

## Horticulture sector transformation in action

Experiences from Ghana and Côte d'Ivoire

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## Executive summary

The Netherlands government has supported Ghanaian vegetable horticulture since 2012. Following the success of the GhanaVeg programme, HortiFresh (supporting fruit and vegetable horticulture in Ghana and Côte d'Ivoire) was formulated in 2018.

Ghana's fruit and vegetables sector is very diverse, moving domestically towards more convenience food, fruit processing (juice, dried), and home deliveries. Production has kept pace with increased demand but imports are still substantial. The major exports are mango, banana, and pineapple. Pineapple exports have been stable, mango has boomed, and banana has increased steadily. Challenges include production, phytosanitary and food safety challenges; lack of training; market linkage constraint; and limited funding opportunities.

The fruit sector of Côte d'Ivoire is well developed. Banana, mango, and pineapple exports are significant, with overall a steady increase in the last five years. Mango is a promising sector for bridging the aid and trade agenda of the Netherlands but there are production challenges and low investments.

Based on these challenges, the HortiFresh programme took up a sector transformation approach focusing on integrated intervention, a joint agenda, and the public-private sector. It pursued a specific, demand-driven approach for competition, innovation, and high value; inclusion and sustainability; and a business climate conducive to development.

**Our localisation approach** (Ghana and Côte d'Ivoire) focusing on clusters/specific localities and working with dedicated groups was very effective. HortiFresh focused on the priorities/challenges for each cluster through needs assessment/activity plans with local stakeholders, funding a finalized activity plan, and connecting the clusters to relevant companies, markets, and opportunities for solutions. This joint ownership approach enabled effective results with a high sense of ownership and motivation.

This stakeholder partnership needed handholding to start with, and engaging the private sector needed time and trust, but this paid off. The bottom-up programming resulted in a high level of commitment by the local stakeholders; the Village Savings and Loan Association (VSLA) initiative was adopted widely by many of the groups in the clusters, with new groups springing up; most associations / farmer groups now have good functioning governance systems; and the farmer-owned demonstration plots encouraged peer-peer learning and higher uptake of improved practices.

**Our enabling-environment approach** (Ghana and Côte d'Ivoire). Both countries have a clear strategy on agriculture but not horticulture, which receives little support despite major export earnings. Challenges included fragmentation of the sector, multiple ministry involvement,

weak governance, and especially sanitary and phytosanitary (SPS) challenges. Rapid assessments on COVID-19 showed that resilience of the sector is minimal; SPS studies (Ghana in 2012, Côte d'Ivoire in 2022) showed weaknesses and opportunities.

Follow-ups in Ghana included the development of the Horticulture Development Authority (HDA), the Plant Health Authority (PHA), a sector association (Ghana Vegetables) and the establishment of the Ghana Greenhouse Association (GGA). Ghana Vegetables and the GGA have been established and are now ready to run by themselves. Ghana Green Label (GGL) has rolled out a certification scheme which was the recipient of an excellence award this year; several major supermarkets now stock GGL produce.

It was more difficult to engage with the public sector in Côte d'Ivoire. In both countries success will depend on public sector willingness to adapt, as change is inhibited by the inability of private sector actors to advocate strongly, and as political changes at the top delay decisions. Support will need to be long-term, with trust, sufficient resources, and the dedication of all those concerned.

**Enabling access to finance** (Ghana). Commercial financing to the agricultural sector in Ghana is estimated at 4% of bank portfolios. Informal investors are the most important source of financing followed by Government and grant initiatives from the donor community.

To improve financial sustainability our access-to-finance component aimed at facilitating long-term commercial financing, de-risking investments and lowering transaction costs via multi-dimensional support for those with a strategic commitment. We achieved our targets using a hands-on approach. This included an innovation fund (15 grants); development of four financial products (70 end-customers, including 26 under the female inclusion financial product); individual company support to access loans and equity (three, with six more pending); and institutional capacity building.

**Enabling improved nutrition** (Ghana). Target businesses were mostly producing for the high-end market, so those most vulnerable to food and nutrition insecurity were not likely to benefit. In addition, the programme did not have a dedicated budget to ensure nutrition outcomes. However, during inception several entry points and activities for nutrition were identified.

The basis for the awareness-raising activities was a 2019 HortiFresh study. Following this, successful activities included a student social media competition and campaign; promotion of indigenous vegetables; educating business owners on the importance of consuming fruits and vegetables, including roundtable discussions and a module for business staff and outgrowers; and a programme of workforce nutrition.

Nutrition had many different types of audiences as it was woven into many different activities. However, not all the grant partners were aware of it, especially those that joined later; there was a missed opportunity for those working on processing and product development. Future opportunities include social media, business investment in nutrition and health of the workforce, catering for food safety concerns, and restaurant initiatives on indigenous vegetables.

**Enabling outreach** (Ghana and Côte d'Ivoire). HortiFresh had an active communication strategy which served as a guide to its communication activities. Apart from having a clear branding policy, the strategy also set out channels to be used for the dissemination of project activities, partner information and events. The programme had a good appearance with both traditional and new media space. This included a website ([www.hortifresh.org](http://www.hortifresh.org)), Facebook, Twitter, Instagram, radio, television, and online platforms including teleconferencing. Output included several reports, articles, COVID-19 briefs, regular newsletters, and awareness and sensitization creation campaigns and events such as nutrition, youth and gender, food safety, fruit and vegetable fairs, cluster and input fairs, and business platform meetings.

Examples include a Food Safety campaign including giant LED advertising screens; interview films called "most significant change stories"; business platform meetings; round tables; a fruit and vegetable fair; and cluster fairs.

**Enabling the aid and trade agenda** (Ghana and Côte d'Ivoire). The project engaged directly and indirectly with several Dutch companies. Several partnerships were very good and contributed to achieving project objectives. The Netherlands Africa Business Council (NABC) also organised four trade missions, for which they contacted a total of 287 Dutch and 15 international companies and in which 35 companies participated.

Overall, the challenges included managing expectations, training, certifications, follow-ups, investments, payment agreements, and relationships. The trade agenda makes economic sense, but needs to be re-aligned to sector development to achieve its intended effect. Standard expectations in the EU mean that West African companies must change the quantity, quality, and timeliness of produce; meanwhile, Dutch / international companies need to invest in potential partner companies or sectors they want to engage with. This might be costly initially but will pay in the long-term. For the trade agenda to become pro-poor and gender responsive it will need to have aid aligned to recipient country policies. The female business accelerator is a great example of positive reinforcement of the position of women entrepreneurs.

Even though few deals were brokered, understanding between Ghanaian, Ivorian and Dutch/international companies improved, and this was a very positive aspect of the trade mission in both virtual and face-to-face events. We recommend that in future trade missions should start virtually as this allows companies to test the water. When potential matches transpire from this, a face-to-face trade mission is likely to be more successful.

**Working in multiple countries** (Ghana and Côte d'Ivoire). Advantages include being able to use cross-border value chains; risk diversification; and opportunities for knowledge transfer/increased trade. However, challenges for Hortifresh included complexity, costs, and the Francophone/Anglophone divide. The vegetable and fruit sectors in both countries were vastly different; in addition, COVID-19 complicated the second half of 2020. However, despite the divide, export challenges were similar; the mango sectors in both countries had complementary attributes; linkages to other sectors like the citrus and coconut sectors were realised; and learning was enhanced. In the future even more exchange could be possible between the countries, for example exchange visits between mango clusters and orchard maintenance providers.

Lessons learnt included the following. Firstly, if the implementing organization is not locally established, procedures need to be simplified and prioritized to ensure that administration e.g. bank transfers do not take longer than necessary. Secondly, each context has a different starting point and it is important to adapt to contextual differences.

**Focusing on fruit in Côte d'Ivoire.** The focus in Côte d'Ivoire was on fruit, with a particular emphasis on mango, through an Innovation Fund, Youth Fund, Cluster Fund, and business-to-business activities including a trade mission. Studies were published on the Sanitary and Phytosanitary (SPS) agreement, mango, COVID-19, marketing, and access to finance.

Large foreign-owned enterprises dominate; it was difficult to partner with small, local entrepreneurs used to donations. Funding was successful but clear expectations should be set in future. Innovation was difficult, highlighting the need for flexibility in disbursements; additional support services; and synergies between activities and actors. Fruit sector activities are seasonal and consumption of fruit to improve health uncommon, so our focus was limiting; including vegetables would have a greater impact. The focus on disadvantaged groups was effective and should remain a criterion, rather than only working with/financing the activities of disadvantaged groups themselves.

**What did we achieve?** HortiFresh focussed on a business climate conducive to sector development; a competitive and innovative high-value sector; and an inclusive and sustainable sector. This was achieved mainly because of its needs-based programming that focused on an enabling environment, and thus addressed gaps that inhibited growth and transformation. The End of Project evaluation commissioned by the Embassy of the Netherlands in Accra confirmed our own monitoring. All key-performance indicators were on or above target, but it was the qualitative factors that contributed to real change. For instance, the establishment of the food safety task force was a result of round tables where key stakeholders decided themselves to work together.

*We learned the following:*

- Stakeholder dialogue played a major role in bringing the public and private sector closer. Our high-level public sector dialogue complemented this and influenced policy. Results were slow but resulted in several concrete initiatives such as the establishment of the Horticultural Development Authority (HDA) in Ghana.

- Our work with the private sector/through clusters resulted in substantial access to finance, technical advice, management support, and expansion of operations.
- The overriding message coming out of the personal stories collected was that exposure to new ideas, information and techniques can make a large difference to personal lives and to the sector.
- By working at all levels we were able to address regulatory issues. Further institutionalization of this approach should take place (through the HDA in Ghana).
- Outreach was a powerful tool, and it is highly recommended that these activities are continued.

*Transformation of the sector has taken place in Ghana.* It is now more coherent, informed, competitive and better linked; taking on challenges, risks, and new technology; and increasingly interested in diversifying, evolving and growth. New norms have emerged following our introduction of the 50-50 grant financing model. Government agencies and affiliated institutions are now also adopting initiatives. In Côte d'Ivoire we have sown a seed but it takes more time before any impact will be visible.

*We ensured sustainability in Ghana* by considering it upfront, like establishing multiple points of outreach. Interventions were sustainable to a large extent, especially with the establishment of the HDA. Here the biggest threat is to the associations set up towards the end of the programme but strategies to address this have been put in place. The sustainability of activities in Côte d'Ivoire is more limited, but substantial results have been achieved in the mango clusters.

**The future focus** of horticulture in West Africa should be:

- Enhancing youth employment by further institutionalizing agronomic skills in agricultural colleges, looking at improved production practices and technology, and creating better linkages between colleges and the labour market.
- Developing blended financial products available to a large range of horticultural companies. They should have favourable conditions and sufficient implementation support to make them a success by creating a more business-friendly enabling environment. This will support opportunities for investments and innovations throughout the value chain.

## Acknowledgements

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## Abbreviations

AEA . . . . . Agriculture extension agent	MASP . . . . . Multi-Annual Strategic Plan
B2B . . . . . Business to Business	M&E . . . . . Monitoring and Evaluation
CIAHT . . . . . Centre for Initiative Against Human Trafficking	MTR . . . . . Mid-term Review
CVFIR . . . . . Cooperative des Vendeuses de Fruits Ivoire Rungis	NABC . . . . . Netherlands-African Business Council
EKN . . . . . Embassy of the Kingdom of the Netherlands	PHA . . . . . Plant Health Authority
EU . . . . . European Union	PPRSD . . . . . Plant Protection and Regulatory Services Directorate
F&V . . . . . Fruit and Vegetables	RDF . . . . . Regional Development Fund
GAP . . . . . Good Agricultural Practices	SARA . . . . . Salon international de l'Agriculture et des Ressources Animales
GAVEX . . . . . Ghana Association of Vegetable Exporters	SME . . . . . Small and medium enterprises
GGA . . . . . Ghana Greenhouse Association	SMETA . . . . . Sedex Members Ethical Trade Audit
GGL . . . . . Ghana Green Label	SPS . . . . . Sanitary and Phytosanitary
GIRSAL . . . . . Ghana Incentive-Based Risk Sharing System for Agricultural Lending	VEPEAG . . . . . Vegetable Producers & Exporters Association of Ghana
GNBCC . . . . . Ghana Netherlands Business and Cultural Council	VSLA . . . . . Village Savings and Loan Association
HDA . . . . . Horticulture Development Authority	YEF . . . . . Youth Employment Fund
IPM . . . . . Integrated Pest Management	

## The HortiFresh programme: sector transformation in action

Contribution by Sheila Assibey Yeboah, Joep van den Broek, Mirjam Schaap and Irene Koomen

### Introduction

Since 2012 the Netherlands government has supported the horticulture sector in Ghana. Initially only the vegetable sector was prioritized in the Netherlands Embassy's Multi-Annual Strategic Plan<sup>1</sup> (MASP) for the period 2014-2017. The MASP highlighted the importance of moving from aid to trade,<sup>2</sup> as well as a greater focus on (local) economic development and the contribution of the Dutch private sector. At the time Ghana was assigned by the Dutch Ministry of Foreign Affairs as a so-called 'transition country,' becoming a 'regular' trade partner instead of a development cooperation partner. As part of the Netherlands strategy, support for Ghana's vegetable sector was approved, and the GhanaVeg programme initiated.

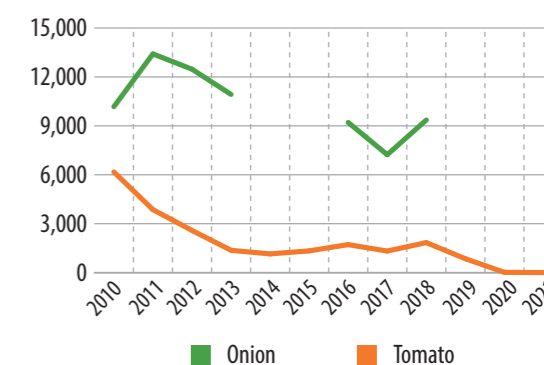
The GhanaVeg programme (2013–2018) had as its motto 'Healthy and quality vegetables through new ways of doing business'.<sup>3</sup> GhanaVeg focused on high-end domestic and export markets, having a strong private sector development focus. The programme supported around 30 innovative projects that were implemented by lead companies and research institutions. In addition, the programme addressed several issues in the enabling environment, ranging from phytosanitary issues to food safety, and from environmental concerns to public awareness on health and nutrition.

Building on the success of GhanaVeg, a new programme was formulated in 2018: HortiFresh West Africa (hereafter HortiFresh). The scope expanded to fruits and a second country was added, Côte d'Ivoire. The new objective became 'A sustainable and internationally competitive vegetable and fruit sector that contributes to inclusive economic growth, food and nutrition security.' This report presents a summary of the results, including the most significant change stories and lessons learned. In addition, it includes our evaluation of the combined results and assessment of whether the sum is greater than its parts – and whether true sector transformation has taken place. Other reflections included in the report focus on the sustainability of the interventions and on what is next for horticulture in Ghana and Côte d'Ivoire.

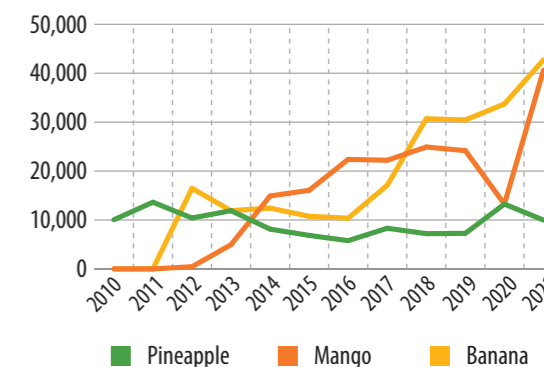
### Ghana's horticulture sector

Ghana's fruit and vegetables sector is very diverse, with a growing domestic market and a stable export market of pineapple, banana, mango, and Asian vegetables. Within the domestic market many innovations have taken place over the past decade, moving towards more convenience food, fruit processing (juice, dried), and home deliveries. Overall, production has kept pace with increased demand, while imports are still substantial, especially for tomato and onion from Burkina Faso and Niger, and carrot and onion from the Netherlands and South Africa (Figure 1).

**Figure 1a.** Imports of tomato and onion 2010–2021 (USD 1,000). Source: ITC Trademap



**Figure 1b.** Exports of pineapple (Belgium), mango, and banana (UK) from Ghana 2010–2021 (USD 1,000). Source: ITC Trademap

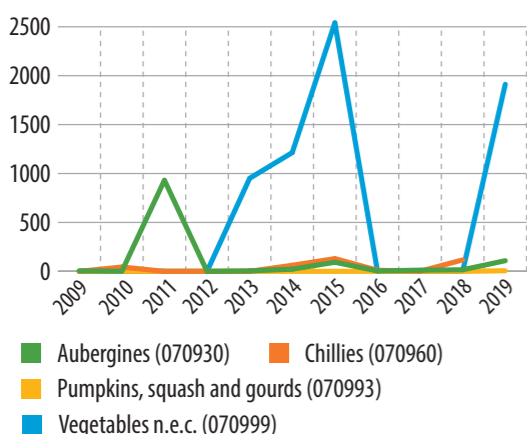


<sup>1</sup> Embassy of the Kingdom of the Netherlands Accra: MASP 2014-2017 <https://zoek.officielebekendmakingen.nl/blg-288672.pdf>

<sup>2</sup> Investing in global prospects (2018; <https://www.government.nl/documents/policy-notes/2018/05/18/investing-in-global-prospects>)

<sup>3</sup> GhanaVeg Final Report 2013-2017: Quality and healthy vegetables from Ghana through new ways of doing business (<https://wur.on.worldcat.org/oclc/8106206049>)

**Figure 2.** Exports of Asian vegetables from Ghana, 2009–2019 (USD 1,000). Source: ITC Trademap



Exports of Asian vegetables show a mixed picture. Ghana, especially, scores high on vegetables not-elsewhere-specified like okra. It is generally understood that exports increased after 2019 with several phytosanitary issues resolve (especially exports of chillies, okra, and gourds), though no official data is available over this period.

Though official data are scarce, onion imports (estimated around USD 10 million) have remained stable over the last decade (Figure 1a). The main exporters to Ghana are Niger and Burkina Faso. For tomato the trend is different, and imports have reduced drastically, from around USD 6 million in 2010 to USD 850,000 in 2019, with data from 2020 and 2021 influenced by border closures because of COVID-19. It must be noted, however, that data for regional trade are notoriously unreliable as much of the trade takes place informally.

Export data are also unreliable, with gaps in information; as such, import data are more reliable, taking the main importing countries as points of departure. Figure 1a shows export trends for mango, banana, and pineapple, with the UK being the biggest importer of the first two fruits and Belgium the biggest importer of the latter. Pineapple export trends have been stable over the past decade, but mango has boomed. Mango exports to Belgium have increased from almost zero in 2010 to more than USD 40 million by 2021 with an estimated USD 55 million in total. Banana exports increased steadily over the years, with a total estimated export of USD 90 million in 2021. The UK is the biggest buyer of Ghanaian bananas, having a 50% market share.

Though encouraging growth has been achieved in the sector, several challenges were identified by sector stakeholders at the start of the programme. The most important ones are presented below:

- Ghana’s F&V farmers encounter many production challenges, including pests and diseases, and fluctuating rainfall. Achieving productivity increases requires a combination of a good understanding of soil fertility and water management, pests and diseases, and better input use. As such a combination of market linkage (both for inputs and outputs) and knowledge on crop agronomy is needed.

