Ministry of Foreign Affairs

Scoping Project:

Tanzania's Horticulture Industry Business Opportunities

Commissioned by the Netherlands Enterprise Agency

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Scoping Project:
Tanzania's Horticulture Industry Business Opportunities

Final report

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Pioneers
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Executive summary

The aim of this scoping project was to identify new business-to-business (B2B) opportunities for (consortia of) Dutch companies in Tanzania's agriculture and agri-logistics sectors. The conclusion is that the potato and horticulture sectors seem to offer the highest potential for Dutch-Tanzanian B2B investments. With opportunities in the potato sector already covered by the Dutch-Tanzanian potato industry development project (CD-PIT), the focus of this scoping report is on opportunities related to a further professionalization of the country's horticulture industry.

The report provides insights in the horticulture industry's challenges and opportunities, and identifies how B2B partnerships and investments, as well as government-to-government (G2G) support initiatives, can contribute to the industry's growth. At a geographic level, the report looks at how the country's Southern Highlands area (the South) can become part of the industry's activities, which are now primarily based in the Arusha-Moshi area (the North).

Horticulture industry actors see the South as having the natural growth potential that the North had 10-15 years ago, yet also believe that the North will remain the industry's key location for production and exports of fresh fruits, vegetables, and cuttings. The South however, lacking its own international airfreight connections, may develop into a strategic supply base of these products – transported to and exported by the established horticulture companies in the North. Such new outgrowing role for the South may in return trigger new B2B investments in commercial horticulture production and consolidation technologies in the area.

Throughout the numerous interviews and discussions with industry actors it became clear that, due to the country's current economic transition process, companies are at this stage reluctant to invest in further growth. At the same time, there is an urgent need from these companies for a strategic horticulture industry approach. The goal of this approach would be to professionalize the industry as a whole, which in turn will create a solid base for new investments in the future. Based on the interviews and discussions, this report therefore provides a foundation for a suggested Horticulture Industry approach.

The report describes the approach by zooming in on possible key activities. At B2B-level, these derive from the study's findings on the following key issues: effective sourcing of produce; building capacity and skills; accessing external financing; systemizing air-cargo scenarios; and one-stop info on taxes and fees. At G2G-level, the key activities relate to the following key issues: mapping the industry's importance to Dutch international trade; systemizing end-markets, trade and buyer networks; implementing a horticulture industry Code of conduct; streamlining horticulture imports and duties; and training and apprenticeship programs.

These key issues are worked out in key activities of a Horticulture Industry approach. These require additional work for fine-tuning with industry actors, and for defining feasibility, costs, and means of financing.

It is felt by many that at this point in time direct (foreign) investment in new horticulture solutions is too risky. A Horticulture Industry approach will therefore need to offer companies a low-cost/low-risk platform, based on joint growth. What is needed is a country-wide platform that helps existing companies to remain present and partner with new investors and suppliers. The growing domestic demand for horticulture products, the changing local consumer consumption patterns, and the growing international demand for (imported) fresh produce, jointly form the business case for Dutch support to a Horticulture Industry approach. Because improved long-term planning and partnership building now, will result in a growing demand for Dutch agri-logistic solutions later.

Table of contents

1.	**Background**	**4**
1.1	Purpose, aim, and focus	4
1.2	Geographic scope	4
1.3	Key stakeholders	5
1.4	Key scoping activities	5
2.	**Tanzanian horticulture industry**	**5**
2.1	Overview	5
2.2	Situation in the North	7
2.3	Situation in the South	8
3.	**Key issues affecting growth of the horticulture industry**	**9**
3.1	Clustering findings at two levels	9
3.2	Key issues at B2B level	10
3.3	Key issues at G2G level	13
3.4	Location issue: North lacks the potential of the South	15
4.	**Concluding: suggested key activities of the approach**	**16**
4.1	Opportunities for B2B and G2G activities	16
4.2	Suggested key activities of the approach	17
4.3	Other aspects to be considered	17
5.	**Expert interview list**	**19**
6.	**Reference list**	**20**

Figure 1:	Tanzania's horticulture clusters	4
Figure 2:	The Southern Highlands: potential horticulture production zone	9
Table 1:	SWOT analysis on the Tanzanian horticulture industry	6
Table 2:	Suggested key activities at B2B and PPP-level	16
Annex 1:	TAHA Fresh' current status, challenges, and solutions of offering services	21
Annex 2:	Background on the agriculture sector development strategy (ASDP II)	24

1. Background

1.1 Purpose, aim, and focus

The purpose of this scoping study is to determine how the Dutch private sector can contribute to further development of agri-logistics in Tanzania, and thereby contribute to inclusive growth, job creation, agribusiness growth, and post-harvest loss reduction in the country's rural areas. The specific aim is to identify new, concrete business opportunities for (consortia of) Dutch companies in Tanzania's agriculture, logistics and infrastructure sectors. The focus of the study is on facilitating potential Dutch-Tanzanian business partnerships that offer integrated solutions in the agriculture sector, i.e. in production, processing, and agri-logistics aspects. In Tanzania, this sector shows a great and growing need for such solutions. In this context, the study zooms in on identifying entry points for specific business-to-business (B2B) and government-to-government (G2G) opportunities in the agri-logistics areas, and maps specific needs and potential investment areas with potential for Dutch companies. The study has selected the horticulture sector as the one that provides the highest potential for this; specifically, the vegetables, fruits, cuttings, and seed sub-sectors.

For more information on the agriculture sector in Tanzania, please contact the agricultural department through dar-lnv@minbuza.nl, or visit the website: www.agroberichtenbuitenland.nl/landeninformatie/tanzania.

1.2 Geographic scope

The geographic focus of the study is on the Southern Highlands area (often referred to as SAGCOT area, here referred to as 'the South') and the Arusha-Moshi area ('the North') of Tanzania. These areas are referred to as the two key horticulture clusters by the Tanzania Horticulture Development Strategy 2012-2021, as is shown in the map below.

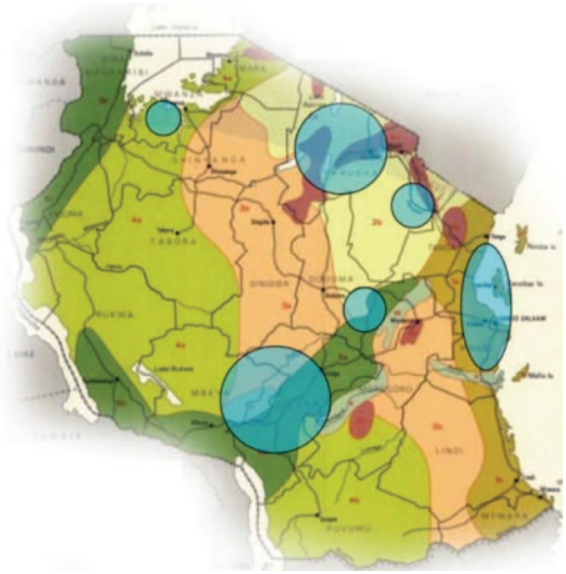

Figure 1: Tanzania's horticulture clusters, with the key areas in the North and the South. Source: Tanzania Horticulture Development Strategy 2012-2021.

