

EVALUATION OF THE HORTIFRESH WEST AFRICA PROGRAMME

FNS WEST AFRICA EVALUATION - PART III

FINAL SUB-EVALUATION REPORT

seo • amsterdam economics

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Executive Summary

The Embassy of the Kingdom of the Netherlands in Accra (EKN Accra) commissioned SEO Amsterdam Economics to conduct the final evaluation of the HortiFresh West Africa programme (hereafter HortiFresh). The HortiFresh programme was led by the Wageningen Centre for Development Innovation (WC DI) and co-implemented by four consortium partners: SNV, Resilience BV, Advance Consulting and SENSE. EKN Accra funded the programme and managed the evaluation. SEO conducted the evaluations jointly with its partner MDF Training & Consultancy, with fieldwork carried out by MDF West Africa.

The main goal of HortiFresh was to contribute sustainable and internationally competitive fruit and vegetable sectors in Ghana and Côte d'Ivoire, contributing to inclusive economic growth, and food and nutrition security. To achieve this goal, HortiFresh supported the fruit and vegetable (F&V) sector through three funds: the cluster fund, the innovation fund, and the youth employment fund. Additionally, HortiFresh had a finance component that provided financial products, individual company support and institutional capacity building. Lastly, HortiFresh also supported the F&V sector through, among others, policy support, public-private coordination, B2B activities, trade promotion activities, technical assistance in agronomy and nutrition related activities.

HortiFresh was well designed to contribute to a more competitive and innovative F&V sector as well as a conducive business climate. The programme focused on and contributed to creating more dynamic commercial initiatives, and increased dialogue and food safety organisation in the sector. By supporting regulatory systems and bodies, it supported the creation of several alliances with the potential to contribute to an enabling environment and drive activities in the horticultural sector in Ghana.

Regarding objectives on inclusion and environmental sustainability, the programme's relevance was less apparent. The programme did not have enormous expectations to have major impact on, since its resources and design were not focused on gender and youth inclusion objectives. With regards to increasing (environmental) sustainability in the sector, the programme mostly contributed to this by delivering training and through the Ghana Green Label. In Côte d'Ivoire, the programme's size and design was smaller and thus expected to have less impact on the sector in that country.

HortiFresh largely addressed the main constraints that were identified in the F&V sector, and as such was relevant to the sector, especially in Ghana. More specifically, in Ghana it contributed to a more sustainable and competitive sector by addressing constraints related to quality, knowledge, regulatory bodies, and access to finance. In Côte d'Ivoire, the programme appears to have also addressed constraints related to export quality. However, by design the programme did not address a number of other important constraints like market concentration, limited access to finance and a passive policy environment.

In terms of its alignment with other national government or donor interventions, the programme fit well with donor and national government objectives. While the evaluation found no signs of coordination with other programmes, there also did not appear to be incoherence, or overlap with their activities.

In Ghana, HortiFresh distinguished itself from other access to finance providers in that it took a hands-on approach with its partners. The programme managed to secure loans for partners, mainly due to the continuous engagement with financial institutions by HortiFresh. For instance, the support by HortiFresh contributed to an increased sense of reliability and security by banks in providing credit.

HortiFresh is likely to meet most of its targets, but for some indicators data was missing. As of December 2021, HortiFresh already reached the target of 20 of the 35 indicators and was likely to meet its target for another two indicators. For six indicators, it seemed unlikely that HortiFresh would reach the targets, as achieved outputs/outcomes were far below the targets. For yet other seven indicators, the data was incomplete, inconsistent, or not available.

Nevertheless, without a counterfactual it is not possible to fully assess the contribution of HortiFresh's activities to these results. Direct output indicators like the number of farmers trained can be fully attributed to the programme. However, other outcome indicators like the increase in productivity and the number of companies investing in the West African F&V sector are influenced by many factors and not only by the HortiFresh programme. Without a counterfactual, the evidence of HortiFresh's contribution to these changes can only be partial.

Internal capacity and resources had a significant impact on effectiveness. The limited number of staff in Côte d'Ivoire negatively influenced the effectiveness of activities in the country, whereas the strong team in Ghana had a positive impact on effectiveness. Other factors that influenced effectiveness include: the successful linkages that HortiFresh made with local and foreign financial institutions (positive), the COVID-19 pandemic (negative) and local public sector bureaucratic challenges (negative).

The M&E framework was strong overall, but indicators lacked a disaggregation by country and sector. In general, the performance indicators were clear, did not overlap and matched the result areas well. The M&E framework was also well suited for meeting reporting requirements, learning, and informing internal and external stakeholders. However, the M&E data reported did not disaggregate outputs and outcomes by country. This made it impossible to draw conclusions about the relative effectiveness in Ghana versus Côte d'Ivoire (although qualitative data suggest the programme was more successful in Ghana).

While not all data were available for a complete efficiency assessment, HortiFresh seemed to have used its resources efficiently. As of the time of the evaluation, HortiFresh had remained within its budget and coordination costs were in line with that of other FNS programmes. However, a full efficiency analysis (e.g. cost effectiveness as a measure of "value for money") could not be carried out, as the budget components were not directly linked to specific outputs or outcomes and the M&E system did not include data for all indicators. Nevertheless, available resources were likely efficiently used to achieve the agreed results.

There was some evidence of take up of HortiFresh strategies and activities by other policy and public/private organisations in Ghana. As of December 2021, the programme was still making serious efforts to achieve institutional embedding in the last phase of the programme.

Continuation and scalability of its outcomes and systems change has not yet been fully achieved, but will likely materialise to some extent in Ghana, especially through the Food Safety Task Force and Horticultural Development Authority. However, there have not been systemic changes in terms of the risk perception that FIs have towards providing credit in the F&V sector. Any risk to sustainability lies mostly in ensuring continued connection between partners and public sector actors. The sustainability and achievement of results in Ghana was supported by the previous programme, GhanaVeg, while the lack of that groundwork in part explains the absence of sustainability, scalability and systems change in Côte d'Ivoire.

The sustainability of VSLAs in Ghana seemed promising. In particular, the concept of VSLAs was fully embraced by VSLA members in Ghana, and their functionality did not rely on the programme's resources. In Côte d'Ivoire, VSLAs were not part of HortiFresh activities.

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1 Description of the programme

HortiFresh aimed to strengthen the fruit and vegetable sector in Ghana and Côte d'Ivoire to ultimately contribute to inclusive economic growth, food and nutrition security.

1.1 Introduction

HortiFresh West Africa; Commercial Fruit & Vegetable Sector Development in West Africa, aimed to develop sustainable and internationally competitive fruit and vegetables (F&V) sectors in Ghana and Côte d'Ivoire. More specifically, it aimed to increase the value of fruit and vegetable exports, move from aid to trade, contribute to inclusive economic growth, and improve food and nutrition security in these countries. It also aimed to create opportunities for women and youth to engage in the sector.

GhanaVeg, the predecessor of HortiFresh, was established to improve competitiveness and innovation, and was implemented from 2013-2017, focusing on the vegetable sector in Ghana.¹ During its existence, GhanaVeg created more than 20 business initiatives and supported more than 10 public-private partnerships. Additionally, 4,305 smallholder farmers experienced a productivity increase of more than 50 percent under GhanaVeg's programmes, and 89 percent of farmers surveyed stated that their incomes had substantially increased under the programme. Although there was a reduction in exports during the lifespan of the programme, this was mainly due to the European Union import ban of certain key vegetables. However, this allowed for a greater collaboration with the Export Taskforce in Ghana and support for substitute export vegetables.²

HortiFresh was set up as a successor to GhanaVeg for the period of January 2018 - June 2022³, and was expanded to include the fruit sector in Côte d'Ivoire. It was also funded by the Netherlands government, with a total budget of €8,990,478.⁴ The programme was led by the Wageningen Centre for Development Innovation (WC DI), part of Wageningen University & Research, and co-implemented by four consortium partners: SNV, Resilience BV, Advance Consulting and SENSE.⁵

HortiFresh supported the fruit and vegetable sector through three funds:

1. **Through its cluster fund,** HortiFresh supported geographical hotspots identified for horticulture production, including 2 mango clusters, one in Ghana and one in Côte d'Ivoire, a tomato cluster, an onion cluster and 2 peri-urban clusters, also both in Ghana as well as in Côte d'Ivoire. HortiFresh originally aimed for five projects with a grant size from HortiFresh between USD 50,000 and USD 100,000 per project.

¹ <https://www.hortifresh.org/press-statement/>

² Van den Broek, J. A., Arthur, H., Asamoah, P., Assibey-Yeboah, S., & Koomen, I. (2018). GhanaVeg Final Report 2013-2017: Quality and healthy vegetables from Ghana through new ways of doing business (No. 18-017). Wageningen Centre for Development Innovation

³ The original end date of the programme was 31 December 2021. However, the 2020 progress report state that the actual closing date has been postponed to 30 June 2022.

⁴ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation

⁵ <https://library.wur.nl/WebQuery/wurpubs/fulltext/521680>

2. **Through its innovation fund**, HortiFresh made grants available for risky enterprises and pre-competitive activities that can stimulate entrepreneurship and competitiveness. Funding was directed towards supporting products and services currently most lacking for a competitive F&V sector. The HortiFresh programme planned ten innovation grants, six for the vegetable sector and four for the fruit sector, with each grant amounting to USD 125,000 and an additional USD 125,000 to be co-financed by the private sector.
3. **Through its youth employment fund**, HortiFresh encouraged companies to employ and train youth and women in the F&V sector, and to develop financial products to facilitate start-ups for youth and women in the sector. Originally HortiFresh had budgeted an annual amount of USD 50,000 for about four projects.⁶

Beyond these three funds, HortiFresh's financing modalities include an access to finance component. This component, which was a condition for the programme by the Embassy of the Kingdom of the Netherlands in Accra (EKN Accra), aims to facilitate the inflow of commercial financing to the horticulture sectors of Ghana and Côte d'Ivoire. It comprises three elements:⁷

- **Financial products.** In 2019, HortiFresh developed and piloted with partners three financial products, including greenhouse financing, exporter-outgrower financing and solar irrigation. In the second half of 2020, HortiFresh developed its fourth financial product, namely the female inclusion financial product.
- **Individual company support.** This aims to raise financing for at least six horticultural SMEs by providing them support in accessing loans and equity. As of end-2020, HortiFresh acquired funding for three companies and further assessed the feasibility of access to finance for seven other companies.
- **Institutional capacity building.** Under this component, HortiFresh aims to build the organisational and horticulture knowledge of key banks, financing institutions and sector organisations, and worked with GIRSAL and RDF on capacity building. The missing-middle fund and the women accelerator fund were added at a later stage.⁸

In addition to the three funds and the access to finance component, HortiFresh also supported the F&V sector through various other activities. These included policy support, public-private coordination, B2B activities, trade promotion activities, technical assistance in agronomy, and nutrition related activities.⁹

There were some differences in the activities and components of the HortiFresh programme in Ghana and Côte d'Ivoire. In Ghana, four clusters were identified that would be supported under the cluster fund, namely the mango cluster, the tomato cluster, the onion cluster, and the peri-urban cluster, while in Côte d'Ivoire, the focus was only on the mango cluster and the peri-urban cluster. Moreover, in Côte d'Ivoire, the access to finance component was focused only on individual company support. Additionally, HortiFresh identified a need for youth support in Côte d'Ivoire and received approval from EKN Accra to assign budget to a youth component. The youth employment fund in Côte d'Ivoire only started in December 2020, while in Ghana it was already launched in 2019. Finally, regarding policy support, the activities in Côte d'Ivoire were less extensive and a bit delayed compared to Ghana. In Ghana policy support was focused on the Ghana Green Label (GGL), the setting-up of the Horticulture Development Authority (HDA) and the Food Safety Taskforce, and the support for the Environmental Protection Agency (EPA) and the Food & Drugs Authority (FDA) on pesticide registration and food safety. In Côte d'Ivoire, a Sanitary

⁶ HortiFresh. (2018). HortiFresh Fund Manual. West Africa Commercial Fruits & Vegetable Development Project

⁷ Herms, S., Obeng, R. & van den Broek, J. (2019). Strategy access-to-finance component HortiFresh.

⁸ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation.

⁹ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation.

and Phytosanitary (SPS) status study was started in 2019, and a market study and a finance study were planned to start in early 2021.¹⁰

Following a competitive tender process, EKN Accra commissioned SEO Amsterdam Economics to conduct the final evaluation of HortiFresh. The evaluation was managed by the Embassy of the Kingdom of the Netherlands in Ghana, and was undertaken jointly with evaluations of two other food and nutrition security programmes funded by EKN Accra (CORIP and SWAPP). SEO conducted the evaluations jointly with its partner MDF Training & Consultancy, while fieldwork was carried out by MDF West Africa.

The primary objective of this evaluation was learning, while accountability was a secondary objective. Given the importance of the learning objective, the evaluation focused on drawing lessons in terms of what works and does not work, which could then be taken into account by EKN Accra, other embassies, and the Ministry of Foreign Affairs (MFA) more broadly when developing similar programmes in the future (learning objective). In addition, we examined whether the programme met its objectives and output goals (accountability objective). For both objectives, the evaluation grouped its findings under the headings of the four OECD-DAC criteria mentioned in the ToR (Relevance, Efficiency, Effectiveness, and Sustainability).

This sub-evaluation is based on a mixed methods approach. The SEO-MDF evaluation team used several distinct qualitative and quantitative data sources and methods, as listed below. Due to the nature of HortiFresh's programme and activities (relatively small number of partners and very tailored approaches) the team could not include a survey as part of its data collection methods. Nevertheless, MDF's West Africa office conducted fieldwork in October-November 2021, involving face-to-face and online/telephone interviews and focus group discussions in Ghana and Côte d'Ivoire.

- **Desk review** of available programme and strategy documents.
- **Data analysis** of programme activities, project beneficiaries and M&E data.
- **Key Informant Interviews (KIIs)** with numerous internal and external stakeholders, including representatives of all consortium partners (WCDI, SNV, Resilience BV, Advance Consulting and SENSE), HortiFresh partners¹¹, farmers, a financial service provider and government representatives (from the Ministry of Food and Agriculture in Ghana).
- **Focus Group Discussions (FGDs)** in Ghana¹² and Côte d'Ivoire.¹³
- **The Mid-term review (MTR)** undertaken by an independent consultant in collaboration with Wageningen University & Research, covering the period until December 2019, also provided valuable inputs for all evaluation questions. This MTR assessed HortiFresh on its relevance, effectiveness and sustainability. In addition, this evaluation evaluates the efficiency of the programme.

¹⁰ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation.

¹¹ The fieldwork team interviewed 8 partners in Côte D'Ivoire and 14 partners in Ghana.

¹² In Ghana the fieldwork team did 4 FGDs: 3 with farmer groups/out-growers and 1 with the Spray Service Providers (SSPs).

¹³ In Côte D'Ivoire the fieldwork team did one FGD with 6 farmers in Yamoussoukro.

1.2 Theory of Change

HortiFresh aimed to achieve impact through creating “sustainable and internationally competitive fruit and vegetable sectors that contributes to inclusive economic growth, food and nutrition security”. It aimed to achieve this through three main results areas or pathways:

1. A competitive and innovative high-value Fruit and Vegetable (F&V) sector, which the proposal described as “support the sector through activities and funds that contribute to increasing the value of export; both to the EU and to regional markets; value addition; reducing food losses; improving quality; and an increased market share in the domestic market. In line with this HortiFresh WA aims to achieve greater competitiveness through more innovations in the sector.”
2. An inclusive and sustainable F&V sector: which focuses on growth that creates opportunities for women and youth and contributes to food security, while aiming for long-term economic viability, environmental impact and resilience of the sector.
3. A conducive business climate that facilitates the development of the F&V sector, which is achieved through existing platforms such as the Export Taskforce in Ghana and the Ghana Green Label Committee, as well as addresses regulatory issues.^{14 15}

The Theory of Change (ToC) of HortiFresh is well designed and regularly reflected upon (see next page for the most recent version and the underlying assumptions), and adapted when deemed necessary by the programme consortium. The need for adaptation was discussed, inter alia, during the annual reflection and planning meetings with all partners. Each of the outcomes in the ToC is tied to a particular indicator. An overview of this can be found in Annex A. The ToC visual shows that certain outputs contribute to various outcomes and results areas. While this creates a more complex-looking ToC visual, it builds on a realistic interpretation of non-linear results chains in the sector and programme and how the different outputs inform multiple result areas. With regards to the pathways, it is somewhat surprising that access to finance is not more prominently distinguishable in the ToC, since it has been quite an important and cross-cutting element of the programme. To this end, an additional assumption on financial institutions’ (un)willingness to give financial support to the agricultural sector would have been appropriate.

The ToC formed the basis of HortiFresh’s M&E framework, and was actively used to review and adapt the programme. Every year, during the annual reflection and planning meeting, the ToC and its underlying assumptions were assessed and adjusted where necessary. For example, when HortiFresh partners realised that targeting policies are generally unsuccessful unless also making strategic choices in the intended targeted policies. This led to an adjustment and reformulation from “conducive policies in place and implemented” as formulated in the inception report, to the current “improved food safety control system.”¹⁶

HortiFresh monitored and reported its progress with 30 indicators. These indicators are both related to Food and Nutrition Security (FNS) and Private Sector Development (PSD). In Annex A we present the full overview of the outcomes and the related indicators. Below is a selection of indicators that were used to measure progress in the programme and are representative of the intended outcomes and impact of the programme:

- #1: Change in yield per hectare of selected F&V.
- #5: Change in volume of export.
- #7: Number of Dutch companies investing in the F&V sector as a result of HortiFresh activities.

