GLOBAL AGRICULTURE AND FOOD SECURITY PROGRAM (GAFSP)
PRIVATE SECTOR WINDOW
AGRIBUSINESS COUNTRY DIAGNOSTIC – TANZANIA

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PUBLIC VERSION

Submitted by:

Cambridge Economic Policy Associates Ltd
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<th>Full Form</th>
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<tr>
<td>3ADI</td>
<td>African Agribusiness and Agro-Industries Development Initiative</td>
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<tr>
<td>ACT</td>
<td>Agricultural Council of Tanzania</td>
</tr>
<tr>
<td>AECF</td>
<td>Africa Enterprise Challenge Fund</td>
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<tr>
<td>AfDB</td>
<td>African Development Bank</td>
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<tr>
<td>AFT</td>
<td>Agriculture Fast Track Fund</td>
</tr>
<tr>
<td>AgFiMS</td>
<td>Agriculture Finance Markets Scoping Survey</td>
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<tr>
<td>AGRA</td>
<td>Alliance for a Green Revolution in Africa</td>
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<td>AITF</td>
<td>Agricultural Input Trust Fund</td>
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<tr>
<td>AMMCOS</td>
<td>Agricultural Marketing Co-operative Societies</td>
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<td>ANSAF</td>
<td>Agricultural Non-State Actors Forum</td>
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<td>ASDP</td>
<td>Agricultural Development Support Project</td>
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<td>ASA</td>
<td>Agriculture Seed Agency</td>
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<td>BCI</td>
<td>Better Cotton</td>
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<tr>
<td>BEE</td>
<td>Bagaomoyo EcoEnergy</td>
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<td>BMGF</td>
<td>Bill and Melinda Gates Foundation</td>
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<td>BRN</td>
<td>Big Results Now Initiative</td>
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<tr>
<td>CAADP</td>
<td>Comprehensive African Agriculture Development Program</td>
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<tr>
<td>CAVA</td>
<td>Cassava: Adding Value for Africa</td>
</tr>
<tr>
<td>CDTF</td>
<td>Cotton Development Trust Fund</td>
</tr>
<tr>
<td>CDI</td>
<td>Clinton Development Initiative</td>
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<tr>
<td>CEPA</td>
<td>Cambridge Economic Policy Associates</td>
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<tr>
<td>CEZOSOPA</td>
<td>Central Zone Sunflower Oil Processors Association</td>
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<td>CFA</td>
<td>Connected Farmer Alliance</td>
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<tr>
<td>CGIAR</td>
<td>Consortium of International Agricultural Research Centers</td>
</tr>
<tr>
<td>CIP</td>
<td>Commodity Investment Plans</td>
</tr>
<tr>
<td>CNBT</td>
<td>Cashew Nut Board of Tanzania</td>
</tr>
<tr>
<td>COWABAMA</td>
<td>Collective Warehouse-based Marketing Schemes</td>
</tr>
<tr>
<td>CRDB</td>
<td>Cooperative Rural Development Bank</td>
</tr>
<tr>
<td>DFI</td>
<td>Development Finance Institution</td>
</tr>
<tr>
<td>DuCon</td>
<td>Dutch Connexxion</td>
</tr>
<tr>
<td>EAF</td>
<td>East African Community</td>
</tr>
<tr>
<td>ECCAg</td>
<td>Environment and Climate Compatible Agriculture</td>
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<tr>
<td>EADD</td>
<td>East Africa Dairy Development</td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
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<tr>
<td>FIPS</td>
<td>Farm Inputs Promotion System</td>
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<tr>
<td>FMCG</td>
<td>Fast-Moving Consumer Goods</td>
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<tr>
<td>GAFSP PrSW</td>
<td>Private Sector Window of the Global Agriculture and Food Security Programme</td>
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<tr>
<td>GAP</td>
<td>Good Agricultural Practices</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>GoT</td>
<td>Government of Tanzania</td>
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<tr>
<td>HYV</td>
<td>High-Yielding Varieties</td>
</tr>
<tr>
<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
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<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
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<td>JICA</td>
<td>Japan International Cooperation Agency</td>
</tr>
<tr>
<td>JV</td>
<td>Joint Venture</td>
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<tr>
<td>KOICA</td>
<td>Korea International Cooperation Agency</td>
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<tr>
<td>KPL</td>
<td>Kilombero Plantations Limited</td>
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<tr>
<td>KSC</td>
<td>Kilombero Sugar Company</td>
</tr>
<tr>
<td>KSL</td>
<td>Kagera Sugar Limited</td>
</tr>
<tr>
<td>KSCL</td>
<td>Kilombero Sugar Company Ltd.</td>
</tr>
<tr>
<td>KSRI</td>
<td>Kibaha Sugarcane Research Institute</td>
</tr>
<tr>
<td>KYC</td>
<td>Know Your Customer</td>
</tr>
<tr>
<td>MAFC</td>
<td>Ministry of Agriculture, Food Security and Cooperatives</td>
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<tr>
<td>METL</td>
<td>Mohamed Enterprises Tanzania Ltd (METL)</td>
</tr>
<tr>
<td>MFI</td>
<td>Micro Finance Institution</td>
</tr>
<tr>
<td>MFO</td>
<td>Micro Finance Organisation</td>
</tr>
<tr>
<td>MGF</td>
<td>Matching Grants Fund</td>
</tr>
<tr>
<td>MHQFP</td>
<td>Masasi High Quality Farmers Products Limited</td>
</tr>
<tr>
<td>MSE</td>
<td>Mtibwa Sugar Estate</td>
</tr>
<tr>
<td>NAIVS</td>
<td>National Agriculture Input Voucher Program</td>
</tr>
<tr>
<td>NAFAKA</td>
<td>Tanzania Staples Value Chain</td>
</tr>
<tr>
<td>NARI</td>
<td>Naliendele Agricultural Institute</td>
</tr>
<tr>
<td>NCFI</td>
<td>Tanzania National Council for Financial Inclusion</td>
</tr>
<tr>
<td>NFRA</td>
<td>National Food Reserve Agency</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
</tr>
<tr>
<td>NMB</td>
<td>National Microfinance Bank</td>
</tr>
<tr>
<td>NPS</td>
<td>National Panel Survey</td>
</tr>
<tr>
<td>NORAD</td>
<td>Norwegian Agency for Development Cooperation</td>
</tr>
<tr>
<td>NZAID</td>
<td>New Zealand Agency for International Development</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>PAC</td>
<td>Partnership Accountability Committee</td>
</tr>
<tr>
<td>PICS</td>
<td>Purdue Improved Crop Storage</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research &amp; Development</td>
</tr>
<tr>
<td>RCN</td>
<td>Raw Cashew Nut</td>
</tr>
<tr>
<td>RLDP</td>
<td>Rural Livelihood Development Company</td>
</tr>
<tr>
<td>RMB</td>
<td>Rand Merchant Bank</td>
</tr>
<tr>
<td>RUDI</td>
<td>Rural Urban Development Initiative</td>
</tr>
<tr>
<td>RVO</td>
<td>Netherlands Enterprise Agency</td>
</tr>
<tr>
<td>SACCOS</td>
<td>Savings and Credit Cooperative Organizations</td>
</tr>
<tr>
<td>SADCO</td>
<td>Southern Highlands Agricultural Development Company Limited</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