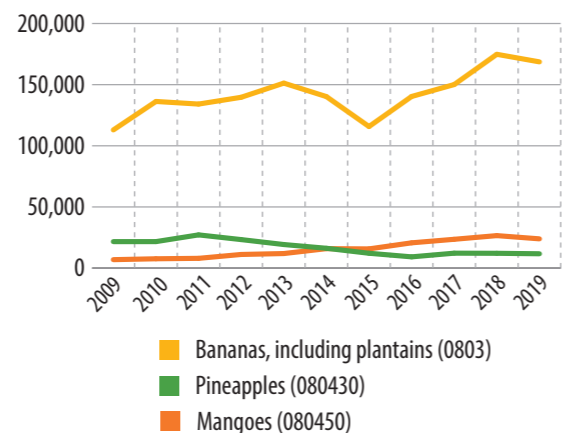
- Related to this, is the lack of practical training to support farmers with field-based training and education.
- In general, market linkage was identified as a key constraint for farmers and companies. Operating in clusters was recommended<sup>4</sup> to better target interventions and link producers to markets and input suppliers to producers.
- Moving from aid to trade also implies that grant funding is replaced by commercial financing to accommodate the access to finance needs of emerging small- and medium enterprises (SMEs). However, at the start of the HortiFresh programme there were limited financial products available for SMEs active in the horticulture sector. This situation improved because of HortiFresh activities, with banks better equipped to provide financial services to the horticulture sector.
- The government improved its phytosanitary services significantly in the period 2017–2018; as a result, an EU ban on exports of Asian vegetables has been lifted, and interceptions reduced.

### Côte d’Ivoire’s fruit sector

The fruit sector of Côte d’Ivoire is well developed, and exports (especially banana, mango, and pineapple) are significant. Figure 3 shows exports of these three commodities in the last 10 years.

Exports have shown a steady increase in the last five years, especially of banana; exports of mango have also shown a gradual increase, while pineapple exports have declined. In general banana and pineapple production takes place at larger, plantation-type of, farms, whereas mango production is mainly done by smallholder and medium-sized farmers. Both for Ghana and for Côte d’Ivoire, pineapple production is on the decline, showing their limited competitiveness compared to Costa Rica, the main exporter worldwide.

**Figure 3.** Banana, pineapple, and mango exports from Côte d’Ivoire to the world, 2009–2019 (million USD). Source: ITC Trademap

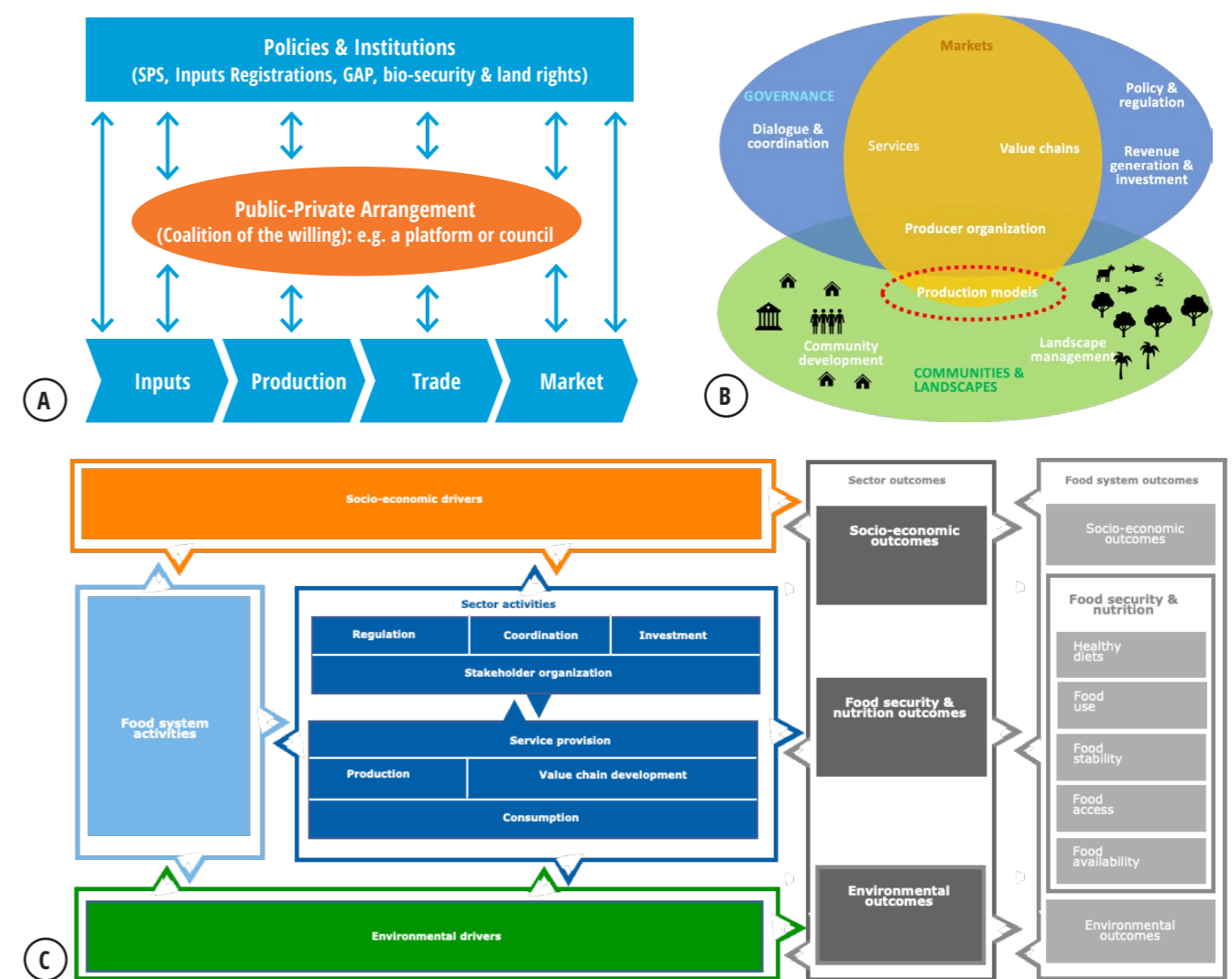


<sup>4</sup> Quote from the GhanaVeg MTR report

### HortiFresh’s sector transformation approach

Based on the problem analysis above, the HortiFresh programme took up a sector transformation approach. This approach started from the premise that many challenges were interrelated and that an integrated intervention approach was needed, built on the report of Westenbrink et al. (2017)<sup>6</sup> that provided guidelines for the formulation of sector development projects (Figure 4a). An important aspect of the sector transformation was the development of a joint agenda and the public-private nature of sector development. Aspects from other sector transformations were taken on board as well, such as AidEnvironment (2021; Figure 4b)<sup>7</sup> and Borman et al. (2022; Figure 4c)<sup>8</sup>.

**Figure 4.** Three models of sector transformation that shaped HortiFresh’s approach. 4a Westenbrink et al.; 4b AidEnvironment; 4c Borman et al.



<sup>5</sup> Van den Broek, J., N Apenteng Sackey, M Arnoldus, S Keita, R Waardenburg, 2016, *West Africa Fruit Scoping Study*, Netherlands Enterprise Agency <https://www.nvo.nl/sites/default/files/2017/01/Onderzoek-west-afrikaanse-fruitsector.pdf>

<sup>6</sup> Westenbrink G, G Beers, F Joosten, Y Dijkxhoorn, J van den Broek, J van der Lee, N de Groot, 2017, *Agricultural Sector Development Guidelines for Aid and Trade Support in Dutch PSD-partner countries*, Ministries of Agriculture, Nature and Food Quality and Foreign Affairs in the Hague, the Netherlands. <https://research.wur.nl/en/publications/agricultural-sector-development-guidelines-for-aid-and-trade-support>

<sup>7</sup> Molenaar, J.W. and Kessler, J.J. (2021). *Sector transformation: A systems approach to transforming commodity sectors*. Aidenvironment, Amsterdam.

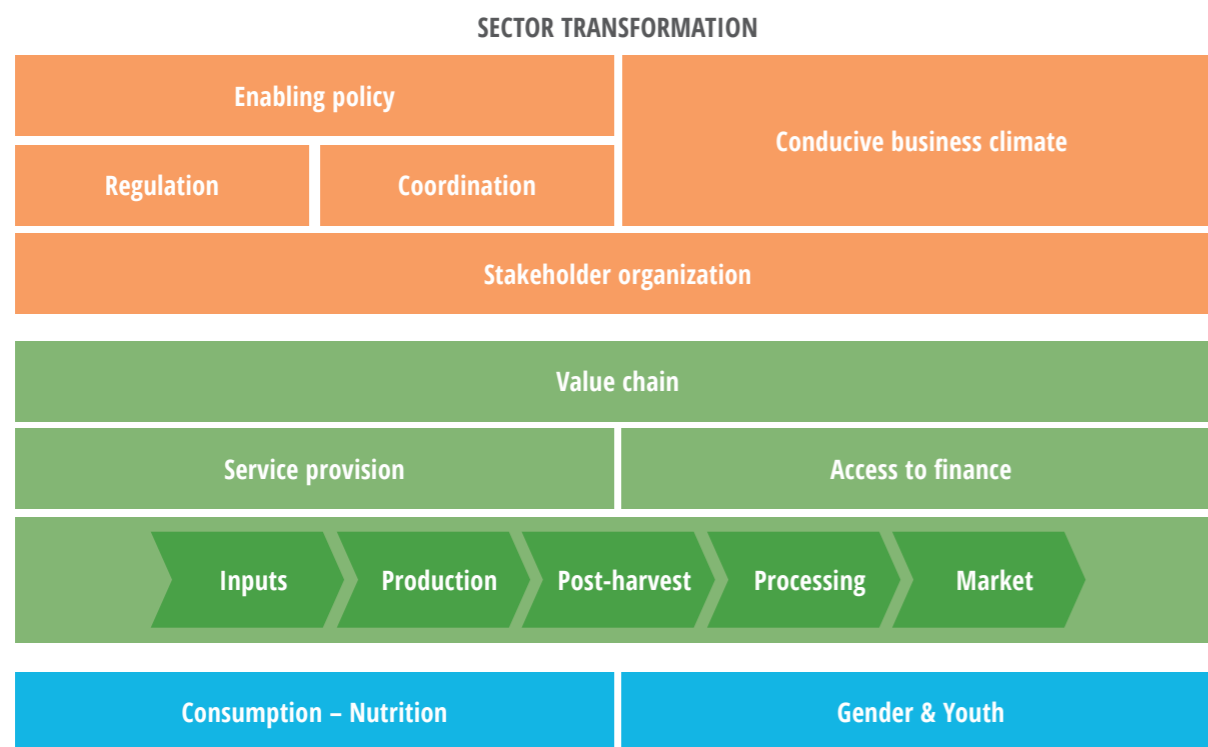
<sup>8</sup> Borman, G.D, de Boef, W.S, Dirks, F., Gonzalez, Y., Subedi, A., Thijssen, M.H., Jacobs, J., Schrader, T., Boyd, S., ten Hove, H.J., van der Maden, E., Koomen, I., Assibey-Yeboah, S., Coulibaly, M., Uzamukunda, A., Daburon, A., Ndambi, A., van Vugt, S., Guijt, J. Kessler, J.J., Molenaar, J.W., van Berkum, S. (2022) *Putting food systems thinking into practice: Integrating agricultural sectors into a multi-level analytical framework*, Global Food Security, 32 <https://doi.org/10.1016/j.gfs.2021.100591>

Based on experience in GhanaVeg, and a needs assessment prior to the programme, HortiFresh focused on three major outcomes:

- a conducive business climate, facilitating the development of the fruit and vegetable sector;
- a competitive and innovative high-value fruit and vegetable sector;
- an inclusive and sustainable fruit and vegetable sector.

This specific and demand-driven approach towards sector transformation in HortiFresh is captured in Figure 5. The three blocks represent the focus areas of each of the three outcomes.

Figure 5. HortiFresh’s approach to sector transformation



## Needs-based programming

Contribution by Ellen Acquaye, Sheila Assibey Yeboah, and Irene Koomen

Clusters have been an important approach in HortiFresh, focussing on

- onion (Volta region)
- tomato (Ashanti and Bono East regions)
- vegetables (peri-urban – Greater Accra region, the Tamale Metropolitan Area in Ghana; fruit sellers and processors at the port in Abidjan, Côte d’Ivoire)
- mango (middle belt, Bono and Bono East regions in Ghana; Korogho, Boundiali, Ferke, Tafire, Dokaha in Côte d’Ivoire).

The Cluster Fund has been one of the instruments to stimulate horticulture development in these areas. The priorities for each cluster and the specific region were determined through needs assessment together with the local stakeholders. Each cluster had specific needs, from which a priority list was self-selected and was developed (see Table 1). Based on the needs assessment priorities, core groups were nominated in each cluster to suggest potential solutions. The activities were coordinated by a consortium of key actors led by the core group. HortiFresh then supported the finalization of an activity plan with funds and with connecting the clusters to relevant companies, markets, and opportunities for solutions.

### Joint ownership

The identified challenges for each cluster were unique to each set of stakeholders and required a joint ownership approach to enable effective results. Stakeholder facilitation sessions aimed at placing the responsibility on actors to prioritize the challenges and narrow down to the most important three. This process accorded them the opportunity to delve deep and highlight what was most beneficial for them because a good number of challenges had been listed as pressing.

Again, because the stakeholders had been part of and had led the entire process of brainstorming, there was a high sense of ownership, a feeling of inclusion and an interest to see results.

Table 1. Cluster activities

Cluster	Priority	Resulted in activity	
Volta – Keta and Denu	Soil fertility	Composting facilities and training by GreenEF	
	onion	Access to finance	Financial literacy training – establishment of WUR village savings and loans establishment – Tradeline offtaker model with Fidelity Bank
	Access to inputs and fair	Cluster agri-input fairs and pitching sessions	
	Pest and disease management	Varietal trials and field demonstrations of good agricultural practices	
Ashanti – Akumadan and Afrancho	tomato	Access to finance	Financial literacy training – WUR village savings and loans establishment – Tradeline and offtaker model with Fidelity Bank
		Access to inputs and fair	Cluster agri-input fairs and pitching sessions
		Pest and disease management	Varietal trials and field demonstrations of good agricultural practices
Greater Accra – Korle Bu, Fiesta Royale, Trassaco, Ablekuma	peri-urban vegetables	Access to inputs and fair	Cluster agri-input fairs and pitching sessions
		Pest and disease management	Varietal trials and field demonstrations of good agricultural practices
Bono – Sunyani, Wenchi, Amoma	mango	Access to inputs and fair	Cluster agri-input fairs and pitching sessions
Bono East – Kintampo, Pamdu, Nkoranza, Techiman		Pest and disease management	Reduction of incidence of BBS and improved production through the provision of professional agronomic services
Korogho, Boundiali, Ferke, Tafire, Dokaha	mango	Pest and disease management	Reduction of fruit fly and improved production through the provision of professional agronomic services
Abidjan – port	fruit selling	Food safety	Training on food safety and provision of cooling
		Marketing	Presentation of processed fruit juice and linkage to a juice company



Needs inventory workshop with stakeholders in the onion cluster



“ My name is George Kafui Agbozo, the chairman for Sunyani Greenful Cooperative Mango Farmers Association. Through the HortiFresh-Bomart project, many farmers were trained in pruning. We were also introduced to Paclo to induce flowering and make the trees bear fruit every season. Hortifresh also trained young people to provide pruning and spraying services. Before we produced diseased fruits which were attacked by fruit flies. Now we adhere to proper farm practices, and our fruits are bigger and better. We hope that our yields and agricultural practices will improve to be able to qualify for the Global Gap certification. This is a requirement fruit processors are asking for.”

*George Kafui Agbozo, lecturer and mango farmer (Photo: Nelson Ganyo)*

What we learned from the clusters:

- Focussing on specific localities and working with dedicated groups is very effective.
- Bottom-up programming results in a high level of commitment by the local stakeholders.
- The stakeholder partnership needs handholding to start with – we engaged agronomists and support staff that were situated locally and assisted in organising, for instance, the demonstration trials, the input fair, and the linkage of the partnership to companies such as GreenEF.
- Engaging private sector needs time and trust but pays off, for instance using Bomarts Limited in the provision of professional agronomic services to reduce the incidence of bacterial black spot (BBS) in mango; providing input credit for farmers through Fidelity Bank; and improving access to agri-input services and products through the hosting of agri-input fairs.
- The Village Savings and Loan Association (VSLA) initiative, supported by financial literacy training and managed by TradeLine, was adopted widely by many of the groups in the clusters, with new groups springing up.
- Most associations / farmer groups now have good functioning governance systems; the farmer-owned demonstration plots encouraged peer-peer learning and higher uptake of improved practices.

In addressing the issue of markets in the tomato cluster, we engaged the Ghana National Tomato Traders and Transporters Association, farmers, market women and policy makers. The issue of varieties produced by the farmers was a major point as the varieties used are not hardy enough to withstand the long-distance travel in large wooden crates. This resulted in farmers receiving a low price for their produce. A consensus in Tuobodom led to an agreed standard size for boxes used for tomatoes purchased from that area.



Tomatoes being loaded for transport to market

I am Akwabea Lucy. at Tuobodom, I am a tomato farmer. Through tomato farming, can take care of my family.

I was trained in a variety of farming practices through HortiFresh. I learned how prepare nursing beds and how to tie tomato. I also have less post-harvest losses. My production is now double what I had before. I am now hiring people to work on my farm and I am able to share the knowledge I have acquired through the training with others.

Getting a loan was also an issue for me, but HortiFresh introduced us to some local banks that provide loans for farmers.”



*Lucy Akwabea, tomato farmer (Photo: Nelson Ganyo)*



# The enabling environment

Contribution by Sheila Assibey Yeboah, Joep van den Broek, and Irene Koomen

To be able to thrive, the horticulture sector in Ghana and Côte d'Ivoire needs a conducive environment, one of the pillars of sector transformation. Both countries have a clear strategy on agriculture but not specifically on horticulture; in practice the horticulture sector receives little support, even though it is a major contributor to export earnings for vegetables and fruit. Common denominators are the fragmentation of the horticulture sector, the involvement of multiple ministries in the domestic (even more in the export market), and weak governance of market linkages.

One of the major obstacles for the sector have been sanitary and phytosanitary (SPS) challenges. Thorough studies of the SPS arrangement in both Ghana and Côte d'Ivoire have highlighted weaknesses and opportunities in the system. The study in Ghana was done at the start of the GhanaVeg programme and has resulted in many follow-up actions (see Table 2) while the study in Côte d'Ivoire has only just been completed in 2022.

**Table 2.** Summary of a study on the sanitary and phytosanitary system of Ghana

SPS study	Bottlenecks	Recommendations / follow-up actions
<b>Ghana</b>	<ul style="list-style-type: none"> <li>Legislation, policy and governance does not support a functional SPS system.</li> <li>Institutions and regulators lack resources and have little capacity to operate efficiently.</li> <li>Value chain actors are in general not aware of, so often do not comply with, SPS requirements.</li> </ul>	<p>Support of regulatory institutions such as</p> <ul style="list-style-type: none"> <li>PPRSD – especially around the EU ban</li> <li>FDA – establishment of a fresh agricultural produce unit to monitor food safety on fresh produce</li> <li>EPA – phasing out highly hazardous pesticides and developing a pesticide selection tool.</li> </ul> <p>Establishment of a food safety task force – a public-private collaborative action on</p> <ul style="list-style-type: none"> <li>food risk assessment</li> <li>awareness creation food safety</li> <li>regulatory bottlenecks.</li> </ul>
<b>Côte d'Ivoire</b>	<ul style="list-style-type: none"> <li>Insufficient human, material, and financial resources to manage the high pest pressure in the sector.</li> <li>Lack of appropriate supervision and agricultural advice for producers in the fruit sector.</li> <li>Insufficient respect for good practices along the fruit value chain and poor proficiency in the technologies and processes of conditioning and processing, sometimes with inadequate equipment.</li> <li>Lack of inputs (fertilisers, phytosanitary products, packaging, packaging and irrigation, processing, or collection equipment) and difficult access to financing for activities.</li> <li>High cost of access to certification due to the complexity and repetitiveness of the process.</li> <li>Difficulties experienced by transporters in supplying markets, especially national and regional markets.</li> </ul>	<ul style="list-style-type: none"> <li>Improve the governance of the SPS system in the fruit sector.</li> <li>Ensure sustainable fruit production on farms to improve the sanitary and phytosanitary quality of fruit.</li> <li>Reduce post-harvest losses to ensure quality products.</li> <li>Facilitate access to investment and operation in the sector through the establishment of sustainable financing mechanisms.</li> </ul>

The rapid assessments of the impact by COVID-19 on the sector, based on a wide stakeholder consultation, showed that resilience of the sector is minimal, although recovery was faster than initially expected.