¹⁴ Koomen, I., Van den Broek, J. & Jager de, A. (2017). Project proposal HortiFresh West Africa; Commercial Fruit & Vegetable Sector Development in West Africa. Wageningen Centre for Development Innovation, Wageningen University & Research. Report CDI-17-018. Wageningen (p. 24-25)

¹⁵ Assibey-Yeboah, S., Koomen, I., Van den Broek, J., Duiker, H., Herms, S. & Arnoldus, M. (2018). Inception report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa. Wageningen Centre for Development Innovation, Wageningen University and Research, Report WCDI-18-013. Wageningen.

¹⁶ Interview with HortiFresh programme staff.

- #11: Change in value of fresh and processed F&V supplied to the domestic markets.
- #13: Number of business/SMEs that have accessed commercial financial products developed by HortiFresh.
- #16: Number of reliable jobs created by HortiFresh supported SMEs/Businesses.
- #25: Number of business/SMEs with GAP certification.¹⁷

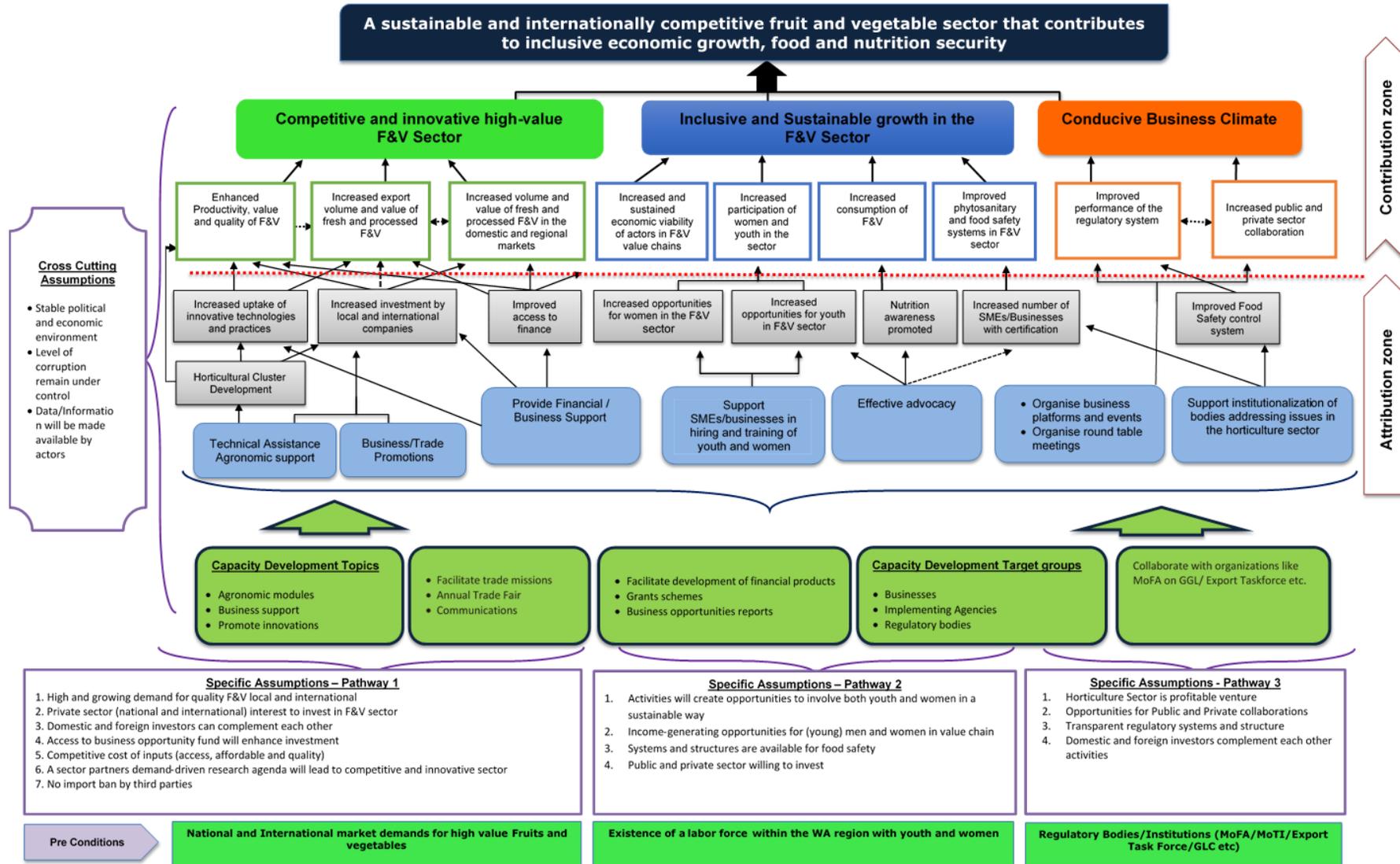
In addition to the 30 HortiFresh indicators, HortiFresh also reports on 5 Food and Nutrition Security (FNS) indicators developed by EKN Accra:¹⁸

- EKN #1: Number of family farms with increased productivity and/or income;
- EKN #2: Number of farmers that adopted research results/knowledge/new technology;
- EKN #3: Number of family farms with improved access to input and/or output markets;
- EKN #4: Total number of family farms reached (direct);
- EKN #5: Number of improvements in major (inter)national FNS policies/laws.

¹⁷ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation

¹⁸ These are in line with the Dutch framework for FNS programmes.

Theory of Change - HortiFresh



1.3 M&E process

This section focuses on describing the M&E processes. The extent to which these processes were suitable for effective monitoring and implementation of activities is discussed under Section 3.4.

Monitoring and evaluation took place at four different levels, namely activity, output, intermediate outcome and long-term outcome. Activity monitoring was done by the project partners directly. Each partner reported on a quarterly basis against the relevant indicators. Furthermore, the programme had resident agronomists in the field that report on cluster level. Output and intermediate outcome monitoring was done by HortiFresh staff. Semi-annual progress updates by project partners were performed to monitor the realisation of outputs and results. In addition, visits were made to project partners to assess and validate progress. Finally, indicators at long-term outcome level defined the impact contribution of the HortiFresh programme and are mainly measured at national sector level. Information for long-term outcome monitoring was mostly obtained from desk study or secondary sources. Assessing M&E data on productivity and other indicators against a country's or region's secondary data on productivity numbers is complicated. For instance, secondary data on vegetable or fruit crops productivity does not exist per crop, but rather for the entire F&V sector, making that data incomparable to data collected by the programme. Also, since the programme M&E framework does not use a counterfactual it is difficult to assess effects on farmers' increase in productivity, yield or access to markets as compared to farmers that were not involved in the programme.

The HortiFresh M&E team, led by the M&E advisor, supervised and managed data collection for reporting. Furthermore, the HortiFresh staff made regular field visits to verify the data collected by the project partners. All the data that was collected was stored in an Excel Data Management System and verified internally to ensure data quality.

For evaluation purposes, HortiFresh adopted a before-after approach, and used the baseline, mid-term and final evaluation to measure impact. A mid-term evaluation was conducted in 2019 and shared with all stakeholders, including EKN Accra. Based on the recommendations of the mid-term evaluation, HortiFresh prepared a management response to the recommendations of the MTR report, which was shared with all stakeholders. Based on consensus from all stakeholders and approval from EKN Accra, HortiFresh made a selection of recommendations to be implemented to improve the programme and make adjustments where necessary.

While the majority of reporting was on quantitative indicators, the programme also provided a qualitative assessment of progress, using the Most Significant Change (MSC) methodology. First, HortiFresh collected 'change stories' from a selected set of programme stakeholders at baseline. Second, additional stories will be collected in January 2022 to have an end-line assessment of the most significant changes that occurred due to the programme, since the baseline measurement. Although MSC is less suitable to assess causality or effectiveness as a standalone method, MSC stories can give a better understanding of the context and how changes and results came about. Moreover, the programme also conducts KIIs to gather information from key stakeholders on the implementation progress, benefits and challenges faced in the F&V sector.

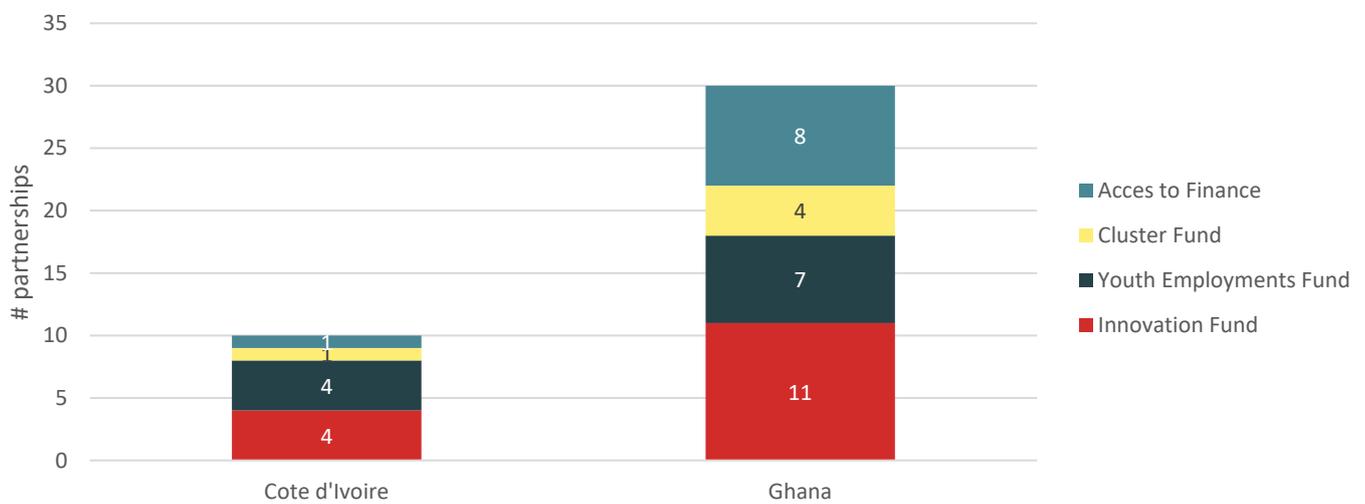
Regarding reporting and communicating results, HortiFresh sent annual reports to EKN Accra that highlight the progress of the programme in achieving results and outputs, measured against the selected indicators. Project partners provided quarterly reports (operational and financial) to the HortiFresh management team. Finally, HortiFresh regularly published relevant programme information and success stories on their website.

1.4 Portfolio analysis

1.4.1 HortiFresh

As of October 2021, HortiFresh established 40 partnerships. Out of these, 15 were part of the innovation fund, 11 of the youth employment fund, five of the cluster fund and nine of the access to finance component. Thirty of these project partners were located in Ghana and ten in Côte d'Ivoire (see Figure 1.1). Nearly half (19 out of 40) of the partnerships were solely active in the fruit sector, while nearly one third (12 out of 40) related solely to the vegetable sector. Nearly a quarter (9 out of 40) were active in both the fruit and vegetable sector (see Figure 1.2).

Figure 1.1 The majority (75%) of HortiFresh partnerships were located in Ghana¹⁹



Source: HortiFresh Partner Projects Brief, 2021

¹⁹ Note that at the time of the evaluation there were two cluster fund partnerships in Côte d'Ivoire, however this was not reflected in the Partner Projects Briefs we received from HortiFresh.

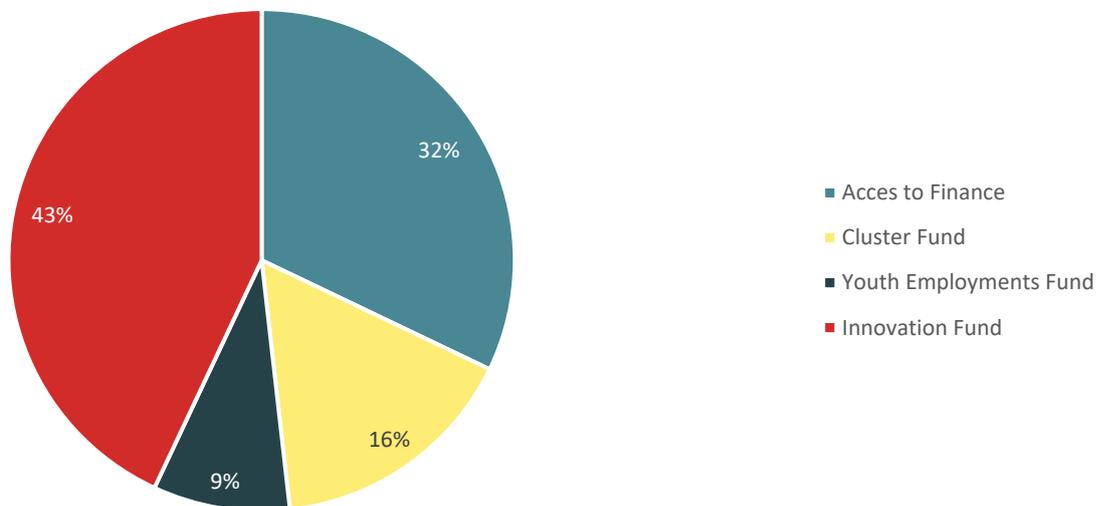
Figure 1.2 Nearly half of all partnerships were solely active in the fruit sector



Source: HortiFresh Partner Projects Brief, 2021

The innovation fund had the largest allocated HortiFresh budget, and the cluster fund had the most budget remaining. Most of HortiFresh's budget (43 percent) was allocated to the innovation fund, followed by the access to finance component with 32 percent. Sixteen percent of HortiFresh's total budget was allocated to the cluster fund and nine percent to the youth employments fund. As of October 2021, HortiFresh's budget for the innovation- and the youth employments fund and the access to finance component has been almost completely committed. However, more than half of HortiFresh's budget for the cluster fund has not yet been committed.

Figure 1.3 43 percent of HortiFresh's budget was allocated to the innovation fund



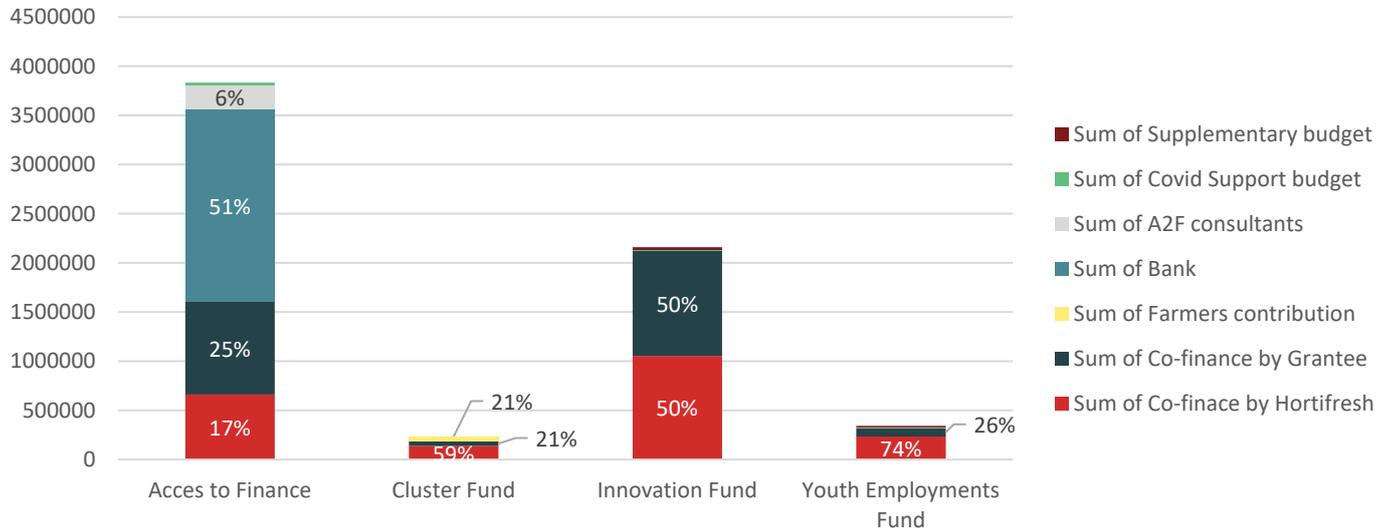
Source: HortiFresh Grantee Budget Overview, 2021

As Figure 1.5 shows, the majority of the total project budget was allocated to the access to finance component followed by the innovation fund. The total budget consisted of co-finance by HortiFresh, co-finance by the grantee, farmers contribution, co-finance by banks and co-finance by Access to Finance (A2F) consultants. In addition, a supplementary budget and a COVID-19 support budget were set aside for various projects.

The majority (57 percent) of the total budget for the access to finance component consisted of co-financing by banks and advisory services of A2F consultants. For the cluster fund, 59 percent of the total budget consisted

of co-finance by HortiFresh and the remaining consisted of co-finance by partners and farmers. Half of the total budget of the cluster fund consisted of co-finance by HortiFresh and the other half of co-finance by partners. Almost three quarters of the total budget for the youth employments fund was made up of co-finance by HortiFresh.

