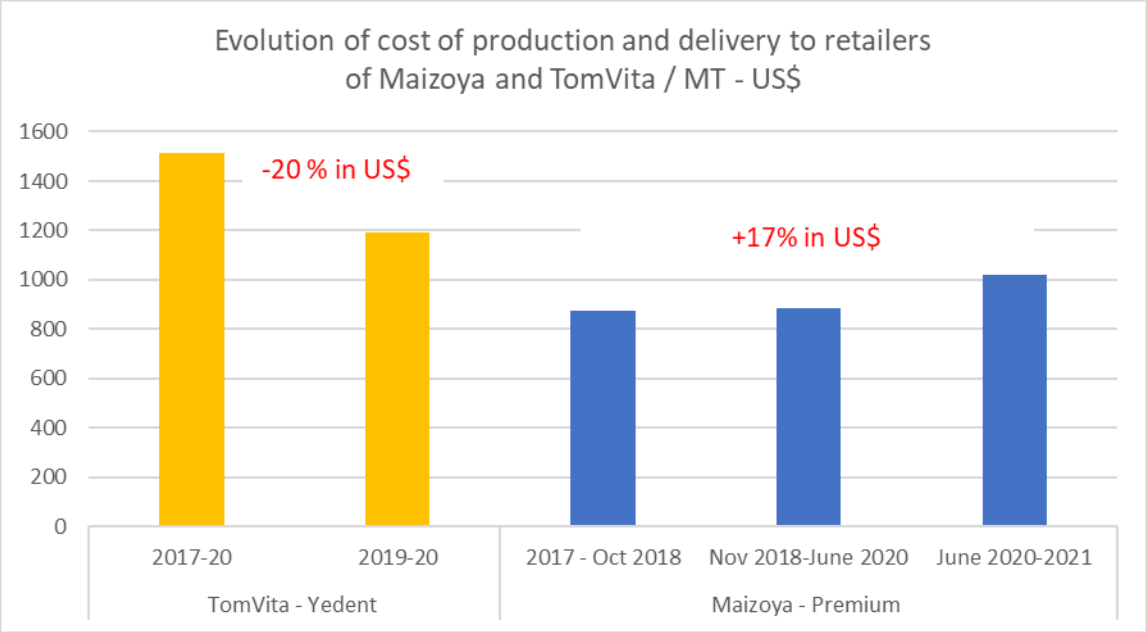


Figure 22: evolution of cost of production and delivery Maizoya and TomVita (US$)



ANNEX 14. ENVAC PERFORMANCE MONITORING FRAMEWORK

Non Availbale	Reached	On track	Not reached	To clarify

EXPECTED RESULTS	INDICATORS	FY1 2016	FY2 2017	FY3 2018	FY4 2019	FY5 2020	TARGETS / 2021
1000a: Goal 1: Improved Nutrition and Food Security of targeted beneficiaries	Food Consumption Score for smallholder farmers:						
	a. % of HH with Acceptable Food Consumption score						
	Male	NA	95.6%	NA	91.8%	92.30%	>98%
	Female	NA	95.5%	NA	97.3%	96.80%	>98%
	All	NA	95.55%	NA	94.4%	92.90%	>98%
	b. % of HH with Borderline Food Consumption score						
	Male	NA	3.8%	NA	5.7%	7.50%	< 2%
	Female	NA	4.1%	NA	1.8%	3.20%	< 2%
	All	NA	3.95%	NA	3.9%	6.80%	< 2%
	c. % of HH with poor Food Consumption score						
	Male	NA	0.6 %	NA	2.4%	0.30%	0%
	Female	NA	0.4%	NA	0.9%	0.00%	0%
	All	NA	0.50%	NA	1.7%	0.20%	0%
	Prevalence of stunting for children under 2 in targeted areas						
	Male	NA	32.9%	28.3	23,1	NA - COVID	initial target <10% but 13% in last ENVAC report
	Female	NA	24.7%	19.6	14,6	NA - COVID	
	All	NA	29.4%	24.7	18,8	NA - COVID	
	Prevalence of underweight for children under 2 in targeted areas						
	Male	NA	27.5%	26.1	27,8	NA - COVID	initial target <10% but 13% in last ENVAC report
	Female	NA	27.4%	23.0	19,5	NA - COVID	
	All	NA	27.4%	24.8	23,6	NA - COVID	
	Percentage of children 6 to 23 months meeting minimum acceptable diet (MAD) ; intermediate report						
	Male	NA	39.3%	50.0%	24,7	NA	initial target >70% but >30% in last ENVAC report
	Female	NA	44.1%	43.5%	30,2	NA	
	All	NA	41.3%	46.7%	27,5	NA	
	Percentage of children 6 to 23 months meeting minimum acceptable diet (MAD) : final report						
	Male	NA	39.3%	12%	23,69	17%	initial target >70% but >30% in last ENVAC report
	Female	NA	44.1%	12%	23,21%	28%	
	All	NA	41.3%	12%	23,45	22,42%	

	Percentage of children 6 to 23 months meeting minimum acceptable diet (MAD) intermediate report						
	6 11 months	NA	27.3%	49.1%	27,4	NA	initial target >70% but >30% in last ENVAC report
	12 17 months	NA	56.4%	46.3%	31,6	NA	
	18 23 months	NA	53.4%	46.9%	23,6	NA	
	All (6 23 months)	NA	41.3%	47.7%	27,5	NA	
	Percentage of children 6 to 23 months meeting minimum acceptable diet (MAD) final report						
	6 11 months	NA	27.3%	10,60%	20,14%	19,02%	initial target >70% but >30% in last ENVAC report
	12 17 months	NA	56.4%	14,2ù	24,11%	23,23%	
	18 23 months	NA	53.4%	11,30%	26,10%	25,01%	
	All (6 23 months)	NA	41.3%	12%	23,45%	22,42	
1000b: Goal 2: Improved sales of staples for targeted Smallholder Farmers, particularly to industrial processors of specialized nutritious foods	Change in targeted smallholder farmers key welfare indicators:						
	a. HH Asset Score (HAS)						
	Male	NA	10.8	NA	23.6	25.3	>20
	Female	NA	9.58	NA	24.9	21.8	>20
	All	NA	10.2	NA	24.2	24.74	>20
	b. Average or % of Food Expenditure (per annum) **(GhC)**						NA in previous report ; target = GhC 5000 in last report
	Male	NA	3462	NA	6338	5322	
	Female	NA	2973	NA	4778	5367	
	All	NA	3281	NA	5600	5344	
	Marketable surplus (volume of trade) among targeted farmers:						
	a. Proportion of HH with Marketable Surplus						
	Maize						
	Male	NA	83.1%	NA	83.7%	74.4%	90%
	Female	NA	76.5%	NA	84.5%	64.6%	90%
	All	NA	80.8%	NA	84.1%	69.6%	90%
	Millet						
	Male	NA	33.1%	NA	16.3%	2.30%	50%
	Female	NA	39.8%	NA	19.0%	4.30%	50%
	All	NA	35.3%	NA	17.6%	3.30%	50%
	Cowpea						
	Male	NA	56.5%	NA	41.2%	27.9%	65%
	Female	NA	47.3%	NA	19.0%	19.6%	65%
	All	NA	53.0%	NA	35.5%	23.8%	65%
	Soybean						
	Male	NA	31.3%	NA	13.1%	2.80%	50%
	Female	NA	37.7%	NA	14.5%	6.20%	50%
	All	NA	33.6%	NA	13.8%	4.50%	50%
	b. Average Marketable surplus (MT)						
	Maize						
	Male	NA	3.8MT	NA	5.30MT	3.60MT	5 MT
	Female	NA	3.3MT	NA	3.02MT	1.75 MT	5 MT

	All	NA	3.63 MT	NA	4.20MT	2.70 MT	5 MT
	Millet						
	Male	NA	0.37MT	NA	0.22MT	0,04 MT	1 MT
	Female	NA	0.35MT	NA	0.13MT	0,04 MT	1 MT
	All	NA	0.36 MT	NA	0.20MT	0,04 MT	1 MT
	Cowpea						
	Male	NA	1.2MT	NA	1.41MT	1,22 MT	5 MT in previous report ; 2,5MT in last report
	Female	NA	0. 99MT	NA	0.46MT	0,51 MT	
	All	NA	1.1 MT	NA	1.02MT	1,39 MT	
	Soybean						
	Male	NA	0.57MT	NA	0.21MT	0,14	1 MT
	Female	NA	0.25MT	NA	0.10MT	0,11	1 MT
	All	NA	0.4 MT	NA	0.11MT	0,12	1 MT
1100: Increased availability of safe and Nutritious food staples	% Change in yield level/productivity of targeted staples						
	Maize				MT/ha		
	Male	NA	1,3	NA	1,7	1,42	75% increase
	Female	NA	1,2	NA	1,41	1,4	75% increase
	All	NA	1,25	NA	1,6	1,4	75% increase
	Millet				MT/ha		
	Male	NA	0,53	NA	0,7	0,45	75% increase
	Female	NA	0,45	NA	0,56	0,48	75% increase
	All	NA	0,49	NA	0,63	0,47	75% increase
	Cowpea				MT/ha		
	Male	NA	0,76	NA	0,85	0,71	75% increase
	Female	NA	0,61	NA	0,62	0,54	75% increase
	All	NA	0,69	NA	0,76	0,63	75% increase
	Soybean				MT/ha		
	Male	NA	0,68	NA	0,79	0,65	75% increase
	Female	NA	0,53	NA	0,63	0,63	75% increase
	All	NA	0,6	NA	0,69	0,64	75% increase
	Increase in volume of sales of targeted staples:						
	a. Proportion of HH with Sales						
	Maize						
	Male	NA	64%	NA	87.8%	44,4	80%
	Female	NA	65%	NA	90.5%	54,6	80%
	All	NA	64,50%	NA	89.1%	46,25	80%
	Millet						
	Male	NA	21%	NA	62.3%	6,07	50%
	Female	NA	13%	NA	42.9%	14,4	50%
	All	NA	17%	NA	55.5%	7,37	50%
	Cowpea						