Following the Tanzania Agribusiness Day in The Hague, in May 2017, during which this study's initial findings on (the lack of) potential, concrete B2B investments in agri-logistic solutions in the South were presented, it was decided to also fully integrate potential in the North into this study. The North has a much higher density of Dutch and international companies that are active in the

horticulture industry and offers better chances of identifying potential B2B 'lead companies'. Due to its existing expat infrastructure, the well-established companies, and its airfreight possibilities from Kilimanjaro International Airport, the area still is a logical choice for new investments. It may also increasingly act as a 'market pull' for commercial production in the South. In fact, the South as a region could become the 'outgrower' for the established companies in the North.

1.3 Key stakeholders

Direct stakeholders in the scoping project are the numerous private sector companies that were visited and interviewed during field visits (producers, traders, processors, marketers), as well as horticulture value chain actors in the technology, agri-finance, trade, business development, and education and training areas. Local partners throughout the project were the Southern Agricultural Growth Corridor of Tanzania (SAGCOT), and the Tanzanian Horticulture Association (TAHA) – these proved to be good sparing partners and shared their networks. The Dutch infrastructure consortium Flying Swans, through experts from Mercator Novus, shared knowledge and advised on agri-logistics aspects. Various progress meetings and guiding discussions were held with experts from the Dutch Ministry of Foreign Affairs (RVO) and from the Netherlands Embassy in Nairobi and in Dar es Salaam. RVO's business support program experts may advise on the possibility of supporting next steps.

1.4 Key scoping activities

To come to this report, the consultant carried out the following activities. Desk research was done to analyse focus sectors, including their main opportunities and challenges. Various field surveys were carried out to zoom in on these research findings, and to interview key actors and experts from in both geographic areas. Initial findings from research in the South were presented and discussed with a panel of Dutch companies and experts at the Tanzania Agribusiness Day in The Hague. Their feedback was used to further sharpen the focus of additional scoping activities, and to identify potential partnership networks. Throughout the process findings were shared with the client for feedback and guidance. As it became clear that companies, due to uncertainties in the business climate due to the country's political and economic transition phase, will at this moment not invest in growth, the consultant worked towards the idea of an overall Horticulture Industry approach rather than individual B2B projects. The need for this was voiced by numerous companies in the industry. This report suggests that such approach can help create a professional industry, which leads to long-term planning and partnership building among the industry's individual companies, which in turn will result in a future demand for Dutch B2B agri-logistic solutions. New networks were opened up to design this idea and work out the scope of this industry-wide initiative. Finally, the consultant wrote this report, as agreed in the Terms of Reference, in an easy-to-read and action-oriented style, aimed at inviting partners and stakeholders to remain involved or to get on board.

2. Tanzanian horticulture industry

2.1 Overview

Brief overview of the industry

The objective of the proposed Horticulture Industry approach is to provide an infrastructure for integrated solutions that supports private companies in the horticulture industry in maintaining and growing their business. (Note: when using 'companies' in this report, the consultant refers to commercial horticulture ventures – from organized small-scale producers, to medium/large-scale commercial farmers, to traders, processors, and exporters of end-products.) The suggested long-term approach is based on explicit requests by companies to *not* focus on individual (company-level)

B2B investment opportunities at this moment in time, but rather look for means to support the horticulture industry as a whole, including B2B and G2G activities. The aim of the approach will be to provide solutions to the key issues (bottlenecks) the industry now faces, and that are described in this report. The result of the approach would be a professional horticulture industry infrastructure, in which companies can invest and partner, and which would in turn lead to new B2B partnership investments between companies.

SWOT on Tanzanian horticulture industry

Horticulture is said to be the fastest growing industry within Tanzania's agricultural sector, with an annual average growth rate of 11% over the past five years. Exports have increased steeply in the past 12 years, from US$ 64 mln. in 2004 to US$ 645 mln. in 2016. According to TAHA, this is expected to grow further to US$ 1.85 billion by 2021. The suggested approach will highly contribute to reaching this target. Over the past 20 years the industry saw a growth of medium and large-scale investors operating independently and/or by integrating with small-scale outgrowers. It is estimated that since 2007, horticultural investments' contribution to total investments in agriculture is 17% on average.

The industry is said to employ around 2.5 million Tanzanians directly and indirectly, of which two-third are women. The suggested approach will contribute to these employment estimates, and to securing the incomes of these people. This scoping project found that the situation on the ground still shows a large number of weaknesses and threats which the industry must deal with, as is shown in figure 1 (SWOT analysis).

Strengths	**Weaknesses**
- Increase in exports - Increase in medium/large investments - South: availability of suitable land - North: availability of expertise	- Individualistic approach by companies - Poor (cold) infrastructure to reach market - Almost full dependency on small-scale farmers - Tradeable volumes and traceability aspects - High post-harvest losses - Costs of training small-scale farmers - Unfavourable business environment - Unfavourable import conditions (inputs) - High costs of horticulture enterprising - Uncompetitive overall position - Poor market intelligence systems - Unstructured supply chain/trade data - Poor infrastructure - Poor (cold) agri-logistics - Lack of access to credit and finance - Limited use/adoption of technology - Acquiring and high costs of technology - Lack of well-trained personnel - North: lack of suitable land - South: lack of expertise
Opportunities	**Threats**
- Fast growing industry - Inclusiveness factor small-scale farmers - Gender supportive (2/3 women) - Labour absorbing (2.5 mln. people) - Technology adoption rate must be high - Commercialized production still to come	- High competition at international market - Stringent quality standards - Changing quality standards - Consumer demands changing - Inappropriate use of pesticides/fertilizers - Lack of environment protection standards - Lack of horticulture Code of Conduct - Agriculture not priority of Government

Table 1: SWOT analysis on the Tanzanian horticulture industry. Source: interviews and literature.

Survival mode, but growth is expected
Currently, most horticulture companies that were interviewed state that they are currently in a 'survival mode'. According to most, this is not the right moment to invest in agri-logistics solutions. To illustrate this, one company explains that TAHA Fresh, a preferred horticulture agri-logistic handling agent servicing many companies in the North, saw its net profits fall by about 70% in 2017 alone. Swiss Port, the cargo handler at KIA airport in the North, expects profits to fall by 50% this year, due to less cargo to handle, and less passenger traffic to manage. All horticulture companies try to cut cost where possible, more than ever before, and pay for logistics services if no other solution is possible. However, most of the horticulture industry actors interviewed expect the industry to stabilize in one year from now (starting 2019). As one company said it: in the coming year, the industry should consolidate and build on what it has and be ready for growth to return in a year from now.