In Côte d'Ivoire the assessment resulted in two detailed studies, one on agricultural financing, the other on the market for fruit. The text box below highlights the findings and recommendations of both studies.

**Table 4.** Summary of conclusions of agricultural finance and fruit market studies in Côte d'Ivoire

Agricultural finance	Markets
<p>The fruit and vegetable sectors, especially mango, have a lot of potential in Côte d'Ivoire.</p> <p>This study has shown that the mango sub-sector is facing many challenges, including weak organisation of stakeholders, weak support from the state and lack of support from the banking and financial sector. All these challenges have been compounded by the COVID-19 pandemic that has been raging since the beginning of 2020.</p> <p>This study was conducted with 22 mango operators, 4 banking institutions and 4 insurance agencies. Secondary data was collected from books, reports, and websites of specialised organisations.</p> <p>The results show that the mango sub-sector in Côte d'Ivoire suffers from several support shortcomings, particularly in terms of finance. The sector therefore requires support at several levels, including technical, organisational, material, and financial.</p> <p>In line with the objectives of the HortiFresh programme, the construction of a sustainable and internationally competitive Ivorian fruit and vegetable sector that contributes to inclusive economic growth and food and nutritional security requires support through the following major actions:</p> <ul style="list-style-type: none"> <li>Setting up a loan guarantee fund to support the financing needs of operators in this sub-sector</li> <li>Better organisation of actors in terms of management of their activities and the cooperation between them</li> <li>Improvement in the level of mango processing, to have more value added locally.</li> </ul>	<p>This study, which was carried out in Côte d'Ivoire from March to April 2021, highlighted the effects of COVID-19 on exporting companies and mango, pineapple, and coconut producers. It should be noted that the closure of countries' borders, the barrier measures taken by the States to curb COVID-19 and the disorganization of maritime and air freight have slowed down trade, including that in fruit and vegetables. The effects of these restrictions are being felt by all stakeholders in the fruit sector in Côte d'Ivoire. The recommendations made by the fruit sector stakeholders (pineapple, mango, and coconut) deserve to be closely examined to give a new lease of life to the sectors concerned.</p> <p>Several interesting markets for Côte d'Ivoire's fruit exporters have emerged in several countries and areas including the USA, Central Europe, and Asia. Among the African countries that can absorb part of Côte d'Ivoire's mango, pineapple and coconut production are Burkina Faso, Morocco, Nigeria, and Ghana, which have fresh mango processing units. The actors of the Ivorian fruit sectors should move towards these emerging markets, namely the Russian, Swiss, Turkish, Italian, Spanish, Kuwaiti, American and Saudi markets, while strengthening their partnerships with the traditional European markets.</p> <p>Several recommendations were made by the fruit sector actors interviewed, the main ones being the provision of financial subsidies to companies to mitigate the effects of COVID-19, the provision of protective equipment against COVID-19, the complete precision diagnosis (socio-economic analysis) of the impact of the COVID-19 pandemic on fruit and vegetable production and export companies, the organization of awareness campaigns for the fight against COVID-19, financial support for the purchase of nuts or pre-financing the purchase of fresh nuts and mangoes, support for the establishment of a pineapple and coconut association, and the training of company staff in good hygiene practices.</p>

**Table 3.** Summary of conclusions of COVID-19 rapid assessments

	Ghana	Côte d'Ivoire
<b>Alert 1</b>	Limited resources for operational costs and reduced access to finance hamper the purchase of inputs for the next growing season	A decrease in household and operating incomes threatens livelihoods and reduces resilience to future shocks
<b>Alert 2</b>	Reduced household income threatens livelihoods and weakens resilience to future shocks	A lack of both funding and access to financing hinder preparations for production and processing
<b>Alert 3</b>	Early implementation of mobility restrictions causes disruptions in markets and input supply	Reduced access to supplies will lead to a decline in marketable yield over the coming seasons
<b>Alert 4</b>	Restrictions on physical meetings impede the mechanisms for sector alignment	Decrease in export market demand

For better alignment in the sector in Ghana, the following were supported: the development of the Horticulture Development Authority (HDA); the migration of PPRSD into a Plant Health Authority (PHA); the merger of VEPEAG and GAVEX into one sector association (Ghana Vegetables); and the establishment of the Ghana Greenhouse Association (GGA). HDA and PHA are still in the making because of slow decision-making processes at ministerial level, but Ghana Vegetables and the GGA have been established and are ready to run by themselves.



In the private sector, Ghana Green Label (GGL) made big strides in rolling out the GGL certification scheme, partly because of support by HortiFresh but also because it was a condition for recipient of HortiFresh funds to become Green Label certified, including outgrowers they would be engaged with. Several of the major supermarkets currently stock GGL certified produce. In 2022, Ghana Green Label was the recipient of the Food Safety and Consumer Protection and Satisfaction Excellence award.



GGL certified carrots in a supermarket in Accra

## Lessons learned

- Support to improve the enabling environment is long trajectory, needing trust, dedication from staff in the respective organizations, and sufficient resources.
- Political changes at the top filter through the whole system and make decision-making tardy.
- Engaging with the public sector in Ghana (easy access) is very different from engaging in Côte d'Ivoire (difficult to engage). This is apparent in what has been achieved (although the time we have been engaged as a project in Côte d'Ivoire has been much less than in Ghana).
- Success with contributing to the enabling environment depends a lot on public sector willingness to adapt and make amends.
- Processes of change are inhibited by the inability of private sector associations and entities to advocate strongly.



GGL certified cucumbers in a supermarket in Accra

## Access to finance

Contribution by Rosina Obeng, Ebenezer Matey, Sjoerd Herms, and Joep van den Broek

### Setting the scene

The financing of horticultural small and medium enterprises (SMEs) in Ghana and Côte d'Ivoire is notoriously challenging. Commercial financing to the agricultural sector in Ghana is estimated at 4% of the total financing portfolio of banks. Local banks generally focus on sectors with better risk-return profiles, such as retail banking and real estate. Most commercial financing to the agricultural sector is short-term and allocated to large commodity trading companies, for example in the cocoa sector. Informal investors (i.e. family and friends) are the most important source of financing for horticultural SMEs, followed by the Government and grant initiatives from the donor community, often through programmes such as HortiFresh.

#### Golden Riverside

Golden Riverside Limited carries out production, grading, packaging, and supply of high-quality pineapples for the export market in the European Union (EU) and the agro-processing sector in Ghana. The company has been in operation for over 15 years.

HortiFresh assisted the company with business plan development, financial model preparation and due diligence support to obtain a loan of €305,000 from Fidelity Bank for a 100-acre nucleus farm expansion and packhouse upgrade project. The loan was backed by a first-loss guarantee from GIRSAL, which was brokered by HortiFresh. HortiFresh also provided technical assistance for GlobalGAP and SMETA certifications, digitalizing the company's accounting system, and training the company's farm workers and outgrowers on pineapple production.

The investment resulted in improved livelihoods for 55 smallholder farmers and 42 staff.



Pineapple labelling and packing at Golden Riverside

### Objective and strategy

To improve the financial sustainability of the horticulture sector, the objective of the access-to-finance component was to facilitate the inflow of (semi-) commercial financing to the horticultural sectors of Ghana and Côte d'Ivoire which will be available after the project's closure.

Given the challenges with financing of horticulture SMEs, we implemented a strategy that de-risked investments and lowered transaction costs via a multi-dimensional support model, targeted at companies, lenders, and support organizations with a strategic commitment to the horticulture sector. This comprised the following elements:

#### ■ Innovation fund

Innovation drives entrepreneurship. However, at their pre-competitive stage, innovative business ideas are yet to transform into market-ready products or services. The challenge remains that such innovative business ideas, being high-risk in nature, often do not attract the needed funding to facilitate this transformation. HortiFresh made available innovation grants for highly risky ventures and pre-competitive activities based on co-funding by the SME of 50% (in kind and cash) and a maximum contribution of €100,000. Funding was directed towards supporting the products and services currently most lacking for a competitive F&V sector.

#### ■ Development of four financial products that benefit at least 20 end-customers

Four financial-technical packages were developed to address four pressing needs in the horticultural sector: (solar) irrigation, female inclusion, greenhouse, and input supply (exporter-outgrower financial products). For each package, we developed a loan product in cooperation with financial institutions, specifically tailored to the technical issue at hand and the profile of the end-customer.

#### ■ Individual company support to access loans and equity for six businesses

We provided support for at least six horticultural SMEs to access loans and equity. The team brokered appropriate financing on a case-by-case basis, whereby companies were selected that (a) have an excellent track record and a bankable project idea, (b) cannot benefit from the financial products, and (c) contribute to addressing pressing needs or introduce new technologies in the horticulture sector.

### ■ Institutional capacity building

We contributed to building the organisational capacity of the Ghana Incentive-Based Risk Sharing System for Agricultural Lending (GIRSAL) and the Regional Development Fund (RDF). GIRSAL is the Ghana Insurance-based Risk Sharing System for Agricultural Lending of the Bank of Ghana, which aims to enhance investments in the agricultural sector. GIRSAL has six pillars, including a risk-sharing mechanism for banks that on-lend to the agriculture sector, which will allow these banks to lend at reduced interest rates. RDF Ghana Limited (RDF) is an impact organization that supports the capital needs of SMEs in the agricultural and renewable energy sectors in Ghana by providing wholesale funds to partner financial institutions to on-lend to target MSMEs.

## Achievements

### ■ Innovation fund

In total 15 innovation grants were disbursed, 10 in Ghana and 5 in Côte d'Ivoire. The total contribution of HortiFresh was €1,135,073, with co-financing by the companies of €963,241. See Table 6 for an overview of the innovation projects executed by the grantees.

### ■ Development of four financial products

By the end of 2021, we reached 70 end-customers, more than triple our initial target. The greenhouse, exporter-outgrower and solar irrigation financial products were implemented with four SMEs, including PEG Ghana Limited (technical partners for the solar irrigation solution) and the Rabobank Foundation. These financial products stimulated access to total funding of circa €623,957.95 from financial institutions and other leveraged funding sources such as internally generated company funds, grant support from HortiFresh, and a pay-as-you-go financing scheme introduced by PEG Ghana. Table 5 provides further details on the funding raised per component.

### ■ Female accelerator hub

Under the female inclusion financial product, we implemented two accelerators for a total of 26 female entrepreneurs. The nine-month

**Table 5.** Financing results of three financial products

Financial product	Bank funding (€)	Leveraged funding (€)	Total (€)
Greenhouse	107,143.20	109,467.84	216,611.04
Exporter-outgrower	137,471.87	126,995.04	264,466.91
Solar irrigation	-	142,880.00	142,880.00
<b>Total</b>	<b>244,615.07</b>	<b>379,342.88</b>	<b>623,957.95</b>

accelerators comprised in-person workshops, one-on-one coaching sessions, financial audits, business plan development, company visits and support with finance acquisition for a selection of companies.

### ■ Individual company support to access loans and equity for six businesses

A total funding of €794,263.82 (bank funding of €479,594 and leveraged funding of €314,669.82) was acquired for three companies by the year end of 2021. The propositions of six other companies are currently under review of financial institutions.

### ■ Institutional capacity building

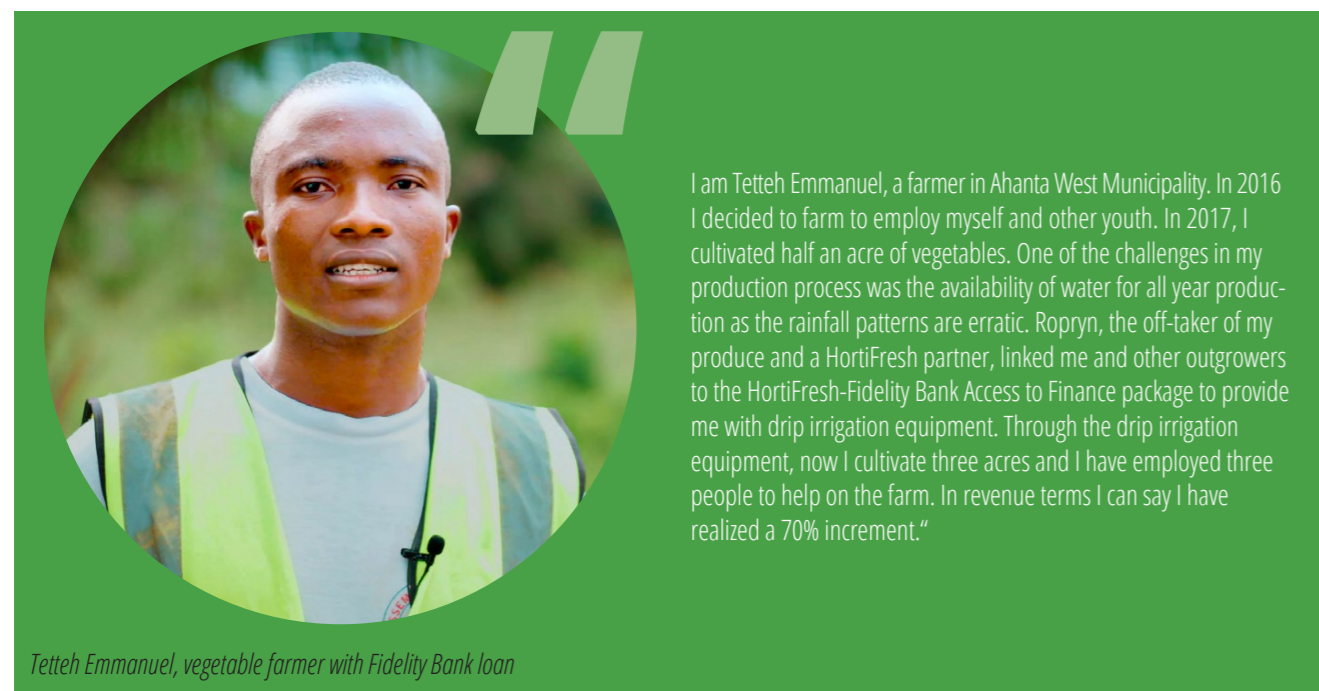
We successfully lobbied for horticulture to become a GIRSAL priority sector. Through a separate contract, Rabobank Partnership built the credit appraisal capacity of GIRSAL. In addition, they supported the Agricultural Development Bank and the Ghana Commercial Bank with setting up a new agribusiness department.

### ■ Other

We partnered with the Inclusion Desk of Fidelity Bank to design a credit product for smallholder farmers. By the year end of 2021, 15 farmers from the HortiFresh's network in Denu and Takoradi benefitted from this, receiving pre-financing of inputs as seeds, agro-chemicals, and irrigation equipment. Through this initiative, €8,302.21 was disbursed to the smallholder farmers.

**Table 6.** Overview of innovation fund grantees

Partner	Country / Sector	Grant	Co-financing	Project	Goal
CropLife	Ghana Vegetables	€116,500	€100,195	Spray Services Providers Project	Improving access to good quality pesticides and judicious application of these products
		€12,500	€6,159	Empty container management	Setting up collection points for empty pesticide containers in the clusters
African Agricultural Technology Foundation (AATF)	Ghana Vegetables	€100,000		Ghana Agricultural Technology Evaluation (GATE) Project	Increasing farmers' access to improved vegetable seed varieties for improved yields
Akadem Farms Limited	Ghana Vegetables	€68,988	€68,988	Sustainable vegetable production with 150 smallholder farmers in Builsa North district	Improving yields and quality of vegetables, as well as sales volumes and incomes of smallholder vegetable producers in the Builsa North District
Ropryn Company Limited	Ghana Fruit and vegetables	€55,382	€55,382	Minimizing post-harvest losses by introducing cold storage and transport	Improving the overall quality and food safety of fruits and vegetables sold to clients, working through smallholder farmers
Farmstead Company Limited	Ghana Fruit and vegetables	€64,957	€67,301	Domestic market-oriented vegetable production and distribution project	Improving the supply and consumption of safe and competitively priced fresh fruits and vegetables within households, hotels and restaurants in the capital city and its environs
Iribov BV	Ghana Fruit	€99,865	€99,865	Tissue culture-based production, propagation, and distribution of fruit crop planting materials to smallholder farmers	Improving farming practices for better yields and improved livelihoods of local communities
Plant Pests and Diseases Control Company (PPEDCO)	Ghana Fruit	€67,997	€69,382	Provision of professional agronomic and plant protection services	Improving mango yields through professional services for the control of pest and diseases on farmers' fields
Hendy Farms	Ghana Fruit	€70,000	€64,379	Processing fresh mangoes into mango habanero hot sauce for local and international markets	Upgrading the mango processing plant of Hendy Farms to offer market opportunities to at least 160 smallholder farmers within the Dodowa and Somanya mango enclave. This will minimise fruit waste and losses, increase exports and diversify market opportunities for small-holder mango farmers
GKV Investments	Ghana Fruit	€67,154	€65,000	Automation of virgin coconut oil processing to drive exports	Expanding the processing capacity and the range of products marketed by GKV, staff training and market opportunities to smallholder farmers
Vintage Farms Limited	Ghana Fruit	€64,500	€64,890	High value canned fruits and juice for local, regional and export markets	Providing market access and job opportunities to smallholder farmers through an expanded processing capacity to meet growing local, regional, and international market demand
HMR Limited	Ghana Vegetables	€54,120	€54,120	Product development and distribution project	Enhancing value addition and improving quality of vegetable produce along the supply chain
FPMAG / Erofruh	Ghana Fruit	€50,000	€30,425	Semi-automated processing of fruit juice	
Crescent Farms	Ghana Fruit	€3,715	€2,045	Semi-automated processing and marketing of fruit juice	
Agricultural Solutions for Africa (ASFA)	Côte d'Ivoire Fruit and vegetables	€96,348	€96,348	Leasing of irrigation materials and solar pumps with technical support to smallholder farmers	Setting up a lease system for small fruit (and vegetable) producers who are struggling to develop their business because of limited access to credit and therefore to this relatively expensive equipment
Koppert West Africa	Côte d'Ivoire Fruit	€60,585	€60,585	Improving the income of mango producers by providing biological solutions for fruit fly	Improving the income of 600 small mango producers (about 3,000 ha) in the Korhogo-Sinematieli-Ferkessedougou area of northern Côte d'Ivoire by providing biological solutions (agricultural advisory services and phytosanitary products) to control fruit fly
Terres chaudes	Côte d'Ivoire Fruit and vegetables	€50,000	€50,000	Irrigation by applying 'Pluie Solide,' a hydro-retention product that increases yields in fruit production	Setting up a lease system for smallholder fruit (and vegetable) producers who are struggling to develop their business because of limited access to credit and therefore to this relatively expensive equipment
Fibrivoire	Côte d'Ivoire Fruit	€44,962	€46,806	Processing of potting soil based on coconut peat enriched with chicken manure for fruits and nursery producers	Amending coconut peat with 100% natural organic inputs (chicken manure) so that it is enriched and ready to be used by any interested fruits or nursery producers



I am Tetteh Emmanuel, a farmer in Ahanta West Municipality. In 2016 I decided to farm to employ myself and other youth. In 2017, I cultivated half an acre of vegetables. One of the challenges in my production process was the availability of water for all year production as the rainfall patterns are erratic. Ropryn, the off-taker of my produce and a HortiFresh partner, linked me and other outgrowers to the HortiFresh-Fidelity Bank Access to Finance package to provide me with drip irrigation equipment. Through the drip irrigation equipment, now I cultivate three acres and I have employed three people to help on the farm. In revenue terms I can say I have realized a 70% increment."