Cambridge Economic Policy Associates (CEPA) was appointed by the International Finance Corporation (IFC) to identify investment opportunities that could be supported by the Private Sector Window of the Global Agriculture and Food Security Programme (GAFSP PrSW/IFC) in Tanzania’s agribusiness sector.

This is the public version of two reports originally delivered to IFC. The primary purpose of the original reports were to inform GAFSP PrSW/IFC of potentially investable opportunities on which it could follow up. The secondary purpose was to provide information on constraints and issues facing the agribusiness sector (and individual sub-sectors) in Tanzania. IFC are making a version of this report public to share any non-confidential information with other individuals or organisations concerned with Tanzanian agribusiness.

ES.1 Background

The IFC manages the GAFSP - PrSW, which is a multilateral mechanism to assist in the implementation of pledges made by the G20 in Pittsburgh, USA in September 2009. GAFSP established a private sector window to provide long and short term loans, credit guarantees, equity and advisory services to support private sector activities for improving agricultural development and food security. Through the blending of IFC finance and GAFSP finance, investments can be financed which are commercially viable, but have temporary higher costs and/or higher risks than the investments which IFC normally finances, and justify a concessional element in the financing package.

The objective of the IFC-managed private sector window is to address the following:

- Support and demonstrate new and innovative financing aimed at agribusiness companies and their supply chains,
- Help increase productivity, improve market access, support innovation and development of new ideas in financing and technology, reduce information asymmetries between small end users of capital and financial institutions, and reduce risks associated with financing small holders/companies in the agribusiness sector
- Support projects that foster research, development and innovations through entities operating in the ‘last mile’ and projects that can demonstrate higher productivity, lower use of water resources and inputs such as fertilizers

As a means to reach these objectives, IFC contracted CEPA to conduct an agribusiness sector diagnostic of Tanzania to (i) analyse / identify the most promising sub-sectors for IFC/GAFSP investment and advisory services and (ii) identify specific IFC/GAFSP investment opportunities and related partners.

In practice, GAFSP PrSW/IFC is looking to support projects in developing countries of a minimum size of US$5m and preferably higher. A US$5m investment would be at the bottom end of IFC’s financing range, so any such project would need to have a strong developmental
IFC can finance 15 - 35% of a company’s capitalisation (depending on the company’s credit rating and size of financing), which can increase to 50% for expansion projects. There is no limit to the proportion of a project that IFC can finance as long as the capitalisation requirements explained above are met.

ES.2 Approach

CEPA undertook this assignment in two phases. In Phase 1 we carried out desk-based research to identify three priority agribusiness sectors with potential to deliver development impacts for Tanzania and investment opportunities for GAFSP PrSW/IFC.

In Phase 2 we conducted a two-week visit to collect more detailed information on the priority sectors, and to identify investable opportunities by meeting with key stakeholders. We consulted 29 companies and other organisations in total (a full list is provided in Annex H).

ES.3 Identifying priority sectors

We used a two-stage assessment process to identify the priority sectors:

- A long-list of sub-sectors was identified by reviewing FAOStat data and following discussions with the IFC.
- Each sector in the long-list was reviewed and assessed against a range of indicators of the scope to yield opportunities for GAFSP PrSW/IFC.

The summary ranking of each sub-sector considered is summarised in Table ES.1. Overall, we identified horticulture, rice and edible oils as priority sectors, though we considered opportunities that arose in other sectors as well during our phase 2 consultations. This took account of the areas that IFC already has good knowledge of / involvement in.
Table ES.1 Ranking of the long-list of sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Development</th>
<th>Economic</th>
<th>Competitiveness</th>
<th>Enabling</th>
<th>Invest</th>
<th>Summary assessment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horticulture</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>9</td>
<td>Combination of the size of the sector, recent growth in export earnings and presence of a number of international commercial agribusinesses suggest that there could be an opportunity to identify a number of investment opportunities, though possible that individual opportunities might be small.</td>
<td>36</td>
</tr>
<tr>
<td>Rice</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>The size and continued growth of the sector should open up the sector for investment opportunities that could be considered by GAFSP PrSW/IFC. Some evidence of recent investment commitments of &gt; US$10m, though there is some evidence of policy uncertainty in the sector.</td>
<td>35</td>
</tr>
<tr>
<td>Edible Oil</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>Could be an interesting area to review; sector is growing rapidly and export earnings have grown to around US$150m. Some evidence of investment activity in the sector, but again not clear that investments of required scale will be available.</td>
<td>34</td>
</tr>
<tr>
<td>Maize</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>Important smallholder crop, which receives significant support from donors and government but limited evidence of commercial investment opportunities in the sector apart from potentially in the maize milling sub-sector.</td>
<td>32</td>
</tr>
<tr>
<td>Sugar</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>Large players in the sector are already well known to IFC so we expect that scope to find new opportunities is limited. Sector has a relatively more limited impact on benefiting smallholder farmers.</td>
<td>31</td>
</tr>
<tr>
<td>Coffee</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>Sector has stagnated in recent years, and no evidence found of recent investment activity that would be sufficiently large and of the scale typically required by GAFSP PrSW/IFC.</td>
<td>27</td>
</tr>
<tr>
<td>Cashew</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>Our initial findings suggest that is a limited pipeline of GAFSP PrSW/IFC investments in the cashew nut sector due to the greenfield risk for investors associated with establishment of new cashew processing units – unless OLAM is interested in investing in new capacity.</td>
<td>26</td>
</tr>
</tbody>
</table>
The largest milk processing company has a turnover of around US$4m so, unless an international firm is considering entry into the market, there seems to be limited scope for the sector to yield a pipeline of opportunities of the size under consideration by GAFSP PrSW/IFC.