Most companies interviewed explain that in the coming year there is no interest to invest in joint or individual agri-logistic solutions. Besides this, storage and packing solutions are activities that take place at the farm itself, to ensure proper tracking & tracing. Consolidation, handling and cold storage is then done at the airfreight location (KIA, Nairobi, or Dar es Salaam airport). Among the companies there is therefore no interest in joint investments in shared consolidation solutions. Besides these technical reasons, joint agri-logistics in the horticulture industry are not seen as feasible due to the high level of competition involved. For example, the North counts around eight well-established vegetable and fruit (incl. berry) export companies. Some export produce to Netherlands, others to the UK and/or other EU countries. The companies clearly state that they would not invest in joint, integrated export facilities since information on prices and end-markets cannot be shared.

2.2 Situation in the North

Vegetable production and export
Key vegetable export products are French beans, baby corn, sugar snaps, snow peas, green beans, chilli pepper, and avocado. Other export products are spices (mint, chives, and basil) and fruits (raspberries, berries, passion, and mango). Vegetable products with high-end demand at local (and possibly regional) markets are broccoli, squash, cauliflower, and cabbage. A company with a long history in Arusha-Moshi explains that the vegetable (and fruit) industry for export has in fact not even been developed yet and only recently started to take off. The company believes that there is a high growth potential for the vegetable, fruit, and cuttings business. Besides these high-growth sub-sectors there is also growth among the North-based seed producers, three of which are large companies exporting high-quality seed to Netherlands. Another exporter of fresh vegetables currently exports 40T/week, split over 3-4 shipments/week. Its produce is trucked to Nairobi and from there flown to the U.K. The ambition is to grow to 60-80T/week in the coming years. This company too believes that growth of the horticulture sector is yet to start, and that the highest growth potential is in vegetables and cuttings. Trade in vegetable products requires high investment in sourcing from small-scale farmers, through outgrow arrangements. All agree that in the North there is not enough land available for companies to rely on own commercial production. This makes them highly dependent on production and supply capacity by small-scale producers. In efforts to guarantee supply, farmers are trained and are secured of the offtake and rapid payment. The same company currently exports between 40-50T/week, all through Kenya since its main market is UK. Through further upscaling its outgrow arrangements it now aims to enter the Dutch market as well.

Cuttings and flowers production and export
There are roughly six large cuttings companies in the North that export to Netherlands, jointly growing many varieties, either at own facilities and/or through outgrower schemes. One company grows 100s of cutting varieties for export to Europe; roughly 25% at own facilities and 75% in 20

areas with in total 5,000 outgrowers. Another company, probably the largest in the area, grows around 100 varieties at its own 10 ha. modern greenhouse facility, employing 375 local staff, while not working with outgrowers at all. 75% is produced for the EU market and the remaining 25% for the U.S. and Asia markets. To ensure reliable air freight of its produce to Netherlands, the company secured its own BSA air cargo slot with KLM, from KIA airport to Amsterdam. Another cuttings company managed to do the same. Meanwhile, the flowers export industry is said 'to weaken by the year', with flower companies now said to rapidly downsize production and export. There are currently only 3-4 flower companies that produce large volumes of roses for export to Netherlands.

Baby vegetables, in nursery and open field, produced for export to Europe.

Markets and competition

Competition among the horticulture companies in the North is high. A big share of all exported products needs to be produced by relatively few capable outgrowers. At regional and international markets, the products have to compete with products from other countries around the world, and must comply to stringent quality standards. To meet these, the outgrowing farmers require support (investment) from the horticulture companies to improve production and quality, and to maintain these levels at all times. Different companies try to source from the same farmers, increasing tough competition in efforts to remain a reliable supplier to their market. Sales to international clients is done by the companies themselves. The required infrastructure (roads, seaports, power supply) to reach international markets is in a relatively poor condition. Cold chain infrastructure, storage and sorting facilities are inadequate, posing extra constraints and costs due to the perishable nature of the horticultural products. While trying to manage these 'internal' aspects, the 'external' consumer demand and quality standards continue to change, sharpening market aspects at international, regional, and increasingly domestic level.

2.3 Situation in the South

Different categories of commercial producers

Field research in the South revealed no direct B2B investment opportunities for Dutch agri-logistics companies in the horticulture industry. In total 25 actors were visited and interviewed on opportunities in the agriculture sector. An existing horticulture industry in the South seems non-existent, although the potential for growth is huge. Those companies that are active in horticulture are stand-alone operations that already invested in their own, modern agri-logistic infrastructure. One processing company active in tomato processing sources tomatoes from farmers, processes it into raw material (paste), which is then trucked to Arusha for end-product processing (sauces). Another sources avocado from outgrowing communities, processes it into ready exportable products, and has it trucked to Dar es Salaam for sea freight to export markets in Europe. Both companies are well-equipped and not in need of any additional investments. There are more

examples of such companies, especially in the avocado sub-sector. One conclusions may be that although there is some commercial horticulture activity in the South, those companies involved operate as experienced 'lone rangers', and not as an organized industry. These and a number of potential horticulture investors may however become lead companies for professionalizing the horticulture industry in the South.

Figure 2: The Southern Highlands: potential horticulture production zone. Source: SAGCOT.

According to one expert, the South offers investment opportunities for three types of investors. The first is commercial horticulture producers that export directly to foreign markets (EU, Middle East), and which do not depend on airfreight and that truck to the coast and from there ship by sea (for example avocados, ginger, and horticulture or flower seed). Second are the commercial producers that enter into regional trade with the surrounding countries Malawi, Zambia, DRC, and even Kenya, and/or supply to Dar es Salaam's specialized markets such as hotels and supermarkets (for example potatoes, vegetables). Third are the commercial producers that operate as commercial production (outgrower) and consolidation satellite units of well-established companies in the North.

3. Key issues affecting growth of the horticulture industry

3.1 Clustering findings at two levels

To gain practical insights in how the Tanzanian horticulture industry works, this chapter describes a number of key issues that affect the industry. Some are clear operational business issues (B2B), while others can be defined as issues that require government-to-government (G2G) support. The issues are based on opinions from a large number of companies in the North, and come from interviews, company visits, and group discussions. The purpose of this chapter is to better understand the challenges facing professionalization of the horticulture industry. And to address these issues as entry points for the proposed Horticulture Industry approach, through suggested B2B and G2G activities.

Most companies feel that if the Dutch government, as key horticulture player, wants to leave its footprint, it should now, and not later, support the potential growth of the horticulture industry. They argue that in supporting the approach it will bring technical (and sustainable) solutions to improve productivity and production, and promote improved seed, inputs, and other means of production. That it will bring knowhow and innovative technologies to the industry, including on logistic, transport, and handling solutions, to enable companies to move high volumes of high-quality produce from farm to market. That it will help linking the industry to solution providers in critical areas, such in greenhouse production, weighing, cooling, packaging, labelling, handling,

container technology. That it will showcase these solutions, displaying what is available and what works. And that it will support companies to be able to hire practical and skilled workers, at technical and managerial level, which are trained and coached on the job. The horticulture companies wish for the long-term approach to focus on the vegetables, fruits, and cuttings sub-sectors; and believe that its overall goal is to further strengthen collaboration between Netherlands and Tanzania.

From this perspective, the following sub-chapters provide insights in the key issues, at B2B and G2G level, that stand in the way of such potential growth of the horticulture industry.