Tetteh Emmanuel, vegetable farmer with Fidelity Bank loan

### De-risking investments and lowering transaction costs via a multi-dimensional support model is:

#### ■ Necessary...

SMEs in the horticulture sector have challenges in accessing commercial financing, because of high interest rates, a lack of financial knowledge, absence of collateral, lack of an enabling environment and inadequate financial management systems. Financers with an appetite for the horticultural sector are struggling with the lack of management skills of clients, small ticket sizes, an expensive financial services delivery model, high cost-of-funding, lack of an enabling environment and a lack of horticultural know-how.

The myriad of challenges for SMEs and financers are interrelated. For example, only a handful of companies require more than USD 100,000 of funding, which is often the minimum required amount for commercial banks to earn back overhead expenses. This causes a Catch-22 situation, as overhead expenses from banks that provide funding to smaller companies are relatively high, resulting in high interest rates.

These interrelated challenges can only be overcome by addressing multiple root causes for both SMEs and financers. Support to companies during preparation and execution of their financial trajectories will improve their financial and operational management capacity and will also lower the risk profiles for financers. By facilitating guarantee schemes for financers, the risk profiles can be lowered further, decreasing the interest rates for SMEs.

#### ■ Successful...

We achieved our outcome targets in terms of financing, job creation and smallholder income increase. Our hands-on approach was crucial in this respect. The support to Golden Riverside, Fidelity Bank and GIRSAL, as outlined in the text box above, is a typical example of how the team assisted the SME with specific support during preparation of the loan (i.e. business plan development, financial model preparation and due diligence support) and execution of the investment (i.e. GlobalGAP and SMETA certifications, digitalizing the company's accounting system, and training the company's farm workers and outgrowers). Fidelity Bank benefited directly from these activities, but the team also brokered a guarantee from GIRSAL, which received capacity-building support from the project as well.

#### ■ Time consuming...

All companies struggled to implement the investments in time, due to changed market situations, COVID-19, and operational challenges. As such, SMEs experienced delays with paying back their loans and required additional support from HortiFresh. Building the portfolio was also quite laborious. Under the individual support component, the team engaged with 81 SMEs and 12 financial institutions, concluding 21 business planning trajectories, and acquiring funding for three companies.

## Focussing on fruit in Côte d'Ivoire

*Contribution by Moussa Coulibaly, Salome Boyd, Barry Clausen, and Michiel Arnoldus*

The focus of the HortiFresh programme in Côte d'Ivoire was on fruit, with a particular emphasis on mango. This was done through various mechanisms, including the Innovation Fund, Youth Fund, Cluster Fund, special studies, and business-to-business activities.

### Innovation Fund

The objective of the Innovation Fund was to support businesses in testing and developing innovative services/technologies and their business models, with the intention of scaling up in the future. Through the Innovation Fund, four businesses were provided with a co-financed grant of up to €50,000. In addition to the matching grants, partners received technical assistance and partook in various other business-to-business activities. Table 7 provides an overview of the Innovation Fund partners, the projects they initiated, and the total project budget.

Amongst others, funds were used to purchase equipment, train producers, treat orchards or install irrigation, and run demonstrations, resulting in small-scale producers being trained in using irrigation and the Pluie Solide water-retention product; new contracts; more efficient water use; increased (quality of) production; and employment creation.

Though the concept of a matching grant was new to the sector and difficult to understand (see lessons learned), the Innovation Fund (including support services, such as technical advice and business-to-business linkages) had a positive impact on the sector. See the example of Terres Chaudes in the box.

#### Terres Chaudes's water retention technology and leasing system for small-scale fruit producers

Limited water availability is a challenge well known to many fruit producers in Côte d'Ivoire, especially to mango producers in the north, which prevents production from being optimized. That is why Terres Chaudes offers an efficient and effective solution to managing available water supply, through their Pluie Solide (Solid Rain) product. Pluie Solide functions as a sponge, retaining and conserving rain or irrigated water to ensure orchards remain hydrated, especially during the dry season. Though intended as a more affordable alternative for those who cannot purchase irrigation systems, those with irrigation systems also see a drop in water usage and energy costs (50–90% and 50%, respectively).

Terres Chaudes has set up a leasing system for small-scale mango, papaya, and citrus producers who are unable to afford expensive irrigation systems. In addition to this leasing scheme, Terres Chaudes has provided training to 200 producers on how to apply the product in their field. Innovative products, such as Pluie Solide, as well as alternative financing schemes, offer opportunities for Ivorian fruit producers to modernize production through increased quality, increased output, and year-round production.

### Youth Fund

Through the Youth Fund, four businesses led by young women and men were supported in launching innovative projects addressing key challenges in the sector. In addition to matching grants of up to €8,000, partners received technical support and participated in business-to-business activities. Table 8 below provides an overview of the different Youth Fund partners, the types of projects they launched, and the total project budget.

**Table 7.** HortiFresh Innovation Fund partners and projects

Partner	Title of project	Project budget*
Koppert WA	Organic control of fruit fly and other insect pests in mango orchards	€121,170
Terres Chaudes	Irrigation by hydro retention to increase yields in fruit crops using Pluie Solide	€100,000
ASFA	Leasing of irrigation materials and solar pumps, with technical support, to 30 small-scale fruit farmers in the Côte d'Ivoire	€192,786
Fibrivoire	Processing of potting soil, based on coconut peat enriched with chicken manure, for fruit and nursery producers	€33,946

\* Including co-financing

**Table 8.** Youth fund activities in Côte d'Ivoire

Partner	Title of project	Project budget
Cosons	Establishment of an alternative fruit tree nursery in northern Côte d'Ivoire	€15,160
Ivoire Qualité	Acquisition of technical equipment for the establishment of a private technical team to ensure quality control for fruit exports	€12,576
Sion Services	Creating and improving the distribution network for local processed fruits	€15,576
El Kabod	Protection of fruits and improvement of fruit quality using neem-based organic pesticide (Bio-Elite)	€16,882

Amongst others, Youth Fund partners used these funds to train and employ other young women and men, contract suppliers and clients, and purchase equipment. In doing so, partners were able to create employment opportunities for other young men and women, saw a 25% rise in sales and revenue, increase client base by 40%, and establish contracts in other West African countries. The creation of employment opportunities is a prime example of how this fund has gone beyond grantees, also benefitting others in the community.

Other Youth Fund activities included organizing a round table, with the theme “Youth Entrepreneurship, an opportunity for competitive and sustainable horticulture sector in Côte d'Ivoire” and the objective of encouraging young people towards agricultural entrepreneurship, discussing challenges and opportunities, and creating business linkages. Young entrepreneurs showed a great appreciation for the round table and other business-to-business activities, such as fairs and business platforms, where they had the opportunity to promote their products and network with potential clients, suppliers, and business development services. Following the round table, a training was organized for 30 young entrepreneurs to support them in elaborating their business plan.

#### Ivoire Qualité – quality control and management

Fruit production in Côte d'Ivoire faces various challenges in terms of quality. One of the most threatening for mango exporters is fruit flies, as a single fly in a container of mangoes has serious financial consequences. Additionally, producers must adhere to the high-quality standards of clients in high-end markets (e.g. EU importers, grocery stores in Abidjan) and exporters may sometimes see containers of fruit rejected upon arrival in Europe, due to larvae, diseases, or because the produce was not in line with client expectations.

That is why Ivoire Qualité provides professional quality control services in the fruit sector (i.e. mango, citrus, papaya, pineapple, and banana), with the aim of improving quality and reducing losses. These services include training on good agricultural practices, following up with producers throughout the production cycle, controlling quality of harvested fruits and certifying them in packing stations.



Bah Youssef Doa, manager of Ivoire Qualité

These Youth Fund activities had a positive impact on young businesses and the broader sector, through which partners were able to make valuable contacts (e.g. with service providers, suppliers, and clients) and expand their business. This is evident in the case of Ivoire Qualité (see in box below).

#### Mango cluster

The purpose of the cluster was to provide training to mango farmers through a cascade approach, with farmer cooperatives in Korhogo, Boundiali, Ferkessedougou, and Tafire. In each of these areas, 10 cooperative members were trained in good agricultural practices for mango production (e.g. orchard maintenance, harvesting). After being trained, the trainees trained other cooperative members (resulting in hundreds of farmers trained), while also providing services such as pruning, spraying, fertilizing, planting, fencing, and sometimes even harvesting and marketing. Demonstration plots were established in each cooperative, where various input dealers and service providers demonstrated their products and cooperative members could evaluate the products and services themselves.

In assessing quality, they test fruit maturity, colouration, brix, diseases, and presence of insect damage and larvae. In doing so, they assure exporters that their products will be of good quality upon arrival in Europe. After the first months of the 2021 mango harvest, for example, none of the produce they controlled was intercepted by the European Union.

Through the HortiFresh Youth Fund, Ivoire Qualité has acquired new equipment and has expanded their capacity by training and hiring over 40 young women and men. In doing so, they provide employment opportunities for youth in the area. With a young team, they are flexible and able to adapt to client needs, new ways of working, and updates on quality standards. Within the first three months of this project, they were able to expand their client base by 40 percent and have since acquired new contracts in other West African countries.

#### Peri-urban cluster

Under the peri-urban Cluster Fund, HortiFresh engaged with Cooperative des Vendeuses de Fruits Ivoire Rungis (CVFIR), an association of female fresh fruit vendors based in Abidjan. The objective of the partnership was to increase the efficiency and quality of fruit juicing activities, reduce market challenges, and build the capacity of the cooperative. Through the partnership, CVFIR acquired a 20-foot refrigerated container, juicing equipment, and personal protective equipment. The health directorate trained them in health and hygiene, after which they were given health certificates. This was a long-standing regulatory requirement which they now fulfil. CVFIR and HortiFresh collaborated in organizing a “journée de la consommation de fruits” (fruit consumption day), during which the women received their certificates, offered tastings of their different types of juice, and promoted fruit consumption for better health. After receiving their certificates, the members of CVFIR engaged a consultant who supported them in developing their business plan for the years to come.



Mai Karambe, the president of the fruit vendors cooperative, in front of their new refrigerated container

#### Business-to-business

HortiFresh organized or partook in several business-to-business activities. In addition to linking individual stakeholders, HortiFresh enabled several fruit actors to present their products at the Salon international de l'Agriculture et des Ressources Animales (SARA) in 2019. A round-table and a business platform were organized to present opportunities in the horticulture sector, encourage young people towards agricultural entrepreneurship, and create business linkages. An inputs fair was organized in Korhogo to promote quality agricultural inputs and materials to mango producers and stimulate competitiveness, as well as validate a guide on mango production (see Special Studies below). Other events included participating in an agricultural fair in Yamoussoukro, and a fruits consumption day organized together with the peri-urban cluster. Partners emphasized the importance of and need for more business-to-business activities, where they can network and promote their products and services.

Trade missions are another important business-to-business activity for those looking to export or work with European partners. Due to the COVID-19 pandemic, HortiFresh organized a virtual trade mission in 2020 with more than 30 importing companies from 6 different countries and assisted exporters in Ghana and Côte d'Ivoire in preparing for this, which resulted in a larger number of participants and potentially successful deals.

#### Special studies

Under the policy support component, several studies were conducted. These included a sanitary and phytosanitary (SPS) study, a mango guide, a rapid assessment on the impact of the COVID-19 pandemic, a market study, and a study on access to finance. Their objectives and recommendations are summarized below.

##### Mango guide

The mango guide uses primarily images to illustrate good agricultural practice in production practices, practices at packing stations, and pest management. It is intended for smallholder producers. Recommendations include conducting more studies on pests in the fruit sector, and training producers in identifying and managing insects in their orchards. The mango guide was presented and validated during an inputs fair in Korhogo in September 2021.

##### SPS study

An SPS study was conducted to determine sanitary and phytosanitary status, the strengths and weaknesses of the system, and concrete recommendations on how to address key bottlenecks. Key recommendations include improving the governance of SPS in the fruit sector, improving quality to reduce post-harvest losses, and improving access to finance so that producers can invest in their orchards.

##### Rapid assessment

A [Rapid Assessment of the impact of COVID-19](#) restrictions on the fruit sector was conducted in 2020, identifying key bottlenecks and urgent actions. The Rapid Assessment found that finance and market information are weak points in the sector, so HortiFresh initiated two studies to assess bottlenecks for these two issues and contribute to increased resilience of the sector.

### Access to finance

A study on access to finance identified challenges and opportunities for accessing finance in the fruit sector. Based on these, recommendations were made to improve services by cooperatives for their members; to improve the organization and coordination of interventions; to improve the availability of production statistics; to improve shelf-life, sector governance and coordination between structures; and to create packages / guarantees to improve access to bank loans.

### Market study

A market study was conducted to determine the challenges in accessing markets and opportunities to diversify markets, and to formulate recommendations on how market access obstacles can be addressed. Recommendations included establishing better sector governance (e.g. developing an association for coconut and pineapple), training in hygienic practices for enterprise personnel, and providing more business-to-business opportunities between Ivorian partners and partners in Europe and Africa, as well as diversifying the types of products for export.

Each of these special studies resulted in a report (or booklet, in the case of the mango guide). These studies are available for stakeholders to inform decision-making and to coordinate action in addressing SPS, market and finance bottlenecks. Although HortiFresh intended to facilitate such dialogues during the programme and stimulate collective action, delays in completing the studies did not permit this.

## General lessons learned

Over the years of working in Côte d'Ivoire, several lessons can be drawn in relation to the co-financed concept of the Innovation, Youth and Cluster Funds, business-to-business activities, and the general design of the HortiFresh sector development programme in the context of Côte d'Ivoire.

### Co-financing challenges

The business environment of the fruit sector in Côte d'Ivoire is dominated by large foreign-owned enterprises, while many local actors and companies are used to receiving donations. This made it difficult to find small, local entrepreneurs to partner with, as many were not familiar with or interested in the co-financing model. While the Innovation, Youth and Cluster Fund components were successful, it is important to set clear expectations early on in terms of what each party hopes to achieve and what they intend to do/contribute (e.g. in time, money, etc.) to avoid mismatches and misunderstandings later.

### Design of the Innovation, Youth and Cluster Fund

The mango cluster and innovation grants, and to a lesser extent the youth grants, have had a positive impact on the sector. As such, matching grants with additional support services are useful instruments for sector transformation. Nonetheless, several lessons can be drawn from HortiFresh's experiences with these funds in Côte d'Ivoire.

With some partners, contact started smoothly, but was lost after funds were distributed. The challenge is filtering out those who are or are not serious. In the context of Côte d'Ivoire, it is important to establish a link early on with partners of partners, as this can enhance accountability and enable the programme to verify grantee performance.

Innovation is difficult, and a process of trial and error. One of the main reasons to provide grants is to help entrepreneurs take risks that can lead to breakthroughs, but due to the inherent risks, one must expect failure. This highlights the need for flexibility in adapting the approach if the original plan is not working (which became even more evident during the COVID-19 pandemic, due to a change in context). The best innovations come from a long series of trial and error. To enable this, contracts may need to be adjusted along the way (e.g. between disbursements). Not doing so may lead to distrust and friction, or even failure of the business. An alternative approach to stimulating innovation through similar innovation and youth funds would be to split grants into different phases, such as a "proof of concept phase" (e.g. low-cost testing, redesigning, more low-cost testing) and a "scaling up phase."

The challenges of innovation also highlight the need for additional support services (e.g. technical advice, business-to-business linkages) in addition to the grants, so that grantees can overcome challenges and tap into markets. Hiring local agronomists and field assistants to work in the clusters proved very useful for day-to-day activities, especially during the pandemic. By doing so, cluster members had access to year-round technical support from agronomists with a solid understanding of the local context.

## Synergies and business-to-business activities

Another key factor for the success of such programmes is ensuring synergies between programme activities and actors. For example, Innovation Fund partners were closely linked with mango cluster actors through field demonstrations. In some cases, it is even better for innovations to be implemented in consortia, where organizations collaborate where there are synergies but each focus on their strengths.

Partners (especially young entrepreneurs) expressed a particular eagerness for opportunities to network and pitch their businesses. They highlighted the need for more business-to-business activities (e.g. fairs, business platforms, round tables), where they could network and connect with clients, suppliers, and service providers. Young entrepreneurs also expressed the need to exchange experiences with other entrepreneurs (through, for instance, a mentoring programme) who have experienced and overcome similar challenges.

Needing to adapt to the COVID-19 restrictions, HortiFresh organized a virtual trade mission, with a good turnout. This opened up opportunities for hybrid trade missions, allowing importers to connect with a larger number of exporters virtually, followed by face-to-face meetings with companies most interested in pursuing a partnership. This process was very successful and could improve the success rates for trade missions if used in the future.

## The HortiFresh approach in the context of Côte d'Ivoire

Policy on and governance of the fruit sector is limited. Contrary to vegetable products, fruit harvests are usually once a year, meaning that activities are very seasonal. This is especially evident in the mango sector, where many producers reside in the north of Côte d'Ivoire in preparation for the mango harvest, but after the harvest move down south to focus on other crops. Processing plants and packhouses also shut down all their activities until the next mango season. For some service providers, this means not being able to work year-round and looking for opportunities elsewhere to fill the gaps. These challenges, and the fact that consumption of fruit to improve health is not a common habit, are only a few challenges that HortiFresh has observed over the past four years in Côte d'Ivoire, highlighting the importance of such a fruit sector development programme.

However, in hindsight the focus on fruits rather than fruits and vegetables was very limiting. Finding enough quality applicants in the fruit sector was a challenge, since even among project partners vegetable production makes up 80 percent or more of their business activities. Although choices need to be made, broadening the scope to vegetables could have had a greater impact.

The approach HortiFresh took, funding and working with businesses to also impact disadvantaged groups (e.g. smallholder farmers, women, youth), was effective. The potential impact on the sector and on disadvantaged groups was and should remain an important selection criterion for grantees, rather than only working with and financing the activities of disadvantaged groups themselves.

That said, it is also important to reconsider distributing small grants to disadvantaged groups with limited skills and capital. This can be done in many ways, such as:

- giving out a larger number of small grants. Although many may not succeed, the cost of failure is limited and there may be enough successes to make it worth the risk.
- strengthening selection criteria on the quality of a concept, while providing entrepreneurial training and technical skills with the grant. As such, part of the trajectory could be to support beneficiaries in improving their business concept, while linking grants to specific milestones (e.g. completing a training, improving a business plan). Though the cost per beneficiary would be higher, this would improve the chance of success.

All in all, the lessons learned in taking this approach highlight the importance of fruit sector development programmes, as well as the importance of innovation and flexibility, both within the fruit sector and the approach of the programme.

# Practical agronomy

Contribution by Jemima Djah, Hilarion Nyarko, Esther Wintraecken, and Herman de Putter

## Agronomy training

It was realized early in the programme that the capacity of many advisors, agriculture extension agents (AEAs), and agronomists in Ghana did not match the needs of the sector. Because of this a very practical agronomy training was developed and continued in the HortiFresh programme. Apart from pure agronomy, seedling-raising, fertilization, crop protection and irrigation, trainees were also capacitated with adult learning techniques to deliver their trainings in a more effective way. The training led to hands-on research and demonstration plots. Over the four years of HortiFresh 99 trainees graduated,

of which 48 were tutors of agricultural colleges, 24 agricultural extension agents, and 27 private agronomists, the latter often working for companies that were grantees of one of the funds. In addition many grantees had specific training elements in their projects, either training professionals or training farmers. For example, CroLife trained five people to become spray service provider trainers. These in turn trained 270 farmers to become spray service providers, resulting in spray service provision to over 9,000 farms. In Côte d'Ivoire the training was given at a more ad-hoc basis with training on orchard management in the mango cluster and a food safety training I for the fruit sellers association at the port in Abidjan.