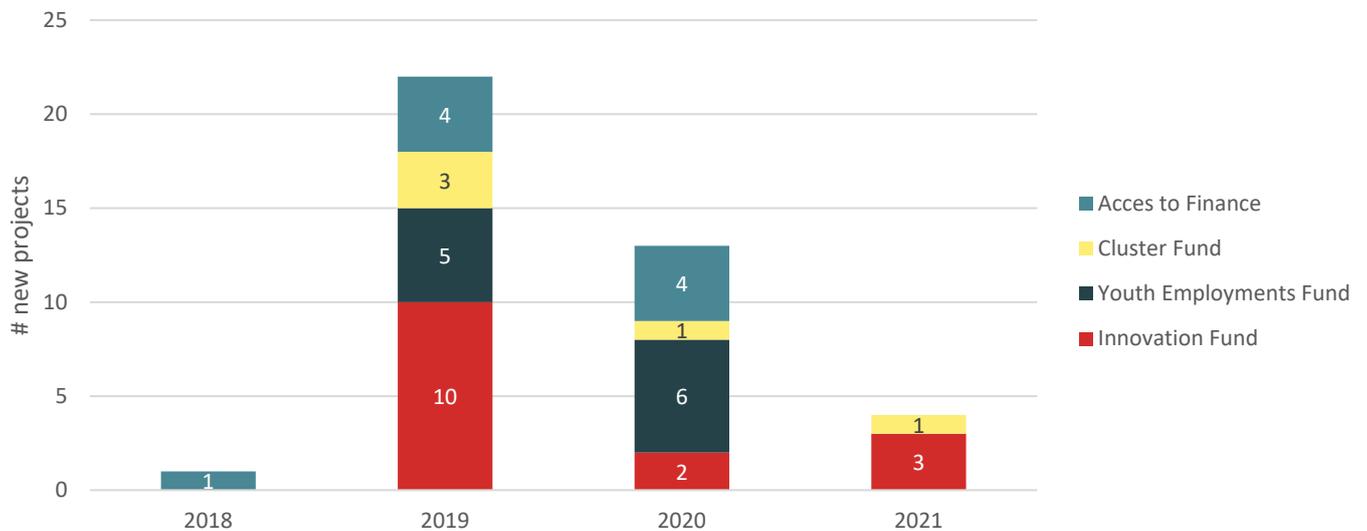
Figure 1.4 More than €3.5 mln of the total programme budget was allocated to the access to finance component, of which 17% consisted of HortiFresh budget and 51% of the contribution from banks.



Source: HortiFresh Grantee Budget Overview, 2021

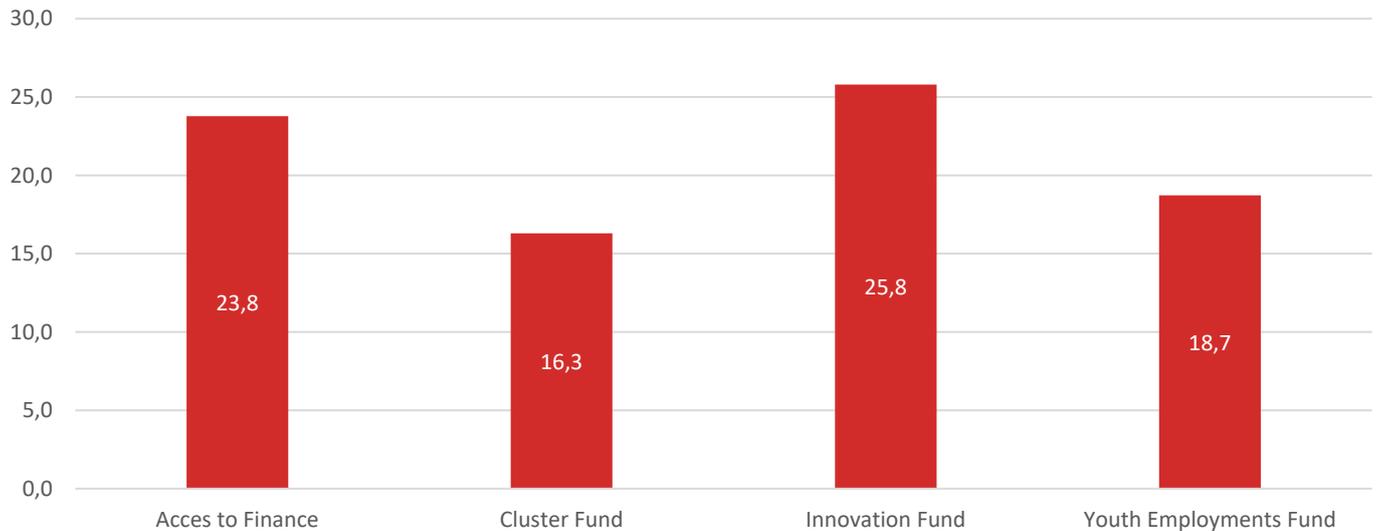
Since 2019, the number of new partnerships decreased. This is logical as the programme was supposed to end in 2021. As Figure 1.6 shows, one partnership was started within the access to finance component in 2018. In 2019, the number of new partnerships was highest with ten new partnerships within the innovation fund. The number of new project partners decreased from 22 in 2019 to four in 2021. The projects within the innovation fund had the longest duration with an average duration of 25.8 months, followed by projects within the access to finance component with an average duration of 23.8 months (see Figure 1.6).

Figure 1.5 The number of new partnerships was highest in 2019



Source: HortiFresh Partner Projects Brief, 2021

Figure 1.6 The partnerships within the innovation fund have the longest average duration in months



Source: HortiFresh Partner Projects Brief, 2021

1.4.2 GhanaVeg

The objective of the earlier GhanaVeg programme (2013-2017) focused on two pathways, namely competitiveness and innovation of the vegetable sector, which were underpinned by three conditions addressing sustainability, inclusiveness and policy environment.

GhanaVeg developed activities for each pathway and each condition that were organised around three funds. At that time, there were three such funds: (a) a business opportunity fund, (b) an innovation fund and (c) an advisory fund. Fifteen private sector project partners were funded under the business opportunity fund and seven were funded under the innovation fund.

The type of interventions within the funds varied widely. Within the business opportunity fund the interventions varied from developing out grower schemes, investing in certification and introducing new solar irrigation systems to innovating greenhouse production, improving production of specific crops and providing agronomy trainings. Examples of interventions within the innovation fund include the introduction of new organic fertilizers and biological control agents, breeding and testing of new crop varieties and cost-benefit analysis of tunnels.

GhanaVeg developed output indicators for each pathway and condition:

- **Competitiveness:** 71 dedicated chains were developed as a result of GhanaVeg activities. In addition, 400 business-to-business (B2B) deals were generated, surpassing the target of 200. With respect to Dutch companies, 14 companies were investing or trading with Ghana as a result of GhanaVeg activities. Finally, five trade missions and three trade fairs were organized.
- **Innovation:** GhanaVeg supported 43 business adopting innovations, surpassing the target of thirty. These innovations include solar irrigation technology, farm planning, the introduction of new crops and the uptake of professional nursery practices. Furthermore, 11 R&D projects were supported that focused on introducing new crop protection and irrigation products and developing and registering new vegetable varieties. Also, twenty business platform meetings and four round table meetings were organised.

- **Sustainability:** the number of interceptions into the EU market dropped in 2016 and 2017, as the compliance with EU regulations improved. Moreover, 8,409 farmers adopted GAP practices, exceeding the target of 8,000. Of these farmers, 4,533 were reached by the trainings of the Ghana Green Label (GGL) initiative and 3,876 were reached through the Training of Trainers (ToT) modules.
- **Policy environment:** five policy and regulatory changes have been effectuated that were proposed by GhanaVeg. These changes include the establishment of the Export Taskforce, membership of a vegetable association, inclusion of a majority of private sector members into to board of the GGL, the endorsement of the GGL strategic plan and the development of a pesticide residue monitoring plan.
- **Inclusiveness:** 1,564 women, 1,999 youth and 6,843 smallholder farmers were directly involved in GhanaVeg's activities. For all three indicators, the output exceeded the target.²⁰

The main outcomes of the programme focused on productivity increase, domestic market growth and export growth:

- More than 4,305 smallholder farmers increased their productivity by more than fifty percent especially through agronomy trainings.
- As the number of quality wholesalers and retailers and their number of outlets and sales volumes increased, the vegetable retail domestic market grew from 607,000 USD in 2013 to over ten million USD in 2017. Not only the agronomy trainings and the grant projects, but also the business platform meetings, trade fairs, business cases and matchmaking sessions helped companies to grow.
- Vegetable exports have fallen from USD 1.8 million in 2013 to USD 600,000 in 2016. The main reason for not reaching the target of USD ten million was the European Union's export ban that lasted from October 2015 to December 2017. However, GhanaVeg was able to address this setback by supporting alternative export vegetables and contributing to the establishment of the Export Taskforce.

In the final evaluation of GhanaVeg the following main lessons learned can be considered recommendations for HortiFresh:

- Continue to put pressure on the government and public research institutes to deliver key public responsibilities in the domain of phytosanitary services, food safety and environmental sustainability through public-private partnerships.
- Work together with several larger companies that have an annual turnover of more than US\$ 150,000 and are at the tipping point of becoming reliable, quality conscious wholesalers, exports, and input suppliers, willing to invest in smallholder farming.
- Put more efforts in developing comprehensive training modules for groups of farmers to move from a low input-low output to a high input-high output system in a sustainable way. Strong connections with input suppliers and buyers are central to this.
- Start dedicated projects with Dutch companies that are interested in doing more in combining trade with agromonic services and after-sales support.²¹

²⁰ Van den Broek, J. A., Arthur, H., Asamoah, P., Assibey-Yeboah, S., & Koomen, I. (2018). GhanaVeg Final Report 2013-2017: Quality and healthy vegetables from Ghana through new ways of doing business (No. 18-017). Wageningen Centre for Development Innovation

²¹ Van den Broek, J. A., Arthur, H., Asamoah, P., Assibey-Yeboah, S., & Koomen, I. (2018). GhanaVeg Final Report 2013-2017: Quality and healthy vegetables from Ghana through new ways of doing business (No. 18-017). Wageningen Centre for Development Innovation

2 Relevance

The HortiFresh programme scores well on relevance in that it addresses some key constraints to growth and viability of the F&V sector. It contributed to the overarching results of the Embassy and to the increased competitiveness of the F&V.

2.1 Overarching results

According to the ToR for this evaluation, HortiFresh was an FNS flagship programme for the Dutch Embassy, and as such was designed to contribute to three overarching results, namely:

- a. Number of small-scale food producers with increased productivity/income
- b. Number of hectares of farmland used more eco-friendly
- c. Number of jobs created and people employed

Overall, the programme seemed more aligned with the Private Sector Development (PSD) objectives of the Dutch development cooperation than to its Food and Nutrition Security (FNS) objectives. We assume here that food security is strengthened by increased income and productivity of F&V (family) farms, as evidenced by the five FNS indicators that the programme incorporated and reports on. While not visible through indicators, nor having a very prominent place in the intervention logic and activities, the programme has pursued some nutrition goals through project activities that promoted nutrition awareness.²² This included the development of a communication strategy on nutrition, and a campaign on the health benefits and promoting consumption of nutritious indigenous vegetables in Ghana.²³

2.2 Contribution to competitive sector

Evaluation question: To what extent is HortiFresh expected to contribute to “a sustainable and internationally competitive fruit and vegetable sector that contributes to inclusive economic growth, food and nutrition security”

Interviews with consortium members, partners/beneficiaries and government stakeholders, illustrated the varying degrees and ways in which the programme is expected to contribute to a sustainable and competitive F&V sector in Ghana. Partners and consortium members state that the design of the programme contributes to a more competitive and innovative F&V sector, as well as a conducive business climate. For example, the programme is expected to contribute to more dynamic commercial initiatives, which is evidenced by export and food safety’s strengthened organisation, and increased dialogue in the sector. Support by the programme to regulatory systems and bodies has so far aided in the establishment of various groups, bodies and units (e.g., the Spray Service Providers, the Food Safety Task Force, Mango Board, the Fresh Produce Unit of FDA, etc) which are expected to play significant roles in contributing to the development of the various subsectors, and the enabling environment as a whole. With the support of HortiFresh, the Horticultural Development Authority is in the process of being established, with the intended mandate to bring together all stakeholders and drive activities in the horticultural sector

²² Korboe, K. & Saavedra, Y. (2020). HortiFresh West Africa Mid-term Review

²³ HortiFresh. (2020). Catalogue of Selected Indigenous Vegetables in Ghana. University of Development Studies in collaboration with HortiFresh WA.

in Ghana. The formation of the Ghana Vegetable Alliance has been initiated with the help of HortiFresh to focus on the holistic development of the vegetable sector in Ghana.

Several consortium partners indicated that they did not expect to have a major contribution to inclusivity in the sector. EKN Accra requested gender and youth objectives to be mainstreamed; in the case of gender without additional budget to support those objectives. The youth employment fund was an exception in that regard as one consortium partner stated “the youth employment fund was geared towards including youth in the sector, and through the round tables that were organised in this fund, we were able to improve understanding of the main barriers that youth face to enter the sector”. With regards to gender inclusion, the programme stated that this is often hampered by social-economic barriers, and if you want to substantially address those barriers, targeted budget is necessary to achieve results. Respondents also stated that the clusters were mainly designed around market demand rather than inclusion objectives. Nevertheless, the programme included specific activities such as training of women on awareness of cluster membership and household division of roles, and managed to reach the intended target by December 2020.

The programme addresses increasing (environmental) sustainability in the sector mainly through the delivery of trainings and the Ghana Green Label. HortiFresh provided training for grant partners and/or their outgrower farmers. The type of trainings varied, but would include training to outgrowers on Good Agricultural Practices (GAP) which includes elements of increasing sustainable practices on farms. Furthermore, the programme contributed to the Ghana Green Label (GGL). This label facilitates certification of farms and market outlets, based on food safety and environmental sustainability standards, and best practices throughout the F&V value chain. Most of the partners also recognised the efforts by HortiFresh and other public sector actors in helping the grant partners secure certification. All grant partners were also required to indicate in their proposals to HortiFresh how their idea would contribute to social and environment shared values, amongst others.

In Côte d'Ivoire, the programme's size was smaller and thus expected to have a smaller contribution on the sector. As per design, the reach of the programme in Côte d'Ivoire is smaller than in Ghana. This is also evidenced by fewer partners, the focus on only fruits as required by EKN Accra at the conception of the project, and less knowledge and experience of consortium partners on the country dynamics and programme in comparison to Ghana. This understandably also has consequences for the extent to which the programme contributes to “a sustainable and internationally competitive fruit and vegetable sector that contributes to inclusive economic growth, food and nutrition security”. It is also important to note that the HortiFresh programme in Côte d'Ivoire lacks the groundwork that GhanaVeg provided in Ghana, nor the network established at that time to facilitate a conducive business climate. Nevertheless, the fieldwork noted that the programme has contributed to a more competitive sector on a smaller scale, most notably through providing technical solutions to the four partners of the youth employment fund. The provided solutions included irrigation systems, supply of pesticides, quality control and agricultural technology. With regards to contributing to an internationally competitive sector, partners such as Koppert West Africa provide agricultural services to farmers to promote export of fruits such as mangos and bananas to the EU market.

Finally, the direct contribution of the programme to food and nutrition security was difficult to assess, since the indicators and interventions objectives are not necessarily geared towards the food and nutrition security aims.

2.3 Addressing constraints in the F&V sector

Evaluation question: Does the program address constraints that hinder the growth and viability of the fruits and vegetable sector?

HortiFresh was well-designed to be able to address some of the main constraints of the fruits and vegetable sector in Ghana. Nevertheless, the constraints in the F&V sectors differed between Ghana and Côte d'Ivoire. The main constraints in each country and how the programme was designed to address these constraints are described below.

In Ghana, the programme addressed a number of key constraints to the F&V sector. Based on interviews and desk review, we identified the following constraints that were targeted to different extents:

- **Challenging enabling environment:** weak institutions and national policies that are not conducive to facilitating entrepreneurship, exports and food safety. The programme targeted this constraint by supporting the establishment of the Horticultural Development Authority.
- **Limited quality of supply.** This was in part addressed through supporting certification and training, Ghana Green Label (GGL), and GAPs.
- **Food safety challenges and lack of monitoring** that led to EU export bans, such as in September 2015.²⁴ The programme addressed this by supporting the establishment of the Food Safety Taskforce, which comprised public and private actors and is mandated to solve existing and emerging food safety challenges in the country.²⁵
- **Limited access to finance for producers and exporters.** As discussed earlier, this was in part due to the relatively large share of informal businesses, which makes it difficult to get banks on board. The support to VSLAs, establishment of cluster funds and linkages with banks such as Rabobank and Fidelity bank were meant to facilitate partners' access to finance. Also, the support to business plan development for partners was relevant to increase their access to finance.
- **Limited access to knowledge, innovation, and agricultural research,** especially in relation to the vegetable sector. Trainings provided by the WUR to partners, and engagement of agronomists in the programme, were meant to increase the level of knowledge and technology in the sector. However, this pertains only to the limited number of training participants that connected to the programme, and has not yet been widely shared beyond initial participants. Other knowledge products have been produced, such as issue briefs on pesticides, impact of COVID-19 on the sector and publications on the nutrition benefits of indigenous vegetables. It is unclear who has been the audience of these publications, nor the results in terms of uptake of knowledge.
- **A missing entrepreneurial middle.** This was addressed by the programme through 1) its women-led/owned business incubation and accelerator programme, which addresses entrepreneurial capacity, 2) the support to young entrepreneurs in developing and scaling their businesses, and 3) the contribution to the missing-middle fund together with RDF Ghana Ltd and Barclays.

In Côte d'Ivoire, the programme appears to have also addressed constraints related to export quality. Multiple interviews and documents confirmed that access to export markets is limited because of issues with the quality

²⁴ Koomen, I., Van den Broek, J. & Jager de, A. (2017). Project proposal HortiFresh West Africa; Commercial Fruit & Vegetable Sector Development in West Africa. Wageningen Centre for Development Innovation, Wageningen University & Research. Report CDI-17-018. Wageningen (p. 13); FairMatch Support. (2016). Ghana Green Label Strategic Plan 2016-2020 (p. 6); HortiFresh. (n.d.) Terms of Reference. Food Safety & Certification Task Force Ghana (p. 1)

²⁵ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation (p. 6)

of F&V supply. There are indications that the programme took efforts to address some of these quality constraints. For example, partners such as Koppert Africa were able to organise field trainings for its farmers on awareness of fruit fly and other diseases, and for sanitation practices on fruit (mango) plantations. The quality has not yet increased to such an extent that export possibilities have increased, but quality awareness has increased.