	Male	NA	71%	NA	89.5%	44,65	80%
	Female	NA	65%	NA	63.6%	46,96	80%
	All	NA	68%	NA	86.6%	44,96	80%
	Soybean						
	Male	NA	59	NA	47.2%	26,92	70%
	Female	NA	57%	NA	33.3%	37,52	70%
	All	NA	58%	NA	32.4%	28,54	70%
	b. Average quantity sold (MT)						
	Maize						
	Male	NA	3.5MT	NA	5.30MT	3,71	5MT
	Female	NA	3.0MT	NA	3.03MT	1,9	5MT
	All	NA	3.3MT	NA	4.23MT	2,81	5MT
	Millet						
	Male	NA	0.4MT	NA	0.21MT	0,98	1MT
	Female	NA	0.26MT	NA	0.11MT	0,5	1MT
	All	NA	0.33MT	NA	0.16MT	0,79	1MT
	Cowpea						
	Male	NA	0.4MT	NA	1.41MT	2,52	3MT
	Female	NA	0.26MT	NA	0.46MT	1,61	3MT
	All	NA	0.33MT	NA	1.02MT	2,27	3MT
	Soybean						
	Male	NA	1.45MT	NA	0.25MT	0,26	2MT
	Female	NA	0.23MT	NA	0.06MT	0,28	2MT
	All	NA	0.84MT	NA	0.12MT	0,27	2MT
	Proportion of smallholder farmers producing marketable surplus (disaggregated by gender)						
	Maize						
	Male	NA	37.7%	NA	83.8%	74.4%	50%
	Female	NA	32.6%	NA	86.6%	64.6%	50%
	All	NA	35.2%	NA	85.2%	69.6%	50%
	Millet						
	Male	NA	23.1%	NA	59.1%	2,30%	30%
	Female	NA	15.9%	NA	54.5%	4,30%	30%
	All	NA	19.5%	NA	56.6%	3,30%	30%
	Cowpea						
	Male	NA	40%	NA	83.3%	27,90%	50%
	Female	NA	37%	NA	79.7%	19,60%	50%
	All	NA	39%	NA	81.6%	23,80%	50%
	Soybean						
	Male	NA	28.9%	NA	47.8%	2,80%	30%
	Female	NA	15.8%	NA	28.1%	6,20%	30%
	All	NA	22.4%	NA	33.3%	4,50%	30%

1200: Enhanced Local food Processing Capacity for complementary nutritious foods (SC & others)	Volume of raw material processed per year into Super Cereal and other nutritious blended foods in previous annual report (industrial processors)						
	Premium Food Ltd	NA	38 450	38 450	343	NA	NA
	Yedent Group	NA	4 784	4 784	6 712	NA	NA
	Total	NA	43 234	43 234	7 055	NA	NA
	Volume of raw material processed per year into Super Cereal and other nutritious blended foods in last annual report (industrial processors)						
	Premium Food Ltd (Should be Yedent in 2 last years)	NA	38 450	NA	343	NA	50 000
	Yedent Group (Should be Premium in 2 last years)	NA	4 784	NA	6 712	5 240	
	Total	NA	43 234	NA	7 055	5 240	
	Percentage change in livelihood assets (community processors						
	Percentage change in livelihood assets (community processors)	NA	activity not started			NA	NA in previous report 10% in last report
1300: Improved consumption of nutritious foods, adoption and utilisation of good nutrition practices	Proportion of target population who participate in an adequate number of distributions	NA	66%	90,7% but 68% in last report	67%	69%	>66
	Proportion of eligible population who participate in nutrition intervention programme						
	a. PLW	NA	59.0%	45,50%	76%	77%	>70%
	a PLW in last report	NA	59.0%	12,9% Pregnat and 32, 6% Lactating	76%	77%	
	b. Caregivers (for their children)	NA	87.3%	66%	76%	76%	
	b. Caregivers (for their children) in last report	NA	50%	50%	76%	77%	
1110: Increased Production & Productivity (maize, millet, cowpeas & soybeans)	Proportion of FO/ Smallholder farmers knowledgeable of GAPS (						
	a: Low						
	Male	NA	58%	NA	26,50%	24,70%	<5%
	Female	NA	57%	NA	30,90%	35,90%	<5%
	All	NA	57,50%	NA	26,80%	30,20%	<5%
	b : Medium						
	Male	NA	20%	NA	24,1	20,00%	25%
	Female	NA	18%	NA	19,5	21,50%	25%
	All	NA	19%	NA	21,9	20,8	25%
	c : high						
	Male	NA	22%	NA	49,4	55,3	70%
	Female	NA	25%	NA	49,5	42,6	70%
	All	NA	24%	NA	49,5	49,2	70%
	Yield level ; see lines above (indicator of 1100 : Increased availability of safe and Nutritious food staples)						

1120: Increased Quality and Safety of grains supplied to Processors (including aflatoxins free)	Amount/quantity of grains sent/supplied to processors	4663,6	3457,8	3866,3	3295	13720	5000
	Quantity of grains sent to processors affected by aflatoxins	NA	NA	NA	NA	NA	0 MT
1130: Enhanced market linkages by farmers to industrial processors of Super Cereal and other small-scale processors	Number of functional & institutional market						
	(Nucleus Farmers/ Aggregators)	1	1	1	1	2	5
	Tonnage of processed foods/super cereal sold by processors to WFP						
	Yedent Group	0	140	302,44	295,956	NA	
	Premium Foods Ltd	0	33,14	319,86	379,644	NA	
	Total	0	173,14	622,3	675,6	1867,074	30%
	Other buyers beyond WFP	NA	NA	155,09	NA	NA	70%
1210: Enhanced **Capacity of Industrial Processors** (Premium Foods & Yedent Agro Processing Ltd) to Source from SHF & produce Super Cereal to WFP standards to feed direct targeted beneficiaries	Proportion/volume of raw material sourced from supported SHF by processors volume in MT						
	ENVAC groups	2016	2017	2018	2019	2020	Target
	a.White maize	360,5	345,65	1867,3	930	7626,8	
	b. Yellow maize	2746,65	2780,05	1719,4	2052	NA	
	c. Soybean	1556,45	332,15	279,6	313	3093,53	20%
	Total	4663,6	3457,85	3866,3	3295	12740,33	
				12%	46,70%	49,70%	
						48%	
	NON ENVAC groups						
	a.White maize	6360,3	5081,76	28338,56	229,2	10855	
	b. Yellow maize	33,5	521,65	65,7		NA	
	c. Soybean	524	945,4	784,15	27,2	3008,48	
	Total	6917,8	6548,81	29188,41	256,4	13863,48	
	Volume of fortified foods and super cereal product produced per year	6000	6960	6960	7000	8762	NA in previous report ; 10,000 MT in last report
	Volume of fortified foods and super cereal supplied to						
	a) WFP						
	Yedent Group	0	140	302,44	295,956	NA	
	Premium Foods Ltd	1730	33,14	319,86	379,644	NA	
	Total	1730	173,14	622,3	675,6	1867,074	30%
	b) other buyers beyond WFP previous reports	153,63	NA	155,09	NA	NA	
	b) other buyers beyond WFP last report	NA	6786,86	637,7	6324,4	6894,926	70%
	% sold to wfp (based on last report)	NA	2%	49%	10%	21%	
1220: Enhanced Capacity of selected SC/community-level processors of blended flours	Adoption rate of improved processing practices for locally nutritious foods by community processors	NA	Not started	Not started	Not started	not started	60%
1310: Targeted (PLW) & children attending health facilities consume promoted nutritious staples	Total number of persons receiving fortified foods/SC/SC+						
	a. Pregnant and lactating mothers	NA	2535	17111	17891	28929	20000 intial target 14 000)

and processed foods (such as Super Cereal and other blended flours) from supported processors and producers	b. Children 6-23 months	970	802	18819	13900	19834	20000 (initial target 35 000)
	c. Adolescent girls	NA	NA	NA	NA	4607	5000
1320: Increased Awareness of good nutrition practices and consumption of nutritious foods by targeted PLW, school children, adolescents and fathers through SBCC	Number of beneficiaries reached with SBCC activities who consume nutritious foods:						
	a. PLW	NA	NA	23091	35890	54223	30000
	b. Caregivers of children under 2 years (Men)	NA	NA	21090	11108	14208	3122
1111: Smallholder Farmers provided with basic agricultural inputs (equipment, seeds, fertilizer etc.)	Number of groups/smallholder farmers provided with agric. Inputs disaggregated by gender	0	0	20 Groups; 1350 Farmers	53 groups 2650 Farmers	0	100 GROUPS 10000 farmers
	Number/Amount/Capacity of agricultural inputs provided	0	0	400000 USD	10713 USD	NA	NA
1112: Capacity of Smallholder Farmers built on GAPS	Number of groups/Smallholder Farmers trained on GAPS & business disaggregated by gender	0	5020	208 leaders	2900 lead farmers	20854 farmers	100 GROUPS 10000 farmers
	Number of demonstration plots established	0	0	26	16	30	NA
	Number of Farmer Field Schools conducted	0	0	26	16	30	NA
1113: FO institutional capacity strengthened	Number of FO/groups strengthened	0	0	158	97	366	100
	Number of SHF capacity strengthened disaggregated by gender	0	0 in intial reports ; 5020 in last report	208	7340	20854 farmers	10000
1121: Storage and Quality control equipment provided	Type and Number equipment provided	0	0	List of equipment provided (2)	0	List of equipment provided (2)	NA
1122: Training on Good Storage and PHH practices carried out	Number of Storage and PHH training conducted	0	2	3	5	4	5
	Number of people (farmers trained in Storage and PHH°						
	Male	0	88	50	2600	268	NA
	Female	0	62	0	50	211	NA
	Total	0	150	50	2650	479	10000
1131: Market linkages facilitated	Number of FO/groups and SHF linked to quality markets (WFP + Others)	0	0	83 groups	34 groups	14 groups (700 farmers through 4 aggregators)	100 GROUPS 10000 Farmers
	Amount/quantity of various food sold to buyers	0	0	3860,3	3295	13720,33	5000 MT
1132: WFP conditional contracts with industrial processors implemented	Number of Industrial processors signed conditional agreement with WFP	2	2	2	2	2	2
1133: SHF/FOs capacity enhanced on contractual procedures	Number of SHF & Groups/FOs capacity enhanced on contractual procedures disaggregated by gender	0	0	20 GROUPS	20 GROUPS	87GROUPS	10000 FARMERS 100 GROUPS