Field sessions in Kwadaso organized by the participants of the agronomy training showing their demonstration fields with different crops, varieties and treatments (Photo: Nelson Ganyo)

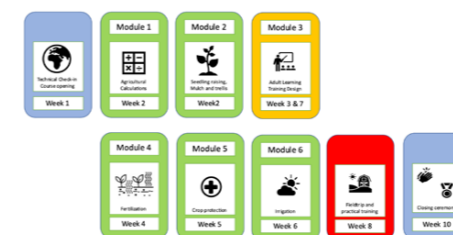
## Training process

### 1. Selection of participants

A detailed system was used in selecting an agronomist for the capacity strengthening programme. Applicants had to fill in a form to commit themselves and a consent form had to be signed by their employers or supervisors. The signed consent form indicated the employer's willingness to ensure that their agronomist participate in the training in full.

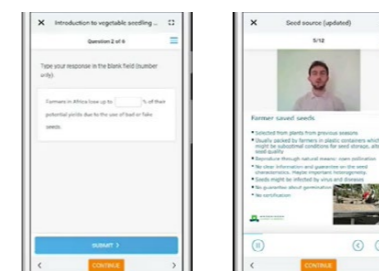
### 2. Development of a blended learning trajectory

The initial plan for the capacity strengthening was a face-to-face session with a few online modules. The development of the content for online use became necessary because of the COVID-19 pandemic restriction on gathering or meetings. A survey was done prior to developing the modules for online use and the participants indicated their interest in the online sessions. This resulted in a rich blended learning trajectory where technical modules were given asynchronously through an online learning platform via international trainers. This was intertwined with synchronous, practical meetings with the local team.



### 3. Teaching methods

As asynchronous blended learning was new for most of the participants, the participants needed to be motivated and encouraged by both the local team and the international back office. There were some initial hiccups in using the online learning platform, but nothing prevented the participants from continuing. At the end almost everyone passed all the online modules and were able to use them in the practical sessions.



A couple of participants even started to use the online modules in their own classes as an inspiration for their students. Besides the asynchronous online learning, practical face to face sessions were organised combined with zoom sessions with the international trainers. The practical face to face sessions were valued very highly as in those sessions the online modules were put into practice in the context of Ghana. The sessions were highly interactive, with lots of groupwork, break-out sessions, and especially a lot of energizers.

Assignments and quizzes were part of the online modules, which provided a level of interaction. The assignments were handed in and feedback given through WhatsApp.

### 4. Training materials

Besides the online training modules, hardcopy training and exercise manuals were handed out to the participants. The topics of those manuals went beyond the topics of the blended learning trajectory. The theory sections provided more background information, and the exercise manuals provided exercises that could be used in the design and implementation of training sessions to farmers. In this way the participants were even more equipped to continue their current job, be more knowledgeable and skilful, and pass on what they had learned.



### 5. Training of farmers by participants of the capacity strengthening programme

The capacity strengthening component of the programme was a training of trainers' programme. The evaluation showed that this was very successful. It was seen as one of the highlights of the course as this gave the participants the opportunity to directly interact with farmers; they were able to develop a relevant training session through a training needs assessment (TNA); the farmers indicated the TNA and training as relevant and useful; and both participants and farmers indicated that there should be a follow-up. Finally, evaluation showed that the gained knowledge was being used by the participants in their own businesses; in this way, although not formalized and visible, the horticultural sector benefits from this programme.

### 6. Sustainability

The agronomy modules offered by HortiFresh became so popular in the sector that it became necessary to ensure the continuity of these modules after the exit of the HortiFresh programme.

Several institutions were approached about carrying on the trainings after the exit of HortiFresh, and two agricultural training colleges (Ejura Agricultural College and Mechanization Colleges and the Kumasi Institute of Tropical Agriculture) came forward to hold the fort. Subsequently, tutors from the two institutions have been trained as trainers and certified to carry on the trainings in their schools and communities. On an organisational level, both colleges have updated their existing curriculum based on the given modules and manuals. On an individual level, the tutors use aspects of the Learning Management System (e.g. videos and PowerPoints) to enrich their lessons and make them more practical.

Business plans have been developed by each of the institutions on how the modules will be implemented in a sustainable manner, both as short courses for a fee and as part of the academic curriculum. Realistic business plans are now in the final stage of approval by the HortiFresh team to provide them with seed money to implement their plans and in this way sustain the practical agronomy training of the HortiFresh programme.

### Lessons learnt

- Integrated Pest Management (IPM), fertilizer application and adult learning and training design were perceived as the most important and relevant topics.
- Topics still being used after the training were: IPM, correct usage of pesticides, raising good seedlings, and setting up a proper nursery.
- As the identification of pests and diseases is quite challenging from online pictures and a context not tailored to the Ghanaian context (e.g. online modules), having more practical sessions is crucial for the learning and recognition of pests/diseases of the tutors.
- Training methodology (participatory and interactive) and the facilitation of the trainers (especially the local team) was highly valued.
- In the end the training could be closed successfully with field sessions, which were considered by both trainers and participants to be perhaps the most important part of the training programme.
- Most trained agronomists after the capacity strengthening were unable to train farmers as required by the programme but used the knowledge and skills gained for their own classes or to advise farmers in their neighbourhood. As the effects of COVID-19 pandemic recede, it is hoped that their training will stand them in good stead and that they will be able to use it for farmer outreach.

### Research capacity

#### Mango cluster

The activities were undertaken in the Bono and Bono East region of Ghana. Six communities were selected in these communities: Kintampo, Pamdu and Amoma, Nkoranza, Techiman, Wenchi and Sunyani. Demonstration farms were selected in each community for training the farmers, their farmhands and some youths on good sustainable orchard management practices. The training focused on pruning, farm hygiene, spraying techniques, fertilization, the use of growth regulators, and pest, and disease management. Some youths who were trained were put into groups to offer services to mango farmers in their vicinities. Some farmers were sceptical about the pruning and other innovative skills that was introduced but after realizing the results (high yields) from the first and second years, the demand for the service have increased tremendously. The objective of reducing the incidence of Mango Bacteria Black Spot Disease and other diseases have been realized; farmer yields have increased after using the protocols prescribed.

#### Tomato cluster

Tomato cluster activities were implemented in Akumadan, Afrancho and Tuobodom. Several field demonstrations with farmer learning events were organized in these communities. The aim of these demonstrations was to introduce the use of good agricultural practices among farmers.

We demonstrated several improved varieties, trellising and pruning. We also demonstrated on our many fields integrated crop management and pest management strategies. Identification of pests and use of improved inputs were also demonstrated. Several AEAs from the department of agriculture were trained in HortiFresh agronomy modules to support the farmers.

On behalf of Hortifresh WACCI implemented three experiments in 2021. One experiment was done to find the optimal trellis system for tomato cultivation in terms of yield, income, costs, and profit. The second test addressed the profitability of different mulching materials in tomato. The third evaluated the impact of different rates of compost on productivity and soil parameters. Each test was done at three different farms in three replications. The trials were hampered by pest infestation and as such no results came out.

#### Onion cluster

The onion cluster activities were implemented in Keta and Denu areas. AEAS from the departments of agriculture were trained in HortiFresh agronomy modules to support the farmers. Several onion varieties, different integrated crop management strategies, pest management strategies, pest identification, and strategies to improve inputs were demonstrated.

#### Peri-urban Accra

In peri-urban Accra several field demonstrations and farmer learning events were organized. A wide array of vegetables, including carrots, cabbage, cauliflower, tomato, cucumber, lettuce, bell pepper and onion, were demonstrated to different farmer groups in the area. Several AEAs from the department of agriculture were also trained by HortiFresh to support the farmers with good agricultural practices in vegetable production.

HortiFresh field officers were stationed in all cluster areas to support farmers with regular on-the-spot technical assistance and advice. HortiFresh agronomists and WUR colleagues were also available to support remotely and with periodic visits to the clusters.

### Crop guides

To support the horticulture sector several crop guides were developed by expert consultants in cooperation with the HortiFresh team.

#### Fruit crop guides

Based on the activities undertaken in the mango cluster, a guide on practical step by step mango production was developed to support this sector. Secondly, a practical step by step citrus crop guide was developed to support the citrus sector. For both guides, the actors along the respective value chains validated the documents and reported that the detailed pest and disease sections included useful management strategies. These guides will continue to be useful reference documents for citrus and mango farmers.

#### Vegetable crop guides

Pest guides on tomato and onion were developed and distributed to support agriculture extension agents (AEAs) and farmers. Pest guides were also developed on sweet pepper and cucumber to support AEAs and the farmers growing these crops, especially members of the Greenhouse Growers association, many of whom are in peri-urban Accra.

# A business approach to youth and gender inclusion

Contribution by Rosina Obeng, Salome Boyd, and Thomas Tichař

The HortiFresh programme addressed youth and gender inclusion as both a cross-cutting and theme-specific issue through various interventions. The following table (Table 9) provides a summary overview of how, through the four relevant instruments, women and youth were reached to greater and lesser degrees.

### The Youth Employment Fund

The Youth Employment Fund (YEF) was established as two separate entities in Ghana and Côte d'Ivoire: in Ghana it ran from mid-2019; in Côte d'Ivoire it was set up in January 2021. Seven Ghanaian businesses were supported with grants of up to €32,000, while in Côte d'Ivoire four businesses were given up to €7,500 each. While grant provision was the primary driver of the funds, the grant recipients were proactively supported in their business development through access to the wider array of programme activities; businesses were linked to business platforms, were provided with free consulting services by technical experts, and improved their book-keeping through reporting (a fund requirement). As such, while the fund was in essence a financial provider, all businesses acknowledged that the additional support, capacity-development, and ongoing communication with the HortiFresh team enabled the successful execution of the grant application in their businesses. Some noted, however, that the format of the reporting could better be adapted to business specifics rather than be kept generic.

Most of the businesses were involved in the following: establishing and strengthening market linkages; value addition through processing;

and/or training and acting as off-takers/aggregators, to deliver more and higher quality produce and to ensure delivery of the produce is more regularly available throughout the year through juicing or drying (see Table 10 on next page). Exceptions to this were: in production itself (Tropical Growers); input provision (Cosons); training to non-farm school graduates (AP Oak); and market linkages through an online platform (AgriShared). These business trends were reflected in the investments whereby the most common areas were in capital expenditure (processing facilities, packhouse and equipment), farmer training, marketing, and certification. The 11 businesses were selected mainly because of their ownership by young women and men and their proposed projects, not necessarily because of the potential spillover effects to others from which they source.

The intention of the fund was to enable these businesses to become viable entities through injections of capital and capacity development. Taking increased income and profitability as proxies for this, almost all businesses significantly moved towards this objective – except for AgriShared and El Kabod – though only a few can say they achieved this; Tropical Growers, Munisco and Senam Foods are most illustrative. AP Oak, though successful in its stated objectives as a Foundation never had the intention to become viable in a private sector sense; rather, through broadcasting the training as a reality TV show it had a huge social impact by increasing the interest of both youth and elderly on the opportunities in the horticulture sector and provided hands-on skills development to the youth in vegetable production, marketing, sales, and distribution. This success prompted additional government funding to continue its youth training project.

**Table 9.** HortiFresh contributions to youth, gender, smallholder, and SME targets

	Youth and/or gender inclusion	Targets small-holders	Targets SMEs	Description
Youth Employment Fund – Ghana and Côte d'Ivoire	directly (youth)	indirectly	directly	11 young men and women business leaders were targeted with a grant of up to €32,000 (€7,500 in Côte d'Ivoire) to scale up their businesses. All grants supported smallholders either through sourcing produce or service provision.
Clusters	no	directly	no	Five clusters were targeted with support for smallholder farmers working in specific sectors, with special attention to women and youth.
Female Business Accelerator Programme	directly (gender)	indirectly	directly	26 women SME business leaders were supported with intensive business development training.
Innovation Fund	indirectly	indirectly	directly	SMEs were supported with grants of up to €100,000 to scale up business. All grants supported smallholders either through sourcing produce or service provision. Female and youth-led businesses were involved but not deliberately selected.

Directly: initiative designed to directly benefit this audience

Indirectly: initiative designed to indirectly benefit this audience (e.g. through sourcing of produce)

No: not targeted



**Table 10.** Overview of the recipient businesses and how they invested their grants

Grantee	Sector	Grant	Co-financing	Project title	Goal
<b>Ghana</b>					
Agroseal	Fruit & vegetables	€32,000	€8,843	Enhancing Productivity and Market Accessibility for Smallholder Fruits and Vegetables Farmers	Improve the livelihood and income levels of smallholder fruits and vegetables farmers.
AgriShared	Fruit & vegetables	€32,000	€8,000	Next-Generation Sharing Economy Platform for Agriculture	Create economy sharing platform that seamlessly connects farmers, agribusinesses, agritechs, and other stakeholders in the vegetable and fruit value chain in Ghana to increase productivity and income, and facilitate trade, collaboration, capacity building, technology transfer, and standard compliance.
AP OAK	Fruit & vegetables	€36,000	€23,736	Horticulture Module of Youth in Agribusiness	Demonstrate the economic and employment potential of the horticultural value chain of young persons, particularly students and graduates from the nation's tertiary institutions.
Munisco	Vegetables	€31,997	€7,999	Improve Economic and Social Growth among Rural Women and Youth through Commercial Production of Dry and Wet Season Organic Vegetables and Enhanced Distribution System	Improve household income and enhance distribution systems through commercial organic vegetable production using a well-structured home farming/gardening approach.
Pure and Just	Fruit	€14,060	€4,020	Technology, Traceability Improved Market Linkages and Skills Development amongst Farmers and Youth in the Dried Fruit Sector	Enhance economic activity in the fruits sector between rural and urban areas using digital technologies (farmers app) and communications strategies that are implemented by youth communication and content creators.
Senam Foods	Fruit	€35,000	€8,600	Improving Small-Scale Processing of Virgin Coconut Oil and Coconut-Based Products	Creating employment for young men and women of Jomo Rural community through the establishment of modern cold pressed virgin coconut oil processing centre.
Tropical Growers	Fruit & vegetables	€32,023	€7,956	Youth in Fruits and Vegetable Production Using Hydroponic System in a Greenhouse Structure	Enhance the production system and marketing structures of Tropical Growers to meet client demand.
<b>Côte d'Ivoire</b>					
SION Services	Fruit	€7,233	€8,344	Improving the local distribution network for local processed fruit products	Promoting sales of local processed fruits and increase the local consumption of processed fruits.
Ivoire Qualité	Fruit	€6,288	€6,288	Acquisition of technical equipment for the establishment of a private technical team to ensure quality control for fruit exporters	Acquiring modern laboratory equipment to equip and train over 40 youth and women to provide quality control services to fruit packhouses, primarily mango, but also other fruits including citrus, papaya, and pineapples to improve fruits quality at arrival in Europe.
Cosons	Fruit	€7,569	€7,591	'Establishment of a nursery for alternative fruits crops production in the north of Cote d'Ivoire	Developing a nursery for alternative fruit crop production (citrus, papaya, soursop, Guava) for mango producers to promote diversified fruits production.
El Kabod	Fruit	€7,483	€9,400	Protection of fruit and improvement of fruit quality using neem-based organic pesticide (BioElite)	Produce neem-based organic pesticide (BioElite) and perform a trial for 10 Ha of mungs and 5 Ha pf papaya to test the effectiveness against Fruit Fly, Anthracnose, BBS, and other pathogens.

Additionally, the fund had the following wider impact on the businesses and the horticulture sector, and the case study box provides an illustrative example for youth and women smallholders:

- Reliable jobs created; 38 youth employed in Ghana, 65 youth employed and 25 part-time employed in Côte d'Ivoire.
- Input, agronomy support and access to market for 863 smallholder farmers resulting in improved livelihoods. So far, annual income earned by the smallholder farmers increased to €17,068.
- Improved access to market and income for 28 women processors involved in the production of coconut oil. So far, annual income earned by the women processors increased to €10,460.
- Improved access to finance for 678 youth and women through the introduction of the VSLA concept. Total funding mobilized in one year through the VSLAs increased to €29,241.

- New formal (contract) agreements with suppliers and buyers (803 and 41 respectively in Ghana; 3 and 5 respectively in Côte d'Ivoire)
- 1,137 farmers received GAP and Green Label trainings, leading to improved food safety practices
- 55 smallholder farmers received Ghana Green Label certification. This in turn creates critical mass for further GGL expansion and uptake by supermarkets of GGL products.
- 28 women processors received food production standards training
- Increased yield / production of smallholder farmers and businesses arising from the introduction of new technologies such as improved seed varieties, fertilizers/chemicals, new farming technologies and farmer trainings.
- Increased awareness of grantees products, company, revenues, and market share.

### Empowering women through Munisco, a social enterprise

Munisco is a Ghanaian agribusiness that acts as an intermediary between smallholder groups and retailers in the Upper West city of Wa. As a social enterprise it is explicitly focused on supporting women and youth. Through training, organizing into Village Savings and Loan Associations (VSLAs), and provision of quality inputs, it increases the quality and quantity of produce that these smallholders produce, for which Munisco guarantees a market. As a for-profit business, Munisco's success is dependent on that of the farmers and vice-versa; they are part of the core business model.

Mahama, the founder and CEO of Munisco, started selling inputs to smallholders on credit, but they often could not pay off their debt. So, he began working with male and female farmers to establish Farmer Based Organizations to encourage group support, but they often fell apart. Noticing that young people and women earned less and had greater incentive to build their capital, he turned his attention to them and introduced the VSLA model. This got more traction as the collective savings model and peer pressure amongst the women and youth incentivized them to maintain checks on each other and keep it running. Since 2019 he has helped establish 41 VSLAs which comprise 650 farmers in total (of which 414 are women and 339 are young women and men).

Growing crops such as tomatoes, peppers, eggplant, lettuce, okra, onion, maize and soya, these farmers cultivate produce for themselves and the market and, through providing the inputs and maintaining a close relationship with the farmers, Mahama is also partly able to influence the choice of what they grow based on market demand. Having used YEF grant funding to build a packhouse and get a tricycle and a cold storage van for transport he has increased his contracts with buyers to 10 (mainly restaurants and supermarkets).

Women VSLA members notice the change not just in their income but also in the quality of their lives and the relationships with their husbands; before, they travelled to Southern Ghana for odd jobs, which admittedly could earn them more money but took them far from home and was less consistent than what they got through farming. With this income they can pay for children's school and clothing. Even while earning less than their husbands, having their own income drastically changes the household dynamic; avoidance of each other and arguments can shift to more open discussions. As one lady stated, "before it was insults, now he calls me sweetie." Another noted that her husband even invited her to go for a drink together after the farm work. According to them, the fact that the woman is at home throughout the year and the husband sees her earning as her own income changes the relationship.



Members of a VSLA counting money deposited before sharing with members, with coach Mahama on the right

## Clusters

Clusters were established based on demand by farmers and where the greatest opportunity for sector development would be, not necessarily on how to ensure the greatest inclusion of women and youth. While women and young people are involved in farming, broadly speaking men often take more control of commercial-scale production and sales. This is reflected in the membership rates that are skewed towards male adults, though this trend is slightly different for the peri-urban cluster (higher representation of youth) and Centre for Initiative Against Human Trafficking (CIAHT) (higher participation of women).

Context and cluster design are strongly determined by membership; in the case of the peri-urban cluster, based in the suburbs of Accra, membership is almost entirely made up of households from Muslim communities, which is a factor in limiting mobility for women to reach bulk-level commercial markets and who instead focus on local markets. On the other hand, due to the nature of the produce which can be grown quickly and harvested throughout the year, this attracts young men to the sector who are looking to earn a regular income. The main challenge for youth is land, who must borrow portions from family members as there is no formal way of renting it.

In the case of CIAHT, this NGO already existed before HortiFresh engaged with them and was focused on enabling women as farmers, though they still had a low female membership. With support from HortiFresh, they have raised their membership, 41% of which are now women. The farmers are also engaging in dry season farming which has improved their food security.