However, by design the programme did not address a number of other important constraints in Côte d'Ivoire, which made the programme's relevance in the Ivorian fruit sector less comprehensive.

1. **Market concentration.** The business environment of the fruit sector in the country is largely dominated by large foreign-owned companies. This made it difficult for the programme to establish the same SME-partnerships as in Ghana in which a co-financing model could be applied.²⁶ However, fruit producers are mostly limited to informal and small-sized producers. Our field study suggested that most of these farmers are not adequately equipped in terms of knowledge, finance and network. According to some stakeholders, this means that the vegetable sector may have been a more logical focus for EKN Accra's HortiFresh.
2. **Limited access to funding** to acquire farm inputs and technical assistance has not yet been addressed by the programme, since there were less direct interventions with farmers, and VSLAs were not part of the intended activities in Côte d'Ivoire.
3. **Passive policy environment**, and the poor logistics and infrastructure for the F&V sector, including a congested port in Abidjan. This has not been addressed by the programme.

The Mid-Term review (MTR) of HortiFresh found the programme relevant both in Côte d'Ivoire and Ghana.

The MTR, which was finalised in September 2020, indicated that the overall programme relevance to the F&V sector in Côte d'Ivoire was considered very high. This pertained especially to the mango and coconut value chains, but also the larger fruit value chains where irrigation systems were introduced. The MTR noted that the programme could improve on its relevance in the vegetable sector, which was considered to be a vibrant sector and emergent opportunity, and which at the time had not yet been included in its programme focus. While for Ghana, programme relevance was considered equally high, there were concerns that the programme needed to improve its inclusion of both industry stakeholders and institutions across public-private spheres.²⁷ As observed during the field study in Ghana for this evaluation, some project beneficiaries wanted to see the inclusion of more grant partners (as stakeholders), in view of its relevance, so that the expected impact in the F&V sector would have a wider reach.

2.4 Alignment with other interventions

Evaluation question: How well aligned is the program with other donors' and national governments' interventions in the value chains (no risk of incoherence or duplication)?

There are various indications that the coherence and additionality of HortiFresh was high in Ghana. The national government has a keen interest in promoting the F&V sector, as indicated in an interview with a representative of the Ministry of Food and Agriculture (MOFA). This is reflected in the Food and Agriculture Sector Development Policy (FASDEP) document and the Planting for Food and Jobs (PFJ) Programme which is implemented by MOFA. In general, no other programmes with a comparable focus appear to be in the horticultural sector. This was also the conclusion of the MTR, even though the programme in its proposal had identified a number of potential collabora-

²⁶ Assibey-Yeboah, S. & Koomen, I. (2020). Progress Report HortiFresh West Africa 2019. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation (p. 9)

²⁷ Korboe, K. & Saavedra, Y. (2020). HortiFresh West Africa Mid-term Review

tors, such as: GIZ-MOAP, IDH, USAID, and CABI-FDOV. GIZ's Market-Oriented Agriculture Programme (MOAP), implemented from 2004 to 2020, had foreseen collaboration in the GGL and development of a Fruit Business Forum. However, the programme was considered by HortiFresh programme respondents to not be at risk of incoherence or duplication with HortiFresh since GIZ addressed the sector's challenges in a different way, being much more involved themselves rather than playing a facilitating role and enabling high-level dialogue with government and sector associations as HF has. Furthermore, GIZ-MOAP is currently in the process of phasing out their programme.

Apart from GIZ-MOAP and the CABI-FDOV, the field study identified other similar programmes in Ghana:

- The Ghana Peri-urban Vegetables Value Chain Project (GPVVCP), which is a subsidiary project under the Ghana Commercial Agricultural Project (GCAP), was implemented from 2017 to 2020 by Directorate of Crop Services (DCS), MOFA, and with technical support on irrigation from the Ghana Irrigation Development Authority (GIDA). Grant funding from the Japan Social Development Fund (JSDF) through a Trust Fund Arrangement with the World Bank.
- A new project, Improving Ghana's Income Growth through Integrated Agriculture Storage and Distribution, was launched in March 2021, with the aim of supporting the MOFA to implement the Marketing Component of Planting for Food and Jobs (PFJ). Funding from the Korea-Africa Economic Cooperation (KOAFEC).
- The Planting for Food and Jobs (PFJ) programme, which is currently being implemented, has the horticultural sector as one of the 5 focus areas. This component focused on building Greenhouse villages across the country. The programme has established 3 training schools for the training of the youth interested on F&V production.
- The Ghana Commercial Agriculture Project (GCAP) (2013-2021), being implemented by MOFA, invested in centre pivots so that the private sector players (F&V producers and exporters) could increase their vegetable production for exports.

Based on our fieldwork, we conclude that there were no signs of active coordination between HortiFresh and the programmes listed above. However, interviews with partners, MOFA and programme stakeholders did not indicate that there was risk of incoherence and/or duplication between HortiFresh and these other programmes.

The programme is also well aligned to meet the donor's development objectives, including the Dutch Aid to Trade policy agenda by establishing connections between Ghanaian and Dutch trade partners. Trade missions, F&V fairs and business-to-business (B2B) has helped establish these linkages. For example, through the established B2B platforms and the Trade Missions (match-making), some Ghanaian exporters participating in the HF programme confirmed that they have been linked to Dutch companies and these connections are currently still ongoing. They now have access to additional export markets in France and Switzerland.

In Côte d'Ivoire, the government's focus for the agricultural sector is dominated by cocoa and café and therefore less attention is given to the other sub-sectors, such as F&V. Beneficiaries mostly highlighted the agency Fonds Interprofessionnels pour la Recherche et le Conseil Agricole (FIRCA) as comparable or aligned to HF. FIRCA has been providing technical advice and training to the producers on best agricultural practices. The MTR noted that, in the case of Côte d'Ivoire, there seemed to be no linkage or relationship between HortiFresh and other implemented programmes, not even with those funded by the EKN in Abidjan. The field study also did not find evidence of alignment with other programmes.

2.5 Access to finance component

Evaluation question: How does the access to finance (A2F) component fit within the local and international landscape of A2F activities in the SME and small holder segment?

As noted previously, the three main legs of the access to finance component in HortiFresh consisted of the following:

1. **Financial products**, such as greenhouse financing, exporter-outgrower financing, solar irrigation, female inclusion financial product, which included the three components of blended finance, business accelerator, and feasibility for crop insurance.
2. **Individual company support**, which supported individual companies with the development of sound business plans and financial linkages to obtain loans and equity.
3. **Institutional capacity building**, intended to build the organisational and horticulture knowledge of key banks, financing institutions and sector organisations, in which HortiFresh works with Ghana Incentive-based Risk Sharing System for Agricultural Lending (GIRSAL) and Rural Development Fund (RDF) for capacity building.²⁸

In Ghana, the HortiFresh programme distinguishes itself from other A2F providers in the sense that it takes a hands-on approach to its partners, combining financial with non-financial support.²⁹ For instance, in addition to providing direct grants, it also provided consultants to support grant partners to develop bankable business plans that meet the requirements of Financial Institutions (FIs). This also involved the hand-holding of partners by HortiFresh to make their case. One bank respondent relayed the following components of HortiFresh support as essential for motivating banks to finance farmers: 1) As the HortiFresh programme provided agronomic training for these smallholder farmers through Business Advisory Service providers, they had a reliable off-taker to purchase the farmers produce, 2) Security was also provided by bringing 2 aggregator actors on board, and to have evidence of a Produce Agreement between these aggregators and vegetable farmers.

HortiFresh's continuous engagement with the FIs was a major contributing factor in the provision of loans to grant partners. FIs were supported by HortiFresh to develop appropriate financial products that meets the sector's production and marketing dynamics. HortiFresh also communicated the effect of the COVID-19 pandemic and its unexpected effect on loan repayments to the FIs, resulting in extending the repayment schedule for the partners. Many local banks are getting to appreciate how the horticultural sector works. Although some of the interviewed grant partners believe that the high-risk perceptions of financial institutions about agribusinesses in general have not changed, others seem to confirm that banks are changing their perception about how the sector operates and its dynamics, and hence have started designing appropriate financial products for the sector.

The A2F component in Côte d'Ivoire was thus far limited to specific business plan support. As noted previously, the business environment of the fruit sector in Côte d'Ivoire differed considerably to that in Ghana. The business landscape in Côte d'Ivoire is largely dominated by large foreign-owned companies rather than the small and medium sized entrepreneurs that the program was used to working with. The programme's access to finance activities rolled out in Ghana were thus less suitable to Côte d'Ivoire. Therefore, at the time of our fieldwork, the A2F component in Côte d'Ivoire had been limited to supporting business plan development.

²⁸ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation (p. 21-22)

²⁹ Literature also shows that combining finance with training is more effective than finance alone (see e.g. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_321035.pdf)

Nevertheless, a programme aimed at enhancing A2F for F&V companies in Côte d'Ivoire would seem highly relevant given the significant A2F gaps. Based on our fieldwork, we learned that there were no Village Savings and Loan Association schemes (VSLAs) in Côte d'Ivoire since this was not considered a priority in the Mango Cluster. However, farmers were not yet in the position to transact with local financial institutions. This was due to several factors, including: lack of organisation, limited capacity, financial exclusion, high interest rates, and the informality of the sector. Interviews with various stakeholders suggested that the agricultural sector is still viewed by FIs as risky, also due to a general lack of understanding of the sector.

3 Effectiveness

HortiFresh has been effective in many areas, and is likely to meet most of its programme targets by the end of the programme. However, without a counterfactual it is not possible to fully assess the contribution of HortiFresh's activities to these results. The strong implementation team in Ghana had a positive effect on the results. The limited staff in Côte d'Ivoire and COVID-19, hampered programme implementation and farm business activities.

3.1 Outputs and outcomes

Evaluation question: To what extent are the planned outputs and outcomes, as defined in the program proposal achieved?

The achievement of output and outcomes was analysed through HortiFresh's M&E data and insights from the field study. The evaluation of output and outcome achievement is primarily based on the data as collected by HortiFresh itself, through its M&E system. However, this is validated and completed with the information obtained by the evaluators in the field.³⁰ Furthermore, the MTR conducted by Korboe and Saavedra provided valuable insights into effectiveness for the period until December 2019.

The data used runs until end-2021. The core outcomes and some key outputs as of 31st December 2021, the last full reporting period, are presented in the sub-sections below.³¹

The following three sections describe the effectiveness of the programme per result area as presented in the Theory of Change.

3.1.1 Competitive and Innovative High F&V sector

The table below shows the performance indicators for this impact pathway and indicates the extent to which the End Of Period (EOP) targets were achieved by using three different colours. The red coloured numbers mean that it is unlikely that the EOP target will be met before the end of the programme, envisaged for June 2022. The yellow coloured numbers mean that the EOP target has not yet been achieved, but HortiFresh is on track to achieve it. The lower limit used for this is 85 percent, as the evaluation received data up until the end of 2021. The green coloured numbers mean that the target has already been achieved or exceeded.

³⁰ Note that for Côte d'Ivoire the field work team was only able to collect information about the programme's outputs and not outcomes. This was the case because the interventions deployed had not yet led to a concrete change towards a more sustainable and internationally competitive F&V value chain

³¹ Based on the figures from the Hortifresh Progress Report 2021.

# Indicator	Performance Indicators	Baseline figure	EOP Target	Cumulative Achieved (end-2021)	% Achieved
Competitive and Innovative High Value Fruit and Vegetable Sector					
1	% change in yield per hectare of selected F&V ³²	19.45	23.39	Unavailable as of December 2021	Unavailable as of December 2021
EKN adopted # 1 ³³	# of family farms with increased productivity and/or income	0	1,500	9,347	623%
2	# of initiatives (new technologies) adopted by actors	43	65	101	155%
EKN adopted # 2	# of farmers that adopted research results/knowledge/new technology	0	15,000	11,383	76%
3	# of participants enrolled in the various modules in agronomy (direct) ³⁴	60	200	460	230%
4	# of farmers trained by trained agronomist (indirect)	3,500	6,000	8,536	142%
5	% Change in volume of export (regional and international) ³⁵	-	75%	17.8%	24%
		209,325,178	366,319,062	259,224,823	71%
6	% Change in value of export (regional and international) ³⁶	-	50%	47.4%	95%
		83,877,313	125,815,969	124,252,274	99%
7	# of Dutch companies investing in the W/A (Ghana/Côte d'Ivoire) F&V sector as a result of HortiFresh activities	0	15	22	147%
8	# of international companies excluding Dutch companies investing in the W/A F&V sector as a result of HortiFresh activities	17	15	19	127%
9	# of national companies investing in the W/A F&V sector as a result of HortiFresh activities	0	25	54	216%
10	(% change in) volume of fresh and processed F&V supplied to the domestic markets	0	20%	3,305,740	Unavailable as of December 2021
11	(% change in) value of fresh and processed F&V supplied to the domestic markets (volume in kg)	0	15%	3,301,378	Unavailable as of December 2021
12		-	-25%	Unavailable in % as of December 2021	Unavailable as of December 2021

³² Data Source – MoFA-SRID average yield: Attribution is by the support the project is providing to the sectors and its implication on national data. Value of yield in mt/h

³³ The “EKN adopted” indicators that are part of the Food & Nutrition indicator framework of the Netherlands Ministry of Foreign affairs are inserted in this table. HortiFresh indicators are listed with their ID.

³⁴ 2018 value includes solely trained agronomist by HortiFresh/WCDI, 2019 value includes agronomist and service providers

³⁵ Data source-GEPA: % change and volume in kg provided

³⁶ Data source-GEPA: % change and volume in kg provided

	(% Change in) value of imported vegetables supplied to the domestic markets ³⁷	12,534,465	9,400,849	16,732,413	178% ³⁸
13	# of Business/SMEs that have accessed commercial financial products developed by HortiFresh	0	35	31	89%
EKN adopted #3	# of family farms with improved access to input and/or output markets	0	3,000	9,062	302%

According to the HortiFresh M&E data, the programme already achieved or exceeded its targets for eight out of 16 indicators as of end-2021.

1. 9,347 family farms had seen an increase in their productivity and/or income by end-2021, well above the EOP target of 1,500.
2. The EOP target of 65 initiatives (new technologies) adopted by actors has been surpassed and reached 101 initiatives.
3. The cumulative number of participants enrolled in the various modules in agronomy was twice the EOP target.
4. More than 8,500 farmers were trained by trained agronomists.
5. 19 Dutch companies are investing in the West Africa F&V sector as a result of HortiFresh activities, four above the EOP target.
6. 19 international companies are investing in the West Africa F&V sector as a result of HortiFresh activities, four above the EOP target. Note that the baseline value was 17 companies, therefore only two new company started investing.
7. The EOP target of 25 national companies investing in the West African F&V sector as a result of HortiFresh's activities has been amply reached with 54 companies.
8. The number of cumulative achieved family farms with improved access to input and/or output markets is almost three times the size of the EOP target.

Nevertheless, without a counterfactual it is not possible to (fully) attribute these results to HortiFresh. Direct output indicators like the number of farmers trained can be fully attributed to the programme. However, other outcome indicators like the increase in productivity and the number of companies investing in West Africa F&V sector are influenced by many factors and not only by the HortiFresh programme.³⁹ Without a counterfactual, the evidence of HortiFresh's contribution is mostly anecdotal.

The HortiFresh programme had not yet reached its target for five out of 16 indicators. For one indicator (*value of imported vegetables*) the value even deteriorated compared to the baseline. For two other indicators HortiFresh is still on track to achieve them by June 2022.

1. As of December 2021, the cumulative number of farmers that adopted research results/knowledge/new technologies was just over 75 percent of the EOP target.
2. The EOP target of a 75 percent increase in volume or exports is still far from being reached.
3. HortiFresh is very close to reaching the EOP target of 50 percent change in value of exports.
4. The value of imported vegetables supplied to the domestic market is still too high and even increased compared to the baseline.

³⁷ Data source-MoTI; Vegetables only: % change and value in USD provided

³⁸ Aim is to decrease imports.

³⁹ The evaluation team tried to find national estimates to compare productivity levels with but because HortiFresh does not focus on one crop (like e.g. CORIP and SWAPP do) a comparable estimate was not available.

5. Regarding access to finance, almost 90 percent of the target of business/SMEs having accessed commercial financial products has been achieved. Therefore, there is still a chance that HortiFresh will reach the target of 35 businesses/SMEs within the four and a half years.

According to the fieldwork findings, offering training and technical support to partners and outgrowers was an effective component of the HortiFresh programme. Grant partners AB Farms and Vintage Farms were supported by HortiFresh in developing their business plans. Moreover, HortiFresh supported the training of trainers' sessions, where 200 agronomists received training in fruits and vegetables and on Good Agricultural Practices (GAPs).

Field work interviews with AB Farms and Vintage Farms revealed that the knowledge of effective application of agrochemicals within their companies increased, which in turn reduced the volume of rejected or intercepted products on the international market, making the companies more competitive.

Grant partners and outgrowers also affirmed that their output volumes and productivity have increased, mainly attributed to the skills and knowledge provided on GAPs through HortiFresh. The SMETA (Sedex Members Ethical Trade Audit) and other certifications achieved through HortiFresh also increased the value of their exported produce.