Based on the desk-based review it could be interesting to explore the scope for GAFSP PrSW/IFC to support provision of finance to smallholders to enable them to purchase increased inputs, as well as exploring opportunities in the packing stage of the value chain. In practice unless Unilver is interested, it could be difficult to find appropriate partners for IFC in the sector.

Desk-based review suggests that investment in the sector would be difficult because of ongoing difficulties on issues such as contract enforcement between ginners and growers. No examples of large scale investment in the sector were found.

Sector is probably currently too small to support a GAFSP PrSW/IFC investment.

Could be an interesting sector to review, particularly the wheat milling sub-sector. But we understand that IFC already has a good grasp of investment opportunities in the sector.

---

1 Flour milling is not suitable for ranking in the same way as the other sectors. We have instead taken a more qualitative view on the scope for the sector to yield GAFSP PrSW/IFC investment opportunities.
ES.4  Summary findings

Few locally based agribusinesses are large enough to carry out investments of the required size, and many promising sub-sectors are at an early stage of development. Furthermore, IFC are already active in agreeing mandates with a number of the relatively few major agribusinesses that could support large investment in the target sectors, and a number of other larger players are not likely to pass IFC’s due diligence tests. This limited our ability to identify new opportunities in the grains and edible oil sectors (including milling).

Nevertheless, we identified several interesting opportunities. The majority of investment opportunities identified were below the US$5m minimum target investment size (as expected), though some do have potential to expand and offer additional scope for future engagement. We were also able to identify a small number of larger-scale projects for which discussions have been taken forward, though details are omitted throughout this report for confidentiality reasons.

Table ES.2 below summarises our findings in each priority sub-sector and for tea and sugar - where opportunities presented themselves during our visit. The first column provides our initial view of investment opportunities in the sub-sector from desk-based research in phase 1. The second column gives our fuller opinion based on meetings with companies and other stakeholders.

<table>
<thead>
<tr>
<th>Findings from phase 1</th>
<th>Summary of findings from phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Horticulture.</strong> Seen as being a rapidly growing sector with a number of established businesses exporting to the EU, offering some scope for GAFSP PrSW/ IFC investments.</td>
<td>The story of the horticulture sector is still one of potential; it has failed to develop as quickly as regional competitors such as Kenya and Ethiopia. While Kenya is often held up as the example, it is perhaps more interesting to look at the way in which Ethiopia has been able to achieve rapid growth based on a more proactive set of government interventions to develop the sector. Back in the early 2000s both Ethiopia and Tanzania exported around €15m Euros to the EU – now Tanzania exports just €30m whilst Ethiopia has grown to nearly €200m. One of the issues is that there is no specific niche area that takes best advantage of Tanzanian conditions, rather than producing what is done in Kenya at a smaller scale. Whilst the development of the sector has been limited by a combination of policy and infrastructure-related constraints there are some individual agribusinesses that are having some success in producing for export markets/ have interesting investment plans under development that could provide an opportunity for GAFSP PrSW to engage in the sector.</td>
</tr>
<tr>
<td><strong>Rice/ grains.</strong> Again seen as a growing sector, but recognized that there are a limited number of large</td>
<td>The country visit confirmed that apart from the milling sub-sector opportunities in the grains sector are more generally limited. Grain producers in Tanzania are too small to be recipients of IFC financing with the exception of the three major rice producers. Of these three, none appear to have a current need for external</td>
</tr>
<tr>
<td>Findings from phase 1</td>
<td>Summary of findings from phase 2</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>players operating in the sector apart from in milling.</td>
<td>finance, and at least one would not be likely to meet due diligence requirements. We did explore the potential to provide working capital/seasonal crop finance to farmers producing for the breweries which could be worth following up.</td>
</tr>
<tr>
<td><strong>Edible oils.</strong> Potential opportunity to increase the production of oilseeds, particularly for sunflower. Though we didn’t did not find much evidence of larger scale investments in the sector.</td>
<td>Overall, our consultations have indicated that the most likely sub-sectors to yield investable opportunities are sunflower seed oil and, more speculatively, domestic palm production. The cotton sector is generally in decline, although cotton seed crushing appears to be defying the downwards trend. The introduction of a 10% crude palm import tariff may generate opportunities in domestic palm production, though could also dampen appetite for additional refining capacity.</td>
</tr>
<tr>
<td><strong>Tea.</strong> Based on the desk-based review a limited number of potential partners unless Unilever is interested, it could be difficult for GAFSP PrSW/IFC to enter the sector.</td>
<td>We were able to identify some opportunities with the Tanzania Tea Packers Ltd (TATEPA) and the East Usambara Tea Company Ltd (EUTCO), which are discussed below. Though our consultations confirmed that Unilever would be the most obvious partner in the tea sector. We have not approached Unilever directly, as not appropriate for us to do so without IFC requesting us to, and they are already in a partnership with DFID and the Gatsby Foundation.</td>
</tr>
<tr>
<td><strong>Sugar.</strong> Large players in the sector are already well known to IFC so we expect that scope to find new opportunities is limited.</td>
<td>Sugar could be a complex area to operate in because of the growing government involvement in the sector. The government restricted sugar permits in a move to protect domestic producers from highly competitive world prices. According to consultations it has directed two pension funds to invest in government part-owned farms. There may be opportunities to co-invest in schemes with government backing such as these but probably not be within the remit of GAFSP. If IFC wishes to pursue the possibility of investing in the Tanzanian sugar industry, it may wish to do so through engagement at the World Bank level.</td>
</tr>
</tbody>
</table>
1. **INTRODUCTION**