It is important to note however that cluster membership figures shouldn't automatically be equated with women's involvement in these sectors more generally; in the onion cluster for example, women membership is low due to the cluster focus on yield and quality increase which biases land ownership which is mostly by men. Women are however involved in transport and sales (though similarly to peri-urban, not always of commercial scale bulk), as well as some on-farm work. Efforts were also made to involve women in the VSLAs, though membership didn't always increase. This was perhaps as the groups were originally formed based on group trust, with familiar people inclined to be in a group with each other, and thus seen by the women as less likely to be welcoming.

The contrast in membership rates of women and youth between the tomato and mango clusters illustrates how the nature of the product itself can also bias towards women and youth; while both entail heavy manual labour which favours (young) men, tomatoes – like fresh vegetables – are fast growing and so enable young people or women to be more involved as long-term land ownership is not a prerequisite (e.g. land can be borrowed for short-term usage). Mango on the other hand requires a long lead time as they grow on trees which take years to mature. Without land ownership there is no guarantee on return of investment. Through the training of spray groups and young people for orchard management, certain tasks which are thought of as exclusively male, can now be paid for by women to access the service. Also, mangoes require spraying which, because of the weight of the tanks, as well as the potential negative effect on women's reproductive ability,

**Table 11.** Women and youth involvement in cluster activities

	Total (n)	Women (%)	Men (%)	Youth (<35) (%)	
				Total	Women
Tomato	647	31	69	25	7
Peri-urban	233	3	97	52	0
Mango	367	11	89	10	2
Onion	549	15	85	5	0.4
CIAHT	222	41	59	32	0

should only be done by men. Even so, men should also use the correct personal protective equipment was taught in the agronomy training and on the spot training sessions. Given this, it is not surprising that few women are involved in the mango cluster; 38 of the 39 female members inherited the land, illustrating that while it is less common than for men to inherit, laws and practices do allow it.

## HortiFresh Female Business Accelerator Programme

The HortiFresh Female Business Accelerator Programme was run twice during the HortiFresh programme, with each cohort involving 13 participants. The training was spread over nine months, 2/3 of which was class-based training followed by one-on-one coaching. The training consisted of six workshops of two days each, with the choice of themes tailored in part to what the female business leaders indicated they were looking to get support on, and included expert guest speakers and company visits. The training was given by both women and men, though a woman led the overall training programme. Besides the training, an audit was also provided by a firm that was used to working with SMEs and so dedicated more time to supporting them on the information they were required to provide. Similarly, the course overall was structured to be highly interactive, emphasizing participant interaction and, eventually, mutual support to one another. MDF, which led the training, also provided a space for mothers to keep their children in the room if daycare wasn't available to them.

Overall, the participants were very positive about the design, delivery, and results of the training; in terms of business impact, the most consistent response was that they gained a far more holistic understanding of how each part of their business plays a role, from staff costs and roles to taxes and accounting, which details need to be given attention, and when and why tough decisions need to be taken. Despite the variety of backgrounds and experience, the programme managed to speak to each of their needs. For instance, the only young person (under 35) in the first cohort reported that it pushed her outside her comfort zone into understanding the value of management; and Mildred (of the company Royal Cedars), with corporate experience prior to starting her business, reported that the business model canvas and audit helped her realize how inefficiently she had run things until now. The audit was cited by others as a key factor in both understanding their business and making them a viable entity in the eyes of potential lenders.

From a gender perspective, there was also consensus on the value in having a women-only training; one participant noted that culture can often dictate that “women want to be under men,” while another said that men are already physically and mentally like managers while women need a free space to learn and be inspired. A mixed group would have maintained the gender hierarchy that much of the culture establishes, while a women-only group enabled a mutual support network to emerge and for some of the more experienced women to act as mentors, in turn making more concrete what female business leadership can look like for others. Another noted that women aren't always taken so seriously by (male) buyers or other counterparts, so this group helped give them confidence and get alternative contacts – including through the various fairs that HortiFresh organized. The participants were in turn made more aware of the role-model position they played for other women in their employment.

Finally, they noted that having only women in the training helped set the timing that worked for all of them; most had to drop off and pick up kids from day-care or school in the afternoon, which is a feature of their daily routines more generally. Men would have more flexibility in terms of time to discuss ideas and stay on longer, whereas a women-only group recognized the need to be as efficient as possible given the family-and household-related demands on their lives.



*Graduates of the first cohort Female business accelerator programme*

## Innovation Fund

The Innovation Fund provided grant funding and additional support to medium size businesses (in a similar vein to the Youth Employment Fund, though on a larger scale). Though impact on young people and women was a factor in selection of the businesses, it was not a determining one. Nevertheless, two examples are illustrative of how this fund supported youth and gender:

- Hendy Farms is a mango farm run by two sisters that with the support of the fund are growing their mango producing business through value-addition and diversification of their products; besides fresh mangos they have established a range of mango jams with additional flavours mixed in. They are also working on dried mango and mango ice popsicles. The company participated in the HortiFresh Female Business Accelerator programme, so received support financially as well as in understanding and growing their business.
- CroLife is a non-profit entity that trains young men as spray service providers throughout the country (women aren't trained because of the potential health impacts on their reproductive ability). Farmers are largely unaware of the correct amount of pesticides to use, usually spraying too much and sometimes not the right kind for the specific crops they're growing. Youngsters in rural villages can almost never afford to pay for the training themselves, but with the engagement with CropLife and through the innovation grant, they received equipment and safety gear, and are now able to get paid for the spraying services they provide in and around their communities. CropLife also works with the Ministry of Food and Agriculture's local extension officers to get the young men introduced to farmers and so help create the market. In peak season young men can earn around 800 GHS/month.

## Conclusion

HortiFresh as a programme took a mixed approach to youth and gender inclusion, as well as inclusion more broadly (e.g., pro-poor). The clusters directly targeted poorer smallholder farmers in rural areas, though as a subset of this membership young people and women were only partially reached. Systemic challenges that women and youth faced in each of the locations were not considered in the initial design, though attempts were made to address them along the way. On the other hand, the Youth Fund targeted young male and female entrepreneurs who were almost all university graduates, and so constituted a very different kind of 'youth' than those in rural areas. The combination of capital and technical support yielded clear positive results in terms of business development over the lifetime of the Fund. There was also a knock-on effect to (women) smallholders through the YEF. By supporting business growth in the horticulture sector, the positive spillover is twofold; first, those they source produce from and/or provide services or training to, will benefit. Second, by making existing businesses more viable, the long-term sustainability beyond the lifetime of the programme is enormously increased.

A similar approach was taken with the Female Business Accelerator Programme and the Innovation Fund. Both targeted existing business leaders in the horticulture sector to expand their enterprises and make them more robust. By reaching more (young) women through these programmes, the whole sector is not just being strengthened; the face of it is changing too, towards a more diverse range of actors in terms of age and gender.



Abdul Sumed Zanumbene, one of the young men trained as spray service provider (Photo: Nelson Ganyo)

Abdul Sumed Zanumbene is my name, and I work for Nabick Farms. I used to be a farm boy here, but thanks to HortiFresh training, I am now a member of the spraying gang.

We went through a series of exercises and practices to ensure a pest- and disease-free harvest. We can help farmers spray their farms against pests and insects more effectively as a group.

In addition to spraying we have learned how to do weeding, fertilizer application, and pruning. We were taught by HortiFresh to prune in a way that allows for adequate aeration, sunlight, and effective spraying.

I am now very experienced in mango farming and can work anywhere."

## Mainstreaming nutrition: challenges and opportunities

Contribution by Jemima Djah and Sanne Bakker

### The challenge

Ghana is experiencing the double burden of malnutrition, with high prevalence of both undernutrition and overweight/obesity with related non-communicable diseases. The latest Ghana Demographic Health Survey<sup>9</sup> executed in 2014, showed that mean fruit and vegetable intake in Ghana is low and does not meet WHO recommendations. The goal of HortiFresh was to contribute to a sustainable and internationally competitive vegetable and fruit sector that contributes to inclusive economic growth, food and nutrition security in Ghana and Ivory Coast. The horticulture sector is inherently important for nutrition, as fruit and vegetables are nutrient dense foods, and essential for a healthy and balanced diet. Increasing the availability of high-quality nutrient dense foods is considered an important nutrition-sensitive agricultural activity positively affecting nutrition security. Yet, the businesses that benefitted from the commercial sector development under HortiFresh, were mostly producing for the high-end domestic market and export market, hence the households most vulnerable to food and nutrition insecurity (poor/vulnerable or producing households) were not likely to benefit from increased availability of high-quality fruits and vegetables. In addition, the programme did not have a dedicated budget to ensure nutrition outcomes.

During the inception phase of HortiFresh, several entry points and activities for nutrition were identified, tagging along onto the main HortiFresh interventions, and responding to stakeholder's ideas on the role of the horticultural sector in improving nutrition among two types of target groups, namely i) general consumers of fruits and vegetables in Ghana and ii) employees of horticulture businesses and households of outgrowers. The Youth, Gender & Nutrition strategy developed for the programme outlined the activities for these two 'target groups' and operationalized how a private-sector-led programme like HortiFresh can contribute to food and nutrition security in Ghana.

### Why are we not consuming enough? Study determinants of vegetable consumption in Ghana

The basis for the awareness raising activities in Ghana was a study on the determinants of vegetable consumption conducted under HortiFresh in 2019. The study showed that knowledge on recommended intake levels and current intake levels of vegetables was low. The main barriers to vegetables consumption identified in the study were high prices, taste preference, food safety concerns, vegetables not being part of upbringing, limited/seasonal availability, limited nutritional knowledge on importance, failure to give a feeling of satiety, and inconvenience to prepare.

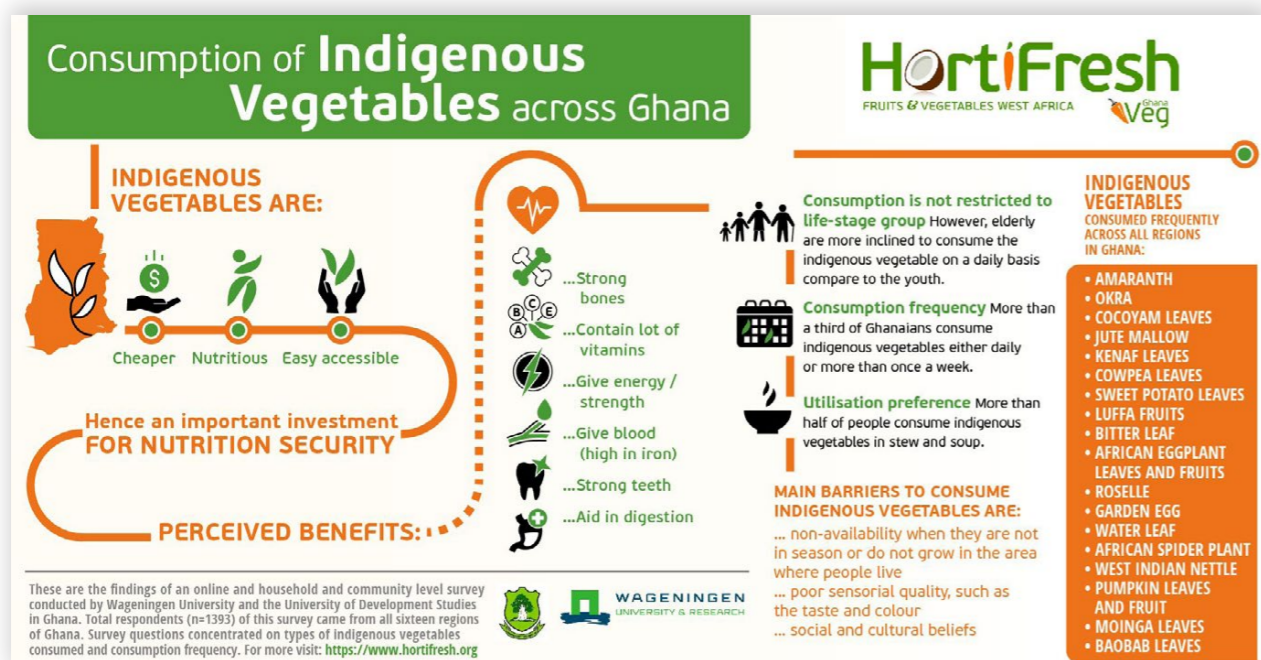
### A social media campaign student competition, "Get the message across"

A student competition was organized, whereby four student teams, from the University for Development Studies (UDS) and Yamfo College of Health, developed a social media campaign to promote fruit and vegetable consumption, addressing some of the barriers to vegetable consumption as found in the study described previously. During the launch ceremony, the students received inspiring workshops of food bloggers, nutritionists, and chefs. They received feedback from nutritionists and a digital media specialist for each post before sharing it on social media. After four months of campaigning, the competition was closed with an award ceremony and students received a price and internship certificate. The students reported that the guidance of developing nutrition content for social media was very good, yet they were missing support on how to organize and roll-out a fully-fleshed campaign as a team. After the closing ceremony there was high demand from other students to participate in a similar competition.



We received PMs from the audience about how much they learned from the campaign. Even after the campaign was finished, we received PMs of people asking why they did not see any new posts" – Amata, team leader of the winning team

<sup>9</sup> Ghana Statistical Service (GSS), Ghana Health Service (GHS), and ICF International. 2015. 2014 Ghana Demographic and Health Survey (DHS) Key Findings. Rockville, Maryland, USA: GSS, GHS, and ICF International. <https://dhsprogram.com/pubs/pdf/SR224/SR224.pdf>



Infographic research on indigenous vegetables

The biggest challenge for this activity was the timing of the campaign. Due to competing activities for the HortiFresh team, and COVID-19 related delays, the campaign was organized in a time that was inconvenient for the students as they were working on other projects or exams. The materials developed for this activity, such as the handbook with rules of the games and monitoring and evaluation (M&E) templates, will be shared with education institutions offering nutrition programmes. This activity had a dual purpose as nutrition students learn how to communicate nutrition knowledge in an accessible and attractive manner, and the campaigns help to raise awareness on the benefits of fruit and vegetable consumption among social media users.

### Power on your plate – indigenous vegetables

The consumption of indigenous vegetables and their contribution to nutrition is often overlooked in consumption surveys and nutrition promotion. The market is mostly dominated by locally produced exotic types. In close collaboration with UDS, a cross-sectional descriptive survey (Google forms, n=1028; and at community-level, n=345) was used to assess the types of indigenous vegetables, their frequency of consumption, preparation preferences and the potential benefits ascribed to them by consumers. An [infographic](#) highlights the main results. The study was also selected for the Pan African Summit on Traditional African Vegetables ‘Power on your plate,’ and the team presented there in January 2021.

Consuming traditional vegetables is often considered as pleasing the Gods and strengthening the connection with the ancestors – a quality which is ignored in modern nutrition science” – *Sachibu Mohammed, founder and Chief Executive Officer of Green-Ef Eco-Business Village*

A [catalogue](#) was prepared of a selection of the most popular indigenous vegetables consumed in Ghana. For each of the vegetables, the catalogue presents nutrition and health benefits, the specific nutrient content, and agronomic tips (propagation, spacing, fertilizer, irrigation, yield). Other organizations promoting indigenous food, such as the Ghana Food Movement and the Global Food net<sup>10</sup> have already picked up on the catalogue and supported its dissemination. The catalogue could have been enriched by adding the socio-spiritual value of the consumption of traditional vegetables.

### Nutrition for those producing and processing nutritious foods; workforce nutrition

Another entry point for the HortiFresh programme to contribute to food and nutrition security in Ghana was through the workforce of the grant partners. The grant partners for HortiFresh could contribute to nutrition via two pathways (for some companies, both pathways would be relevant): (i) By enhancing fruit and vegetable consumption in Ghana with their activities along the value chains, e.g. increase production, reducing loss and waste, promotion to consumers or (ii) by investing in workforce nutrition for their company. A [decision-making tool](#) was developed to help identify most suitable actions for the business grantees. Later on a [poster](#) presenting the business case for workforce nutrition was created and shared with all grant partners.

<sup>10</sup> UI-SouthVation Challenge 2021 – Global Foodnet ([uef.fi](http://uef.fi))

The Fund manual explicitly mentioned that a proposal with a nutrition component would be favoured. Yet in the template for the proposal, there was no special mentioning of nutrition, so most applicants did not elaborate on it. Businesses that were invited to write a full proposal received tailored advice from the HortiFresh team on how they could attribute to nutrition outcomes. Not many businesses have adopted the recommendations, nor were they obliged to by the programme. The team was hesitant to impose their nutrition actions to the grant partners and did not include nutrition-related targets in the data sheet for quarterly monitoring. In hindsight, grant partners expressed that they would have accepted nutrition actions being a condition for receiving the grant. It probably would have been more useful to use the tool in conversation with the business partners, instead of the HortiFresh team using the tool to come up with advice.

Fortunately, some of the grant partners did adopt the recommendations for their workforce. The following lessons were learnt:

- Providing lunch for staff proved a great strategy for some businesses (see also story of change of Benjamin, CEO of AB farms below).
- In other circumstances though, management deciding on the lunch may trigger resistance among workers. Workers can be particular about what they want to eat and it can be hard to satisfy a variety of preferences, and ‘healthy foods’ are not always appreciated when workers have physically demanding tasks. Some of the CEOs tried but shifted back to providing whatever the workers asked for or letting them figure it out themselves.
- It is quite common to have land dedicated for the staff to grow fruits and vegetables. Similarly second graded fruits and vegetables are given to workers to take home for consumption. Usually this is more incidental than structural.
- The main issue for the implementation of workforce nutrition interventions is the facilities (e.g. kitchen/eating area/breastfeeding corner). Future grants could possibly also provide financial support for that.

**Nutrition round tables** were also used to build capacity of the business owners on the importance of consuming fruits and vegetables. For instance, prior to HortiFresh, most grant partners did not know what the recommended daily intake is for fruits and vegetables.

The final grant partners meeting showed that, despite some companies missing out on guidance of the Hortifresh team, they are already doing some of the interventions (Table 12). Business partners were very enthusiastic about the tool, as they found it easy to follow for generating good ideas. Spray service providers recognized themselves less in the tool. They felt their work is ‘in support of’ the actions described in the tool. The fact that their workers are usually spread out, makes it difficult to implement workforce nutrition interventions other than medical check-ups and incidental nutrition education sessions.

During the HortiFresh round table meetings we were educated on how important fruit and vegetable consumption is. We were tasked to reach out to customers to raise awareness on the importance of F&V consumption” – *Gloria, CEO Senam foods*



Part of workspace nutrition poster

**Table 12.** Workforce nutrition interventions implemented by grant partners

Business initiatives contributing to food and nutrition security	Pro-ducer	Retailer	Service provider	Proces-sor	Remarks by grant partners
<b>Domestic market</b>					
Promoting consumption of F&V Ghana			✓	✓	
Promoting seed packages and services for home gardening			✓		
<b>Nutrition sensitive investments</b>					
Nutrient preservation during post-harvest handling		✓	✓	✓	Built cold room storage and cold van
Improving distribution and availability of F&V in all ecological zones in Ghana		✓	✓	✓	Shops (in every region of Ghana) and direct delivery
New technologies to reduce food waste		✓	✓	✓	Dehydration, sun drying, growing in substrate
Home gardening		✓	✓	✓	Yes
<b>Workers not at the same place</b>					
Health check-ups					
Nutrition education		✓			For both customers and clients (retailers and producers' group)
Adding training on safety			✓	✓	Main focus is training on safety
<b>Work force nutrition interventions at the premises</b>					
Worker access to F&V during work hours				✓	
Take-home rations of F&V for free or reduced price	✓			✓	
Vegetable plot on the company premises				✓	
Health check-ups	✓			✓	Yes – often mandatory for workers to start working at companies Also health check-ups related to food safety
Education on nutrition and hygiene				✓	Yes (Pr)
Breast feeding promotion and protection				✓	
Physical exercise for staff					
Access to healthcare	✓	✓		✓	
Measure impact				✓	Measure impact on corporate image, employee satisfaction, and food safety

P= Producers, R= Retailers, S= Service providers, Pr = Processors

## Nutrition module

Many of the grant partners provide nutrition-related education and training for their staff and outgrowers, but then again most of these trainings are on food safety and hygiene, or safety during spraying concerning the quality of the product, not the nutrition and health of the workers.