The annual F&V fairs, trade missions, B2B matchmaking activities and funding of innovative concepts were important activities for improving access to output markets and the competitiveness and innovativeness of grant partner's businesses. The F&V fairs mainly contributed to creating awareness and visibility of the sector, creating business links, and serving as a marketplace platform for trading F&V products. By bringing on board the Chamber of Agribusiness Ghana (CAG), a private sector actor to take leadership in organising the fairs, the sustainability beyond the programme might have been improved. The trade missions and B2B matchmaking activities helped in securing markets or business deals for grant partners.

Groital, one of the grant partners interviewed during the field work, mentioned that he secured a one time-business deal with Berrico for the exports of dried pineapples to The Netherlands. Groital now has annual contracts with Total Petroleum Ghana, where Groital delivers dried fruits to their 34 shops in Accra, Kumasi and Takoradi.

Other grant partners interviewed indicated that HortiFresh's funding of innovative concepts, such as solar irrigation and greenhouse technology, resulted in farmers getting better yields and quality products in the market all year round. Furthermore, tomato trellising innovation has been demonstrated and is now utilised by cluster farmers in the Bono East Region.

Access to finance

HortiFresh provided financial and business support to improve access to finance. As shown in HortiFresh's Theory of Change, to improve the competitiveness and innovation within the F&V sector HortiFresh aimed to increase access to finance of its beneficiaries. Below are some examples from the field to illustrate the type of financial support HortiFresh provided and the extent to which it was perceived as effective.

Whereas the MTR was very positive about the inventions aimed to improve access to finance, the fieldwork findings from Ghana reveal mixed evidence. The MTR reported that both in Ghana and Côte d'Ivoire the support

to agribusiness firms to prepare business plans and access funds from financial institutions was experienced as successful.⁴⁰ Similarly, interviews of GRCL and AB Farms indicated that they experienced an improvement in their access to loans and flexibility of repayments, which contributed to the competitiveness of their businesses. Due to enhanced access to finance through the HortiFresh programme, GIRSAL and about three to four banks are pursuing GRCL and AB Farms to access loans from them at competitive interest rates, because of their creditworthiness. Grant partner Joekopan agreed that access to finance has increased for both SMEs (directly) and smallholder farmers (indirectly through SMEs) through the support in developing business plans. Grant partners such as Vintage Farms believed that access to finance for SMEs (and not smallholders) has generally increased. However, others, such as Ribeth Hygenyk Foods, Agrishared Limited and Farmstead Company Limited, believed that access to finance has only been improved by the HortiFresh programme (as they provide the necessary guarantee) and that it only provided a one-time access to finance.

High risk (perception) of the F&V sector still makes commercial lending difficult for F&V actors. According to grant partners interviewed in the field, some financial institutions may not have changed their mind about the risks of financing business in the F&V sector due to lack of understanding of the agricultural sector, which was confirmed by a representative of a local bank. Moreover, financing from local banks is still a challenge, as it is difficult for these banks to lower the interest rate and reschedule loan repayments (to make their loans accessible for F&V businesses). Nevertheless, Agrodeal Ghana Limited noted that financial start-ups have shown an interest in providing financing to farmers, but with guarantee. Moreover, a respondent from a bank in Ghana indicated three different motivations for financing farmers, including the blended finance option that allows for lower interest rates, the value chain financing approach in which other value chain actors act as a guarantee for the bank, and security through, for example, evidence of a lock-in Produce Agreement between aggregators and farmers.

Although the contribution case showed a positive contribution of the programme to the economic viability of the F&V sector, it also confirmed that the high risk perception decreased sustainability. The contribution analysis (see Annex B) that was performed on access to finance revealed that the programme had a significant contribution to increased economic viability of actors in F&V value chains, but only a moderate contribution to sustaining that economic viability due to internal and external rival factors, such as entrenched risk perceptions of the agricultural sector by FIs.

The fieldwork did not show any signs of increased access to finance among HortiFresh partners in Côte d'Ivoire. In Côte d'Ivoire HortiFresh supported all of its partners to develop tailored business plans with the aim of enhancing accessibility to business credit. However, out of the eight partners interviewed, none has been able to access credit from financial institutions.

HortiFresh also supported the development of a savings culture that would enable farming households to raise funds from their personal incomes through VSLA. According to the fieldwork findings in Ghana, VSLAs operating in Keta and Denu clusters (Volta Region), and Tuobodom, Afrancho and Akomadan clusters (Bono East Region) have been launched and supported by HortiFresh. The field work team found that some of the farmers in the Volta Region have been able to secure input credit from the Fidelity Bank and raise their own capital through the VSLAs. In Côte d'Ivoire, VSLAs were not part of the intervention.

⁴⁰ Korboe, K. & Saavedra, Y. (2020). HortiFresh West Africa Mid-term Review

3.1.2 Inclusive and sustainable growth in the F&V sector

The table below shows the performance indicators for this impact pathway and indicates the extent to which the EOP targets have been achieved. The same colour codes have been used for this as in the previous table. This table focuses on the indicators related to sustainable growth. The effectiveness findings regarding inclusivity are discussed separately in section *Gender and Youth*.

# Indicator	Performance Indicators	Baseline figure	EOP Target	Cumulative Achieved (end-2021)	% Achieved
Inclusive and Sustainable Growth in the Fruit and Vegetable Sector					
14	Increase in turnover for SMEs/Businesses supported (in US\$)	5,165,443	40%	Unavailable as of December 2021	Unavailable as of December 2021
		0	12,397,063	2,298,883	19%
15	Total disbursement by partners implementing Horti-Fresh financial products (in €)	0	Unavailable as of December 2021	1,147,460	Unavailable as of December 2021
16	# of reliable jobs created by HortiFresh supported SMEs/Businesses	0	1,500	3,066	204%
20 EKN adopted # 4	Total number of family farms reached ⁴¹ (Direct)	0	15,000	17,358	116%
21	Total number of family farms reached ⁴² (Indirect)	1	60,000	43,199	72%
22	# of nutrition awareness creation programs/ events/write-ups/training sessions effected	71	20	32	160%
23	# of interceptions related to fruit and vegetable export to EU market	0	<50	140	280% ⁴³
25	a. # of business/SMEs with GAP Certification ⁴⁴	30	30	34	113%
	b. # of partner farmers certified under GAP or related Certification Scheme	0	30	1,626	5,420%
26	a. # of certified Green Label market outlets	0	10	14	140%
	b. # of farmers under Green Label Certification scheme ⁴⁵		Unavailable as of December 2021	1,238	Unavailable as of December 2021

⁴¹ Number of family farms reached are farmers, students trained and other project beneficiaries accessing the project interventions such as agronomy training, cluster activities, access to finance as well as innovation and youth employment grants.

⁴² Farmers, students and other beneficiaries benefiting from ripple effect/benefit of HortiFresh activities (*4 of direct beneficiaries)

⁴³ The aim is to have lower than fifty interceptions

⁴⁴ Decoupled from the main to track specifically for businesses

⁴⁵ Decoupled from the main to track specifically for farmers

The M&E data shows that, as of end-2021, the HortiFresh programme had already achieved or exceeded its targets for six out of ten indicators.

1. More than 3,000 reliable jobs were created by HortiFresh-supported SMEs/businesses, twice the EOP target of 1,500.
2. 17,358 family farms were directly reached, exceeding the EOP target of 15,000.
3. The EOP target of twenty nutrition awareness creation programs/ events/ write-ups/ training sessions was already reached.
4. With 34 businesses/SMEs with GAP Certification the programme exceed its target of 30.
5. More than 1,600 partner farmers are certified under GAP or a related certification scheme, which is more than 50 times the EOP target.
6. The EOP target of 10 certified Green Label market outlets has been reached.

The programme had not yet reached its target for three out of nine indicators; and performed below the baseline value for two indicators.

1. The EOP target of USD 12,397,063 increase in turnover for supported SMEs/businesses is far from being reached. The increase in turnover is even lower than the baseline value (indicating a decrease in the turnover for end-beneficiaries or a mistake in the calculations).
2. As of end-2021, the number of family farms reached indirectly was below the EOP target of 60,000.
3. The number of interceptions related to fruit and vegetable export to the EU market (which HortiFresh aimed to minimise) was still far from the EOP target and even above the baseline number of interceptions.

The indicators and reported results are difficult to assign to specific parts of the programme since HortiFresh's M&E system uses aggregate values both across countries as well as sectors. While the targets in the inception report were split between fruit and vegetables, the relevant outputs and outcomes were not reported separately for the two sectors. Furthermore, it was not possible to compare the effectiveness of HortiFresh activities in Ghana with those in Côte d'Ivoire, while fieldwork has clearly shown the differences in implementation and achievements between the two countries.

Fieldwork findings from Ghana showed that for GRCL and AB Farms, improving the export value and quality of their products and having a stable cash flow were important contributions of the HortiFresh programme. The SMETA and other certifications like the GGL, achieved through the effort of HortiFresh, has increased the value of their exported produce. HortiFresh supported GRCL in obtaining SMETA certification. By adhering to the SMETA technology, GRCL has seen an improvement in the export value of fresh pineapple. As a result, GRCL gained access to high-quality export markets, was able to increase profits, and increase the sustainability of its exports. AB Farms attributed its business expansion mainly to the HortiFresh programme as it enabled the partner to increase its customer base (from one to four importers in the United Kingdom) and can now export to European markets every day due to the increase in export volumes, value, and quality of its products.

The fieldwork team also found that grant partners were positive about the support they received for acquiring certification for their produce. AB Farms and GRCL indicated that HortiFresh GAPs training played an important role in obtaining GGL certification for their products, gaining recognition both nationally and internationally. This positive view on HortiFresh's certification support was also shared by Tropical Growers Limited, Vintage Farms and Ribeth Hygenyk Foods. Moreover, most grant partners see the improvement on farm Sanitary and Phytosanitary (SPS) conditions as a key factor contributing to their achievement of some certifications.

Due to the GGL certification displayed on fruits and vegetables in shops/supermarkets, confidence in the consumption of fruits and vegetables in Ghana is expected to increase. Although the main donor in this GGL effort is GLZ, it has partnered with HortiFresh and thus HortiFresh has contributed to facilitating the development of the sector. The management team of the HortiFresh programme also noted that the COVID-19 pandemic contributed to increased consumption of fruits and vegetables in Ghana since the campaign of the Ministry of Health (MoH) and the Ghana Health Service (GHS) was launched to increase the consumption of fruits and vegetables to boost immunity to help fight the virus.

Other activities undertaken to raise awareness about nutrition included the launch of the nutrition study in collaboration with the University of Development Studies in Ghana. The findings of this study were used to develop a catalogue with information on the nutritional and health benefits of selected indigenous vegetables and agronomic tips on propagation, spacing, fertilization, irrigation and expected yield.⁴⁶ In addition, a nutrition communication strategy was developed and as part of the agronomy trainings, a nutrition module has been developed to be distributed to trained agronomists and project partners to include in their routine training offered to farmers and workers, explaining the importance of nutritional diversity and fruit and vegetable intake.⁴⁷

Almost all of the positively assessed activities mentioned above relate to the programme in Ghana, while in Côte d'Ivoire there are less results achieved on inclusive and sustainable growth in the F&V sector.

Gender and youth

HortiFresh paid special attention to increasing the inclusion of women and youth in their activities. The programme proposal stated that: *The project will pay specific attention to gender and youth, supporting companies in creating long-term jobs for women and youth (below 35 years). Specific activities will be undertaken to this end, in the incubator work and calls for proposals.*⁴⁸

The table below shows performance indicators related to gender and youth and indicates the extent to which the EOP targets have been achieved. **For seven indicators, HortiFresh reported the outputs/outcomes per gender and age category of the beneficiaries** and an additional three indicators focused per definition on gender and youth (#17, 18, 19).

# Indicator	Performance Indicators	Baseline figures	EOP Target	Cumulative Achieved (end-2021)	% of total ⁴⁹
EKN adopted #	# of family farms with increased productivity and/or income	0	1,500	9,347	-
1	Female	0	-	4,385	47%
	Male	0	-	4,962	53%
	<35	0	-	1,129	12%

⁴⁶ HortiFresh. (2020). Catalogue of Selected Indigenous Vegetables in Ghana. University of Development Studies in collaboration with HortiFresh WA.

⁴⁷ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation (p. 21-22)

⁴⁸ Revised Project proposal_HortiFresh

⁴⁹ The percentages in the cells show the proportion of female, male or <35 of the number of cumulative achieved for a given indicator.

EKN adopted # 2	# of farmers that adopted research re- sults/knowledge/new technology	0	15,000	11,383	-
	Female	0	-	4,226	37%
	Male	0	-	4,884	43%
	Unknown gender			2,273	20%
	<35	0	-	480	4%
3	# of participants enrolled in the various modules in agronomy (direct)	60	200	460	-
	Female	-	-	33	7%
	Male	-	-	427	93%
16	# of reliable jobs created by HortiFresh supported SMEs/Businesses	0	1,500	3,066	-
	Female	-	450	1,369	45%
	Male	-	1,050	1,690	55%
	<35	-	300	2,337	76%
17	# of women gaining training and career develop- ment opportunities with HortiFresh business part- ners	0	800	5,532	-
18	# of youth (< 35) gaining training and career devel- opment opportunities with HortiFresh business partners	0	800	1,418	-
19	# of young entrepreneurs supported in develop- ing, implementing, accelerating or scaling their businesses in the F&V sector	0	20	43	-
	Female	-	-	18	42%
	Male	-	-	25	58%
EKN adopted # 4	Total number of family farms reached (Direct)	0	15,000	17,358	-
	Female	-	4,500	6,748	39%
	Male	-	10,500	10,610	61%
	<35	-	3,000	4,983	29%
21	Total number of family farms reached (Indirect)	0	60,000	43,199	-
	Female	-	18,000	15,439	36%
	Male	-	42,000	27,760	64%
	<35	-	12,000	8,035	19%

Although most indicators did not have gender targets, the female-male ratio among beneficiaries was balanced. For all indicators, except *number of participants enrolled in the various modules in agronomy (direct) (#3)*, the rate of female participants or beneficiaries exceeded the thirty-percentage target mentioned in the programme proposal.⁵⁰ Furthermore, 5,532 women received training and career development opportunities with HortiFresh business partners (seven times more than the original target of 800).

More than 2,000 reliable jobs created by HortiFresh-supported SMEs/Businesses were for young employees (<35 years), exceeding the target of 300 jobs for youth. Furthermore, HortiFresh supported 43 (23 more than the target of twenty) young entrepreneurs in developing, implementing, accelerating or scaling their businesses in

⁵⁰ Revised Project proposal_HortiFresh

the F&V sector. Another 1,418 youth (<35 years) received training and career development opportunities with HortiFresh business partners (exceeding its target of 800). The inclusion of youth in the other indicators was between four and 29 percent (so not always within the target percentage mentioned in the programme proposal⁵¹).

In May 2018, the HortiFresh programme conducted a gender assessment for both fruit and vegetables to raise awareness about gender and youth issues, frameworks, and challenges within selected value chains in Ghana. It was a five-day mission, including a stakeholder roundtable, field visits to selected stakeholders and companies focusing on gender and youth, and discussions and analysis of the data.⁵² The findings of this gender assessment were described in an issue brief describing gender dynamics in Ghana and highlighting gender-related challenges that need to be addressed so that women, men, and young people gain an equitable benefit from the horticultural sector.⁵³

Through for example the Female Business Accelerator Programme, HortiFresh supported women in the programme. In the Female Business Accelerator Programme female owners and female-led businesses in the horticultural sector were supported financially and technically. Fourteen businesses were selected for the female business accelerator (although the target was only ten businesses). In the end line survey of the accelerator, most females were positive about the accelerator's overall effectiveness on their business and the organisational management of the programme.⁵⁴ The women indicated that they have made product changes, have better insight into the financial situation of the business, have improved their network and have hired an accountant. However, points for improvement were also mentioned for the effectiveness of the accelerator, including the more practical use of workshops, more flexible coaching, greater involvement of the entrepreneurs in the external audit and less focus on developing a business plan.⁵⁵

The fieldwork findings from Ghana reported that AB Farms and GRCL (two of the 30 grant partners in Ghana) observed an increase in women and youth in agribusiness and related activities. As a result of the increased export demand for their products, these two partners have increased their land area and employed more women to take on certain tasks in the production, harvesting, sorting, and packaging of products for export. For example, AB Farms started out with just ten women, but currently has about forty-fifty women as part of their staff.

3.1.3 Conducive Business Climate

The table below shows the performance indicators for this impact pathway and indicates the extent to which the EOP targets have been achieved. It should be noted here that including output indicators would have enabled a better tracking of progress towards outcomes, which now remains rather invisible. The same colour codes have been used for this as in the previous tables.

⁵¹ In the Revised Project proposal a target of 20% for activities in the fruit sector and 15% youths for activities in the vegetable sector is mentioned.