Cambridge Economic Policy Associates (CEPA) was appointed by the International Finance Corporation (IFC) to carry out analysis of the agribusiness sector in Tanzania to support work related to the GAFSP PrSW/IFC.

1.1. **Background to the assignment**

GAFSP PrSW/IFC is a multilateral mechanism managed by the IFC. It is designed to assist the implementation of pledges made by the G20. GAFSP PrSW/IFC provides long and short term loans, credit guarantees, equity and advisory services with the aim of improving agricultural development and food security in targeted developing countries. It targets agribusiness investments across the value-chain which are commercially viable but have temporary higher costs/ risks that would otherwise prevent them from attracting/ affording finance on more commercial terms.

GAFSP PrSW/IFC is looking to support projects of a minimum size of US$5m in developing countries. A US$5m investment would be at the bottom end of IFC’s financing range, so any such project would need to have a strong developmental case. In practice the target investment size is US$10m and preferably higher. IFC can finance 15 - 35% of the company’s capitalisation (depending on the company’s credit rating and size of financing) this can increase to 50% for expansion projects. There is no limit to the proportion of the project that IFC can finance as long as the capitalisation requirements explained above are met.

For the purposes of the Tanzania study we have focused on investments that meet these criteria, but have also included smaller projects where there may be scope for additional investment in the medium-term. Given the size and level of development of the agricultural sector in Tanzania, the number of suitable investment opportunities is likely to be quite limited. Furthermore, IFC are already active in agreeing mandates with a number of the relatively few major agribusinesses that could support large investment in the target sectors. Our ability to identify opportunities and assess the value chain in the grains and edible oil sectors was limited by IFC’s request that we should not meet with these organisations.

CEPA undertook this assignment in two phases. In **Phase 1** we carried out desk-based research using secondary sources of information to identify priority agribusiness sectors with the potential to deliver development impacts for Tanzania as well as investment opportunities for GAFSP PrSW/IFC. Overall the ranking analysis identified **horticulture, grains** and **edible oils** as the highest scoring priority sectors.

In **Phase 2** we conducted a two-week visit to collect more detailed market information on the priority sectors, and to identify possible investment opportunities by meeting with key stakeholders. We consulted 29 companies and other organisations in total (a full list is provided in annex H).
1.2. **Objectives of this report**

This is the public version of two reports originally delivered to IFC. The primary purpose of the original report was to inform GAFSP PrSW/IFC of potentially investable opportunities on which it could follow up. The secondary purpose was to provide information on the constraints and issues facing the agribusiness sector (and individual sub-sectors) in Tanzania. IFC are making a version of this report public to share any non-confidential information with other individuals or organisations concerned with Tanzanian agribusiness.

1.3. **Structure of the report**

The first half of this report presents the findings of desk-based research carried out in Phase 1 of CEPA’s Tanzanian Agribusiness Diagnostic.

- Section 2 provides an overview of the agribusiness sector in Tanzania
- Section 3 analyses a long-list of sub-sectors
- Section 4 presents our ranking analysis of the sub-sectors to identify a shortlist of priority sectors to be investigated in more depth during a country visit

The second half of this report presents findings from a series of consultations with companies and other organisations carried out during a two week visit. Each of the following sections provides a (i) sector overview, (ii) investment / advisory opportunities in the sector, and (iii) a suggestion of next steps for GAFSP PrSW/IFC:

- Section 5 - Horticulture value chain
- Section 6 - Edible oils value chain
- Section 7 - Grain value chain
- Section 8 - Investment opportunities in other sectors

Parts of these sections are omitted for confidentiality reasons.

The following annexes are also included: Annex A summarises the agribusiness portfolios of financial intermediaries; Annex B includes a summary of donor activity in agribusiness; Annex C presents additional information on the oilseeds sector; Annex D presents additional information on sugar; Annex E presents profiles of the dairy sector; Annex F presents information on recent investments in horticulture; Annex G is the bibliography; and Annex H lists the stakeholders consulted during phase 2 of this assignment.
2. **Overview of the Agribusiness Sector in Tanzania**

*This section was written during the first (desk-based) phase of our study and may not reflect the most current or detailed information available.*

This section provides an overview of the agribusiness sector in Tanzania. It then considers the agribusiness sector’s main competitive strengths and weaknesses, discusses the enabling environment, considers farmers’ access to inputs, access to finance, the main government policies and the relevant donor interventions separately.

2.1. Agribusiness sector profile

*Figure 2.1: Agricultural sector in Tanzania*

Agriculture accounts for 24-34% of GDP in Tanzania, but is the main employer, covering between 75-80% of the labor force.

• The area currently under cultivation is estimated to range between 5-10m Ha, from a total 44m Ha of arable land.

• Agriculture is mainly undertaken on a subsistence-basis by small-scale farmers on farms ranging between 0.9 – 3 Ha on average.

• Approximately 280,000 Ha of potential irrigable farmland of ~29m Ha, is under irrigation farming.