1211: Financial support provided to Industrial processors to acquire specific processing equipment	Amount of cash provided to each industrial processor cumulative						
	Premium Foods	-	2 000 000	2 000 000	2 500 000	2 500 000	2 500 000
	Yedent	-	720 000	800 000	800 000	800 000	800 000
	Total	-	2 720 000	2 800 000	3 300 000	3 300 000	3 300 000
1212: Traceability system developed and supported	Number of Traceability system put in place	0	1	1	1	1	1
	Functioning of traceability system	0	1	1	1	1	1
1213: Improved Hygiene & quality assurance system supported	Number of institutions/ organization supported with improved Hygiene & quality assurance system	0	2 industrial processors	2 industrial processors	2 industrial processors	2 industrial processors	2
1221: Small milling/processing equipment provided (Community processors)	Type and Number of milling equipment provided	0	0	0	0	3	NA
	Number of women group (Community-level Processors) provided with milling equipment	0	0	0	0	3	30 CLMSFP
1222: Capacity of selected processors & women milling & fortification groups built	Number of women food milling & fortification group supported/ capacity built	0	0	0	0	13	30 CLMSFP
1223: Processors knowledge & skills on food quality and safety enhanced	Number of community food processors trained on Food quality and safety	0	0	0	0	13	NA
1311: locally produced SC/SC+ provided to targeted PLW & Children at health facilities and schools	Amount/quantity of SC/SC+ received and distributed to PLW & Children						
	MAIZOYA			370,59	379,64	1 821,52	target : 12000 MT / 5 YEARS
	TOMVITA			250,81	295,96	45,55	
	GROWNUT			33,72	19,39	56,18	
	KOKO+					23,35	
	TOTAL	0,00	84,95	655,12	694,99	1 946,60	
	Number of beneficiaries receiving SC/SC+						
	Pregnant and Lactating Women	0	2535	17000	17891	28929	20000
	Children 6 – 23 months	970	802	18819	13900	19834	20000
	Total	970	3337	35819	31791	48763	40000
1312: Counselling at Health facilities and schools on Nutritious foods staples and blended flours provided	Number of Health facilities and schools where counselling is carried out	0	50	50	70	92	45000
	Number of people reached with counselling on Nutritious foods at the Clinics	0	40954	44181	46998	68431	NA
1321: Counselling at Health facilities on good nutrition behaviours and practices	Number of health facilities providing counselling on good nutrition practices	0	50	50	70	92	50
	Number of people reached with counselling on good nutrition practices	0	40954	44181	46998	NA	NA
1322: Cooking Demonstrations & food-to-food fortification carried out	Number of cooking demonstration & food-to-food fortification carried out	0	0	0	240	332	NA
	Number of people trained/involved	0	0	0	22535	9918	NA
1323: SBCC Strategy, approaches, tools and	Number of SBCC materials produced and disseminated	0	10	0	1,050 (3)	3120	NA
	Estimated number of people reached with SBCC activities						

materials developed and implemented	Caregiver (mothers + fathers)	0	40 954	44 181	125 000	379 655	30 000
	School children Adolescents Total	0	0	0	0	0	3 000
	Adolescents	0	0	0	0	0	1 000
	Total	0	40 954	44 181	125 000	379 655	34 000
Cross-cutting: Stakeholders capacity built on food quality, safety and use of standards	Number of government and partners staff trained on food quality and safety (gender disaggregated)						
	Males	0	12	1	NA	43	10
	Females	0	2	0	NA		5
	All	0	14	1	NA		20 (1)
	Number of awareness creation workshops organized on use of standards	0	0	2	2	1	NA
	Number of stakeholders participated in awareness creation workshop (gender disaggregated)	0	0	30	30	32	NA

(1): 267 in the project document

(2) : 20 plastic silos - 1 300mt capacity W/H -1 AWB 120 Electric Platform scale -2 sets of 50 kg Standard Test Weight -2 "Wiki" bag stitching machines -50 pieces of sowing thread -2 Grain moisture content meters -5 Aflatoxin test kit -1 Mist blower -2 of 2-wheel trolleys -3 Grain shovel scoops -3 brooms -50 Baraki rodenticide -10 Rodent bait boxes -2 Fumigation sheets -3 Tarpaulin (20' x40') -1 Set of personal protective equipment -10 Agroz bag -10 Zero Fly Vestergaurd -1 Grain Pro-Cocoon -2 Adjustable Ladders

(3) : training manuals, counselling cards and key message booklets

ANNEX 15. EFFECTIVENESS PILLAR 1

Annex 15-A. Analysis and evolution of the proportion of HH with marketable surplus

422. For the percentage of SHFs producing marketable surplus, the PMF has two indicators: percentage of HH with marketable surplus and the percentage of SHF (below 2ha) that are producing marketable surplus (see figures below).

Figure 23: proportion of HH with marketable surplus (source : ENVAC M&E surveys)

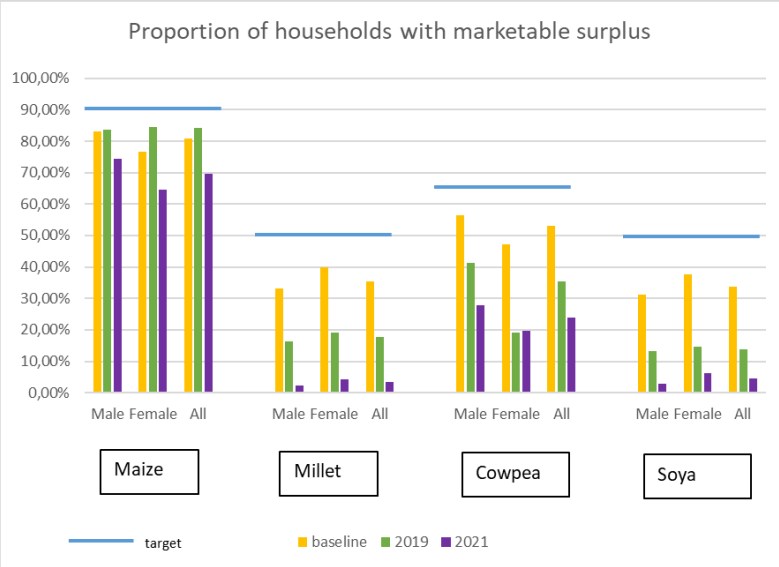
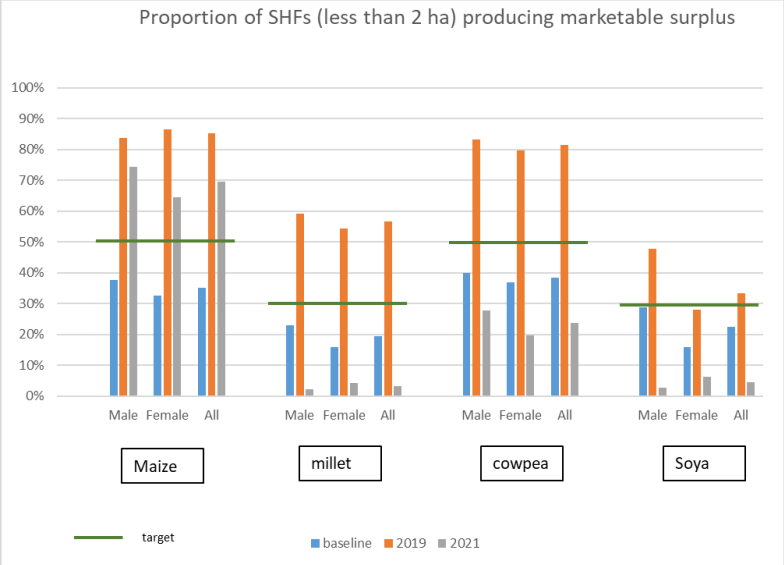


Figure 24: proportion of SHF (less than 2ha) producing marketable surplus



423. For both indicators, there is no clear difference between males and females. Overall, marketable surplus is slightly higher for males for maize and cowpeas. For soybean and millet, it varies in the different surveys, but overall there is no significant different in the evolution of the indicators for males and females.

424. Considering the proportion of HH with marketable surplus, targets are not reached. For Soya, millet and cowpea the results decreased in 2019 and 2021. For maize, there is a slight increase from baseline to 2019 and then a decrease between 2019 and 2021. Concerning the smaller farmers, targets are reached for maize (both for males and females). 70% of the less than 2 ha SHFs are having marketable surplus in 2021 (it was 35% at baseline). Targets are not reached for the other crops at endline, but they were reached in 2019. Maize Is the main commercial crop for all types of farmers and likewise, proportion

are similar for smaller farmers and global HH measures. Results are aligned with findings from data collection. The results for 2021 are a bit surprising and worrying, but farmers met all mentioned production was very low in 2020-21 (because of weather conditions) and that they had difficulties to generate a marketable surplus.

Annex 15-B. Evolution of Sales of the different crops

425. For millet and soybean sales have decreased in 2019 and increased in 2021 (M&E surveys-PMF). Increased sales of millet in 2022 in not necessarily a good sign as the season was not good: millet is usually sold as a last resort crop.