3.2 Key issues at B2B-level

Building contract farming relationships, and keeping them

Many horticulture companies in the North source their produce from small-scale outgrowers. These are often located far away. One horticulture company active in vegetable sourcing, grading, packing, cold storing, and exporting from its processing facility in Arusha, entirely depends on its 2,000 trained outgrowers that produce as far as 350 km away. Through this mode of operation, it still reaches the level of 25% of collected produce being reject, and 75% certifying for export. Weather conditions often define the quality of the produce. Building and investing in solid outgrower relationships is a crucial business element for the company. Having a pool of good trainers and knowledgeable collectors is important.

Outgrow of beans by small-scale farmers for horticulture exporter.

Companies in Arusha mention that it is common for new, small horticulture ventures to enter the business, process around 5T of produce for export per week (often sourced from side-selling outgrowers), and leave the business just as fast as they came once this model fails to be sustainable. One established company explains that besides these newcomers, Kenyan exporters also form a threat to their investments in outgrower schemes. These traders come to the North, buy and collect fresh produce where they can, pack it for export, and transport it across the border to Kenya where it is exported as Kenyan produce. Besides informal Kenyan traders ('hawkers') this practice also includes formal subsidiaries of Kenyan companies that operate as entity in the North. According to Tanzanian horticulture companies, established Kenyan companies in the area, and the numerous Kenyan hawkers, are able to move large quantities of high-quality fresh vegetables into Kenya every week. This has destroyed a lot of business over the past couple of years, although recently imposed strict border controls seems to have halt it. A number of the Kenyan companies in the North recently

closed down and many Kenyan hawkers have not returned. This positive development is expected to boost (the potential for) horticulture exports from Tanzania.

Farmers lack the capacity to upscale production

Through outgrow schemes, companies try to secure their inflow of raw materials, and at the same time these small-scale farmers see sales to regional and international markets become reality. Before being linked to the companies, these farmers often sold produce to middlemen at much lower prices. As one lead farmer explains: before being connected to the exporter, the average income of a small-scale vegetable farmer was 900,000 TSh/acre. Now, as outgrower, the farmer's income (and that of other farmer group members) has nearly tripled to 2,500,000 TSh/acre. Companies and farmers both recognize the potential for increasing productivity across horticulture crops, ranging from 50%-100% increase per acre. Farmers involved in outgrow schemes are eager to expand production, on own or leased land, to fulfil the growing demand from the sourcing company, but lack the cashflow to do so. Costs for pre-harvest inputs (seeds, fertilisers, pesticides, labour) are too high, and companies have become reluctant to pre-finance due to many cases of side-selling. The horticulture industry could attract external financiers in well-established outgrow schemes, which finance farmer input credit schemes that are based on off-take contracts after harvest. The lack of access to affordable credit and financial services, especially in agribusiness, is a hugely limiting factor for new investments in the horticulture industry. Long-term financing with favourable terms and conditions is highly needed to accelerate horticulture industry development. Customised financial instruments are required to serve needs of horticultural companies.

External financing of practical solutions: example of packaging material

Fresh vegetables from the North often travel via Nairobi to the export markets, not only because of lack of airfreight space at KIA airport, but also because there is no good packaging available in Tanzania. Importing it is troublesome. Packaging is a general problem for vegetable exporters in the North, both for air and sea freight shipments. Local production and availability of high quality carton and plastic packaging material (plastic pallets, boxes, film) is in high demand among nearly all horticulture companies that were interviewed. But it is not available.

Imported packaging material used by exporters of fresh vegetables.

One company, using 6,000 pieces of carton packaging material per week in the high season, estimates that for local fabrication of high quality material, the break-even for investing in equipment lies at around 50,000 pieces per week. The company is eager to be part of a group of companies that commits to buying from an investor in packaging technology. The same exporter

now imports packaging material from Nairobi, like many other companies. But the small plastic containers (boxes) that carry vegetables for export, and the plastic liners and overwrapping film to package it, have become highly expensive due to new Tanzanian import taxes on plastic products (new national tax to discourage domestic use of plastic). Although the plastics are exported, taxes remain in place. Due to strict requirements from buyers in Europe, not importing them is no option for the exporters. The horticulture industry should be supported in linking investors or external financier to the well-established exporters, and investigate how solutions for practical problems such as this one can be financed.

Struggle for airfreight space at KIA airport

One company expresses its fear to depend on KIA airport as airfreight handler. It sees KIA airport is a tourist airport, not a cargo-focused airport. With tourism dropping since Tanzania's safari industry got costlier than in neighbouring countries, horticulture companies enter an unsustainable scenario in which they depend on tourist flights for fresh horticulture cargo. In the past, a group of companies consolidated exports allowing them to have a contract with a dedicated air cargo freighter. When the total volume dropped (two key exporters entered a direct contracted with KLM, securing their own Block Space Agreements, BSA) volumes became too low and this arrangement stopped. The companies were left with the small remaining BSA on the KLM flights, which is now coordinated for them by TAHA Fresh.

In the event of too much produce, companies have to truck to Nairobi or Dar es Salaam, and airfreight from there. TAHA Fresh explains that the average all-in transportation cost for a company goes up when using Nairobi: from farm via Kenya to Amsterdam Schiphol costs about 2.50$/kg, while through KIA to Amsterdam costs are 1.60-1.80$/kg. Besides the Nairobi option, companies explain they truck fresh produce to Dar es Salaam Airport, and arrange airfreight space to Amsterdam from there. But whereas the cold chain to Nairobi is managed well, the capacity in Dar es Salaam is considered to be poor, even though modern cold chain equipment is in place. One company says flying from Dar es Salaam results in $ 0.15 per kg. discount compared to Nairobi (using its own truck to transport to Dar es Salaam). In that case, a 3T volume results in $ 450 difference, which is just sufficient to cover trucking costs, but only if it can return full back to Arusha.

Managing various air cargo scenarios

A number of companies interviewed indicate they seek for the above mentioned 'joint cargo solution' to be re-introduced. This would require the consolidation of export produce of minimum 50T/flight. Focus of such effort could be on the high season (September-March or April). To achieve the overall goal of ensured and cost-effective airfreight from KIA airport, a good mapping and up-to-date overview of consolidated produce per week is crucial, including on how often (or even on what day) a company's shipment should fly out. The more companies that can agree on a fixed day per week, the higher the bulked volumes that day, and the more feasible it becomes to reach the 50T/flight cargo option. However, as one company says, the industry's focus should be on providing best options. Not on improving airfreight from KIA airport per se. Margins are small, and the key is to save on freight costs, regardless from where. This requires dedication to finding optimum and tailor-made solutions throughout the year. For example, by consolidating a dedicated 50T/week air cargo freighter option may become feasible from KIA airport. But such consolidation may also give bargaining power to achieve better rates for road transport to Nairobi airport. And bottlenecks at KIA airport increase in the March-June period, when KLM reduces flights due to the raining season (less tourists). Meanwhile, a large share of KIA KLM air cargo space is now dedicated to exports of roses and beans, and while these products saw an export boom until some years ago, they now experience a slow but steady fall in export volumes. This would logically result in more available space for other horticulture products. A thorough mapping of volumes and scenarios per year, per week, and even per day (berries) is required to guide the sector in finding secure and cost-effective solutions.