To address this gap, a brief nutrition module was developed under HortiFresh to educate employees and outgrowers on the importance of fruit and vegetable consumption. The module, which is based on the four-star diet promoted in Ghana, has been piloted in the agronomy trainings and has undergone several rounds of feedback. The responses were very positive, so it was decided to translate the module into four local languages. In total, more than 500 people (including agronomists and farmers) have been trained using the nutrition module in the agronomy trainings. The module will also be circulated among the grant partners.

## Overall

Not all the grant partners were aware of the HortiFresh nutrition component and related activities, especially those businesses that joined later. Possibly as a result, there has been a missed opportunity for those working on processing and product development, as they could have benefitted from technical advice on the food technology/nutrition aspects for their products. For example, fruit juice producing businesses would have benefitted from advice on the sugar content of their juices or businesses producing pre-packed salad could have benefitted from advice on how to enhance the nutritional quality of the salad by introducing different ingredients.

Nutrition was weaved into existing activities, so the activities had many different types of audiences. For the awareness-raising activities on the importance of fruit and vegetable consumption, a nutrition corner was featured in the periodic HortiFresh newsletter which was widely circulated among the diverse network of HortiFresh followers.



Benjamin Agbesi, CEO of AB farms

When HortiFresh started we did not have knowledge about workforce nutrition. The team advised us to create an environment for workers to eat and relax a bit after lunch. The town is 30 minutes away. The workers had to spend a lot of time outside to go out and get their lunch. Now we ask them each day what they want to eat, and then we order that from a caterer, but we bring in our own good quality vegetables to be incorporated in the meal. The caterer delivers at the processing unit, and the workers can eat in a dedicated clean and cool space. Now lunch is only 25 minutes, before they would spend 1 hour on lunch. The workers also have more energy. An additional positive change is that the workers have been introduced to new vegetables, since they were not used to the vegetables that AB Farms packs but those vegetables ended up in their lunch. Most workers are young people and open to trying new foods. They now also take home the Asian vegetables that we would otherwise throw away. In addition, we also started providing small fruits such as banana, mango, and pawpaw as a snack. “

## Opportunities for the sector

Several stakeholders have observed that since the strong government campaign on consuming fruits and vegetables for better immune systems during the COVID-19 pandemic, more and more shops selling fruits and vegetables have popped up.

The following opportunities for the sector have emerged:

- There seems to be a willingness and readiness among CEOs to invest in the nutrition and health of their staff. The final grant partners' meeting showed not only how many initiatives are already in place (see Table 12), but also new ideas that CEOs came up with. The decision tool can be used by management teams to discuss what the next steps should be.
- Fruits and vegetables are inherently nutritious food; any initiative to enhance the availability and safety of fruits and vegetables in Ghana will help to contribute to food and nutrition security in Ghana. Yet, in addition to that, efforts are needed to ensure that consumers of all income levels have physical and economic access to fruits and vegetables.
- Convenience seems to be an important barrier to vegetable consumption. Increasing number of people consume meals outside their home. These meals generally contain less fruits and vegetables, or people are hesitant to order fruits and vegetables from outside because of food safety concerns. In response to this, some of the grant partners are jumping in to provide pre-packed salads and pre-cut vegetables.
- Improving food safety for fruits and vegetables is still a key strategy, as it is one of the main barriers to consumption. It is also often safety concerns that promotes the habit of prolonged cooking times, which decreases the nutrition content of (mainly) vegetables.
- For spray service providers the opportunities are in health checks; these could be combined with checks on blood pressure, blood

glucose levels, nutritional support such as explanation of the four-star diets, and following up on any unwanted (longer term) impacts of spraying activities.

- There is a huge opportunity for indigenous vegetables. They are key to nutrition security as they are often cheaper, easily accessible (because of price and availability during the dry season), and high in nutritional content. Ghanaian consumers seem to appreciate their traditional dishes, yet there is room to adapt these dishes by adding more simple cooking tips for indigenous fruit and vegetables. There are several initiatives and restaurants embarking on this, and HortiFresh have produced recipe videos of classical dishes with additional indigenous vegetables.
- Businesses operating at the end of the value chain (e.g. packagers, retailers) have their own Instagram pages which could be suitable for promoting fruit and vegetable consumption and basic nutrition knowledge. For instance, the four-star diet concept will be picked up on by Senam foods (with 5000 followers). Yet the risk here is that faulty nutrition information could be spread. These channels could also be used to promote indigenous vegetables.
- There is an opportunity to have a critical look at the products sold by processing companies (e.g. fruit juices) and consider the maintenance of the nutrients during processing on one hand, and at the same time reducing the amounts of unwanted nutrients such as sugar and salt.



Covid helped to increase the awareness on fruits and vegs. Small roadside stalls selling fruits and vegs are popping up along the street, as that was what was being promoted by the president” – Hetty, CEO HMR organics

# Outreach

*Contribution by Patricia Asamoah and Sheila Assibey-Yeboah*

HortiFresh had an active communication strategy which served as a guide to its communication activities. Apart from having a clear branding policy, the strategy also set out channels to be used for the dissemination of project activities, partner information and events. The programme had a good appearance with both traditional and new media space.

## Website

To ensure information was readily available, a website ([www.hortifresh.org](http://www.hortifresh.org)) was developed to host horticulture related information worldwide with relevance for Ghana and Côte d'Ivoire, with two interfaces, an Anglophone and Francophone interface. The content included profiles of project partners, reports, events, and news and media (gallery).

## Social Media

A lot of importance was placed on visibility for project activities and partner projects. Facebook and Twitter were the commonly used social media handles to reach out to an outside audience. This helped to increase the visibility of activities. There were over 1500 posts and tweets on both Facebook and Twitter combined over the life of the programme. The posts and tweets were a combination of artworks, flyers, and pictures of field activities in texts and videos showcasing pertinent happenings, successes, and emerging news.

Facebook has a little over four thousand followers whilst Twitter has just about a thousand followers.

Project partners' activities were supported through sharing their activities and updates on social media.

## Traditional Media

HortiFresh had a strong appearance in the traditional media space including radio, television, and online platforms, using every opportunity (e.g. activities, events and launches) to provide information and increase visibility. For example, a media soirée as part of the Greenhouse field day for Ardhi Farms (15 traditional media houses – TV, radio, print and online- participated / published news items) and the launch of the Food Safety Taskforce (seven story items published in electronic and print media).

## Reports

Several reports and articles were developed and disseminated through the programme's social media handles, website, emails, and newsletters. Newsletters were disseminated to the programme's stakeholders on a regular basis.

During the COVID-19 pandemic, a much-needed COVID-19 Rapid Assessment study was conducted. These were carried out in Ghana and Côte d'Ivoire in addition to two issue briefs and published on the website. The briefs provided a quick scan of the challenges to the horticulture sector in Ghana and the fruit sector in Côte d'Ivoire, whilst highlighting existing opportunities and the measures taken by the Governments of Ghana and Côte d'Ivoire to salvage and cushion small businesses during the pandemic and opportunities for investment in the sector.

## Awareness creation and sensitization

Communication was used to drive several awareness and sensitization creation campaigns and events such as nutrition, youth and gender, food safety, [fruit and vegetable fairs](#), cluster and input fairs, and business platform meetings.

Fliers, social media posts and so on helped to galvanize a lot of interest and enthusiasm for participation in the activities. Prime among these was the Food Safety campaign geared towards sensitising consumers on the need to see food safety as a shared responsibility. In this light, messages were advertised in major urban centres in Accra, sited in vantage points of the Greater Accra regional capital (High Street, Weija, Kasoa, Legon Okponglo and Accra Mall). These also included giant LED advertising screens.

## Most significant change stories

The communications team conducted and collected audio-visual interview films called "most significant change stories" with grant beneficiaries and stakeholders engaged in the various components of the programme. The stories collected served as input for monitoring and evaluation as well as being used for communication and learning purposes.

## Tele-conferencing

Because of COVID-19 and its ensuing challenges in 2019 and beyond, the project utilised a blend of teleconferencing and hybrid sessions for events. Most activities were streamed online to allow for easy participation because of limitations placed on in-person participation. All activities and events organised or co-organised by the project were posted or tweeted on the programme's social media handles. The first virtual business platform meeting hosted 78 participants, which was a very good attendance, and the topic for discussion was on food safety.

## Events

### Business platform meetings

Business platform meetings were planned for every quarter. However, with COVID-19, they were halted for a while; then when sanctions were lightened, the frequency was reduced. A total of ten meetings were organised for sector actors. These meetings were used to engage the sector in discussing salient topics, for example on finance, food safety, certification, nutrition, phytosanitary / sanitary issues, and marketing. The meetings were well-attended due to the high level of information and networking opportunities they presented to the sector. They had participants from knowledge & research institutions, the private and the public sector, youth, women, and the public. Average participation pre-COVID was more than 250; that however was reduced to about 150 in the last year, partly because of the measures in place to avoid larger gatherings.



*Business platform meeting Tamale (Photo: Nelson Ganyo)*

### Round tables

These were tailored for specific emerging topics in the sector and attended by relevant stakeholders of both the private and the public sector. During the round table meetings, discussions included the following: issues affecting crops (tomato, onion, mango); groups (youth, women); technology (irrigation, greenhouse); and policy (food safety and pesticides, certification, exports). Follow-up actions were then formulated. For instance, the food safety task force resulted from a series of round table events on the topic.



*Participants in the youth round table networking (Photo: Nelson Ganyo)*



*Business platform meeting*

### Fruit and Vegetable Fair

The Fruit and Vegetable Fair is an annual event that provides a platform for trade promotion, business to business, exchanges, and partnerships within the horticulture sector. It creates market opportunities and visibility for the businesses who participate. Horticulture value chain actors such as processors, producers, service providers, seed marketers, agro-chemical and input dealers, exporters, aggregators, consumers, researchers, and government agencies join annually in the fair. This year, seminars were held with specific topical sector issues discussed by experts recruited to lead discussions while modelling the process of resolving issues and finding solutions. The fair and these seminars will continue under the leadership of a core group of companies that have expressed interest in organizing the fair.

### Cluster Fair

As part of the HortiFresh initiative, cluster fairs were organized in the clusters in the various regions. Agri-input manufacturers, dealers, and importers as well as seed and technology marketing companies were aggregated in the clusters every quarter to promote their goods and services. The prime objective was to bridge the gap between producers and the input marketers. The Ministry of Food and Agriculture played a key role (in 2022, the lead role) in jointly organizing these fairs.



Exhibitor and visitor at the fruit and vegetable fair, October 2021 (Photo: Nelson Ganyo)

## Aid and trade agenda

Contribution by Sheila Assibey-Yeboah, Ebenezer Masey, Joep van den Broek, and Irene Koomen, with input from NABC

The HortiFresh West Africa project engaged (directly and indirectly) with several Dutch companies. Some partnerships have been very good and have contributed to the achievement of HortiFresh project objectives.

#### Direct partnerships, some examples:

- Iribov BV – engaged to improve planting materials (through tissue culture-based production) to smallholder commercial farmers. Tissue culture production in Ghana is very limited and collaboration with Iribov BV contributed to significant improvement of healthy and true-to-type varieties of pineapple and passion fruit.
- MDF West Africa facilitated the female accelerator programme; this proved to be a valuable learning experience as they are willing and able to work with both big and small organizations in the Ghanaian ecosystem.

#### Indirect partnerships, some examples:

- Holland Greentech participated in HortiFresh supported cluster fairs, accelerator programmes and on-field demonstrations. This also contributed to improved planting materials (seeds) for commercial vegetable farmers.
- The Celtic Cooling Company supported selected grantees with technical assistance on the installation of efficient and effective cold chain storage facilities. This contributed to the effective management of post-harvest losses.
- In contrast, in most of the trade missions there was some mismatch between the expectations of the Dutch companies and Ghanaian companies. This was evident during trade missions during which the Ghanaian companies were unable to meet the capacities and demands of the Dutch companies. However, some companies (as shown above) were able to set up local relationships with Ghanaian companies. This should have a multiplier effect soon.

### Trade missions

In preparation for the trade missions, the Netherlands Africa Business Council (NABC) contacted a total of 287 Dutch and 15 international companies to explain objectives, practical information, and business opportunities. In addition, the regional sourcing mission in 2020 was turned into a virtual sourcing mission due to the COVID-19 pandemic; for this, NABC and Hortifresh (including Sense) worked together with IPD, and 209 German, Spanish, Italian, Austrian, Swedish, Polish, and French companies were contacted by four IPD experts. Furthermore, Sense also contacted multiple South African companies, mainly buyers in the juice sector. All the 302 companies that were contacted by NABC over the full project period received mission flyers and mailings, followed up by personal phone calls and personalized emails with the requested information.

In total, NABC organized four trade missions during the period of 2019 till 2022 in which 35 companies participated (see Table 14 on next page), some of which were international (non-Dutch). 18 of the international companies joined as part of the virtual sourcing mission and two as part of inputs or other type of horticultural supply/ services missions. The main objective of the trade missions was to get an introduction into the Ghanaian and Ivorian horticulture sectors, establish new contacts and business linkages such as clients, suppliers, and potential partners, and explore / tap into business opportunities. In total, 22 leads were established with three concrete deals. Unfortunately, the reports and company evaluation forms did often not give concrete figures; asked 'have you established leads as a result of this mission,' often answering 'yes' without an explanation. The final survey was also challenged by the fact that many people had shifted organizations. For future trade missions we recommend that a budget should be allocated for a strict mission follow-up after three, six, and twelve months, to keep track of results and provide follow-up.

**Table 13.** Investments of Dutch, international and local companies in the fruit and vegetable sector because of HortiFresh activities

Indicator	Target	Result
Dutch companies	15	22
International (non-Dutch) companies	15	19
National companies	25	54

**Table 14.** Dutch companies involved in trade missions (2014–2021)

Ghana					Côte d'Ivoire	Ghana & Côte d'Ivoire (Virtual trade missions)	
2014		2015		2019	2019	2020	2021
June	December	February	September	March	November	May-June	Sept-October
<ul style="list-style-type: none"> <li>• SNV</li> <li>• East-West</li> <li>• Eosta</li> <li>• Duijndam</li> <li>• Greenconsult</li> </ul>	<ul style="list-style-type: none"> <li>• Enza Zaden</li> <li>• Eosta</li> <li>• Ferm-o-Feed</li> <li>• Daapah Perf. Improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Frugi Venta</li> <li>• Bejo Zaden</li> <li>• Amatrex</li> <li>• Kramer B.V.</li> <li>• Unitherm</li> <li>• Supermaritime</li> </ul>	<ul style="list-style-type: none"> <li>• Celtic Cooling</li> <li>• Agri-bsa</li> <li>• Takii Seeds</li> <li>• Suba Seeds</li> <li>• Green Farming</li> <li>• Your Business Expansion</li> <li>• Delphy</li> <li>• BIO Invest</li> <li>• Omnivent</li> <li>• Enza zaden</li> </ul>	<ul style="list-style-type: none"> <li>• Aminocore BV</li> <li>• Delphy</li> <li>• Solidaridad</li> <li>• Simonis</li> <li>• Fertilizers BV</li> <li>• HAS Univ. of Applied Sci.</li> <li>• Olmix Group</li> <li>• Bakker Brothers</li> <li>• Agrocares</li> <li>• Jiffy Products International</li> <li>• Mantis ULV</li> </ul>	<ul style="list-style-type: none"> <li>• Afrifruta</li> <li>• Tradin</li> <li>• Celtic</li> <li>• Agriterra</li> </ul>	<ul style="list-style-type: none"> <li>• Van Wylick</li> <li>• Fairtrasa</li> <li>• Berrico</li> <li>• Bio Center Zann</li> <li>• Eosta</li> <li>• Hausladen</li> <li>• Bosch Boden Spiess</li> <li>• Doehler</li> <li>• Tradin Organic</li> <li>• Teekanne</li> <li>• Besana</li> <li>• Axar</li> <li>• Landgard Nord</li> </ul>	<ul style="list-style-type: none"> <li>• OTC Organics</li> <li>• Eosta</li> <li>• Aartsen</li> <li>• Yex</li> <li>• Tradin Organics</li> <li>• Paprimur</li> <li>• Roveg</li> <li>• Kagan Spices</li> </ul>

## What did we learn from the trade promotion activities?

### ■ Managing expectations

Growers were not always aware of the needs of the buyers; meanwhile the buyers took profiles at face value while some indicators (certifications for example) were still in development. Many growers and buyers alike therefore emphasized the importance of communication. Knowing requirements and the capabilities from the outset would make the process more efficient.

### ■ Training

The growers would benefit from more training in ensuring that produce for European export meets EU standards. This training should be practical and directly contribute to certification / noticeable quality increase.

### ■ Certifications

Certifications were discussed for increasing value. It is not always necessary; quality without certification is still valuable for many buyers; however, quality and volume should be prioritized, and specific certifications can enhance this.

### ■ Other important factors for success

- follow-ups
- payment agreements
- relationship building
- patience.

- It is recommended to start with a virtual trade mission as it allows companies to test the water. When potential matches transpire from this, a face-to-face trade mission is likely to be more successful.

## Challenges

- Most of the Dutch-based companies engaged are input suppliers, predominantly of seed, but also of bio products. With other Dutch companies their technical solutions are either too advanced and/or too expensive for the current development phase of Ghana's horticultural sector.
- The limiting factor is often that there is no investment, resources and capacity coming from the Dutch company (e.g. certification support for F&V exporting companies).
- Very few deals emanated from the trade mission, mainly because of differing expectations between the Ghana/CIV side and the Dutch international companies.
- Importing companies need quantities that are beyond the capacity of many companies.
- Finding a good partner that can be engaged as a dealer in GH/CIV has proven to be challenging.

## General

- While companies/the private sector most definitely contribute through economic engagement, their main objective is to earn money.
- Companies focus on their core activity – trading. This means that elements of the Dutch development cooperation such as youth employment, gender, nutrition were not their core activity.
- Even though few deals were brokered, understanding between Ghanaian, Ivorian and Dutch/international companies improved, and this was seen as a very positive aspect of the trade mission in both virtual and face-to-face events.

## Does the aid to trade agenda work?

Ghanaian, Ivorian, and Dutch policies all emphasise the importance of economic development through the involvement of the private sector.

“The Netherlands is contributing to sustainable economic development in Ghana, for example by supporting young entrepreneurs. We are also making it easier for businesses to invest by sharing our knowledge and experience. The Netherlands and Ghana are important partners in improving respect for human rights in West Africa.” This vision by the Embassy of the Kingdom of the Netherlands is based on concessive Dutch development aid policies all emphasizing the role of trade in driving the agenda<sup>11</sup>. This agenda has achieved mixed results<sup>12</sup>; Ghana's agricultural development agenda is focussed on greater self-sufficiency and creating employment; its main policies are “One district one factory”, “Planting for food and jobs” and “Ghana wants to become self-sufficient through greenhouse technology”<sup>13</sup>.

In our view we see the following points as pertinent for the trade agenda to achieve its intended effect (and avoid unintended effects).

- The trade agenda needs to be re-aligned to the needs and the level of the countries' sector development. Trade between the Netherlands/EU and Ghana / Côte d'Ivoire in the horticulture sector makes economic sense; producing countries have the raw materials that the exporting countries need. The major bottleneck however is the form in which the importing countries need the produce/commodity. Standard expectations in the EU requires giant leaps by West African companies to meet market demand in the quantity, quality and timely manner stated.
- Dutch / international companies need to realise that they need to invest in the potential partner companies or sectors with which they want to engage. This might be costly in resources at first but it will pay in the long-term as well as fostering strong relationships between the trade partners.
- Ghanaian and Ivorian companies should focus more on quality produce and value addition; it is essential to conduct market studies to be able to match the needs and opportunities of the destination markets.
- For the trade agenda to become pro-poor and gender responsive it will need to have this aspect of aid aligned to policies of the recipient countries, in this case Ghana and Côte d'Ivoire. The female business accelerator is a great example of positive reinforcement of the position of women entrepreneurs.