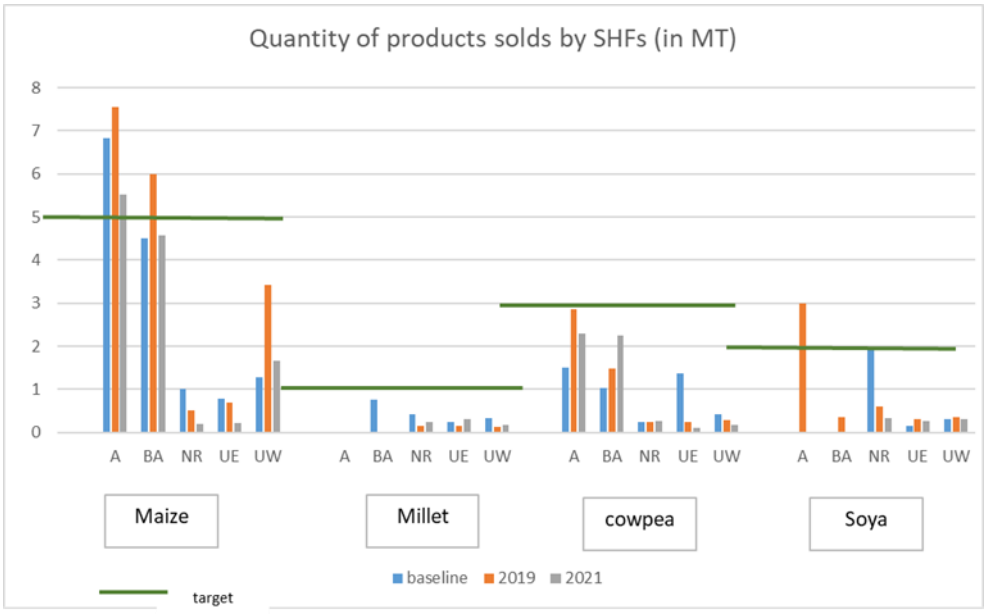
426. It is difficult to analyse the results for soya. Overall production decreased, but as figure below shows, it is actually only the case in Northern region between baseline and 2019. Data collection could not explain this decrease. During data collection, soya appeared as one of the major commercial crop in the northern regions which is not reflected in the data from M&E. Soya is a relatively new crop and it is possible that it has gained popularity this year because prices were very high last season. If this is the case, sales of soya could be higher this season.

427. Sales of cowpeas have increased (from 0.33MT at baseline to 2.27 MT in 2021), which is surprising considering SHFs met during data collection (both males and females) did not mention it as an important crop and considering it is not purchased by industrial processors. However, it is a widely consumed crop, both in production areas and in urban areas and it was included in 2019 in the priority crops for PFJ, meaning that farmers have now access to certified seeds at subsidized price.

428. There was a clear increase in the sales of maize in 2019(from 3.3MT at baseline to 4.23 MT but sales dropped to 2.81 in 2021. This is probably due to bad weather conditions: maize being a water demanding crops, it suffers a lot from shortage of water. It is likely that having a low production SHFs sold less maize and kept more for their family consumption.

429. Figure below gives disaggregated results per region: sales of maize in Ashanti and BA regions are far above sales of any other crops in any of the other regions (they reach or are closed to the target. There is a clear difference (also confirmed by data collection) from farmers in those regions, that can already be considered as commercial maize farmers (and that received a lot of supports already before ENVAC) and farmers in the Northern regions, who overall sell smaller quantity of crops and focus first on the needs of their family. They also engage in diverse productions to mitigate potential risks from a bad harvest with one crops.

Figure 25: average quantity of crops sold by SHFs in ENVAC's intervention regions (MT) (source: M&E surveys)



430. Overall (see PMF), and except for soya in 2021, volumes of sales from women are below volumes of sales by men. That can be explained because usually women farmers have access to smaller lands and have limited funds to purchase inputs. For maize and millet, volumes of sales from women has decreased from baseline (85% for maize and 65% for millet) to 2019 (57% for maize and 52% for millet) and 2021 (51% for both crops). For cowpea, there was a strong decreased in 2019, but in 2021, volumes of sales from women is similar to the situation at baseline (65%). Soyabean follow a very different trend. At baseline and in 2019, volumes of sales from women were low compared to men (16% at baseline and 24% in 2019) but in 2021, volumes of sales are similar for women and men. This can be explained because even if both males and females are selling soya, it is (even if it is changing) considered as a women crop. Women are usually more active in this crop, and also received more support for soya bean that men (for example with MEDA-GROW in the upper west region, but there are also other initiatives). So when the market became very favourable for soya bean, they were more equipped with the skills and knowledge to grab this opportunity. If the market continues to be favourable, it would be interesting to see if this trend continues or if men are investing more in this crop and start selling more.

Annex 15-C. Marketing constraints

431. The main difficulties met by SHFs for marketing of their products are:

✓Harvesting and drying the maize are difficult operations: they require a lot of labor (hence a high cost), there are risks of losing crops because it can rain during the drying phase, and there are thefts of products left to dry.

✓Selling to the market is costly because you have to pay for the transport of your bags (between 3 and 10 GhC depending on the distance and the size of the bags)

✓During the peak season, it is more difficult to find a buyer because everyone is selling at the same time and the price is low

✓Prices are very volatile

✓Some of the aggregators fix the price ahead of the season (usually when they provide inputs on credits) and do not re-assess it if the price on the market is higher

✓Sources of information on price are limited: other farmers, buyers and sometimes extension agents

✓It is difficult not to sell just after harvest because access to storage is still an issue, but mainly because farmers are in need of cash and they cannot wait before selling, even if they know the price is going to improve.

✓Only a few buyers weight their products before selling, most of them prefer buying in bags because there is often more than 100 kg in a 100 kg bag.

Annex 15-D. Overview of activities per implementing partners

Implementing partner	Content of the MoU/FLA	Activities implemented	Area of implementation	beneficiaries	Period of implementation	budget
ADRA	MOU signed in December 2017 support production of cowpea and maize provide technical assistance on GAPs facilitate to improve access to requisite technology, equipment and machinery for PH promote market linkages link SHFs to maize and cowpea storage/processing services link FBOs to tractor services providers Support ENVAC and partner's entrepreneurial groups and individuals to acquire production and mechanization machinery Conduct regular field visits	Development of curriculum and training content on PH (in 2018) Conduct 3 trainings (5 days/training) on post-harvest and grain storage (insect pest management, fumigation, measure of grain moisture and temperature, appropriate grain drying, preventing damages from mycotoxins, best PHH practices Trainings include short lecture, field visits and practical demonstration Distribution of posters, rack cards on PHL mitigation techniques, 1 PIC bag and 1 ZeroFly bag per participant	Ashanti, Brong Ahafo, Northern Region, Upper West	67 representatives from FBOs Indirectly : 2,650 SHFs beneficiaries (but no follow up on the field, and no indication in the report from IP that they are monitoring the step down training)	19 month (from 2018 to end 2019)	331,090 GhC (63,781 USD)
Crop Research Institute	MOU signed in September 2018 No target indicated in the MOU CRI commits to develop a proposal on promotion, monitoring and evaluation of adoption of pro-Vitamine A yellow and orange maize	Baseline study on maize production 26 demonstration platforms on yellow/orange maize cultivation 31 innovation platform 50 field days Communication activities: 2000 factsheets, 5 radio programs, 2 radio advert, 4 TV programs, 1000 T-shirts 31 trainings organised	11 districts from Ashanti region and Brong Ahafo Region	93 lead farmers trained indirect beneficiaries estimated : 7500 SHFs	1 year (from October 2018 to September 2019)	270,250 GhC (54,699 USD)
MEDA-GROW	MOU signed in 2018 MOU indicates that 7500 SHFs in 11 municipalities/districts from UW will be aware of health benefits of producing and using pro-vitamine A yellow/orange maize The MOU mentions that MEDA is to submit a proposal to WFP	Provision of multicrop threshers to the 20 groups Training of the groups in operation and maintenance of the threshers	Upper West	20 women groups of 20 communities (600 women)	Covers 5 month (august to December 2018)	227,670 GhC (46,997 USD)

MOFA-SRID	MOU signed in 2017 (2017-2021) Market Price Monitoring in WFP CBT Districts as well as ENVAC Yield studies for 2017	Capacities building of MOFA staff on data collection Provision of tablet to collect and send data Data collection on price made in 2017 (no info on where and what data was collected)	Ashanti, Brong Ahafo, Northern, Upper East and Upper West	?	?	427,699 GhC (99,465 USD)
SARI	MOU signed in 2018 (2018-2020) Activities planned : support 44 lead women farmers through provision of donkey carts and training on their usage (1901 indirect beneficiaries)	Donkey carts were provided to 20 lead women farmers from 10 FBOs, in 6 districts Lead farmers were trained on how to care for donkeys, animal traction technology, business and financial management, record keeping and post-harvest management	Upper East	20 lead farmers from 10 FBOs Indirect beneficiaries:	2018-2019 (over a year)	240,408 GHC (45,026 USD)
UDS	MOU signed in October 2016 Baseline and follow up survey in Northern, Upper east and Upper West regions Writing of case studies	UDS has conducted a mapping expercice to identify key ressources along the selected value chains (Warehouses, MoFA, NGOs, Financial institutions, Markets, Millers/milling machines, Research institutions, Agro input dealers, Aggregators and Farmer-Based Organizations (FBOs)) In the mapping process 8 aggregation centres were selected to facilitate the drying, cleaning, sorting of grains before delivery to the processors and other buyers.	Ashanti, Brong Ahafo, Northern, Upper East and Upper West	NA	?	231,975 GhC (51,265 USD)
KNUST	MOU signed in September 2016 (2016-2021) Baseline and follow up survey Writing of case studies	Baseline (2017) and 2 follow up surveys (2019 and 2021)	Ashanti, Brong Ahafo, Northern, Upper East and Upper West	NA	2016-2021	636,787 GhC (118,029 USD)
Farm Radio International	MOU signed in October 2017 (2017-2021) Prepare and develop participatory radio based communication program and develop content of the program Select and train local radios on the program Procure, install ICT (including Uliza platform) in selected partner radio and train and coach producers and presenters on how to use them Produce and broadcast programmes	Prepare and develop the programme, select and trained radio and install the Uliza platform Develop partnership with extension officers (resource person for the programmes) Programme developed on: food safety, standard weight and measures, market linkages First phase (in 2018) : programme ran in 6 radio stations from Ashanti regions Second phase (2021-still on-going) : in 4 radio stations in Northern regions	Ashanti, Brong Ahafo, Northern, Upper East and Upper West	No evaluation done	2018 (southern regions) and 2021 (northern regions)	383,482 GhC (76,428 USD)