• Agriculture growth was estimated at ~4% in 2014, based largely on increasing production of major food crops (including maize, cassava and paddy). Despite the steady growth, the sector has fallen short of achieving the Comprehensive African Agriculture Development Programme (CAADP) target growth rate of 6%.

Source: *African Economic Outlook (2015); PAC, New Alliance (2014); Economic and Social Research Foundation (2012).*

Agriculture contribute approximately 75% of Tanzania’s export earnings, with cotton, tea, cashew and tobacco representing the key sources of foreign exchange. Other major cash crops include coffee, sisal, pyrethrum and beans.

While maize is one of the largest crop sectors in terms of production, maize imports are also significant. Other import-competing food crops include rice, wheat and sugar. Key subsistence crops include cassava, sorghum, millet, Irish potato, sweet potato, cooking (green) bananas.

In addition, the livestock population in Tanzania is thought to be the largest in the SADC region and is ranked third in Africa in this regard (after Sudan and Ethiopia).
### 2.2. Agribusiness competitive strengths and weaknesses

<table>
<thead>
<tr>
<th>COMPETITIVE STRENGTHS</th>
<th>COMPETITIVE WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agro-ecological conditions and market factors</strong></td>
<td></td>
</tr>
<tr>
<td>• Large availability of arable land, range of farming systems and agro-ecological conditions conducive for large-scale production of cash crop and a wide variety of fruits and vegetables.</td>
<td>• Reliance on rain-fed agriculture, increasing vulnerability to erratic weather conditions. Less than 3% of plots under the National Panel Survey (NPS) 2010/11 were irrigated.</td>
</tr>
<tr>
<td>• Network of Agriculture Research Institutes (ARIs) and availability of appropriate technologies for different systems.</td>
<td>• Low crop productivity. Farmers’ use of inputs is still low due to low access to credit, weak infrastructure and proliferation of counterfeits (fake/adulterated seeds, fertilisers and pesticides). Other issues include high cost of power and dependence on traditional farming methods, e.g. tractors are estimated to be used for only ~14% of cropped land. Overall, there is limited commercial farm management experience.</td>
</tr>
<tr>
<td>• Conducive environment for digital agribusiness services, with ~27.1m mobile GSM connections across Tanzania.</td>
<td>• Limited availability and access to land given disputes between farmers and pastoralists, tenure disputes and lack of awareness on land ownership, legal status and policies.</td>
</tr>
<tr>
<td>• Overall planned private investment of $846m under the Comprehensive African Agriculture Development Programme (CAADP) Framework, with US$42m invested as of 2014; complemented by donor disbursements of $336.84m.</td>
<td>• Other key constraints to agro-processing include: (i) poor access to crops, low crop quality and post-harvest losses (weak storage facilities and inefficient logistics); (ii) lack of skills in operating processing technologies; (iii) food safety issues, lack of standards/certification; (iv) costly packaging materials; (v) difficulties entering local retail/wholesale distribution network; and (vi) access to finance.</td>
</tr>
<tr>
<td>• Investment in infrastructure for trade with recent improvements to the port at Dar es Salaam; and implementation of Tanzania Customs Integrated System (TANCIS).</td>
<td></td>
</tr>
<tr>
<td>• Improved availability of inputs, with an increase in the number of private firms supplying commercial seeds; agro-dealers; and private firms importing/distributing tractors.</td>
<td></td>
</tr>
</tbody>
</table>

**Policy and Institutional Environment**
• **Government of Tanzania (GoT) has committed to 12 policy actions under the New Alliance Framework.** Key recent reforms relate to seed varieties release system; and a review of land laws to allow long-term leases for foreign companies.

• **Tanzania Investment Centre (TIC) has introduced incentives for agricultural investments and is allocating 83,000 Ha to investors for rice and sugar production.**

• **Significant donor funds** directed at supporting sustainability in agriculture.

• **Increase in public spending on agriculture**, estimated at ~6.8% with a Presidential commitment to reach the CAADP target of 10% of overall national budget.

• **Investor uncertainty due to ad-hoc policies** such as export bans on crops (maize, rice, beans); arbitrary application of cesses (locally levied tax) of 2-5% on sale of crops; and poor communication/implementation of policy changes such as 2012 waiver for VAT on irrigation, tractors, farm implements etc.

• **Recent ten-fold rise in land taxes** in rural areas, to the same level as urban land taxes.

• ‘**Red tape**’. E.g. food processing is regulated by over 17 bodies resulting in multiple fees, delays, duplicate functions and bureaucracy.

• **Weak government planning** and inefficient implementation of the subsidy program; while the National Food Reserve Agency (NFRA) has also caused market disruptions and disincentives to private grain trade.

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2.3. **Agribusiness enabling environment**

Tanzania is ranked 139 out of 189 economies in the World Bank Doing Business 2016 Survey, receiving particularly low rankings with regard to trading across borders, access to credit and paying taxes.

The potential for scaling up commercialisation in agriculture is largely unrealised. Major constraints identified by agricultural companies include climate change (given the dependence on rain-fed production); limited access to finance; and an unpredictable tax regime, particularly relating to ad-hoc export bans on crops and inconsistent policies around VAT/ duties charged on inputs. For instance, while there is no import duty on fertilisers, 18% VAT is charged on bags, services rendered at the port (e.g. bagging), and on transport services, transmitting through to higher costs for farmers.

Reports suggest that GoT is trying to implement reforms to improve the ease of doing business, with a focus on business registration, licensing, regulation and tax administration. For instance, it has removed the requirement for inspections by health, town and land officers to try to ease the process of starting a new business.

GoT is targeting the use of PPP arrangements to bring more investment in agriculture, with a focus on value chains with nucleus and out-grower models. See the box below.