<sup>11</sup> <https://www.government.nl/topics/development-cooperation/news/2022/06/24/new-policy-document-foreign-trade-development-cooperation>

<sup>12</sup> Bitzer, V., van Balen, R. and de Steenhuijsen Piters, B. (2017) *Aid & Trade in Dutch Development Cooperation*. KIT Royal Tropical Institute, Amsterdam [https://www.kit.nl/wp-content/uploads/2018/08/5989a53dacc28\\_KIT\\_Aid\\_Trade\\_Report\\_06.pdf](https://www.kit.nl/wp-content/uploads/2018/08/5989a53dacc28_KIT_Aid_Trade_Report_06.pdf)

<sup>13</sup> <https://www.hortidaily.com/article/9351019/ghana-wants-to-become-self-sufficient-through-greenhouse-technology/>



# Working in multiple countries: a reflection

*Contribution by Michiel Arnoldus, Barry Clausen, Sheila Assibey-Yeboah, and Irene Koomen*

The HortiFresh project spanned across Ghana and Côte d'Ivoire. This section reflects on the advantages and challenges in general of working in multiple countries, firstly as observed in many projects, and then as observed in the case of HortiFresh..

## General advantages of working in multiple countries

There are obvious advantages in working across several countries. Firstly, in Africa value chains are often cross-border, which means that to really impact a sector you need to understand what happens in both sides. Secondly, there are often clear market opportunities across borders that can be identified much more easily if the project itself is active on both sides of the border.

Examples include the mango and orange sectors. One of the main markets for Ghanaian oranges is Côte d'Ivoire, and Ghanaian mango-drying companies buy a lot of mango in Côte d'Ivoire as it is much cheaper there.

Another advantage of cross-border projects is that it is easier to identify solutions to a problem. Often a problem in one country has a solution in the neighbouring country. Having a project across borders thus opens possibilities for exchange visits and knowledge transfer.

Working in various countries is also a way of risk diversification. For instance, a certain programme component may not work well in one country but well in another country. By working across borders we don't put all our eggs in one basket.

Multi-country programmes give implementers and partners opportunities to gather vital sector information, transfer knowledge and open more market avenues for sector actors cross-border. This is usually easier when there is a lot of cross-border trade partnerships or where they share a common language (e.g. Anglophone countries only or Francophone countries only).

## Challenges in working across countries

One of the main challenges in working across multiple countries is that it increases complexity and makes projects much harder to manage. There are now multiple teams operating in different economic, social, and cultural contexts, with different labour laws, public holidays and working cultures.

A related challenge is the added costs. Working in multiple countries means a relatively larger part of the budget is needed for administrative expenses. There are two offices, more managers, more cars, two sets of annual accounts, two accountants to deal with, and so on.

If there is a limited budget, spreading across multiple countries will be at the expense of sector support.

From a technical point of view there is also more budget needed for sector specific studies and issues. There would be, for example, two sets of phytosanitary laws; similarly, it would be necessary to double the amount of value chain studies, market studies and so on. So if the budget was limited, there would be the risk of spending money on context studies at the expense of interventions in the sector.

Another challenge that we have often observed is the Head Office bias. In nine out of ten cases, the country in which the head office is located will get the most budget and by far the most activities. Generally, there is already so much to do in that country that one can easily spend all the budget and attention there in a useful way without ever going across the border.

## Working across the francophone and anglophone divide in Africa

The divide between the French- and English-speaking countries is a particular challenge in Africa. They are different not only in language, but also in terms of culture, administration, food and culinary traditions, and economic organisation. Francophone countries also tend to be more bureaucratic compared to Anglophone countries, which greatly affects and influences policy support initiatives as well as the extent of high-level dialogue and engagement. They are almost two separate worlds, that really need to be integrated better; all this makes operating projects across the divide challenging; however, it is essential to bridge this divide.

## The specific challenges for HortiFresh

All the advantages and challenges mentioned played a role in the HortiFresh programme. It was being carried out across the francophone and anglophone divide; partly because of this, the vegetable and fruit sectors in both countries were vastly different; and in addition, COVID-19 made everything a lot more complicated in the second half of 2020. However, despite the divide, export challenges were similar; the mango sectors in both countries had complementary attributes; linkages to other sectors like the citrus and coconut sectors were realised; and much useful intelligence was gained from people in each country advising the other. Overall, learning was enhanced by the programme's working across Ghana and Côte d'Ivoire. In the future even more exchange could be possible between the countries, for example exchange visits between mango clusters and orchard maintenance providers.

## Lessons learnt for working in multiple countries

- If the implementing organization is not locally established and there is a need to work through a different organization (for instance, to host the local office, hire agronomists, and arrange finances), procedures need to be simplified and prioritized to ensure that administration and bank transfers do not take longer than necessary.
- Each context has a different starting point (for instance, with relationships with stakeholders or collaboration between stakeholders) and it is important to adapt accordingly, such as investing time and resources in networking and strengthening relationships.
- What works well in one country may not work well in the neighbouring country. Programmes working in several countries should be aware of and adapt to these contextual differences. For instance, stakeholder availability to attend events in a certain season; the need to maintain contact with partners for accountability reasons; or the time needed to introduce co-financing schemes.

# What can we conclude now the HortiFresh Programme has finished?

Contribution by Sheila Assibey-Yeboah, Joep van den Broek, Mirjam Schaap, Justice Ajaari and Irene Koomen

## What did we achieve?

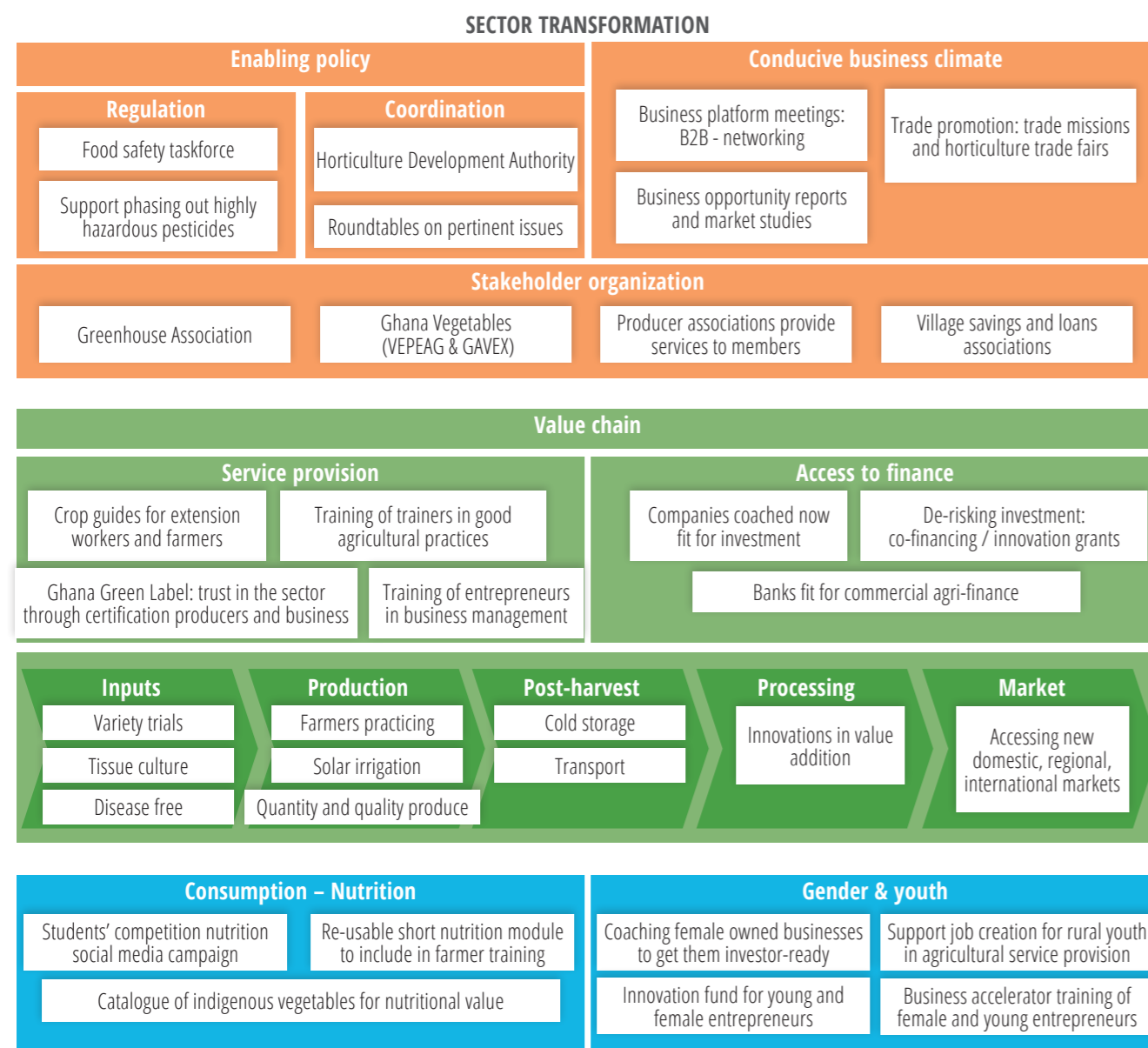
HortiFresh focussed on three major outcomes:

- a conducive business climate, facilitating the development of the fruit and vegetable sector
- a competitive and innovative high-value fruit and vegetable sector;
- an inclusive and sustainable fruit and vegetable sector.

Overall the programme contributed to these high-level outcomes mainly because of its needs-based programming, addressing gaps that inhibited growth and transformation of the sector (see Figure 6).

The major achievements that contributed to the programme's outcomes and that are described in the preceding chapters, are highlighted in Figure 6.

Figure 6. Major achievements by HortiFresh and its partners that contributed to transformation of the horticulture sector



The End of Project evaluation<sup>14</sup> commissioned by the Embassy of the Netherlands in Accra confirmed our own findings coming out of the monitoring.

**End-of-project evaluation**  
**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.

## Reach

Through the combination of HortFresh project activities we and our partners have reached many farmers, entrepreneurs and business.

Figure 7. Summary of the reach of HortiFresh and its partners for the major indicators

15,000	Farmers (35% amongst them women) have been adopting new technologies and good agricultural practices
16,500	16,500 farmers have been directly reached through Hortifresh activities
460	Agricultural advisors participated in the agronomy training
9,000	Farmers have been trained in good agricultural practices by the trained agronomy advisors and HortiFresh partners
9,000	Through HortiFresh more than 9,000 men and women farmers obtained improved access to markets
95	HortiFresh has been working with 95 companies (54 national and 41 international (22 being Dutch)
500	More than 30 businesses obtained their Ghana Green Label certification and 500 outgrowers were certified
35	HortiFresh organized 35 business to business meetings and events
15,000	More than 15,000 people have participated in HortiFresh events
250	Entrepreneurs, farmers and businesses obtained access to finance, either through access to banks or through VSLAs
3,000	More than 3,000 reliable jobs have been created, 1,380 for women (47%) and 1,900 for young people (63%)
6,000	About 6,000 women farmers, entrepreneurs and employees have been trained
2,000	More than 2,000 youth have been trained. Amongst them farmers, entrepreneurs and employees.
10	We provided support to the establishment of around 10 private sector associations and institutions (including HDA, GhanaVegetables, Greenhouse Association, Food Safety Taskforce)

## What lessons did we learn?

Stakeholder engagement during the business platforms and round table events played a major role in informing the topics for the calls for proposals and the broader programme agenda. These events also steered discussion around pertinent sector regulatory frameworks that needed addressing. At these fora, the bridge between public and private sector got closer as each side had the opportunity to dialogue, vent, explain, and share ideas and experiences.

Our high-level dialogue with the public sector proved to be an effective tool to influence policy, and complemented stakeholder engagement as information flow became two-directional. Results were slow (as expected with any policy initiative) though concrete initiatives solidified like the Ghana Green Label, the establishment of a Horticultural Development Authority and increased implementation activities of the food safety taskforce.

HortiFresh's work with the private sector and in the clusters showed substantial results, with many horticultural companies finding access to finance and expanding their operations. Companies further benefited from technical advice and management support. Given the difficult macro-economic environment of the 2018–2022 period, this was a considerable success.

We captured stories of change to monitor how the interventions affected individuals directly or indirectly engaged in the programme (Storybook HortiFresh, 2022). Over 60 people were interviewed at the start of the programme and again at the end of the programme telling how the programme, through small interventions, made them better farmers, students, workers, entrepreneurs, and policy makers. The overriding message coming out of all these personal stories that exposure to new ideas, information and techniques can make a large difference to their personal lives and to the sector as a whole.

## Can we say that sector transformation has taken place? – Is the sum greater than the parts?

For a sector as dynamic and unpredictable as the West African Horticulture sector, particularly in Ghana and Côte d'Ivoire, a sector approach was deemed necessary to tackle the multifaceted and inter-related issues.

Our sector approach through the systems change lens enabled us to place some measure on what worked well. Examples can be sited from how new norms have emerged, following our introduction of the 50–50 grant financing model; many more programmes/projects and development partners are gradually adopting this. We can see also how government agencies and affiliated institutions are now adopting initiatives introduced. The sector is more coherent, informed and better linked in a myriad of ways. Improved technology – protected cultivation, solar irrigation, and so on – is now better known to sector actors, and markets are shifting towards these. In addition, the sector is more cohesive and competitive, taking on new challenges and risks and increasingly interested in diversifying and evolving.

<sup>14</sup> <https://www.government.nl/ministries/ministry-of-foreign-affairs/documents/reports/2022/05/31/evaluation-of-three-fns-programs-in-west-africa-corip-swapp-hortifresh>

By working practically at company and cluster level, and more high-level at platform and national government level, HortiFresh was able to address regulatory issues in a very concrete and practical way. Further institutionalization of this approach should take place through the envisaged Horticulture Development Authority, a public-private partnership between the government of Ghana and the organized private sector (represented by fruits and vegetables associations).

In retrospect, the platforms and B2B events proved to be a powerful tool for more collaboration within the sector, and it is highly recommended that these activities are continued. The necessary steps are already being taken for specific business associations to continue these at both national and regional level.

### How did we ensure sustainability?

Most of the activities were implemented with a sustainability lens in place. The famous ‘what’s next after the project phases out?’ question was considered upfront in many of our engagements. From capacity strengthening, to access to finance, to policy support, the long-term legacy remained a conscious part of implementation.

All project results, studies and regulatory changes were well communicated to the industry stakeholders. HortiFresh established multiple points of outreach including a website, newsletters, social media, radio, and print media. HortiFresh has become the main hub for consistent and relevant information on the horticulture sector in Ghana. It is anticipated that this role will be continued by several organizations that have been capacitated over the years, including the Ghana Vegetables Group, the Ghana Netherlands Business and Cultural Council (GNBCC) and the Horticultural Development Authority. Due to the shorter time of implementation and smaller funding, the sustainability of activities in Côte d'Ivoire is more limited, though substantial results have been achieved in the mango clusters.

Interventions were sustainable to a large extent. With the establishment of the Horticulture Development Authority continuous sector coordination is expected to further ensure sustainability. The biggest threat to sustainability is with the associations set up towards the end of the programme (the Ghana Vegetables Group and the Greenhouse Growers Association). Strategies to address this, such as having executive secretaries assigned to enhance business operations and marketing, have been put in place.

### What’s next for the sector?

The future focus for the horticulture sector in West Africa should be:

- Enhancing youth employment by further institutionalizing agronomic skills in agricultural colleges, looking at improved production practices and technology, and creating better linkages between colleges and the labour market.
- Developing blended financial products that are available to a large range of horticultural companies (SMEs), with favourable conditions and sufficient implementation support to make them a success. Creating a more business-friendly enabling environment that supports opportunities for investments and innovations throughout the value-chain, looking at both international and regional exports as well as domestic markets.

## Publications

### Reports

Inception report HortiFresh West Africa: Commercial Fruit & Vegetable Sector Development in West Africa (2018)

<https://research.wur.nl/en/publications/inception-report-hortifresh-west-africa-commercial-fruit-amp-vege>

Horticulture Business Opportunities in Ghana (2019) <https://edepot.wur.nl/537860>

Hortifresh nutrition communication strategy Research report (2019) <https://www.hortifresh.org/wp-content/uploads/Hortifresh-Nutrition-Communication-Strategy-Research-Report-20190904.pdf>

Fruit Processing in Ghana - An analysis (2020) [https://www.hortifresh.org/wp-content/uploads/FruitProcessingGhana\\_2021\\_online.pdf](https://www.hortifresh.org/wp-content/uploads/FruitProcessingGhana_2021_online.pdf)

Tomato Postharvest Losses in Ghana: An Economic Analysis (2020) [https://www.hortifresh.org/wp-content/uploads/Tomato-post-harvest-losses-in-Ghana\\_an-economic-analysis-002.pdf](https://www.hortifresh.org/wp-content/uploads/Tomato-post-harvest-losses-in-Ghana_an-economic-analysis-002.pdf)

Analyse sanitaire et phytosanitaire des filières fruitières en Côte d'Ivoire (2022) [https://www.hortifresh.org/wp-content/uploads/AnalyseFruitSectors\\_2022\\_online.pdf](https://www.hortifresh.org/wp-content/uploads/AnalyseFruitSectors_2022_online.pdf)

Rapport de l'Étude de marché pour le secteur des fruits en Côte d'Ivoire (2022) [https://www.hortifresh.org/wp-content/uploads/MarketStudy\\_2022\\_online.pdf](https://www.hortifresh.org/wp-content/uploads/MarketStudy_2022_online.pdf)

Etude sur le financement agricole - cas de la filière mangue en Côte d'Ivoire (2022) [https://www.hortifresh.org/wp-content/uploads/FinanceStudy\\_2022\\_online.pdf](https://www.hortifresh.org/wp-content/uploads/FinanceStudy_2022_online.pdf)

HortiFresh Côte d'Ivoire Final Evaluation of the Youth Fund, Innovation Fund and the Mango Cluster (2022) [https://www.hortifresh.org/wp-content/uploads/HortiFresh\\_Evaluation\\_CIV\\_2022.pdf](https://www.hortifresh.org/wp-content/uploads/HortiFresh_Evaluation_CIV_2022.pdf)

### Conference papers

Traditional vegetables in Ghana: Distribution and consumption patterns (2021 – presented at AVRDC conference POWER ON YOUR PLATE) [https://avrdc.org/download/power-papers/012\\_DJAH\\_Distribution-and-consumption-patterns-of-indigenous-vegetables-in-Ghana.pdf](https://avrdc.org/download/power-papers/012_DJAH_Distribution-and-consumption-patterns-of-indigenous-vegetables-in-Ghana.pdf)

### Briefs

An analysis of Contract Spray Services (2019) <https://edepot.wur.nl/537775>

Decision tree for incorporating workforce nutrition into a business <https://www.hortifresh.org/wp-content/uploads/poster-decision-tree-entry-points.jpg>

Impact of COVID-19 pandemic and measures on the fruit sector in Côte d'Ivoire (2020) <https://edepot.wur.nl/553595>

Impact of COVID-19 pandemic on the Horticulture sector in Ghana (2020) <https://edepot.wur.nl/554137>

Rapid assessment of the horticulture sector – Introductory brief (2020) <https://www.wur.nl/en/research-results/research-institutes/centre-for-development-innovation/research-topics/guiding-sector-transformation/the-effects-of-covid-19-on-food-systems-rapid-assessments/introduction-horticulture.htm>

Horticulture alert: Ghana #01 (2020) <https://www.wur.nl/en/research-results/research-institutes/centre-for-development-innovation/research-topics/guiding-sector-transformation/the-effects-of-covid-19-on-food-systems-rapid-assessments/ghana-horticulture-sector-assessment.htm>

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