	Regularly monitor program and undertake follow up for quality assessment Document process, best practices and results					
RAD (MOFA)	5 FLA signed for 2020-2021 Tasks to be done by MOFA-RAD: Share agricultural development plan with WFP Involve WFP in the main relevant activities, events and projects in the regions Assign a focal point to supervise and monitor activities and prepare quarterly reports	Contribution to follow up/assessment of some project activities Support to demonstration on PHL mitigation in collaboration with SESI technology (silos ZeroFly bag and grain meter): 28 demonstration Organisation of TOT and step down training on climate smart agriculture and gender mainstreaming	Ashanti, Brong Ahafo, Northern, Upper East and Upper West	Post-harvest demo (see Sesi technology) Climate smart and gender mainstreaming: Direct beneficiaries: 70 AEA Indirect : 20,854 SHFs	2020 and 2021 (18 months) Climate smart and gender mainstreaming : January to April 2021	15,000 USD (in June 2021) for focal point 257,385 GhC (45,155 USD) for climate smart and gender mainstreaming training
SESI technology	One service contract signed in 2020 Conduct a baseline survey on post-harvest losses at SHFs level Conduct at least 37 trainings on the use of moisture meters	28 FBOs trained and demonstration done: storage of maize in silos and in ZeroFly bags + measuring moisture 28 moisture meter distributed 1000 ZeroFly bag distributed + 54 bags sold	Ashanti, Brong Ahafo, Northern, Upper East and Upper West	28 FBOs	March to July 2020	19,995 USD
WIAD	No information	Establishment of 4 nurseries for the multiplication of OFSP wines Training on multiplication of wines	Upper West and Northern Region	4 nurseries	2018	No information

Annex 15-E. activities implemented vs activities planned

Table 12: activities planned and activities implemented by ENVAC (source : reports from project and implementing partners, data collection)

Planned output (from project document)	Activities implemented
SHFs provided with basic agricultural inputs (equipment, seeds, fertilizers…)	No agricultural inputs provided for the targeted value chains (seeds, fertilizers, tractor service… Post-harvest management inputs provided (weighing scales,), support to 5 aggregators (threshers, tarpaulin, rice mill…) , distribution of MCT and donkey carts
Capacity of SHFs built on GAPS	No activity implemented on GAPS
FO institutional capacity strengthened	No direct activity implemented but to some extent institutional capacity was included in some of the activity (donkey carts, MCT)
Storage and quality control equipment promoted	Building of a 300 MT warehouse Distribution of moisture meters, hermetic bags and silos
Training on good storage and PHH practices carried out	Training on post-harvest handling practices Demonstration of the post-harvest equipment About 78 FBOs benefited from training or demonstration (from ADRA, MEDA, SARI, MOFA)
Usage of bluebox promoted	Not done
Market linkages facilitated	1 Big market linkages event organized in Tamale in 2018 Some meetings with processors and aggregators were organized (but no reports)
WFP conditional contracts with industrial processors implemented	Difficult to assess (see previous paragraph on the quantity of raw material mobilized by processors from SHFs)
SHFs/FOs capacity enhanced on contractual procedures	Not an activity as such, but FBOs' awareness has been raised on Yedent and Premium and the list of ENVAC supported FBO has been given to Yedent and Premium
	Activity done but not directly planned: - Introduction of orange flesh sweet potatoes: support to the establishment of 4 nurseries for the multiplication of wines (support to OFSP is not part of the logical framework of the project, but is mentioned as something that could be supported on a case by case approach - Demonstration and promotion of vitamin A enriched maize (Climate smart and gender mainstreaming training

Annex 15-F. Elements of assessment for pillar 1 activities

	Brief evaluation of the implementation, the follow up, the sustainability and the impact of ENVAC's pillar 1 activities	
	Positive factors and results	Negative factors, constraints and results
ADRA TOT on PHM	Activity is very relevant and on line with project's objectives and implementation strategy Activity to leverage ADRA's activities (AMPLIFIER project) Topics of the trainings are comprehensive on PHM and trainers are from well-known institutions (KNUST…) Participants are very positive about the training	Implemented only during 19 month No clear strategy for targeting No clear plan on how step down training has been done (from 67 TOT to 2650 SHFs) No follow up, or field visits made by ADRA or WFP No clear link on whether the SHFs targeted also benefited from other ENVAC's activities especially the PHM demonstrations Activities on GAPs/support to access to inputs and services (tractor) and access to market has not been done No plan on how SHFs can have access to the PH equipment promoted in a commercial way
CRI Promotion of vitamin A enriched maize	Growing interest for yellow maize production and market opportunity: good opportunity to introduce bio fortified variety CRI experimented with production of bio fortified maize and they are producing seeds Potential interest in terms of nutrition (enriched in vitamin A) According to CRI report, farmers appreciated the crops (high yields) A lot of focus on awareness creation and communication, with different tools and at different levels	Interest of working on bio fortified maize in a project where the main focus is to develop a value chain to supply industrial processors that do not require it Access to the seeds from SHFs is difficult: limited seeds available, no distribution system in place and high cost Implementation over a short time No follow up of the activity, no upscaling in other areas, no activities to support and accompany the innovation introduced (innovation platform, demonstration plots…) No assessment of the adoption of the crops by targeted SHFs No link made with other ENVAC's activities
MEDA-GROW Provision of MCT to women groups	Activity is very relevant and on line with project's objectives and implementation strategy (improvement of PH practices) The activity was leveraged on MEDA-GROW project that is actively supported Soya cultivation in Upper West Region According to the assessment made in 2020 the project has contributed to improve access to threshing services Threshers are also used as an income generating activities for group members According to the assessment made in 2020, groups that received support implemented measures to sustain their equipment	Only 20 Threshers distributed, project on a short time frame and limited scale Some difficulties occurred with group management in some areas Difficulties for the groups to move the threshers to the farms (it requires to have access to tractor or moto-king) Some of the threshers broke down Threshers were given for free whereas in the MEDA-GROW project, beneficiaries did not contribute to the costs, for sustainability issues No information on whether selected farmers also benefited from other ENVAC's activities No follow up or monitoring after the MEDA-GROW project closed No post project's strategy, no strategy to scale up the activity
MOFA-SRID	Activity was aligned with the strategy of the project.	No report has been provided to ET

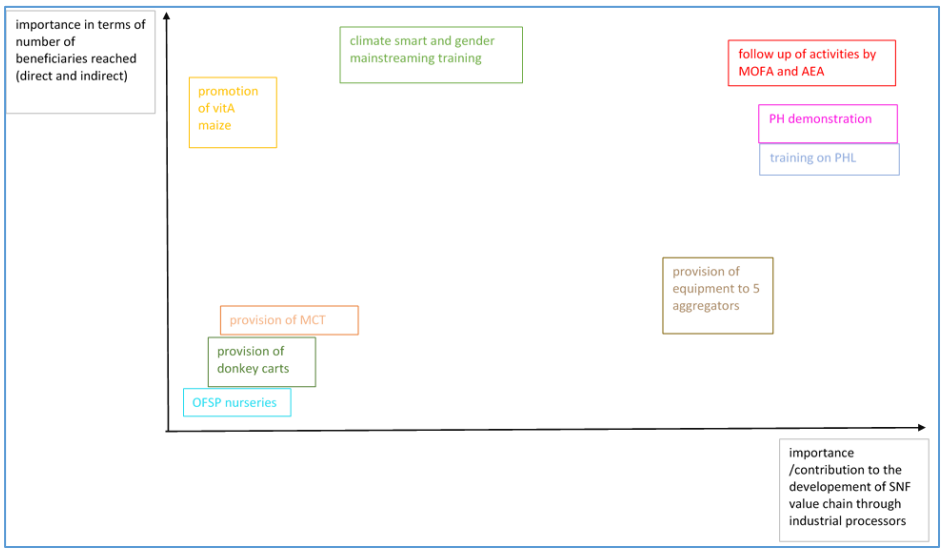
Data collection of market prices and yield	There is a need for market information on prices of commodities and for accurate yield measurement (not only based on SHFs estimation) It is in line with the roles and mandates of MOFA but MOFA faces difficulties to implement this type of activities regularly Capacities of extension agents and other MOFA staff have been strengthened and they are satisfied with the activity	Data is not used in ENVAC report and is not sent back to MOFA at regional level No links made with other activities Data have been collected only once MOFA does not have the financial means to implement this kind of monitoring on a regular basis
SARI Provision of donkey carts to 20 lead farmers	Activity is very relevant and in line with project's objectives and implementation strategy (improvement of PH practices) Provision of donkey carts supported women to transport products from the farm but also other products and it provided some income generating activity Supporting individual farmers (instead of giving the donkey carts to groups) favours sustainability of the investment (better attention to the donkey) According to the assessment made in 2020, groups that received support implemented measures to sustain their equipment	Some difficulties in taking care of the donkeys: some were given too young to actually work, there were issues relating to finding grazing lands in some areas, veterinary services are expensive Women complain because the carts are too big and heavy (they cannot be used by one woman) SHFs are more interested in moto king (transport is faster) than the Donkey carts Some difficulties occurred with group management in some areas No clear organization, management and governance system set up to control the use of the cart by group members Some women complain that they cannot have access to the cart because lead farmers will first give it to her family members No follow up and monitoring included in SARI's contract No post project's strategy, no strategy to scale up the activity
UDS Mapping of VC resources	It is a very useful resource that could allow to see where investments on the value chains are most needed The mapping exercise allowed to select 8 aggregation centres for ENVAC	No clear information on how this mapping exercise has been used in the project. Data were not updated.
KNUST Baseline and follow up surveys	A lot of data collected and analysed, both at FBO and farmers level KNUST has a strong experience on data collection and analysis and the quality of the study is good.	Probably no need to have done it three times over the project duration No clear information on how data was used to adapt the design and implementation of the activities No specific monitoring for the results of the different activities implemented Key information such as data on post-harvest losses not collected
FRI Radio programmes on PH, standard weight and measures and market linkage	Content of the radio program is relevant and adapted to some of the biggest constraints of the value chain Farmers do listen to radio programmes (including agriculture programmes) and it is a good media to reach a high number of people The programme implemented was very participative and allowed farmers to give feedbacks and to ask questions MOFA extension agents have been included in the programmes (as resource person)	Programme was only run once per radio station (16 weeks' programme) and not throughout the project The budget was reduced from what was planned so the coverage was limited (only 10 radios stations) Radio programmes in the Northern Region has just started in 2021 (and is on-going) There was no link made with nutrition activities No evaluation of the coverage planned, nor of the uptake of practices In the Northern Region, timing is not adequate (the content on post-harvest is broadcasted at planting season)