Taxes and fees, lack of supporting infrastructure
Tanzania's business climate continues to be one of the key challenges for the horticulture industry's growth. Key areas of concern for companies relate to taxes, levies, regulatory fees, and work and residence permits. TAHA recently identified a total of 46 regulatory fees, central and local government levies, and taxes that affect horticultural producers. It found that registered farmers must deal with at least 15 regulatory bodies and address about 46 different levies, fees and taxes. At the same time, infrastructure (roads, seaports, airports, and power supply) is often unreliable, and cold chain infrastructure, storage and sorting facilities that should support a growing horticulture industry, are inadequate. Companies that wish to grow have no option but to invest in being able to operate fully independent from public infrastructure support services.

3.3 Key issues at G2G-level

Importance of the industry to Dutch international trade
The horticulture industry in the North is a strategic source of high-value produce for Dutch trade with the rest of the world. Horticulture products from the Arusha-Moshi area (vegetables, flowers, cuttings, seed), according to companies interviewed, are at the base of important and valuable international Dutch value chains. To quantify this importance, a study on the value of produce from Tanzania that is sold as end-products from Netherlands on the international market is needed.

High-tech investment in production of cuttings for the Dutch and re-export market.

Companies believe that higher volumes of horticulture production in Tanzania will quickly result in a more mature industry, and with that a higher need for Dutch agri-logistic technology. Improved coordination of production and bulking for storage and transport will also result in companies being able to offer the market more variety, higher volumes, different quality levels, and spread availability windows. Support to professionalizing the Tanzanian horticulture industry will open up new markets for Dutch companies, while at the same time these large volumes will require long-term planning and strategic partnerships that require Dutch technology and knowhow. A study on this is needed, to gain better insights in the economic value and importance of a professional Tanzanian horticulture industry as starting point of an international supply chain, to both countries.

Reliable projections on markets, trade, and business networks
The potential to produce horticulture products for international (and regional) markets is huge. But the industry, according to companies interviewed, lacks solid market intelligence. There is no structured data and information on trends available; nor information on season-based market

windows, required quality standards, and specific buyer linkages on how to make use of these opportunities to supply. The industry's main body, TAHA, understands demands in export markets, yet some companies feel it lacks the skills to produce precise market data. The industry needs reliable projections on markets, and on a concrete B2B opportunities network. It needs a broker-led initiative that structures backward (production) and forward (up-takers) data to facilitate trade. This includes up-to-date intelligence on international quality requirements per type of fresh produce, such as specific standards and safety requirements.

Code of conduct

Changing consumer demands are a driver for planning and application of pesticides and fertilizers, including on record keeping and traceability aspects at company level. This may also include advocacy for the use of biological agri-inputs, including a fast-track trajectory for the importation of these products from abroad. Various companies mention the need to establish a horticulture industry Code of conduct. Similar codes have been developed and implemented in Ethiopia and Kenya, with the support of Dutch government and industry actors. Lessons learnt from these initiatives can be used for a similar initiative for the Tanzanian horticulture industry. This code will have to include technical aspects as well as social responsibility aspects, such as minimum wage.

Skills training and apprenticeship

Personnel, at every level in the value chain, requires training in skills to conform to the production aspects of this Code of conduct. According to many companies, good Tanzanian farming experts are very difficult to find. This situation brings a crisis to horticulture companies, and it has worsened rather than improved over the past five years. Companies express the need for a practical training school that is able to deliver skilled manpower to the market, through skills training and an apprenticeship program.

Need for skills to produce according to international standards.

Streamlining imports and duties

Much-needed imports of horticulture inputs have become extremely difficult due to bureaucracy, non-tariff barriers, and operational challenges in logistics. Irregularities and complexities in the regulatory framework challenge the importation (and eventually registration) of high-quality agriculture inputs for use by horticulture companies. This has a negative effect on growth of the horticulture industry. It means that costs of running a horticulture enterprise remain high, making the country's horticultural products expensive and uncompetitive in the international market place.

One company interviewed suggests a certificate-structure for the industry, by which imports of inputs can take place at a reduced flat tariff and free of hassle, is feasible. This certificate would be based on the 'for company only use' label, meaning that no other than company inputs can enter the imported container. This system should be based on a mutual G2G trust mechanism. A global certifying company, such as SGS, plays a key role. The principle is that VAT on these production inputs are tax exempted (0%), and that import duties are placed under a fixed rate system (for example 2.5%) over the total value of a container's contents. This would include products that are currently tax exempted (0%) as well as those that are taxed (10-25%). If horticulture industry actors can agree on this, a scheme can be designed for all horticulture industry imports, from horticulture (bio) fertilizers and pesticides, to PVC piping, greenhouses, coco peat for cuttings, pumps, and spraying equipment. The certifying company in Netherlands takes the role of checking and certifying the container to be imported in Tanzania, communicating the certification and list of products to the Tanzanian Bureau of Standards, who in turn informs Tanzanian customs to check and pass the container through customs – quick and without hassle. Some companies interviewed agree to take a lead in the design of this certifying process. The focus of this process is on simplifying imports of inputs for horticulture production, through streamlining imports and import duties, and that ensures VAT return.

3.4 Location issue: North lacks the potential of the South

Can the success of Arusha be repeated in the South?

One company established for many years in the North expresses its fear that the North alone cannot offer the industry what it takes to become a success. The North is too dry, there is no available land left, and there is a lack of water. The momentum to invest in the North has past. Meanwhile, the South has it all: land, water, and momentum. However, established companies cannot just move from North to South – they are present in the Arusha-Moshi area for many years and established a socio-economic environment in which they operate. Still, the company feels it is only a matter of time before the South becomes the horticulture sourcing area for these companies in the North. Also among other companies the South is seen as the true opportunity for the horticulture industry to grow. It is here, they say, that the Arusha success of 10-15 years ago can be repeated tomorrow.

The South has the potential to become a sourcing area for the North.

Move to the South only in partnership with others

At this moment, commercial greenhouse horticulture production is close to non-existent in the South. According to a leading greenhouse company, there are only two or three commercial greenhouse producers in Iringa, and none in Mbeya. Developing a horticulture industry in the South

is seen as a long-term strategy that requires intensive collaboration among industry actors and overall business development support. The company sees high potential in expanding its horticulture seed demonstration and distribution activities in the South, and is eager to play a technology transfer role in the areas of high quality seed (demonstrations) and greenhouse production (training). Working in partnership with others is seen as the only way to make a move to the South sustainable.