⁵² Wageningen Centre for Development Innovation & HortiFresh team, Peters, B. & Acheampong, E. (2018). Report HortiFresh Gender and Youth in Horticultural Value Chains mission

⁵³ HortiFresh Issue Brief, Peters, B. & Acheampong, E. (2018). Two hands, equal opportunities? Exploring gender dynamics in horticulture in Ghana

⁵⁴ Interview with consortium partner

⁵⁵ Interview with consortium partner

# Indicator	Performance Indicators	Baseline figure	EOP Target	Cumulative Achieved (end-2021)	% Achieved
Conducive Business Climate					
27	# of B2B initiatives started as a results of HortiFresh activities	0	15	77	513%
28a	Horticultural councils established	1	3	3	100%
28b	Private sector associations support established	0	Unavailable as of December 2021	240	Unavailable as of December 2021
EKN adopted # 5	# of improvements in major (inter)national FNS policies/laws	2	4	5	125%
29	# of horticulture actors engaged through HortiFresh organized or supported events	-	Unavailable as of December 2021	12,308	Unavailable as of December 2021

The fieldwork findings from Ghana emphasised that the Fresh Produce Unit of the Food and Drugs Authority (FDA) was established with the support of HortiFresh. With its support, HortiFresh aimed for the FDA to pay sufficient attention to food safety issues in the F&V sector. For example, in 2018 the FDA published a report on pesticide residues in the Greater Accra region.⁵⁶ In addition, achieving the GGL status for F&V producers and exporters with the help of HortiFresh is expected to be encouraging for consumers as it shows that the products they buy come from trusted and reliable sources and thus are safe for consumption. This facilitates a favourable agribusiness environment and boosts development in the F&V sector. Furthermore, the Food Safety Task Force (FSTF) was established, through the support of HortiFresh, to raise awareness among producers and individuals about food safety standards. Also, HortiFresh is still engaging the Environmental Protection Agency (EPA) and the Plant Protection & Regulatory Services Directorate (PPRS) to work collaboratively on pesticide regulations. With this, HortiFresh has contributed to strengthening the F&V value chain.

The Horticulture Development Authority (HDA), which is in formation, will strategically unite the F&V by representing and directing all activities in the sector to the benefit of all actors in the F&V value chain. The establishment of the HDA serves as an exit strategy for the HortiFresh programme that contributes to making the sector more sustainable (the sustainability of the programme is further analysed under Chapter 5) by bringing the key horticultural actors in Ghana together to facilitate exchange and collaboration in the sector.

Although the creation of the fresh produce unit at the Food and Drugs Authority (FDA) and the GGL were important steps in creating a conducive business climate, most institutional and policy changes under this impact pathway take a long time. Interviews with consortium partners noted that an implementation period of four and a half years is too short to see this change happen.

⁵⁶ Food and Drugs Authority. (2018). Report on pesticide residue monitoring for selected vegetables consumed in the greater Accra region.

3.2 Factors that influenced results

Evaluation question: What internal and external factors (both positive and negative) have aided/inhibited the project to meet expected results and targets?

3.2.1 Internal factors

Limited staff in Côte d'Ivoire negatively influenced the effectiveness of activities in the country. The MTR already mentioned that: *'The programme staff in Côte d'Ivoire feels "stretched" on the ground making delivery of services very difficult.'*⁵⁷ Interviews with consortium partners and the interviews conducted during the fieldwork confirmed that the programme team of just two staff members⁵⁸ in Côte d'Ivoire was, despite the dedication and commitment of the employees, insufficient to effectively execute and oversee the programme's activities. Furthermore, the decision to spread the choice of partners and farmers across the country complicated project management. However, in one of the interviews with consortium partners it was mentioned that the project in Côte d'Ivoire was very flexible so that priorities could be dealt with quickly.

In contrast, the strong team in Ghana was seen as having a positive impact on effectiveness. All consortium partners agreed that the programme had a strong programme manager in Ghana and enough staff capacity to effectively execute and oversee HortiFresh activities not only in Ghana, but also in Côte d'Ivoire. The fieldwork confirmed that stakeholders were positive about the programme team in Ghana and especially appreciated the continued monitoring of partners and beneficiaries after implementation of the HortiFresh activities. Good communication skills and HortiFresh's ability to respond quickly to partner concerns were also mentioned by most interviewed grant partners.

Fieldwork findings from Ghana also showed that **all grant partners identified the provision of HortiFresh programme grants and the linkage with local and foreign financial institutions to access affordable loans as important factors, contributing to the achievement of the programme objectives.** This also applied to the GAP's capacity-building facilities for grant partners and their farmers, and the provision of technical support and the right business links. The evaluation team performed contribution analysis on a selected programme's outcome on A2F, and found that internal programme, or primary, factors had a significant contribution to increased economic viability of actors in F&V value chains, and a moderate contribution to sustaining that economic viability due to internal and external rival factors such as entrenched risk perceptions of the agricultural sector by FIs. The full contribution case and analysis can be found in annex B.

3.2.2 External factors

As expected, the COVID-19 pandemic had a negative impact on the effectiveness of HortiFresh activities. The progress report from 2020 mentioned that due to the COVID-19 pandemic, all planned activities in Ghana and Côte d'Ivoire were put on hold at the beginning of the pandemic.⁵⁹ Physical interactions have been curtailed which made trainings challenging. Limited mobility and accessibility to internet further impacted field monitoring and program support to beneficiaries, thereby delaying project delivery. Furthermore, a decrease in availability of inputs

⁵⁷ Korboe, K. & Saavedra, Y. (2020). HortiFresh West Africa Mid-term Review

⁵⁸ One senior and one young expert professional and recently a third junior position was created to support in Aidjan

⁵⁹ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation (p. 21-22)

(due to the pandemic) and disruption in logistics were also mentioned as bottlenecks for producers.⁶⁰ Consortium partners also mentioned that working from a distance was a challenge in the beginning of the pandemic. Nevertheless, it seemed like HortiFresh was able to adapt to the new situation and adjusted their approaches to the pandemic, for example by the development of E-learning for the agronomy trainings.⁶¹

Local public sector bureaucratic challenges, the level of knowledge of public sector leaders assigned to F&V issues, their appreciation of F&V issues at hand, and their personal interests were mentioned by the interviewed grant partners as external factors negatively affecting results. These factors slowed the progress of achieving certain targets, such as the idea of making the PPRSD an autonomous body like the FDA. These results have not been achieved.

3.3 Suitability of M&E framework

Evaluation question: Were the M&E frameworks suitable to monitor and support implementation of the targeted results?

Also see section 1.3 about the M&E process.

The following aspects of HortiFresh's M&E framework were assessed as suitable to monitor results:

- **In general, the performance indicators were clearly defined, did not overlap and matched the result areas well.** Where clarification was needed, a more precise definition was often available in a footnote to the annual progress reports.
- **The M&E framework was well suited for the main purpose of informing internal and external stakeholders.** In particular, stakeholders were informed about whether HortiFresh's ToC is based on accurate assumptions about how change happens towards the overall goal; whether HortiFresh was on track to achieve its overall goal; and whether HortiFresh needed to adjust activities during implementation as a result of external changes. Moreover, the M&E framework contributed to periodic review of project performance and adaption of project activities; supported management decision making; provided the team with detailed data for reporting purposes; and supported the sharing of implementation lessons as part of continuous improvement of the programme.
- **The M&E system appropriately combined a mix of qualitative and quantitative data collection methods, depending on the type of indicator.** The data collection methods included primary data from field monitoring activities, review of secondary data, training reports, field inspection reports, workshop reports, key informant interviews (KII), change stories and routine field visits. Moreover, the system focused on assessing impact at all levels, from business to farmer household levels. The data collection was guided by key evaluation questions and related indicators. All quantitative data that was collected was stored in an Excel Data Management System and double checked or verified. Also, routine monitoring visits were performed by the M&E advisor and other programme staff to provide feedback on the data collected, thereby serving as a means of triangulation and data validation.
- **The M&E framework was able to provide timely, relevant and reliable data for reporting and management decision making.** Data quality assurance measures took place regularly. Moreover, fieldwork findings

⁶⁰ HortiFresh Issue Brief 5, De Groote, B., Assibey-Yeboah, S., Boyd, S., Koomen, I. & HortiFresh Team. (2020). COVID: Issue Brief. Impact of the COVID-19 pandemic and measures on the fruit sector in Côte d'Ivoire. HortiFresh Publication

⁶¹ Assibey-Yeboah, S. & Koomen, I. (2021). Progress Report HortiFresh West Africa 2020. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation (p. 21-22)

from Ghana pointed out that there were regular (unannounced) field visits by the M&E officer to provide programme implementing partners technical assistance and for data verification. The data collection was done by both paper and electronic means. The data was then inserted into the M&E system and shared on a common platform. The quality of information and communication with the different stakeholders was also good. This communication took place via a dedicated professional communication and outreach advisor.

- **HortiFresh adopted a learning and sense-making approach to learn from experiences and continuously improve the programme.** Reflection on progress was done internally by the programme staff through bi-weekly team meetings. In addition, there were quarterly review sessions for the team to assess progress and plan for the next quarter. Reflection was not only done internally, but also by project partners through annual review and planning sessions. The purpose of these sessions was to brainstorm about the programme's progress and shortcomings of the implementation; present lessons from the implementation experience and how these can be used to improve the programme; and make plans for the next year. The programme captured lessons in the annual reports that applied to the impact pathways as well as the collection and monitoring of indicators. For instance, one lesson from the 2019 progress report noted that asking private sector actors to include gender mainstreaming and nutrition objectives have proven to be difficult since it does not match well with their business plans.

The M&E framework could be improved in the following areas:

- **In the ToC and in the performance indicators, no distinction was made between outputs, outcomes and impacts.** For the performance indicators, a distinction has only been made between the three result areas. It would have been helpful to identify the different components of the ToC as outputs, outcomes and impacts and link the performance indicators to them.
- **The data in the M&E system received for the purpose of this evaluation did not specify the separate results per sector or country.** The targets in the inception report were split between fruit and vegetables,⁶² but the relevant outputs and outcomes were not reported separately for the two sectors. Furthermore, since the data were not available by country, it was not possible to compare the effectiveness of HortiFresh activities in Ghana with those in Côte d'Ivoire.
- **For a number of indicators, it was not possible to determine the degree of progress.** For the indicators: *(% change in) volume of fresh and processed F&V supplied to the domestic markets (#10)*, and *(% change in) value of fresh and processed F&V supplied to the domestic markets (volume in kg) (#11)* the end of period target was expressed in percentages, while the cumulative achieved was expressed in an absolute value. Because the baseline value was missing, it was not possible to determine the progress of these indicators. For *increase in turnover for SMEs/Businesses supported (US\$ per annum) (#14)* it was not clear whether cumulative achieved should be added to the baseline figure. If not, the value of cumulative achieved would be lower than the baseline value. In addition, for *total disbursement by partners implementing HortiFresh financial products (in €) (#15)* and *# of farmers under Green Label Certification scheme (#26)*, an end of period target was missing. On top of that, for two of the five conducive business climate indicators, it was not possible to determine progress due to a lack of data. The HortiFresh team explained that the data was limited for these indicators, because they are high-level indicators that measure long-term outcomes. In addition, the activities associated with these indicators are still ongoing and long-term outcomes on policy take time. It would have been useful to add some output indicators to the conducive business climate indicators to get a better picture of the progression to the long-term outcome.
- **The M&E system does not include counterfactuals and progress cannot always be attributed to the HortiFresh programme.** For example, where 8,689 family farms saw their productivity and income increase after the arrival of HortiFresh, it would be interesting to know how other family farms performed that were not part

⁶² Appendix 4a Baseline Values for selected indicators to Inception Report HortiFresh West Africa (August 2018).

of the programme.⁶³ Moreover, it was not always clear whether the effect is due to the HortiFresh programme or to a change at the national level. Perhaps the aforementioned increase in income was the result of inflation, in which case a control group would also have shown improvement. Furthermore, for some indicators (#1, #5, #6, #23) national reference data was used to indicate progress, which also makes it difficult to determine whether the indicators refer to an effect of the HortiFresh program or to an effect on national level to which the programme contributes. The HortiFresh M&E system could have been improved by including control groups and counterfactuals. Moreover, HortiFresh could have considered an independent firm to support M&E activities and verify the data collected.

⁶³ The evaluation team tried to find national estimates to compare productivity levels with but because HortiFresh does not focus on one crop (like e.g. CORIP and SWAPP) a comparable estimate was not available.

4 Efficiency

While cost comparisons should be treated with caution, HortiFresh stayed within its budget and seemed to have used its financial resources efficiently.

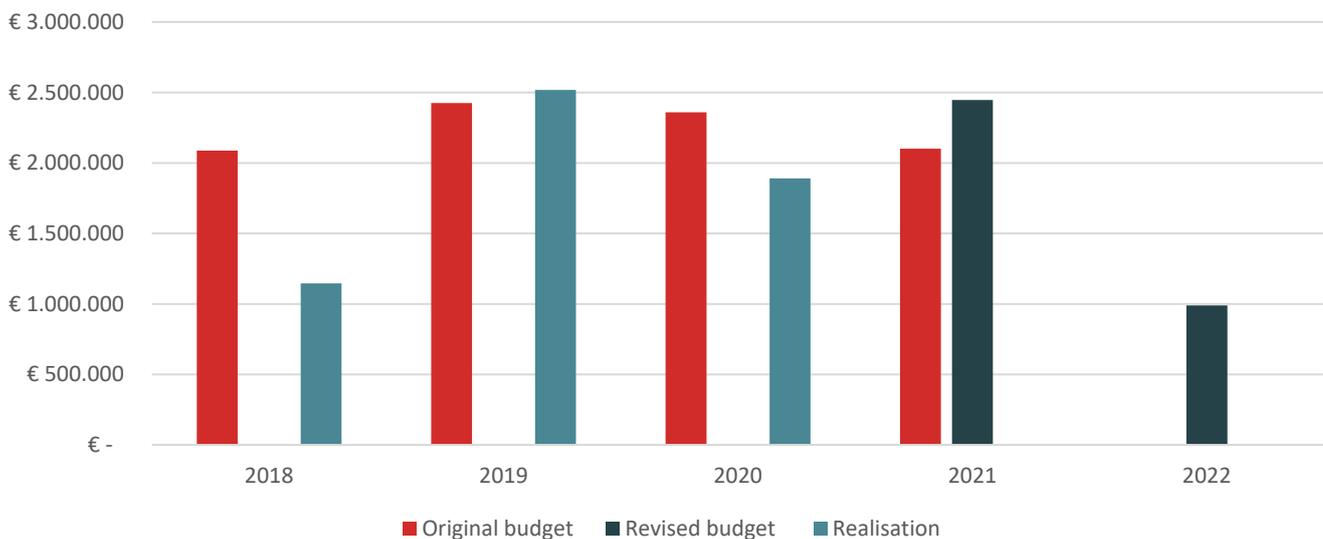
4.1 Use of financial resources

Evaluation question: Were the financial resources used efficiently to achieve outputs?

So far, HortiFresh remained within its budget. For 2018, 2019 and 2020 the combined budget was € 6.9 million. With a realisation of € 5.5 million, only 81 percent of the budget was utilised. Figure 4.1 shows that the realisation in 2018 and 2020 was below the original budget. The realisation in 2019 exceeded the budget slightly.

Without the additional activities planned for 2022 the HortiFresh budget would be underutilised. As discussed, up until 2020 HortiFresh realisation remained below the budget. However, the increased adjusted budget for 2021 and the additional activities in 2022 (previously not included in the proposal) are expected to compensate for this difference. The realisation of 2018, 2019 and 2020 and the budgets for 2021 and 2022 add up to the original total budget of € 8.99 million.

Figure 4.1 In 2019, HF exceeded its budget slightly but overall remains within the total budget of the programme



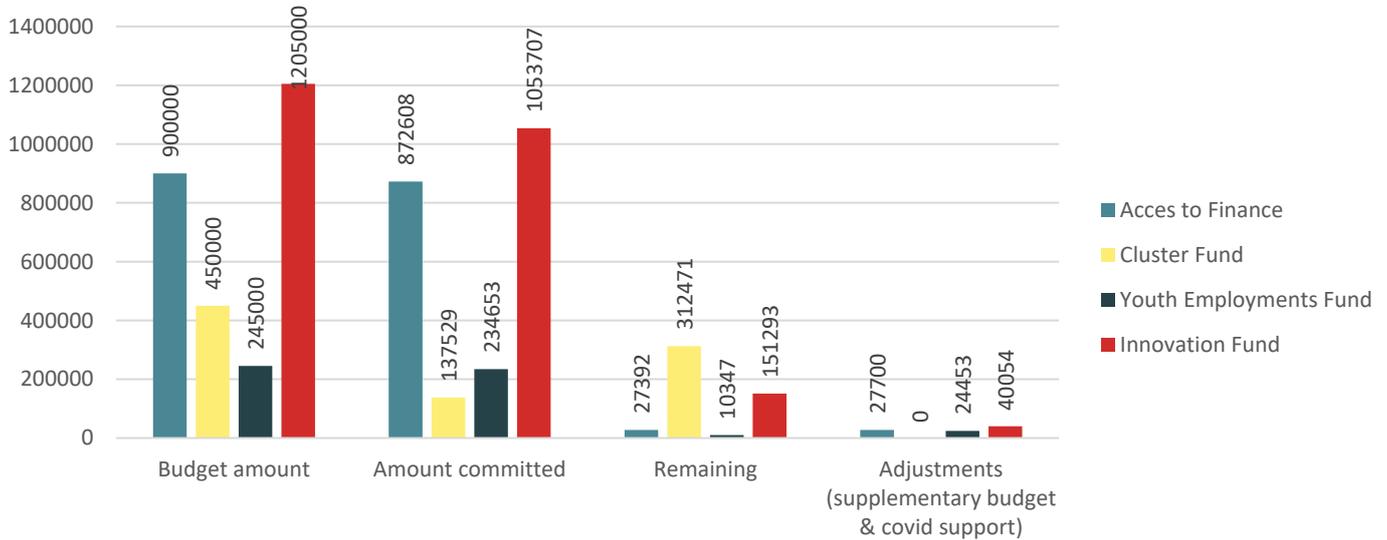
Source: Overview Budget HortiFresh

Coordination costs remained within budget and was in line with that of other FNS programmes. The total coordination budget was 32 percent of the total programme budget. The actual coordination costs in 2018, 2019 and 2020 combined also accounted for 32 percent of the total programme costs. Our evaluative judgement is that the division of one-third for coordination costs and two-third for specific activities is to be considered normal, hence acceptably efficient. It is similar to CORIP and SWAPP.