**Box 2.1: Agribusiness PPPs in Tanzania**

GoT is aiming for PPP initiatives to develop 330,000 Ha of enhanced smallholder farmlands (out-grower) and 350,000 of new commercial farmland (not including areas occupied by out-growers), with the objective of achieving an increase in: sugar cane crop planting (by 150,000 MT); rice production (by 290,000 MT); maize output (by 100,000 MT); and involvement of 400,000 smallholders in commercial and out-grower schemes. The expansion is to be achieved under the Big Results Now initiative (BRN) through:

- 25 commercial farming deals for rice paddy and sugarcane;
2.4. Access to inputs

Although government has implemented some recent policy measures to increase access to seeds, e.g. implementing regional agreements (SADC MoU) to quicken the registration of improved seeds\(^2\). Overall liberalisation of the sector has been limited, with supply of improved seeds still relatively low due to persistent policy institutional constraints including:

- **Restricted-take-up of government released varieties**,\(^3\) the Agricultural Seed Agency (ASA) has a limited capacity for foundation seed production, while companies don’t have timely access public varieties and lack sufficient processing capacity.

- **Inadequate funding for Tanzania Official Seed Certification Agency (TOSCI)**, resulting in fewer than needed field inspections – e.g. just two field inspections of hybrid maize when four are needed.

The National Agriculture Input Voucher Program (NAIVS) is believed to have had some role in increasing smallholder farmers use of fertiliser; however there are a number of issues with the implementation of the programme that have reduced its efficiency.\(^4\) These include inconsistency in the distribution of vouchers and delays in the redemption of vouchers by banks; and a lack of finance available to agro-dealers and inadequate number of trained agro-dealers and extension staff to supervise the program.

Another important issue with the regulations and policies affecting the fertiliser sector include the requirements for any new fertiliser blends to undergo three consecutive seasons of testing at a cost of $10,000 per season for each new fertilizer product, paid by the importer/blender. According to data received from the Tanzania Fertiliser Registration Authority (TFRA) is that there are currently just 37 different types of fertiliser currently registered for use in Tanzania, this compares to countries in the region such as Zimbabwe and Zambia where reports suggest that around 250 different types of fertiliser have been registered for use by farmers. The lack of access to blends means that farmers cannot use the fertiliser varieties that are suited best to their soil characteristics, as a result their yields suffer as do their potential incomes. For instance, one stakeholder suggested that maize farmers in Tanzania

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\(^2\) Verification of a variety released in another Eastern African country is only required one season, enabling the faster release of foreign plant varieties

\(^3\) Approx. 80% of government-released varieties have been made available to the private sector

\(^4\) Under this input subsidy program, eligible farms are those cultivating maize/ rice on area of 1 Ha or less; smallholders are provided with a 50% subsidy of the input market price (and must pay for the remaining cost); with subsidised seed and fertiliser provided for 0.5 Ha of land.
continue to use DAP and Urea, but could experience an increase in yield of around 30% - 40% if they switched to using fertiliser blends.

2.5. Access to finance

Tanzania is ranked 152 out of 189 countries in terms of access to credit, under the World Bank Doing Business 2016 survey. Limited access to finance is particularly a constraint for the agriculture sector – according to the Tanzania National Council for Financial Inclusion (NCFI), the level of access to formal financial services in rural areas is only 8.5% relative to 23% in urban areas; while 60% of the rural population is completely excluded from financial access, relative to 45% in urban areas.

As illustrated by Figure 2.2 below, usage of formal financial services by agribusinesses is also very low. The 2011 Agriculture Finance Markets Scoping Survey (AgFiMS) indicates that only 32% agri-business small and medium-sized enterprises (SMEs)\(^5\) accessed financial services, with over half of surveyed agribusinesses excluded from any form of financial services. Furthermore, agriculture-related loans account for just 15% of the commercial bank lending portfolio in 2011.

![Figure 2.2: Usage of financial services by SME agribusinesses](image)

Source: AgFiMS Survey, 2011 in Tanzania National Council for Financial Inclusion

The key constraints impeding access to financial services for agriculture identified by the NCFI include the unstable macroeconomic environment; the difficulty in enforcing contracts; the lack of understanding of financial products; the limited range of financial products that are designed for the agriculture sector; and the costs in reaching agribusinesses located in remote locations.

The NCFI has targeted an increase in the share of agribusinesses with access to formal financial services from 32% to 50% by 2016. Key activities include:

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\(^5\) Small and Medium Enterprises (SMEs) in the agri-business sector are defined as entities with $600 dollars turnover per annum or 5 acres of land; that is, agriculture producers, processors, and service providers with turnover of USD $600 or more
Increasing proximity of financial access points to where people live and transact (from 5% to 25%), such as through extending financial institutions branch networks, ATMs, POS; with a focus on branchless banking mode.

Ensuring robust electronic information infrastructure, for individual and business profiles, credit history and collateral.

Ensuring that customers are informed and protected, in terms of their means of payment and stores of value.

2.6. Main government policy initiatives

This figure presents an overview of the major policy frameworks and programmes targeting the agriculture sector in Tanzania.

Figure 2.3: Main GoT policy initiatives

Agriculture Sector Development Programme (ASDP)

A number of policy initiatives have been developed as part of the implementation of ASDP, including:

- **“Kilimo Kwanza” (Agriculture First) strategy (2009)**, aimed at commercialising agriculture and improving cultivation methods of smallholders to supplement agribusiness and ensure self-sufficiency in food supplies.

- **SAGCOT (2010)**, a PPP to put Kilimo Kwanza into action and catalyse responsible private sector investment in Tanzania's southern 'breadbasket' regions, by promoting “clusters” of agricultural farming and services businesses.

  - **Objective.** GoT aims to create at least 420,000 jobs within the agricultural framework through the SAGCOT programme, with a target of generating annual farming revenues of US$1.2bn by 2030.

  - **Structures.** GoT has created two new PPP institutions – SAGCOT Centre (focal point for planning and advertising the wider SAGCOT Program); and the SAGCOT Catalytic Trust Fund, (supporting early stage investment in the corridor by providing matching grants).