Satellite bulking units in the South

Vegetable exports from the North to Europe have high growth potential. Yet sourcing the produce from outgrowers is becoming more and more competitive. This situation offers market opportunities for new commercial producers in the South. Outgrowing and bulking of fresh produce in the South, trucking it overnight to be consolidated next morning with additional produce in the North, and airfreighted that same evening to export markets in the Europe, is seen as a realistic scenario by various companies. In fact, it is already happening. One Arusha-based beans producer and exporter recently invested in expansion of its production in the South. The produce is trucked to Arusha, bulked, and exported to Europe. The company plans to further invest in the South in 2018. Another Arusha-based vegetable exporter sees sourcing from the South as a key next step of its growth strategy. It currently seeks additional capital to invest in a packhouse in the South, for bulking fresh produce at a central location and trucking it to its processing facility in the North, from where it is exported to the EU. The company estimates the costs of a new 50T/week packhouse to be US$ 250,000. Investments in cold store pack houses, as satellite bulking units in the South, may soon become a key strategy component of companies in the North.

4. Concluding: suggested key activities of the approach

4.1 Opportunities for B2B and PPP activities

Concluding on the above B2B and PPP issues, the table below describes opportunities and suggested key activities at 1) B2B company-level; and at 2) PPP-level, which includes private sector collaboration as well as collaboration between the Dutch government/embassy with its Tanzanian counterparts (G2G).

Suggested key activities at business to business (B2B) level, focused on increasing private sector investments and trade:	Suggested key activities at public private partnership (PPP) level, including Dutch Tanzanian G2G collaboration:
1. Build an effective sourcing structure, based on assured market demand, through contract farming arrangements including between actors in the North and South 2. Develop capacity and skills among producers to upscale horticulture production to satisfy this market demand 3. Build an external financing structure for investments in practical horticulture solutions to upscale production 4. Create a practical system to manage the various air-cargo scenarios, to optimize the airfreight opportunities of KIA airport 5. Create a practical one-stop information and support infrastructure for companies to deal with taxes and fees.	1. Create better insights in the importance of the Tanzanian horticulture industry to Dutch trade on the international market 2. Build a reliable system for projections on horticulture end-markets and trade, and a business network with Dutch importers 3. Develop, agree, and implement a Tanzanian horticulture industry Code of conduct, for accessing these international markets 4. Work with Tanzanian authorities on an approach for streamlining horticulture imports and duties 5. Support building practical skills in horticulture, for example through training and apprenticeships programs.

Table 2: Suggested key activities at B2B and PPP-levels

4.2 Suggested key activities of the approach

These, and possibly other areas, would have as main focus to further strengthen the collaboration between The Netherlands and Tanzania in the country's horticulture industry. The suggested Horticulture Industry approach, taking the above B2B and G2G possibilities in mind, will primarily focus on the following key activities:

1. Demonstration of modern horticulture technologies. Focus should be on how both countries can better share knowledge. For example, real demonstrations to show the full horticulture chain in practice, and in reality. For example, why and how to make use the following components: soil laboratory services (soil care, soil analysis to control water efficiency, input efficiency), drip irrigation, climate control, mechanisation, (organic) fertilization and pesticide application, processing such as drying and canning, packaging, logistics (storage, cooling, ICT), handling, and road, air and sea transport.
2. Developing skilled manpower, in order to create a pool of mid-management level and technical operators for horticulture companies. For example, by integrating students with companies through apprenticeships programs, and achieve student-company matchmaking. With the purpose to create a pool of practical horticulture experts for new and existing investors in the industry. This would also offer trainings and courses in collaboration with a practical agribusiness college. Aimed at bridging this huge challenge in the country, by bringing practical company knowledge to theoretical graduates.
3. Establish or develop further a one-stop shop on doing business in Tanzania's horticulture industry. Support companies in preparing investment plans and provide support to make a new company viable. Maintain a network among the different external finance providers, both in Netherlands and Tanzania, and have knowledge on where the best deals for different financing mechanisms are available: equipment financing, export financing, soft loans, grants. Become a knowledge and expertise centre by establishing a network of Dutch and other foreign companies (in Tanzania and Netherlands) to advise on practical issues such as available land, water permits, staff, relevant agriculture institutes, and so on. Know best options for road, sea and air transport of produce. Ensure active knowledge sharing among participating companies. Map and learn from mistakes made in Arusha over the past 30 years.
4. Aim for the North to become an engine for horticulture development in the South. By using the one-stop-shop above, to supports companies in establishing B2B partnerships, based on solid B2B business plans. It links companies in the North with those in the South, as well as to farmer groups with outgrower experience or potential. This would include opening a sort of 'satellite office' in the South, which supports already existing networks in the South of related initiatives and organizations. This activity connects to lead horticulture companies that have already established themselves, both in the North and in the South, as well as to those that are planning to do so.

4.3 Other aspects to be considered

Challenges, lessons, and opportunities

An important aspect that the above activities of a Horticulture Industry approach need to take into account is the high-risk features of the horticulture markets. Competing in these international markets involves exposure to operational, competitive, technology, and consumer risks. The challenge is to support the horticulture industry in managing those risks, which appear over the entire horticulture value chain, and where a failure in any specific activity will jeopardize revenue for an entire set of chain members. The approach and activities will also need to have a good strategy on how to mitigate risks for itself. Success will depend on the growth of sustainable and competitive

horticulture companies. It is important to understand how key activities can best be facilitated and grow, and how this can grow into a model in which lead companies, in the North and in the South, will pick up the role of horticulture industry developers.

Key local partners

TAHA, the Tanzanian Horticulture Association, is a member-based private sector organisation that advocates for the growth and competitiveness of the horticulture industry in Tanzania. It is based in Arusha. Since its inception in 2004, TAHA has been an effective platform for producers, traders, exporters and processors of horticultural products: flowers, fruits, vegetables, horticultural seeds, and spices. The Association safeguards the interests of industry stakeholders and ensures industry issues are well represented within national and international agendas. TAHA has a total of over 700 members, categorised into three groups. The first is a group of around 45 large producers, exporters and processors of horticultural related products. The second is that of roughly 70 suppliers of agro-inputs and other service providers in the industry, including development projects, financial and credit providers, consultancy companies, and business development service providers. And the last group consists of around 600 small-scale farmer groups, associations, and individuals taking part in horticultural activities. TAHA's strength is its wide membership base in the horticulture industry.

Key local partners that facilitate growth of the Tanzanian horticulture industry

TAHA Fresh, a specialized logistics services provider to key players in the horticulture industry, can play a crucial role in the success of the approach. It's expertise and network in the areas of horticulture airfreight and sea freight forwarding, trucking, customs clearing, forwarding, and insurance is important to the ambitions of the approach. Because of this, and to get a better insight in the challenges surrounding commercial agri-logistic service provision, the consultant carried out an in-depth situation analysis on TAHA Fresh, describing its: Current status of offering service and of operational aspects; Challenges for offering services, and relation to operational aspects, and; Solutions for professionalizing services, and advise on improving operational aspects. The analysis was carried out at the request of TAHA and TAHA Fresh, in the context of self-reflection and improved service delivery in the future. The outcome is described in Annex 1: Current status, challenges, and solutions of offering services.