The available budget for the cluster fund was underutilised. As mentioned in Chapter 1 (and shown in the Figure below), the innovation fund had the largest allocated HortiFresh budget. As of October 2021, HortiFresh’s budget

for the innovation- and the youth employment fund and the access to finance component has been almost completely committed. However, more than half of HortiFresh’s budget for the cluster fund has not yet been committed⁶⁴. Spending efficiency could have been increased if the remaining budget from the cluster fund was used to fund additional activities under the other funds or the access to finance component.

Figure 4.2 The cluster fund has the most budget remaining



Source: HortiFresh Grantee Budget Overview, 2021

4.2 Costs in relation to results

Evaluation question: *Did the actual results (outputs and outcomes) justify the costs incurred? Were resources effectively utilized?*

Budget components were not directly linked to specific outputs or outcomes. The HortiFresh team indicated that due to time constraints they were not able to align the outcomes mentioned in the budget completely with the indicators from the ToC. The calculation of the budget/actual costs per indicator unit is therefore hard to make. Nevertheless, in agreement with the programme we selected the most relevant M&E indicator per budget outcome to calculate the cost per indicator unit (see table below).

⁶⁴ HortiFresh indicated that in 2021 a large part of this budget was committed to research in the clusters - a joint activity by Wageningen Plant Research and WACCI.

Table 4.1 The costs per indicator unit varies significantly between budget components

Budget component	Most relevant M&E indicator	Actual cost per indicator unit			
		2018	2019	2020	Overall
<u>Outcome 1:</u> A Conducive Business Climate (and public-private coordination mechanism)	Indicator 29: # of horticulture actors engaged through HortiFresh organized or supported events	€ 45	€ 42	€ 37	€ 40
<u>Outcome 2:</u> Farmers are capacitated to increase income, production and quality (incl sustainability)	EKN 1 # of family farms with increased productivity and/or income	NA*	€ 457	€ 36	€ 99
<u>Outcome 3:</u> Companies have improved access to financial products	Indicator 15: Total disbursement by partners implementing HortiFresh financial products (in €)	€ 2	€ 1	€ 1	€ 1
<u>Outcome 4:</u> Increased uptake of innovations (and access to inputs)	EKN2: # of farmers that adopted research results/knowledge/new technology	NA*	€ 2,163	€ 43	€ 136
<u>Outcome 5:</u> Increased investment by Dutch companies in Ghana	Indicator 7: # of Dutch companies investing in the W/A (Ghana/Côte d'Ivoire) F&V sector as a result of HortiFresh activities	€ 24,510	€ 5,545	€ 4,008	€ 6,058
<u>Outcome 6:</u> Specific emphasis on inclusion of youth in activities	Indicator 19: # of young entrepreneurs supported in developing, implementing, accelerating or scaling their businesses in the F&V sector	NA*	€ 21,941	€ 4,820	€ 9,229

* No outputs/outcomes achieved in this year.

The table shows that indicators focused on youth entrepreneurs and involving Dutch companies were most costly. For example, on average it took € 6,058 to get one Dutch company to invest in the F&V sector in West Africa. Supporting young entrepreneurs was even more costly, at an average cost of € 9,229 per young entrepreneur. Engaging horticulture actors (€ 40) and increasing innovation among the farmer beneficiaries (€ 136) seemed more cost efficient.

Nevertheless, cost comparisons should be treated with caution. First, the long-term outcomes and impacts of these interventions are unknown. Second, it is not clear what the interlinkages are between the unit costs that are being compared (e.g. with one outcome or cost in support of the other). For example, making one Dutch company invest in the F&V sector might be costly in the short run, but could in the long run potentially have more impact than engaging F&V sector actors. Ideally, each budget component should be linked to certain output indicators that in turn lead to outcomes, which would facilitate tracking the costs and giving insights into the efficiency per output.

In all cases, cost-efficiency improved over the years. Achieving the first outputs/outcomes is costly as it takes time, resources and initial investments for a programme to achieve these initial outputs. As the implementation period progressed cost per output/outcome decreased.

The cost per indicator unit might be lower because multiple indicators contributed to one budget outcome. As mentioned, the most relevant M&E indicator was linked to the budget outcome and used to calculate the cost

per output. However, as the costs from a certain budget outcome component could have contributed to more than one indicator, the cost per output could be lower than indicated in Table 4.1.

Overall HortiFresh seemed to have used its resources efficiently but not all necessary data is available to make a full assessment. Table 4.2 shows resource efficiency per budget component. For each component, the table shows a selection of one key output or outcome and the percentage of achievement of its target as of 2020. The table then compares this measure of output/outcome achievement to the percentage of budget used for the same component until 2020; the ratio of these two numbers is listed in the rightward-most column, as the Resource Use Efficiency (RUE). As the M&E data are up to 2020, we used expenditure data till 2020, hence excluding 2021. Based on RUE, three out of six of HortiFresh's intervention areas were implemented relatively efficiently (i.e. where RUE exceeds 100 percent). For budget component 4, the RUE was slightly under 100 percent indicating that not all outputs/outcomes can be delivered within the given budget. For the other budget components the indicators did not have EOP targets and it was therefore not possible to calculate the RUE.

Table 4.2 HortiFresh's Resource Use Efficiency (RUE) was on average highest for budget component 2

Budget component	Selected measure of RUE	EOP Target	Achieved until 2020	% achieved	% Budget used 2020	RUE
Outcome 1: A Conducive Business Climate (and public-private co-ordination mechanism)	Indicator 29: # of horticulture actors engaged through HortiFresh organized or supported events	Unknown	5,808	Unknown	37%	Unknown
Outcome 2: Farmers are capacitated to increase income, production and quality (incl. sustainability)	EKN 1: # of family farms with increased productivity and/or income	1,500	8,689	579%	66%	877%
Outcome 3: Companies have improved access to financial products	Indicator 15: Total disbursement by partners implementing HortiFresh financial products (in €)	Unknown	1,002,934	Unknown	64%	Unknown
Outcome 4: Increased up-take of innovations (and access to inputs)	EKN 2: # of farmers that adopted research results/knowledge /new technology	15.000	8,809	59%	63%	94%
Outcome 5: Increased in-vestment by Dutch companies in Ghana	Indicator 7: # of Dutch companies investing in the W/A (Ghana/Côte d'Ivoire) F&V sector as a result of HortiFresh activities	15	16	107%	78%	137%
Outcome 6: Specific emphasis on inclusion of youth in activities	Indicator 19: # of young entrepreneurs supported in developing, implementing, accelerating or scaling their businesses in the F&V sector	20	23	115%	64%	180%

Source: Budget data: HortiFresh Grantee Budget Overview, 2021;
M&E data: HortiFresh M&E overview as of December 2020.

Note: Resource Use Efficiency (RUE) is defined as the % of a given output/outcome having been achieved (against the programme's EOP targets) for a given % of budget used (i.e. budget expenditure against initially planned budget). RUE above 100% thus means that output/outcome targets are achieved for a relatively low expenditure. RUE below 100% suggests that not all outputs/outcomes can be delivered within the given budget.

4.3 Factors that influenced efficiency

Evaluation question: What factors facilitated or impeded the implementation efficiency?

Working with the five consortium partners had advantages and disadvantages. The HortiFresh programme was implemented by five consortium partners, namely WCDI, SNV, Resilience BV, Advance Consulting and SENSE. On the one hand, interviewees agreed that it is efficient to have all the complementary expertise within the consortium and readily available. On the other hand, interviewees indicated that managing five different organisations within one programme makes project management harder (as it takes extra time to e.g. keep all partners involved).

Implementing the programme in two countries with varying resources decreased efficiency. Ghana had more personnel resources and budget allocated than Côte D'Ivoire.⁶⁵ Interviewees indicated that the staff available in Côte D'Ivoire was insufficient to achieve the agreed results (the evaluation team was not able to confirm or deny this claim as the M&E indicators were not monitored separately per country). The fieldwork also showed that the limited capacity in Côte d'Ivoire decreased efficiency and effectiveness of the programme.

The strong and knowledgeable team in Ghana had a positive effect on the efficiency of the activities in Ghana. During interviews the consortium partners indicated that implementation by the Ghana team was handled efficiently. The fieldwork team confirmed that all programme staff were well qualified and financial resources were adequately provided for efficient implementation of the programme activities in Ghana.

Lastly, COVID-19 hindered the efficiency of the programme. Due to the pandemic some activities had to be postponed which negatively influenced the timeliness of the programme implementation. HortiFresh staff and grant partners also stated that the pandemic hindered implementation efficiency in terms of effective monitoring of the programme activities.

4.4 Project management

Evaluation question: Was the project management of HortiFresh appropriately established, staffed and equipped?

The WCDI was responsible for overall management of the programme, including reporting to EKN Accra. WCDI led the consortium and was responsible for organisation of the technical assistance on M&E, communication, nutrition, youth & gender, and capacity development. WCDI coordinated technical assistance from within Wageningen University & Research on agronomy and post-harvest expertise. Furthermore, SNV Ghana was responsible for disbursement and monitoring of funds.⁶⁶

Stakeholders saw the overall programme management by WCDI as efficient, albeit affected by COVID-19. During interviews, consortium partners expressed overall positive views on the programme management by WCDI and mentioned their flexibility as an advantage to the overall efficiency. Nevertheless, due to travel restriction (related to COVID-19) in-person guidance and monitoring had to be limited which made programme management

⁶⁵ The exact division of budget between the two countries was not monitored by HortiFresh.

⁶⁶ Koomen, I., Van den Broek, J. & Jager de, A. (2017). Project proposal HortiFresh West Africa; Commercial Fruit & Vegetable Sector Development in West Africa. Wageningen Centre for Development Innovation, Wageningen University & Research. Report CDI-17-018. Wageningen (p. 39)

less efficient. The fieldwork did not report any findings on the programme management by WCDI because the visibility of WCDI was limited on the ground. Partners and farmers interviewed did have views on the in-country project management by SNV (see next paragraph).

There was a strong team in Ghana but limited resources in Côte d'Ivoire for in-country project management.

Although HortiFresh was one overarching programme, the number of activities and available staff was different in Ghana and Côte d'Ivoire. In Ghana, HortiFresh project management was appropriately staffed and well qualified. For Côte d'Ivoire interviewees indicated that the resources available for project management was not sufficient to efficiently manage the planned activities (which already had a smaller scope than in Ghana).

5 Sustainability

The scalability of the programme's outcomes and systems change has not yet been fully achieved. Continuation of outcomes in Ghana will likely still materialise to some extent. There was some evidence of uptake of strategies and activities by others, but overall the institutional embedding has not yet fully materialised.

5.1 Take-up by policy and public / private organisations

Evaluation question: To what extent are the strategies and activities being taken up by policy and public / private organizations?

At the time of the MTR, there were concerns about the institutional sustainability of HortiFresh results. The MTR mentioned the lack of an institutional entity developed by the programme that would build upon the positive outcomes achieved. During interviews for this evaluation, all consortium partners confirmed that there were no public or private actors taking up strategies and activities from HortiFresh. The programme was actively seeking ways to enhance the institutional embedding in these last stages of the programme.

Nevertheless, our desk research, interviews and fieldwork in Ghana suggested that the prospects for sustainability in Ghana had improved. In particular, there were several examples of cases where HortiFresh strategies and activities were being taken up by other actors in Ghana:

1. The concept of the Spray Service Providers (SSPs), which was aimed at providing responsible spraying services especially on F&V farms, had been taken up by the District Assemblies (DAs). In the future, these SSPs could then potentially work directly with the DAs to render their services.
2. The FDA had adopted the Fresh Produce Desk to ensure that issues in the F&V sectors would be given prominence and championed in that institution.
3. The Mango Cluster Group that was formed in Kintampo (Bono East Region) had started providing GAPs to enhance productivity. Also, outgrowers in the Eastern region indicated that GAP skills and farm hygiene practices were being taken up and replicated by nearby farmers.

In Côte d'Ivoire there was no evidence of uptake by public and private organisations, and activities had not (yet) been transferred to another organisation to ensure sustainability. The Embassy was also not able to support HortiFresh in identifying or facilitating useful connections to other organisations there. The programme's exit strategy for institutional sustainability had centred around collaboration with the National Horticulture and Coordination Committee, but there was no evidence that this had led to institutional embedding of strategies and activities yet. According to a consortium partner, "this organisation exists on paper but not in reality. It has been very difficult for us to get in contact with this organisation." Consortium partners also indicated that it was unclear which institution would take up activities, except for CBI supporting some of the mango cluster activities and sector organisations.

5.2 Likelihood of continuation of outcomes, scalability and systems change

Evaluation question: What is the likelihood of continuation of outcomes, scalability of outcomes and systems change beyond the scope and timespan of the program?

Scalability of the programme's outcomes and systems change has not yet been fully achieved, but will likely materialise to some extent in Ghana. As seen in the effectiveness chapter, some important outcomes have been achieved in Ghana, and others are still likely to be achieved in the near future. However, in Côte d'Ivoire there is less confidence in achievement or continuation of outcomes. In Ghana the achievement of systems change will rely on policy embedding and is less likely to occur on the level of Finance Institutions and their risk perception of the sector.

With regards to the likelihood of continuation of outcomes and systems change, the programme has put great effort in policy embedding through the Food Safety Task Force and Horticultural Development Authority to ensure HortiFresh's sustainability. Throughout all progress reports the programme was referring to its exit strategy which hinged considerably on the establishment of the Horticulture Development Authority and the Food Safety Task Force. In the HortiFresh progress report of 2018, with reference to what was then named Horticulture Development Council, it was already mentioned that "This council would hold the horticulture sector in one piece, coordinating all activities, advocacy, policy dialogues, stakeholder for a, information dissemination and ensuring compliance. The Exports Taskforce and the GGL governing board would be supervised by the council".⁶⁷ The Horticultural Development Authority will have the mandate to bring together all stakeholders, including the Ghana Association of Vegetable Exporters (GAVEX) and the Vegetable Producers and Exporters Association of Ghana (VEPEG), and drive activities in the horticultural sector in Ghana. The Horticultural Development Authority is now in the process of being set up after having encountered some delays due to COVID-19 and change at MoFA after the elections. It is currently prepared for parliamentary approval. These institutional policy gains, the programme's support to the HDA, FSTF, and introduction of GGL are considered most likely to lead to systems change and scalability.

HortiFresh sustainably linked grant partners to businesses through B2B platforms. The B2B platforms, amongst others, contributed to increased fruit and vegetable exports as a result of producing more volumes to meet the increasing export demand, according to Golden Riverside Company Limited (GRCL) in Eastern region, AB Farms in Greater Accra region, and Vintage Farms in Eastern Region. These linkages are also likely to sustain beyond the scope of the programme.

The knowledge and skills gained during the agronomic trainings are being applied and, in the case of outgrowers in Eastern region, even replicated. According to a consortium partner, the training material that was developed for e-learning modules, has been picked up by 2 colleges in Ghana, KITA and Ejura. There are signs that knowledge from training on GAPs and farm hygiene are shared with wider communities of farmers, as in the case of outgrowers in Eastern region.

The majority of grant partners interviewed during the field study indicated that they had not witnessed any systemic changes in terms of the risk perception that FIs have towards providing credit in the F&V sector. Rural banks especially do not yet offer lower cost of borrowing and/or loan repayment rescheduling, which the Rabobank has been able to provide to partners. A respondent from a bank in Ghana indicated that "as a bank, the

⁶⁷ Assibey-Yeboah, S. & Koomen, I. (2019). Progress Report HortiFresh West Africa 2018. Commercial Fruit & Vegetable Sector Development in West Africa programme. Wageningen Centre for Development Innovation (p. 4)

perception of risk in agriculture is still there and has not changed, mainly due to the fact that we do not have much expertise in agriculture, including the financing of activities in the sector". Fieldwork showed that while some grant partners believed that access to finance had been facilitated by the HortiFresh programme (as they provide the necessary guarantee), it only provided a one-time access to finance.

The sustainability of outcomes in Côte D'Ivoire could not be assessed. In Côte D'Ivoire, the results are still at the level of outputs, and while partnerships with entrepreneurs have been established, they did not yet result in outcomes. Therefore, the likelihood of sustaining these or leading to systemic change cannot be assessed.

An important factor that explains the difference between achieved results and their likelihood of continuation, scalability and systems change in the two countries is GhanaVeg. GhanaVeg was the predecessor to HortiFresh and focused on similar result areas, partners and approaches but was limited to implementation in Ghana only. This means that much of the groundwork of GhanaVeg has facilitated the achievements and sustainability of the programme in Ghana. Concrete examples of results in GhanaVeg which not only endured but were further developed in HortiFresh were the agronomic and GAP trainings, work on the food safety and phytosanitary system, including the support given to the development of a strategic plan for Ghana Green Label, business platforms, and the initial policy work on the establishment of Horticulture Development Authority GhanaVeg had raised the turnover of a few partner companies through various support modalities, two of which were subsequently incorporated in HortiFresh, AB Farms and Joekopan.⁶⁸ Interviews confirm that positive results for those partners have been sustained. At the same time, most of the other partner companies in GhanaVeg collapsed after financial support by the project ended. Additional results mentioned have been the establishment of the Export Taskforce, which prevented another export ban to take place since. Programme stakeholders do not consider GhanaVeg a first phase of HortiFresh but rather a different programme as it involved more pioneering work and a different organisational set-up. It also did not include certain components such as the cluster approach, and had a different approach to grants, inclusion and nutrition objectives. However, according to the evaluation team it has undeniably supported the achievement of many HortiFresh results through the established connections with partners and F&V actors, policy groundwork, and development of tools and trainings. GhanaVeg has contributed to elaborating results and sustainability of HortiFresh activities in Ghana, but more importantly it explains in part the relative lack of success in Côte d'Ivoire.