	FRI has a strong experience in working with local radio stations, has already a good network of local radio stations and have (and can) develop new partnership with radio stations Capacities of the local radio stations have improved (on production, presentation, designing of a programme and on the associated technical issues)	Sustainability of these radio programmes is difficult to build as most of the radio stations are commercial that run on sponsored programmes.
Climate Smart and Gender Mainstreaming MOFA-RAD	Activity very relevant: both topics are key issues in agriculture Training content and implementation was made by MOFA-RADU: it was adapted to the local context of agriculture Trainings contributed to capacity building of MOFA agricultural extension agents AEA appreciated the training and considered it very useful Step down training was actually done in a very short time and documented A lot of SHFs have been trained (from ENVAC's FBOs but also other FBOs identified directly by MOFA) and the coverage is very good because SHFs met during data collection remember the trainings and are able to explain some of the issues they have been trained on	No contribution from WFP on the content of the training before it was implemented It came very late in the implementation of the project: very difficult to know how it is going to be appropriated by SHFs No follow up done No links made with other project activities No link with economic profitability Practices promoted are difficult to adopt for farmers because they are not adapted to their activity (for example, not using tractors): it would require more than a training for them to adopt the practices Farmers met during evaluation remembered climate smart training, but not the gender mainstreaming training AEA are mostly men, it is not appropriate to specifically train women on gender
Dissemination of OFSP MOFA-WIAD-CIP	OFSP is an interesting crop for nutrition: leaves are consumed since sweet potatoes are rich in vitamin A Activity targeted mainly women: they have access to both nutritious crop and income generating activity (they can grow vegetables on the nursery site during the dry season) According to project report, the adoption rate of sweet potatoes in 2019 was higher than before the project Partnership with CIP is positive as they are specialist of OFSP in West Africa	One of the solar pump is broken down, and it is not clear the nurseries are still functioning and producing vines (no number of vines produced in reports) No design of a business plan, not enough reflection on an economically sustainable model for the multiplication of vines and the dissemination to farmers Need for more capacity building on management and governance around the nurseries sites No clear link with other pillar 1 activities or with building a CNF value chain

Annex 15-G. number of beneficiaries and contribution to building CNF value chain of the different activities

432. Considering that the objective is to build a CNF value chain and that the chosen implementation strategy is based on building the capacities of farmers to actually supply industrial processors, it is interesting to analyse these activities in view of their contribution to this objective. Figure below shows how the different activities can be classified considering the potential number of beneficiaries and the contribution to building the CNF value chain.

Figure 26: appreciation by ET of the activities in terms of the number of beneficiaries reached and of the contribution to building a CNF value chain



433. This table above clearly shows that some activities are extremely interesting and useful because they are reaching a lot of farmers and are directly supporting the CNF value chain (radio programs on post-harvest for example). Other activity may contribute less to the value chain objective but may have a are reaching a lot of farmers (climate smart training for example). Some activities have not really contributed to building the value chain and have only reached a limited number of farmers (MCT, Donkey carts, OFSP). These activities may have a strong local effect for the farmers that benefited from the new opportunities and equipment, but overall, they do not really contribute to the results of the project. We can question this selection of activities and their scales (maybe MCT could have contributed more to the value chain if implemented on a larger scale for example). This question of scale also applies to the support to aggregators (only 5 of them were supported, and not necessarily the one selling to Yedent and Premium).

Annex 15-H. monitoring of post-harvest losses

434. Monitoring survey included data collection on post-harvest losses. Results show that they have decreased from baseline to end line for maize and millet, increased for soya and remained nearly constant for cowpea (see table below).

Table 13: estimation by SHFs of storage losses for maize (source : ENVAC monitoring surveys)

Average post-harvest losses for ENVAC's crops	Baseline	2021
maize	2.1%	0.74%
Cowpea	5.5%	5.01%
Soya	1.2%	3.5%
Millet	1.5%	0.8%

435. These results have to be taken into consideration with some attention to their reliability: the data were not collected on the same sample (northern region was not included at baseline), they are not measured but based on the ability of farmers to recall their losses and they are not post-harvest losses but storage losses.

Annex 15-I. opportunity and constraints for SHFs to produce quality grains

436. Only a few farmers met mentioned that there was a different price for quality maize (about 13% to 15% increase in the price), but it was mentioned several times that if your maize has a good quality it will be sold faster on the market. For the majority of buyers, they do not pay particular attention to the quality (they verify that there are not too many grains that are attacked or moldy) even if it seems more buyers are now using moisture meters. Interest remains also limited for farmers to produce quality as they still sell most of their production to the market. Farmers explain that when you produce quality and well dry grain, you lose weight (about 15%), so even if you sell it at a better price, it is not profitable to produce quality. There are also several constraints that hampers the application of good post-harvest and quality practices at farmers 'level:

✓It may be risky for farmers to invest in a good drying: grains can be damaged by rain, and there are risks of thefts

✓Farmers are in need of cash and they need to sell fast, so they will not invest in drying or sorting of the grains

✓Access to equipment is still difficult because all the farmers are looking for the service at the same time, tarpaulins and moisture meters are expensive and not easily available, hermetic bags are not yet sold in input dealer shop and SESI technology has not yet thought of its distribution model: the bags are still mainly provided to farmers by development partners.

Annex 15-J. FBO's capacities and SHF's access to services

437. From data collection, FBO's group dynamic appears relatively weak. FBOs have been mainly created under the impulse of development project's and they have limited group dynamic and collective vision. Membership of FBOs has decreased from baseline to 2021 (on average, FBOs had 42 members in 2017 and now have 37. The percentage of women members of FBOs has also decreased (from 59 to 55%, even if they are still in majority). They are mainly entry points for trainings. And indeed, the proportion of FBO's leader and members that have already received capacity building activities (from any project or from the government) is rather impressive, as the monitoring surveys of ENVAC shows (see figure below). For some of the indicators there is a significant increase at leaders 'level on the proportions of SHFs trained., but it is difficult to attribute to ENVAC as other interventions are also working on those issues over the course of the project. One interesting result that could be attributed to ENVAC is the increase (for both leaders and members) of the percentage of SHFs whose capacities have been built on contract procedure and negotiation.

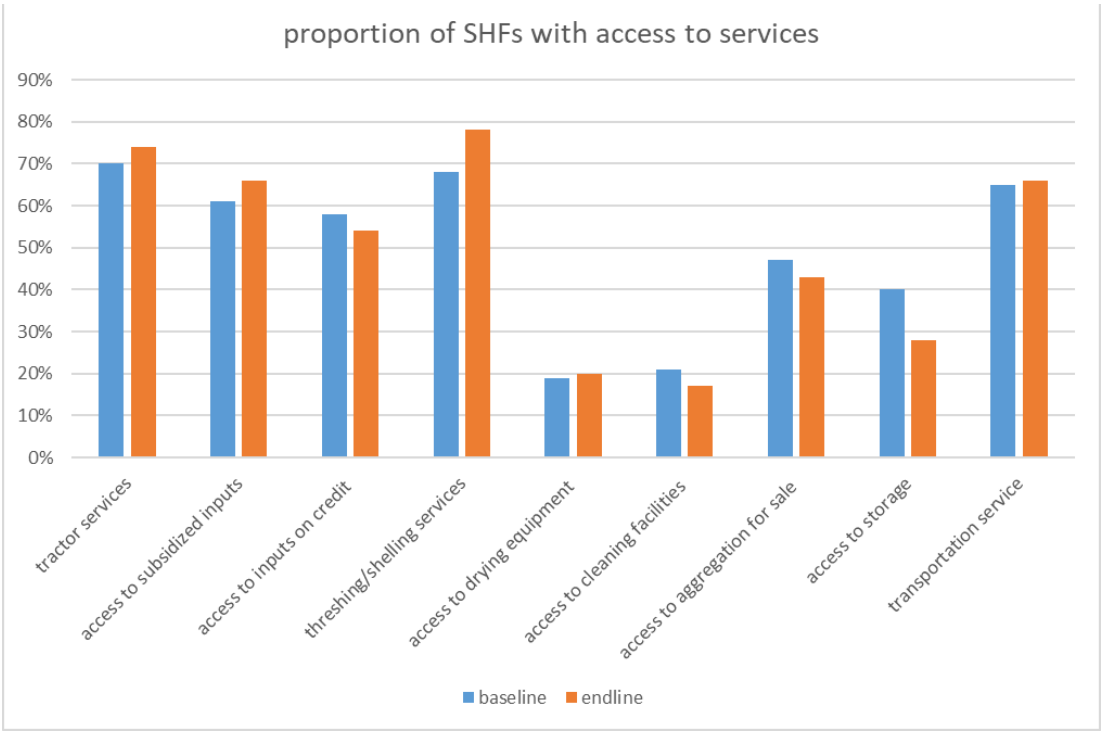
Table 14: proportion of FBO's leaders and members that have been trained on various topics (source: ENVAC monitoring surveys)

	baseline			2021	
	leaders	members		leaders	members
Contract procedure and negotiation	41%	36%		52%	47%
Business planning	54%	50%		65%	46%
Group management		69%	54%	72%	43%
Financial management		78%	71%	81%	70%
Record keeping		80%	69%	86%	69%

438. For the other topics, the percentage of FBOs members that have been trained is decreasing from baseline to 2021. This is an attention point, as most training organized by ENVAC (and also from other interventions) are mainly focusing on the leaders (training of trainers). Step down trainings are usually not fully monitored.