Importance of mapping the innovation ecosystem

To achieve its goal, the Horticulture Industry approach will need to develop a strong network with direct and indirect actors and stakeholders in the industry. It will be important for the approach to map, design and create an innovation ecosystem that strengthens the horticulture industry in its growth. This innovation ecosystem is also critical for the approach itself, to succeed in designing the components of its business model to roll-out activities to different zones in the country. Creating a 'common mind-set' among horticulture participants of the ecosystem will help the approach to optimize effective interaction between: small-scale and commercial producers, processors, exporters, other value chain entrepreneurs, foreign investors, knowledge institutes, sector associations, research institutes, and government agencies. This will increase the potential to build a professional horticulture industry.

5. Expert interview list

Organisation	Location	Name	Position
Tanzanian Embassy	De Hague	I. Kasyanju	Ambassador
Dutch Embassy	Dar es Salaam	E. Gies	First Secretary Economic & Trade Policy
KLM, Martinair Cargo	Nairobi (SKYPE)	N. Duyzings	Managing Director E and S Africa
European Union	Dar es Salaam	E. Pasquini	Programme Officer
European Union	Dar es Salaam	M. Fabrizio	Programme Director
USAID	Dar es Salaam	R. Chester	Office Director
SAGCOT	Dar es Salaam	G. Kirenga	CEO
SAGCOT	Dar es Salaam	J. Baarn	Deputy CEO
JICA	Dar es Salaam	S. Fumihico	Representative
World Food Programme	Dar es Salaam	J. Kisanga	National Programme Officer
World Food Programme	Dar es Salaam	M. Mabuyu	National Logistics Officer
DSM Corridor Group	Dar es Salaam	M. Pennanen	Business Development Director
NMB Head Office	Dar es Salaam	T. Borghols	Chief Credit Officer
REPOA	Dar es Salaam	D. Mmari	Executive Director
TRADE MARK	Dar es Salaam	J. Ulanga	Country Director
Ministry of Livestock	Dar es Salaam	Y. Budeba	Permanent Secretary
AZAM	Dar es Salaam	H. Ally	Director of Corporate Affairs
PASS	Dar es Salaam	H. Mmomi	Business Development Manager
AMDT	Dar es Salaam	M. Mgallah	Market Systems Manager
Ministry of Agriculture	Dodoma	M. Mtigumwe	Permanent Secretary
NMB Northern Zone	Arusha	Rwechungura	Sr. Relation Manager Agribusiness
GAFCO	Arusha	CFO	CFO
Match Maker Group	Arusha	P. Uliwa	Managing Partner
TAHA	Arusha	J. Mkindi	CEO
TAHA	Arusha	V. Majo	Agronomist
TAHA	Arusha	J. Munishi	Marketing Officer
TAHA Fresh	Arusha	A. Temu	Director
TAHA Fresh	Arusha	T. Mlanga	Sea Freight Manager
TAHA Fresh	Arusha	J. Mwita	Air Freight and Tracking Manager
TAHA Fresh	Arusha	C. Wakiariro	Finance and Administration Manager
Swissport Tanzania	Arusha	D. Koyya	Head Cargo Services KIA
Crop Bioscience Solutions	Arusha	W. Muscobozi	CEO
Dummen Orange	Arusha	B. van Lankveld	Managing Director
Serengeti Fresh	Arusha	M. Shah	Managing Director
Rijk Zwaan	Arusha	A. Roelofs	Product Development Specialist
Red Gold	Arusha	R. Shinde	Director
Multi Flower	Arusha	T. Scheltema	CEO
Home Veg	Arusha	M. Tarimo	Director
Kusi	Arusha	G. Tomlins	Director
Kili Hortex	Arusha	A. Koster	Managing Director
SEVIA	Moshi	E. Mwashayenyi	Managing Director
PCT	Iringa	J. Power	Chief Operating Officer
Local Government	Iringa	W. Dickolagwa	Regional Administrative Secretary
Beula Seed	Iringa	Z. Mbwaga	Managing Director
Tosti	Iringa	R. Marwaha	Managing Director
Rutuba Tanzania	Iringa	O. Ulyate	Director
PASS	Mbeya	C. Chinunje	Business development Officer
PASS	Mbeya	A. Mwajasho	Brunch Manager
Mtenda Kyela Rice Supply	Mbeya	G. Mtenda	Managing Director
Meru Agro	Mbeya	H. Rajab	Operations Manager
Local Government	Mbeya	M. Mtunguja	Regional Administrative Secretary

6. Reference list

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Annex 1: TAHA Fresh's current status, challenges, and solutions of offering services

Current status of offering services, and of operational aspects

Current status: offering services to companies	
Clearance	- Revenue from clearance activities: 10% - Clearance by TAHA Fresh (TF) is also preferred by non-clients, and/or TAHA members who deal with competitors for their airfreight - The procedures are smooth.
Airfreight	- Revenue from airfreight transactions: 80% - KIA has limited airfreight capacity. TF's capacity from both KIA and Dar is 9tons/week. (from October to March increases to 12 tons/week - TZ has no cargo air freighters, except once a week when an air freighter coming from Johannesburg, passes Dar and Nairobi - TF has been awarded by KLM as their biggest air freight contributor in TZ.
Trucking	- Revenue from trucking activities - Trucking with TF is preferred also by a number of clients who deal with competitors - Limited capacity, 2 trucks, and occasional unattractive hire.
Sea freight	- Revenue from sea freight: 10% - Sea freight procedures are smooth, sometimes lengthy.
Current status: operational aspects	
Clients	- TAHA has 550 members. Not all TAHA members are TF members and vice versa - TF has 46 members, from which 16 are the biggest revenue contributors for TF - Clients (some of them Board members and/or shareholders of TF) who left are using TF fresh for import clearance and/or trucking.
Sales/marketing	- New department (2 months) with 1 employee - Focus is on customer care, visiting existing and prospective clients.
Competition	- Kuhne & Nagel - Lehman logistics - TF is the only member organisation offering "one stop shop".

Challenges for offering services, and relation to operational aspects

Challenges: offering services to companies	
Clearance	- Lately too many unattractive/sudden changes from GoT.
Airfreight	- Nairobi is used by many clients as it provides faster clearance and lower handling fees with 5 air freighters - Credit period extended from 30 days to 45-50 days due to enormous taxes imposed by the government, causing liquidity issues on both sides - So far 3 large clients have left either for seeking services by competitors (FIDES – 40% of TAHA Fresh (TF) turnover, and to Decker-Bruins NL flowers) to Kuhne & Nagel. or to enter new neighbouring markets (PROXI Fresh – green beans to Rwanda, KUSI, chilli to Senegal, Finley's (KE), back to Kenya) - Tanzania has the high clearing taxes and landing fees compared to Kenya. Not attractive for cargo freighters (In 2008-2010 there was a MK Boing 747 cargo freighter operating in KIA, until GoT realised that it was an attractive revenue stream, and imposed VAT on airfreight, which made it unattractive for the freighter to operate, and shut the business - Kenya has 5 air freighters per day. - Cargo freight requirements are hard to meet from TF - Companies using KIA can only fill 2/3 of a cargo plane – 40 tons of volume (air freighter requires full occupancy) - Air freighters require a bank guarantee that can reach US$ 1.000.000, in case customers and/or TF is unable to pay