5.3 Factors that negatively influenced sustainability

Evaluation question: In case of reduced likelihood of sustainability, scalability and systems change, what are the causes and how could subsequent programs learn from that?

Sustainability was hampered by challenges in establishing continued connection to and between partners and public sector actors. At the time of the evaluation, the programme was exploring its exit strategy for many of its activities, and encountered challenges in identifying partners that can take over certain activities of the programme. Without HortiFresh facilitating public sector and private sector linkages and relationships, activities might run out of enthusiasm and energy to continue.

⁶⁸ Van den Broek, J. A., Arthur, H., Asamoah, P., Assibey-Yeboah, S., & Koomen, I. (2018). GhanaVeg Final Report 2013-2017: Quality and healthy vegetables from Ghana through new ways of doing business (No. 18-017). Wageningen Centre for Development Innovation

In Ghana, according to some grant partners interviewed in the field study, fragile relationships between the private sector (e.g. grant partners) and public sector representatives stemmed from frequent replacement of public sector representatives. When public sector representatives, who are key players in the HortiFresh engagement processes, are often replaced, it is likely to delay progress made between the two groups.

For Côte d'Ivoire, the reduced sustainability and scalability and systems change was mostly as a result of a thinly spread coordination, which makes covering all the intended programme activities and ensuring institutional embedding challenging. Furthermore, the lack of groundwork through a predecessor programme such as GhanaVeg negatively influenced the programme's sustainability.

5.4 Sustainability of VSLAs

Evaluation question: Will VSLAs continue to exist and be functional after the program end?

In Ghana the concept of VSLAs was fully embraced by the VSLA members that were interviewed. Due to HortiFresh support to grant partners with record keeping in a manner that is consistent with the standards required by financial institutions, some of the farmers in Ketu and Denu (in the Volta Region) who have formed VSLA groups were able to secure input credit from Fidelity Bank. These farmers were also able to raise their own capital through the VSLA, which is helping them acquire and purchase farm inputs. At harvest time the farmers payback with their farm produce equivalent to the cash amount borrowed.

The VSLAs in Ghana initiated by HortiFresh are likely to continue to exist beyond the programme, since their functionality does not rely on the programme's resources. Since there is no funding or facilitation by HortiFresh required for VSLAs to operate, these platforms are assumed to continue irrespective of HortiFresh's or other programme's contribution and resources. The continuation of VSLAs depends mostly on the internal dynamics, trust and use by its members. The interviewed VSLA members that were supported by HortiFresh all indicate their intent to continue participating in the VSLA.

In Côte d'Ivoire, VSLAs were not part of HortiFresh activities.

6 Conclusions

6.1 Relevance

HortiFresh largely addressed the main constraints to growth and viability in the F&V sector, and as such was relevant to the sector, especially in Ghana. It contributed to a more sustainable and competitive sector by addressing constraints related to quality, knowledge, regulatory bodies, and access to finance.

The expectation of having major impact on inclusivity was relatively low since the clusters were mainly built around market demand rather than inclusion objectives. With regards to increasing the (environmental) sustainability in the sector, the programme mostly dealt with this through the delivery of trainings and the Ghana Green Label. In Côte d'Ivoire, the programme's size is smaller and thus expected to have less impact on the sector.

Although coordination was limited, the programme was well aligned with other donor and national government interventions. In Côte d'Ivoire there is no evidence of alignment with other programmes, with the exception of FIRCA. In Ghana there are a few similar programmes being implemented, and while there are no signs of coordination, there also does not appear to be incoherence or overlap with them.

The three main access to finance components in HortiFresh were 1) providing financial products, 2) individual company support and 3) institutional capacity building. In Ghana, the HortiFresh programme distinguished itself from other A2F providers by its hands-on approach with its partners. The A2F component in Côte d'Ivoire was limited to specific business plan support. The programme managed to secure loans for partners, and one of the main factors underlying this success is HortiFresh's continuous engagement with the FIs.

6.2 Effectiveness

HortiFresh is likely to meet most of its targets, but for some indicators data was missing. As of December 2021, HortiFresh already reached the target of 20 of the 35 indicators and is likely to meet its target for another two indicators. For six indicators, it seemed unlikely that HortiFresh would reach the targets, as achieved outputs/outcomes were far below the targets. For yet other seven indicators, the data was incomplete, inconsistent, or not available.

Without a counterfactual it is not possible to fully assess the contribution of HortiFresh's activities to these results. Direct output indicators like the number of farmers trained can be fully attributed to the programme. However, other outcome indicators like the increase in productivity and the number of companies investing in West Africa F&V sector are influenced by many factors in addition to the HortiFresh programme. Without a counterfactual, the evidence of HortiFresh's contribution to these changes can only be partial.

Overall, HortiFresh seemed effective in improving the competitiveness of the F&V sector. As of December 2021, half of the indicators under this impact pathway already surpassed their targets. For example, 9,347 family farms saw an increase in their productivity and/or income (compared to the total target of 1,500). Fieldwork findings from Ghana also showed that the HortiFresh programme had made an important contribution to improving access to business loans and helping businesses to become more competitive. Offering training and technical support to partners and outgrowers was also considered by interviewees as an effective component of the HortiFresh programme.

The access to finance component, which was a condition for the programme by EKN Accra, showed mixed results. In Ghana, some HortiFresh partners indicated that their access to finance had increased significantly because of HortiFresh, whereas others viewed the grant from HortiFresh as a one-time financial push but did not see their overall access to finance improve. Moreover, the high risk perception of financial institutions in the F&V sector still makes commercial lending difficult. The fieldwork did not show any signs of increased access to finance among HortiFresh partners in Côte d'Ivoire.

Through its activities to improve exports and certification HortiFresh contributed to sustainable growth in the F&V sector. Grant partners in Ghana viewed the improvement of their export value and product quality and having a stable cash flow as an important contribution of the HortiFresh programme. Grant partners were also positive about the support they received to acquire certification for their produce. Certification is expected to increase the consumption of these fruits and vegetables. Nevertheless, exports to the EU market were still far from the target.

HortiFresh already met its overall nutrition awareness target. M&E data showed that the target of twenty nutrition awareness programmes/ events/ write-ups/ training sessions has already been reached. Other activities undertaken to raise awareness around nutrition included the launching of a nutrition study in collaboration with the University of Development Studies in Ghana.

The evaluation showed positive signs of gender and youth inclusion in the programme. Although most indicators did not have gender targets, the female-male ratio among beneficiaries was balanced. In addition, more than 2,000 reliable jobs created by HortiFresh-supported SMEs/Businesses were for young employees (<35 years), exceeding the target of 300 jobs for youth. Furthermore, the fieldwork findings from Ghana reported that AB Farms and GRCL observed an increase in women and youth in agribusiness and related activities. Nevertheless, there are social-economic barriers, especially for women, that might hamper long-term impact of these activities.

HortiFresh's effectiveness on Improving the Conducive Business Climate showed positive results. The M&E data showed that as of December 2021 HortiFresh met its target for three of the five indicators under this impact pathway. Additionally, the fieldwork findings were positive about the establishment of the Fresh Produce Unit of the Food and Drugs Authority (FDA), supported by HortiFresh and the nascent Horticulture Development Authority (HDA), which is expected to strategically unite the F&V sector.

Internal capacity and resources had a significant impact on effectiveness. The limited number of staff in Côte d'Ivoire negatively influenced the effectiveness of activities in the country, whereas the strong team in Ghana had a positive impact on effectiveness. Other factors that influenced effectiveness include: the successful linkages that HortiFresh made with local and foreign financial institutions (positive), the COVID-19 pandemic (negative) and local public sector bureaucratic challenges (negative).

The M&E framework was well elaborated, but indicators lacked disaggregation by country and sector. In general, the performance indicators were clear, and the number of indicators was relatively low. The M&E framework was well suited for reporting requirements, learning, and informing internal and external stakeholders. However, the reported M&E data did not disaggregate outputs and outcomes by country. This made it impossible to draw conclusions about the relative effectiveness in Ghana versus Côte d'Ivoire (although qualitative data suggest the programme was much more successful in Ghana). Furthermore, in some cases (e.g., for conducive business climate) including output indicators would have benefitted the tracking of progress towards long-term outcomes. The M&E

system could have been further improved by including control groups and counterfactuals to better assess the contribution of the HortiFresh programme.

6.3 Efficiency

HortiFresh remained within its budget and coordination costs seemed reasonable. So far, HortiFresh has remained within its budget. However, without the additional activities planned for 2022 the HortiFresh budget would have been underutilised. The available budget for the cluster fund was also underutilised, but the budget for the other component (i.e. the other two funds and the access to finance component) were almost fully committed. Finally, coordination costs remained within budget and were in line with that of other FNS programmes.

Overall, HortiFresh seemed to have used its resources efficiently but not all necessary data was available. The efficiency analysis was limited because the budget components were not directly linked to specific outputs/outcomes. Nevertheless, the analysis showed that indicators focused on youth entrepreneurs and involving Dutch companies were the costliest. Note that it is hard to compare costs because the long-term outcomes and impacts of these interventions are unknown.

Efficiency was influenced by internal and external factors. Working with the five consortium partners had advantages and disadvantages on efficiency. The fact that the programme was implemented in two countries with varying resources was an internal factor that decreased efficiency. On the contrary, the strong and knowledgeable team in Ghana had a positive effect on efficiency. Lastly, COVID-19 hindered the efficiency of the programme.

Findings regarding the efficiency of programme/project management were mixed. The WCDI was responsible for overall management of the programme, including reporting to the EKN Accra. The programme management by WCDI was seen as efficient but was constrained by COVID-19, which limited in-person guidance and monitoring. For in-country project management Ghana had a strong team but Côte d'Ivoire had limited capacity. As a result, the Côte d'Ivoire project management was considered less efficient and effective than the project management in Ghana.

6.4 Sustainability

There was some evidence that HortiFresh strategies and activities were taken up by other organisations in Ghana, but not in Côte d'Ivoire. In Ghana, there was evidence of uptake by some public and private organisations. In Côte d'Ivoire, there was no evidence that activities had been transferred to another organisation to ensure sustainability. As of late 2021, however, the programme was still making serious efforts to achieve institutional embedding in the last phase of the programme.

Continuation and scalability of its outcomes and systems change has not yet been fully achieved but will likely materialise to some extent in Ghana. The programme has put great effort in policy embedding through the Food Safety Task Force and Horticultural Development Authority to ensure HortiFresh's sustainability. HortiFresh sustainably linked grant partners to businesses through B2B platforms. However, there have not been systemic changes in the risk perception of financial institutions in the F&V sector.

An important factor that explains the difference between achieved results and their likelihood of continuation, scalability and systems change in the two countries is GhanaVeg, the predecessor to HortiFresh in

Ghana. GhanaVeg supported the achievement of many of HortiFresh results through the established connections with partners and F&V actors, policy groundwork, and development of tools and trainings. The lack of GhanaVeg's groundwork in Côte d'Ivoire explains in part the lower success and sustainability of results in Côte d'Ivoire.

Sustainability was hampered by challenges in establishing continued connection between partners and public sector actors. In Ghana, fragile relationships between the private sector (e.g. grant partners) and public sector representatives stemmed from frequent replacement of public sector representatives. For Côte d'Ivoire, the reduced sustainability and scalability and systems change was mostly a result of a thinly spread HortiFresh coordination team and difficulties in accessing the relevant government institute.

The sustainability of VSLAs in Ghana is promising. In particular, the concept of VSLAs was fully embraced by VSLA members in Ghana, and their functionality did not rely on the programme's resources. In Côte d'Ivoire, VSLAs were not part of HortiFresh activities.

Annex A HortiFresh indicators

Impact pathways	Results	#	Indicators
Competitive and innovative high-value F&V sector	Enhanced productivity, value and quality of fruits and vegetables	1	% change in yield per hectare of selected F&V
	Increased uptake of innovative technologies and practices	2	# of initiatives (new technologies) adopted by actors
	Technical agronomic support	3	# of participants enrolled in the various modules in agronomic
		4	# of farmers trained by trained agronomists
	Increased export volume and value of fresh and processed F&V	5	% change in volume of export (regional and international)
		6	% change in value of export (regional and international)
	Increased investment by local and international companies	7	# of Dutch companies investing in the W/A (Ghana/Côte d'Ivoire) F&V sector as a result of HortiFresh activities
		8	# of international companies excluding Dutch companies investing in the W/A F&V sector as a result of HortiFresh activities
		9	# of national companies investing in the W/A F&V sector as a result of HortiFresh activities
	Increased volume and value of fresh and processed F&V in domestic markets	10	(% change in) volume of fresh and processed F&V supplied to the domestic market
		11	(% change in) value of fresh and processed F&V supplied to the domestic markets
		12	(% change) in value and volume of imported F&V supplied to the domestic market
	Improved access to finance	13	# of Business/SMEs that have accessed commercial financial products developed by HortiFresh
Inclusive and sustainable growth in the F&V sector	Increased and sustained economic viability of actors in the F&V value chains	14	Increase in turnover for SMEs/Businesses supported (US\$ per annum)
	Improved access to finance	15	Total disbursements by institutes implementing the HortiFresh financial products
	Increased participation of women and youth in F&V sector	16	# of reliable jobs created by HortiFresh supported SMEs/Businesses (women/men, age:<35)
	Increased opportunities for women in the F&V sector	17	# of women gaining training and career development opportunities with HortiFresh business partners
	Increased opportunities for youth in the F&V sector	18	# of youth gaining training and career development opportunities with HortiFresh business partners (< 35)
19		# of young entrepreneurs supported in developing, implementing, accelerating or scaling their businesses in the F&V sector (male/female)	

	Increased involvement of farmers in the horticulture sector	20	Total number of farmers reached (direct - male/female; age: % < 35)
		21	Total number of farmers reached (indirect - male/female; age: % < 35)
	Nutrition awareness promoted	22	# of nutrition awareness creation programs/events/write-ups/training sessions effected
	Improved phytosanitary and food safety systems in the F&V sector	23	# of interceptions related to fruit and vegetable export to EU market per year
	Increased number of SME/Business with certification	25a	# of business/SMEs with GAP certification
		25b	# of partner farmers/business/SMEs practicing GAP or certified under GAP-related Certification Schemes
		26a	# of certified Green Label market outlets
		26b	# of farmers under Green Label Certification Scheme
Conducive business climate	Increased Public Private sector collaboration	27	# of B2B initiatives started as a results of HortiFresh activities
	Improved performance of the regulatory system	28a	Horticultural councils established
		28b	Private sector associations support established
Conducive policies in place and implemented	29	# of FNS related changes in national policy/laws contributed to	

In addition to the 30 HortiFresh indicators mentioned above, HortiFresh also reports on 5 Food and Nutrition Security (FNS) indicators developed by EKN Accra:

- EKN #1: Number of family farms with increased productivity and/or income;
- EKN #2: Number of farmers that adopted research results/knowledge/new technology;
- EKN #3: Number of family farms with improved access to input and/or output markets;
- EKN #4: Total number of family farms reached (direct) (equal to indicator #20);
- EKN #5: Number of improvements in major (inter)national FNS policies/laws.

Annex B Contribution case

The causal question that was selected for contribution analysis in HortiFresh was the following:

How significant have HortiFresh's support and activities on improved access to finance and financial support services in the Eastern and Greater Accra regions (in Ghana) been in realising increased and sustained economic viability of actors in F&V value chains?

Access to Finance (A2F) is a major enabler or input for realising increased and sustained economic viability of actors in F&V value chains in Ghana. All programme partners interviewed acknowledged accessing finance through a loan facility from Rabo Bank Foundation of The Netherlands arranged by HF or receiving a matching grant facility from HF programme. Five out of six partners interviewed under the Access to Finance Fund Component mentioned that the programme had enabled them to access loans with very low interest rates which had significantly helped them expand their businesses. This was also the case for the other programme partners (Innovative fund, Youth Employment Fund, and Cluster Fund Components) who received at least 50% of their fund requirements to also invest in their F&V agribusinesses. According to them, HF also supported with consultants that would assist the partners in preparing bankable business plans to secure funding. The injection of these funds contributed significantly to increasing and sustaining the economic viability of their agribusinesses.

Contributing rival factors included the financial support previously given by other projects. It was acknowledged by three programme partners on the A2F Fund Component namely, GRCL, AB Farms, and Joekopan, that they had benefitted from some initial financial support (both loans and grants) received from other projects several years ago for the same business. AB Farms and Joekopan had also been partners in the previous programme, GhanaVeg. However, the HF programme funding support, according to them, had been a significant contributor to their business survival.

Although now equipped with good business plans, and hand-holding by HortiFresh to these FIs (such as Absa Bank, Ecobank, and Fidelity), **continuous access to finance is still a challenge for partners.** An important negative rival factor, as mentioned by a representative of Fidelity Bank, and confirmed by interviews with programme stakeholders, is the continuing low trust and high risk perception of FIs when it comes to farmers and the agricultural sector in general. Banks continue to seek a guarantee of loan repayments. This obstacle and risk perception has not been solved by the HF programme. Therefore, the HF programme, contributed only in the short-term by (temporarily) minimizing some of these negative perceptions to enhance A2F.

Based on this analysis of primary and rival factors, **we assess HortiFresh to have had a significant contribution to increased economic viability of actors in F&V value chains, and a moderate contribution to sustaining that economic viability.**



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