439. These results also show the limits of capacity building of FBOs. Farmers' low participation to FBOs and collective activity is not a result of a lack of knowledge (even if there is a difference between being trained on record keeping and being able to apply it on a day-to-day basis). It seems that there is a low interest from farmers to conduct collective activities. That results from several factors: low level of services offered to farmers by FBOs, lack of trust in other farmers and in group leaders, low incentive to sell collectively…The aggregator/nucleus farmer model is probably not the unique nor the ideal solution to facilitate access to inputs, services and market for SHFs, but from the interviews made with farmers linked to aggregators, it seems that they are rather satisfied with this type of commercial/organizational arrangement. So far, farmers met are both members of FBOs (to access potential future opportunities) and linked to aggregator (for market opportunities, access to services and access to inputs).

Figure 27: evolution of SHFs' access to services from baseline to 2021 (ENVAC monitoring surveys)



440. As the figure above shows, access to subsidized inputs, tractor service and threshing and shelling service has slightly increased between 2017 and 2021. For access to inputs, it is most likely linked to PFJ

program that is subsidizing inputs. ENVAC has probably contributed to the increased access to threshing and shelling services with the distribution of 20 MCT in Upper West region and with the support with threshing machines to some aggregators. Access to drying and cleaning equipment remains limited for SHFs and there no significant evolution from baseline to 2021. Access to storage has also decreased for SHFs (and the percentage of FBOs that have access to storage also decreased from 47% to 39%). Data collection could not provide clear insight on this decrease. One factor that could contribute to this results is that several warehouses at FBOs level (built by previous projects including P4P) are apparently not used anymore and are in a bad condition.

Annex 15-K. traceability system

441. Traceability of the product is supposed to be done both at aggregator level and at companies' level. Yedent and Premium provided these figures, but they do not have the means to actually trace the raw material. And at aggregator level, some traceability documents have been provided by ENVAC (only in 2020), but it was only partially filled and it is not clear how data was compiled before 2020. Aggregators met during data collection did not mention traceability as something they were supposed to do for ENVAC, and they clearly do not have the skills and knowledge to do it. Implementing a full traceability system would have required more investment on capacity building at aggregator level and some close follow up. Both were missing. Also, but maybe more importantly, there is no incentive for aggregator to trace production: tracing production from farmers is a service that is usually built into the cost of the product (for example, for organic production), but this is not the case for ENVAC's aggregator (and there is no incentive either at processors' level.

Annex 15-L. Evolution of quantity procured by Yedent and Premium from ENVAC and non ENVAC's SHFs

Table 15:crops coming from ENVAC and non ENVAC farmers procured by Yedent and Premium (MT) (source : PMF)

	volumes of raw material sourced from ENVAC's farmer					
	2017	**2018**	**2079**	**2020**	**2021**	**overall**
white maize	360,5	345,6	1867	930	7627	11130,1
yellow maize	2747	2780	1719	2052	0	9298
soya	1556	332	280	313	3093	5574
total	**4663,5**	**3457,6**	**3866**	**3295**	**10720**	**26002,1**
	volumes of raw material sourced from non ENVAC's farmer					
	2017	**2018**	**2079**	**2020**	**2021**	
white maize	6360	5082	28339	22191	10855	72827
yellow maize	33,5	522	65,7			621,2
soya	524	945,4	784	272	3008	5533,4
total	**6917,5**	**6549,4**	**29188,7**	**22463**	**13863**	**78981,6**
total raw mat	11581	10007	33054,7	25758	24583	**104983,7**
percentage from ENVAC's farmers	**40**	**35**	**12**	**13**	**44**	25
percentage of Soya aggregated from envac's SHFs						**50,18**
percentage of maize aggregated from ENVAC's SHF						**21,76**

:

442. The percentage of raw material procured from ENVAC's SHFs varies a lot from a year to another (40% of the crops procured from the two companies were considered as coming from ENVAC's farmers in 2017, 35% in 2018, 12% in 2019 and 13% in 2020), as the table above shows. For the first quarter of 2021, the percentage increases to 40%. **Looking at the figures from 2017 to 2020, it appears that the increase of raw material procured from SHFs by Yedent and Premium has not resulted in an increase in the procurement from ENVAC's supported farmers**.

443. However, the results from 2021 (if the increased is confirmed) is positive: it shows that the two companies are now procuring more from ENVAC's SHFs. This can be explained because from 2020 ENVAC is focusing more on bigger aggregators as entry point for support to SHFs and for market linkages, which fits better with the way companies procure their raw material. Also some of the aggregators that are regular suppliers of Yedent and Premium have been included from 2020 in ENVAC's activities. It is likely that is has contributes to an increased supply to the processors from ENVAC's aggregators. However, in the absence of a traceability system it is difficult to analyze whether and at which level these aggregators actually procure their raw material from ENVAC's supported farmers.

Annex 15-M. Ejura Warehouse : WFP support to increasing access to storage facilities for FBOS

444. WFP supported previous P4P farmers through the building of a 300 MT warehouse in Ejura-Sekyedumasi. Several P4P FBOs were grouped together (asked by ENVAC) in order for WFP to build a warehouse. The land was allocated to FBOs by the Assembly. 3 FBOs (and not 6 as mentioned in project documents) are the direct beneficiaries of this investments. The warehouse was built in 2019. Several issues affect the results of this activity:

✓There were some delays in the construction of the building and there were (and still are) quality issues (the building already shows weaknesses). Farmers are not satisfied of the quality of the building but they are very satisfied with the equipment provided. The equipment provided seems to be functioning.

✓Without a proper capacity building and regular follow up, the coalition of FBOs was not able to actually implement an effective management system. A contract was then signed with GCX (see below) for the management of this warehouse, but FBOs are not satisfied with the terms and conditions of the agreement and they do not accept to pay for a service (the storage, quality control and re-bagging) whilst GCX is using their warehouse for free.

✓GCX consider that the owner of the warehouse is WFP and that they are not accountable towards SHFs, but the warehouse was handed over to FBOs in 2019.

✓Yet, farmers are interested in warehouse receipt system, but there was not enough capacity building made on the conditions (farmers consider that they can still decide to remove their products from the warehouse for example) and on the role of GCX.

✓The rules and conditions for farmers to use the warehouse (with or without management by GCX) are not very clear. The warehouse is supposed to be available for a coalition of 15 FBOs but there was no clear information on who can use it and whether they have to pay for the service.

✓The warehouse is not currently used by farmers (and was never fully used). A few farmers are storing some maize at the time of the evaluation, but they store it on the ground under tarpaulins, outside of the warehouse (on the drying ground).

GCX – public-private partnership, interface between producers and buyers

GCX was established in November 2018. It is a public-private partnership as it is a private company 100% owned by the GoG. It is a platform that brings buyers and sellers together to facilitate local trade. The Ghana Commodity Exchange (GCX) is expected to create a seamless interface for the trading of food, minerals and other commodities in the country. It is expected to bring transparency in agribusiness, boost confidence in the industry, raise standards of food quality to global standards and ultimately give farmers their due for all their hard work of tilling the ground.

GCX currently manages 10 warehouses and one aggregation centres in Ghana, for a total capacity of 7,500 MT. When farmers bring their commodities to the warehouses they are sampled, graded, cleaned if necessary and re-bagged in GCX bags.

It has developed a warehouse receipt system that farmers can use to secure a loan in selected rural banks, microfinance institutions and one commercial bank (so far).

Data collection show that there is a real interest on this new opportunity both at farmers' side (several aggregators and FBOs met mentioned that they were selling through GCX) and at company's side (Yedent is already purchasing through GCX and Premium is negotiating with GCX).

GCX and WFP are currently working on a project proposal in order to develop an e-commerce platform.

ANNEX 16. EFFECTIVENESS PILLAR 2: CLMSFP

445. Under the CLMSFP component, ENVAC was to support two types of local processors (Women groups and small scale processors that have previously been supported by other projects (milling and fortification women groups, local bakeries and flour processors) : The objective was to support them to develop linkage with suppliers of premix and with SHFs ready to supply grains. The targeted market was the local market as well as schools (school feeding programme). The plan was to help them make their business more sustainable. Women group of beneficiaries from pillar 1 or pillar 3: The objective was to train them on local processing and fortification, packaging and marketing of nutritious food for their own consumption and for the local market.

446. In 2018, a National steering committee and regional technical committees were formed to assess and select CLSCFP was formed. After an initial selection of 5 CLMSFP, 3 were finally asked to provide a proposal. 3 were selected and an engineer and building consultant was hired to prepare construction plans. In October 2020, CLMSFP signed MOU with WFP. The same company was then (without competitive process) engaged to actually build and equipped the 3 processing centres. A training of CLMSFP was organized in February 2021. 13 processors participated (43 participants) to a training on food safety, quality and regulation as well as on business management. The training was organised by FDA and the national Board for small scale businesses.

Case study : Marvmay processing company, in Tamale

MarvMay Company is a medium scale processing company owned by a woman. The company is mainly producing TomBrown (local porridge made of maize, soya and groundnut), but also soya powder, soya chunks and soya kebabs. The company was established in 2010. Her main markets are individuals and supermarkets. She usually produces around 4 bags in a month (400 kg). She sells in bags of 1 kg and 2 kg. She would like to do smaller packaging but she does not have the financial means to invest.

She does not know what were the selection criteria for ENVAC. She only knows that they were looking for processors that own their land and whose products were approved by FDA (which is her case). She has no direct access to farmers (and ENVAC did not support her to develop link with SHFs or FBOs). She considers that if you want to buy from farmers, you must buy big quantities at the beginning of the season and store it.