	- Friday and Saturday only the big clients can use KIA, (total capacity of KLM 10 pallets, 1 pallet 2 tons) - Many clients are using Nairobi - 70% of the clients are occupying a whole truck - 30% of the clients are sharing a truck - Only 1 manual docking height vs 5 automatic in KE - The limited flight destinations are causing restriction of exports - The limited air freight space can cause delay in shipping, which can damage the reputation of the client (lack of delivering on time) - No indication of investments on Aviation.
Trucking	- High cost of hiring trucks, which is not calculated extra for the client.
Sea freight	- 95% of the northern circuit clients are using Mombasa instead of Dar, for eliminating distance, faster and cheaper procedures.
Challenges: operational aspects	
Clients	- Board members and/or shareholders using airfreight services from competitors. - Enormous taxes imposed to the entrepreneurs which cause liquidity issues.
Sales/marketing	- No clear strategy. - No cooperation with TAHA Marketing department - Weak positioning of TF in relation to TAHA.
Competition	- No clear knowledge on the reasons competitors are used - No clear strategy for positioning as “one stop shop” against the competitors - No clear pricing strategy.
General	- Capacity development of staff. - Leveraging resources for freight: trucking, consolidation of cargo, profit margins are very small. (Clearing is profitable) - Process is still manual (telephone-email) for both air and sea freight: - Limited support on Accreditation: for example, in TZ Kili Cert can only issue (via Global Gap in Germany) a general certificate for all crops, while in KE there is a specific one for horticulture; and the final auditors are in KE.

Solutions for professionalizing services, and advise on improving operational aspects

Solutions: offering services to companies	
Clearance	- Advocacy by TAHA on implications for the sector
Airfreight	- Increase of Air freight capacity in KIA: TAHA Fresh (TF) to (re)negotiate with cargo airlines; - at the moment engaged with Egypt Air for a smaller freighter to first fly to Cairo, and then be loaded in a bigger one to NL - Invest in an automatic docking height (increase speed of loading for temperature control).
Trucking	- Fleet expansion - 3 extra refrigerated trucks (US$ 500.000) - Upgrade of fleet trucking management system - Traceability of the quality of the freight - Temperature trucking by a Log Tag placed in the truck providing real-time information and eliminating the shipment rejection. US$ 10.000)
Sea freight	- No information
Solutions: operational aspects	
Clients	- Revolving fund: around US$ 150-200.000 assisting clients to prepay their shipping costs at challenging cashflow times. To be managed/monitored by TF. Interest free - Improve communication to clients - Timeliness – reduce time on providing client feedback - No clear internal – external strategy on how to service the client.
Sales/marketing	- Customer care management

	- Become a centre of excellence for clients - Offering package services / “One stop shop” - Extend customer services: Bulk purchase of packaging material (crates, nets, boxes), to enable clients to buy from TF at a lower price; Clearance of the material; Distribution to the materials to the farmers
Competition	- No information
General	- Improve efficiency and effectiveness of the operation. Note: process automation estimated at US$ 50-100.000 - Increase revenue/profit by maximising output with minimum cost - Staff trainings on services marketing strategies, corporate communication, pricing strategies - More intensive cooperation and strategic positioning with TAHA - Access to capital finance: - Offering logistic services to upcoming value chains, for example: potato value chain in SH, once produced has to be transferred to the port but at the moment cooling refrigerated trucks are not available - Solidify the sector: Processing, Drying, and Bottling - Utilise WCA / FIATA / IATA platforms for expanded cargo transition - As a WCA member have access to 190 countries which can increase the export opportunities for clients – at the moment clients are forced to turn down deals due to no direct flights available) - Attending member conferences 3 x-year crucial for expanding network (participation cost around US$ 2-3000 per conference)

Annex 2: Background on the agriculture sector development strategy (ASDP II)

Current state of Tanzania's agriculture sector

Macro-economic indicators of Tanzania show robust growth of GDP ranging between 6.0% and 8.1% from 2006 till 2014, at 2007 constant prices. However, these levels of GDP growth happened at a time when agriculture sector growth (except for 2008) was far below the GDP growth. The relative contribution of crop to agricultural GDP in recent years averaged 18%. Tanzania has a total of about 7.1 mln. ha of high and medium potential land (2.3 and 4.8 mln. ha respectively). Of the 2.3 mln. ha classified as high potential, only 450,000 ha had improved irrigation infrastructure in 2015. The growth of agriculture is hampered by low productivity of land and labour. Although numerous factors caused this situation, the key ones are: poor production techniques; underdeveloped markets, market infrastructure and farm-level value addition; poor rural infrastructure, including rural roads, telecommunications and electricity; and inadequate agricultural finance, including public expenditure. The use of agricultural inputs is one of the lowest in the region. Tanzanian farmers use about 8–10 kg of fertilizer per ha., while Malawi uses 27 kg/ha and China 279 kg/ha on average. In spite of these low levels of application, the Tanzanian market has failed to absorb all the fertilizer stocks supplied by traders. The annual supply of improved seeds is about 30,000 tons (75% is maize seed), or 25% of the total estimated required of 120,000 tons per year.

Background on the Agriculture Sector Development Program II

Under the leading strategy, the Agriculture Sector Development Program, ASDP-2, there will be a commodity focus, but intertwined with strategic diversification. Increased offer and demand for targeted commodities will be achieved through a combination of: use of improved technologies, input market consolidation and mechanization services; irrigation development towards double cropping, mainly for rice and high value crops (horticulture); reduced post-harvest losses and value addition; and improved marketing promoted by capacitated farmer organizations, alliances with other commodity value chains (CVC) stakeholders and adequate socio-economic infrastructures and facilities. Under ASDP-2, GoT will continue to promote domestic, regional, and international trade for agricultural and food commodities.

The required interventions include promoting and strengthening: internal and external trade under the Tanzania Trade Development Authority; campaigns to use 'Made in Tanzania' products; key traditional cash crop exports including tobacco, coffee, tea, cashew nut, cotton and their processing; and increasing export of fish and horticulture, but also strategic export of maize and rice to neighbouring countries. To this end, the government proposes to expand well-functioning export processing zones in the prioritized regions and to reinforce the current system of regular consultations with private sector stakeholder associations about procedures and regulations impacting trade benefits and profitability.

The key targets of ASDP-2 by 2020 include real growth rate of 7.6%; GDP share of 24.9%; share of total exports of 24.9%; share in total employment of 56.5%. In order to achieve these targets a number of key interventions are formulated. The following is a selection relevant to this report: increased use of modern technologies, including ICT and extension services in order to increase productivity; lengthening and deepening value chains; commercialization; quality and standards; R&D and innovation; improved infrastructure (warehouses including cold chains)；improve quality standards and inter-institutional coordination; stakeholders' skills building throughout the value chain; scale up production and trade by PPPs for seed development, technology transfer, and farmer support services.

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