  - **Development partners.** There have been significant donor-supported investments in infrastructure and institutional capacity under SAGCOT. Overall, key development partners include the WB; USAID; FAO; NORAD; DFID; NORFUND; Norwegian Embassy; IFC; UNDP; UN; JICA; and Embassy of Ireland; in addition, a number of agricultural suppliers and financiers, technical and operational supporters; and agricultural producers have committed to SAGCOT.

  - **Investment Blueprint.** SAGCOT has prepared concrete investment proposals in sugar, rice, livestock and horticulture, highlighting a number of early win investment opportunities:

    i. **Mbozi seed farm**, a 3,000 Ha nucleus seed estate and irrigated outgrower scheme for maize, soya, sunflower, sesame and pulses;

    ii. **Smallholder commercialization and agro-dealer program**, providing extension services, inputs, weather insurance and market access to large numbers of smallholder farmers;

    iii. **Ruvu cattle ranch**, involving redevelopment of a 40,000 Ha government-owned ranch, with the introduction of fattening and slaughter facilities for local breeders; and

    iv. **Sao Hill agri-centre**, involving irrigated vegetable production linked to an agriculture processing centre (including a biomass plant) with storage and processing facilities etc.
2.7. Donor interventions

Donors originally committed $867m in support to Tanzania’s agriculture sector through the New Alliance Country Cooperation Framework Agreements, of which $337m has been disbursed as of 2014. The figure below presents an overview of key areas targeted by donor support in Tanzania; a more detailed summary is provided in Annex B.

*Figure 2.4: Donor activities in agribusiness*

- **Increasing agribusinesses access to credit.** The Private Agricultural Sector Support (PASS) was introduced in the Danida Agricultural Sector Programme Support (ASPS) was introduced to improve agribusiness SMEs access to finance. The programme has been in operation since 2000; currently the World Food Programme (WFP) is working together with AGRA and World Vision to help identify farmer organisations that could be candidates for receiving loans under the programme. PASS then reviews the candidate farmer organisations, appraises them and develops business plans for consideration by banks for selected organisations. Seven local commercial banks including the Cooperative Rural Development Bank (CRDB) are involved in the providing loans under the programme.

- **Improving input finance for traditional crops.** IFC are also working together with WFP to improve access to crop input finance for farmers in traditional crops. The WFP/IFC project aggregates demand from a consortium of buyers for a longer period of time than typical spot contracts, with farmers receiving pre-planting forward delivery contracts which guarantee a minimum floor price to cover cost of production and basic sustenance for farmers.

- **Smallholder input finance.** Several donors are providing finance for smallholders’ purchase of key inputs, including GAFSP PrSw/IFC’s investment in CRDB Bank which will also provide advisory services and warehouse financing; AGRA’s Bread-Basket program providing credit and other inputs to smallholders; and IFAD’s program to provide a wide range of financial services for productivity enhancing technologies.

- **Strengthening research and development.** The FAO, through the Livestock Traceability System, is implementing a new information software system for identifying and tracing livestock. The AFT is conducting feasibility studies, market analyses, site surveys and other research to inform future agriculture investments. AGRA is providing grants to seed companies and to agriculture research organizations, while GAFSP’s Public Sector window is promoting development of seed multiplication systems.

- **Strengthening institutional/policy framework.** DFID’s Land Tenure Support Programme will create land records and processes of land allocation to reduce policy constraints on land purchases/ownership. FAO is providing assistance to the GoT in articulating and disseminating key policy and programming to agriculture stakeholders; in addition to a separate program, through which FAO is also developing training manuals to train government and NGO officials in supporting smallholders.

- **Promoting investment climate.** Tanzania is one of the five African countries to have formed a High Level Prosperity Partnership with the UK, aimed at doubling the number of British companies doing business in the renewable energy and agriculture sectors by 2015. The GAFSP PrSW/IFC investment in CRDB Bank also aims to increase local private sector development with provision of advisory and access to credit for SMEs.

- **Development of infrastructure.** AFT Fund has invested separately in companies working to improve rural infrastructure and also in high tech irrigated tunnel houses. The EU is also supporting rural infrastructure development through the Rural Roads Programme, SAGCOT infrastructure support, and access to market initiatives. Concurrently, IFAD is supporting irrigation systems for sugar plantations and investing in rural infrastructure that will benefit agri-workers in addition to the broader population, while USAID is constructing tarmac roads in Tanzania’s southern corridor to increase rural access.

- **Support for climate-smart agricultural production.** IFAD is assisting smallholder farmers in adopting new “green” harvesting technologies, while the AFT fund is promoting sustainable growth through technical cooperation and loans. Germany is supporting programs with a close link to rural development, especially in the area of nature conservation.
3. **SECTOR ANALYSIS**

This section was written during the first (desk-based) phase of our study and may not reflect the most current or detailed information available.

This section provides a summary analysis of the following twelve agribusiness sectors in Tanzania, the sectors were identified following consultation with the IFC:

- Edible oils
- Sugar
- Maize
- Flour milling
- Cashew nuts
- Coffee
- Cotton
- Dairy
- Horticulture
- Tea
- Sisal
- Rice

The following subsections provide a review of each of the above agribusiness sectors. We provide an overview of the current size and identify the main agribusinesses operating in each sector, discuss the competitiveness strengths and weaknesses and conclude by presenting an initial view of the scope for GAFSP PrSW/IFC investment.

3.1. **Edible oils**

It is estimated that close to 4m farmers are involved in growing oilseeds in Tanzania. The figures below use FAOstat data to illustrate the increasing trends in production, area under cultivation and yields of the oilseeds sector, indicating an overall output of ~940,000 MT of oilseeds in 2013 on an area of ~3.4m Ha. Production levels have increased rapidly over the period, growing at a CAGR of over 11% per annum driven by a combination of increased yields and land used for producing edible oils.