Her current processing unit is not adapted to increase production and does not allow a proper management of quality. She had to find a new place to install the new equipment. So far, the factory is built and she is waiting (in June 2021) for the equipment. Her main challenge is to have the funds to purchase the raw material. Her second challenge is linked to time and equipment needed to roast the products before milling (it takes a very long time). Her last challenge is how to transport the finished products to her customers

She considers that quality is a big issue, especially contamination. She appreciated the training received from WFP and FDA, and she has adopted some of the recommended practices (like putting the raw material on palettes, instead of directly on the floor. She always checks the quality of whet she buys (no stones, no insects, no dirt, no powder or mold)

She does not yet know how she is going to find new clients, but she does not see it as an issue as she already has customers in Accra. She thinks that local market could be interesting if she can sell smaller bags, because farmers are already used to buy products like cerelac for their children. She is an health assistant and she travels to the communities regularly, so she has some contacts there and she will make them taste her products. She is considering doing advertisement on radio.

ANNEX 17. RELEVANCE –EFFICENCY -AND PARTNERSIP COORDINATION – PILLAR 3 MULTIPLICATION OF SBCC INVESTMENTS

447. The picture below (June 2021) was taken in a visited Health Facility (June 2021) to illustrate the overconcentration of SBCC investment on same areas with the Multiplication of « SBCC » posters, funded by different donors (ENVAC, Japanese cooperation, DSM) in the same districts, the same HF.

448. A single poster (Co-funded by ENVAC and Japanese cooperation), but in 2 copies, is promoting local fresh unprocessed food and the concept of "4 stars diet" to promote diversified diet.

449. All other posters are promoting processed, fortified, and branded food; some yet available only for free (MZ, GN) through WFP projects ; others are on sale in the shops around (TV, KK+), it is either CNF dedicated to children under 2 (KK+), or fortified flour often used to feed children 6-23 months. This does not fully respect WHO code of commercialization of substitute to breastmilk.

450. Tom Vita is still "promoted" when ENVAC distributions were stopped for food quality and safety issues.

451. Many posters promote ENVAC-CBT – when registration and inclusion in the program does not depend only on the willingness of PLW, caregivers or OSAG, but also on the targets defined by WFP, the delays in the registration process ; in June 2021, inclusion is no longer possible.

Figure 28: overconcentration in SBCC materials in HF visited

ANNEX 18. MAP OF ENVAC INTERVENTIONS AND GHANA ADMINISTRATIVE DIVISION

Table 16: Current and previous administrative division in Ghana

Former Region	Capital	New Region	Capital
Ashanti	Kumasi	Ashanti	Kumasi
Brong-Ahafo	Sunyani	Bono Region	Sunyani
		Bono East Region	Techiman
		Ahafo Region	Goaso
Central	Cape Coast	Central	Cape Coast
Eastern	Koforidua	Eastern	Koforidua
Greater Accra	Accra	Greater Accra	Accra
Northern	Tamale	Northern	Tamale
		Savannah	Damongo
		North East	Nalerigu
Upper East	Bolgatanga	Upper East	Bolgatanga
Upper West	Wa	Upper West	Wa
Volta	Ho	Volta Region	Ho
		Oti	Dambai
Western	Sekondi-Takoradi	Western Region	Takoradi
		Western North	Wiawso[4]

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ACRONYMS

1D1F	One district one factory
ACDI/VOCA	Agricultural Cooperative Development International/Volunteer Organization Cooperative Assistance
ACHF	Alpha communication and Health Foundation
ADRA INTAPIMP	Integrated Agricultural Productivity Improvement and Marketing Project
ADVANCE	Agricultural Development, Value Chain Enhancement
AFAP	African fertilizer and agribusiness partnership
AGRA	Alliance for a green revolution
AMSEC	Agricultural Mechanization Services
ANC	Ante Natal Care - GHS program
AR	Ashanti Region
BAR	Bronk Aafo Region
CAADP	Comprehensive Africa Agriculture Development Programme
CASE	Competitive Agricultural Systems and Enterprises
CBT	Cash Based Transfer
CLMSFP	Community Level and Medium Scale Food Processors
CNF	Complementary Nutritious Food : refers to all fortified food products developed through ENVAC Pillar 2 and/or distributed through ENVAC Pillar 3 to specific targets to prevent malnutrition
CO	WFP Ghana Country Office (CO),
COVID	Coronavirus Disease
CRF	Corporate Result Framework
CRI	Crop Research Institute
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organization
CSP	Country Strategy Plan
CT	Cash Transfer
Cu2	Children under 2 - children 6-23 months targeted by ENVAC Pillar 3.

CWC	Child Welfare Clinic - GHS program
DE	Decentralized Evaluation
DEQAS	Decentralized Evaluation Quality Assurance System
DHIMS	District Health Information Management System
DHS	Demographic Health Survey
DSM	Dutch State Mines -
EC	Evaluation Committee
ECOWAS	Economic Community of West African States
EFSA	Emergency Food security assessment
EM	Evaluation Manager
ENVAC	Enhanced Nutrition and Value Chains Project
EQ	Evaluation Question
ER	Evaluation Report
ERG	Evaluation Reference Group
ET	Evaluation team
EU	European Union
EU-GAP	European Union-Ghana Agriculture Programme
FAO	Food and Agriculture Organization
FARA	Farming for Agricultural Research in Africa
FASDEP	Food and Agricultural Sector Development Policy (FASDEP II)
FBO	Farmer Based Organization
FCS	Food Consumption Score
FDA	Food and Drug Authority
FDSA	Food Supply and Distribution Agreement
FGD	Focus Group Discussion
FLA	Field Level Agreement
FO	Farmers' Organization
FRI	Farm Radio International

FSDA	Food Supply and Distribution Agreement
FSQ	Food Safety and Quality
GAC	Global Affairs Canada
GADS	Gender and Agriculture Development Strategy
GAIN	Global Alliance for Improved Nutrition
GAPS	Good Agricultural Practices
GCX	Ghana Commodity Exchange
GDP	Gross Domestic Product
GEEW	Gender Equality and Empowerment of Women
GGC	Ghana Grains Council
GHC	Ghana Cedi
GHS	Ghana Health Service
GIZ	German International Development Cooperation
GLSS	Ghana Living Standards Survey
GMO	Genetically Modified Organisms
GN	GrowNut – a LNS produced by an NGO – Project Peanut Butter
GOG	Government of Ghana
GSA	Ghana Standards Authority
GSGDA	Ghana Shared Growth Development Agenda
GSS	Ghana statistical services
Ha	Hectare
HF	Health Facility
HH	HouseHolds
HIV	Human Immunodeficiency Virus
HQ	WFP HeadQuarters
ICT	Information communication technology
IEC	Information, Education, and Communication
IFA	Iron and Folic Acid

IFAD	International Fund for Agricultural Development
IFDC	International Fertilizer Development Centre
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IP	Implementing Partners
IR	Inception Report
KII	Key informant Interviews
KK+	Koko+ is a macro and micronutrient powder, produced by Yedent for KoKo+ Fundation, a non profit organisation
KNUST	Kwame Nkrumah University of Science and Technology
LAP	Land Administration project
LDC	Less developed countries
LEAP	Livelihood Empowerment Against Poverty
LMIC	Lower Middle-Income Countries
LNS	Lipid-based Nutrient supplement
LoFAIN	Local Food based approach for improved nutrition (a WFP program)
LTA	Long Term Agreement
M&E	Monitoring and Evaluation
MAD	Minimum Acceptable Diet
MAG	Modernizing Agriculture in Ghana
MAM	Moderate Acute Malnutrition
MCT	Multi crop threshers
MDCA	Mobile data collection and analytics
MDD	Minimum Dietary Diversity
MDG	Millennium Development Goals
MEDA-GROW	Mennonite Economic Development Associates - Greater Rural Opportunities for Women
METASIP	Medium Term Agricultural Sector Investment Plan

METTS	Monitoring, Evaluation and Technical Support Services (USAID survey)
MICS	Multiple Indicator Cluster Survey
MOAP	Market Oriented Agriculture Programme
MoFA	Minister of Food and Agriculture
MoH	Ministry of Health
MoU	Memorandum of Understanding
MT	Metric Tonne
MZ	Maizoya : Premium CNF formulated for Pregnant and Lactating Women - type WFP-SC.
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organization (NGO)
NR	Northern Region
NRGP	Northern Rural Growth Prograramme
OEV	WFP's Office of Evaluation.
OFSP	Orange Fleshed Sweet Potatoe
OSAG	Out of School adolescent Girl
P1	Pillar 1 of ENVAC project
P2	Pillar 2 of ENVAC project
P3	Pillar 3 of ENVAC project
P4P	Purchase for Progress
PDM	Post Distribution Monitoring
PFJ	Planting for Food and Job
PHH	Post-Harvest Handling
PLW	Pregnant and Lactating Women
PMF	Programme Monitoring Framework
PPB	Project Peanut Butter – NGO based in Ghana ; produced GrowNut
PTM	Post training Monitoring
RB	WFP Regional Bureau
SBCC	Social and Behaviour Change Communication

SC	Super Cereal
SC+	Super Cereal Plus
SDG	Sustainable Development Goal
SHF	Small Holder farmers
SNF	Specialized Nutritious Food (fortified food used by WFP like SC or SC+)
SNV	Stichting Nederlandse Vrijwilligers - Netherlands Development Organisation
SRID	Statistics research and Information Directorate
TOR	Terms of reference
TV	TomVita (Yedent fortified flour formulated for Pregnant and Lactating Women - Label OBAASIMA)
UER	Upper East Region
UNDP	United Nations Development Programme
UNEG	United Nations Evaluation Group
UNICEF	United Nations Children's Emergency Fund
USDA	United States Department of Agriculture
VC	Value Chain
WFP	World Food Programme
WHO	World Health Organisation
WIAD	Women in Agriculture Directorate

WFP – Ghana Country Office

https://www.wfp.org/countries/ghana

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