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6 *Oil crops primary: Castor oil seed, Coconuts, Groundnuts, Oil (palm fruit), Oilseeds nes, Safflower seed, Seed cotton, Sesame seed, Soybeans, Sunflower seed*
The key oilseed crops are groundnuts (40%); sunflower (36%); sesame (15%); cotton (8%); and palm oil (1%) (RLDC, 2008), with Tanzania ranked as one of the top ten sunflower oilseed producers globally according to the FAO. Annex C presents further detail on these sub-sectors, including in terms of areas of cultivation and production.

Processing in rural areas is mainly on a small-scale via manual oil presses, with large-scale processing limited to Dar es Salaam, Morogoro, Arusha and Mwanza. Overall, there are around 26 manufacturing plants producing edible oil – 22 for sunflower and oil seeds; and five dedicated to refining palm oil to produce cooking oil and soap. An overview of the major companies is provided as part of Annex C.

In general however, there is considerable variation in the data on production (particularly sunflower and sesame) and consumption of edible oils – estimates of domestic demand for edible oils range between 200,000 and 500,000 MT.

Domestic production is estimated to meet only 40-50% of total requirements, with the country reliant on imports to supply the remainder. Imports are mainly in the form of crude or refined palm oil, with total imports valued at between $120m-$230m each year. The figure below presents the breakdown of the overall edible oil sub-sector.

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TEOSA (2012) indicates a total production of over 800,000 MT of sunflower seeds and 130,000mt for sesame in 2011/12, yielding ~240,000 MT of sunflower oil in the market; while more recent estimates from FAO indicate a production 350,000 tons of sunflower oilseeds, yielding ~90,000 tons of oil.
The sector is supported by the Agriculture Development Policy of Tanzania, which articulates GoT’s commitment to: (i) facilitate formation of traders’ associations; (ii) provide quality control services for oilseeds; (iii) set up an information system to link producers and traders; and (iv) strengthen research and extension services. In addition, the sector is covered through the CAADP framework, SAGCOT, Kilimo Kwanza Resolve and Agricultural policy (2012), with a focus on oilseeds in the pipeline for Big Results Now Initiative.

A number of development partners have also targeted value chain development. The United Nations Industrial Development Organization (UNIDO) has been working with the Ministry of Industry and Trade to upgrade and modernise the agro-industry and competitiveness of locally processing including sunflower oil, on both national and international markets. Netherlands Development Organisation (SNV) has also targeted commercially viable and pro-poor value chain development in sunflower and sesame, through: (i) influencing district and national level policy development and public services; (ii) promoting inclusive business arrangements between small-scale producers and the processing industry such as through up-scaling contract farming arrangements and impact investments; and (iii) facilitating knowledge development.

3.1.1. Overview of the edible oils value chain

<table>
<thead>
<tr>
<th>Key constraints</th>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited R&amp;D on planting materials and plant health management</td>
<td></td>
<td>Inadequate public delivery of extension services</td>
<td>Outdated agricultural practices</td>
<td>Poor quality / mixed seeds;</td>
</tr>
<tr>
<td>Weak coordination between designated ARIs</td>
<td></td>
<td>Fragmented and weak input supply system, with delayed delivery (under NAIVS)</td>
<td>Land degradation; loss of soil fertility</td>
<td>Poor storage facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Limited access to credit</td>
<td>Fungal and viral diseases</td>
<td>Inefficient oil expelling technology</td>
</tr>
</tbody>
</table>
3.1.2. Strengths and weaknesses of the edible oils sector

<table>
<thead>
<tr>
<th>Competitive strengths</th>
<th>Competitive weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Demand-side growth driven largely by economic and population growth. In particular there are reports of growing consumer demand for sunflower oil.</td>
<td>- Low yields due to use of disease-prone recycled oilseeds; lack of proper agronomic practices; and a poorly developed input supply system, with negligible use of fertilisers and chemicals.</td>
</tr>
</tbody>
</table>
• Increased sunflower and sesame production has been supported by application of improved seeds; investment in crops (through District Agricultural Development Plans); increased mechanisation through Kilimo Kwanza; and international NGOs (RLDC, SNV, Aga Khan and VECO) supporting establishment of value chain actors bodies.

• GoT’s recognition of the strategic role of edible oilseeds is reflected in key measures such as: (i) VAT waiver on domestically processed edible oils; (ii) subsidy in planting seeds under ASDP; and (iii) parallel standards for edible oils to allow SMEs access markets, etc.

• Emergence of a number stakeholder associations; e.g. Tanzania Sunflower Promoters Association (TASUPA); Central Zone Oilseeds Processors’ Associations (CEZOSOPA); and Tanzania Edible Oilseeds Actors Limited (TEOSA), which aims to promote and protect interests of the edible oilseeds industry, and includes processors, producers, traders and suppliers of technology as its members.

• Increasing private sector investment, including targeted support to out-growers. For instance, BIDCO offers small-scale oil palm farmers in Kigoma area, a guaranteed market for their produce.

• Broad/ rural-based value addition is facilitated through scalability of oil pressing technology; with local capacity to support technology (e.g. Intermech; Small Industries Development Organization (SIDO); CARMATEC etc.)

• Scope to develop linkages e.g. expansion of seedcake production for the livestock sector and export market. In addition, there is potential to expand cultivation of safflower, jatropha, castor seeds, moringa and olive

• Sesame already has a strong export-based demand. There is scope to further consolidate Tanzania’s oil sub-sector in regional markets (EAC & SADC); as well as expand

• Cyclical pattern in sunflower and sesame output due to inconsistent, unpredictable rainfall.

• Focus is on production rather than oil content, resulting in poor seed quality (esp. sunflower).

• Weak marketing system: (i) weakly organised farmer associations and uncoordinated actors; (ii) non-structured trade, with no-grading of seeds and use of non-standard measurements and packages; (iii) limited storage facilities, increasing post-harvest losses; and (iv) vulnerability to supply/ demand shocks, particularly for prices of crude palm oil;

• Processing is estimated at ~30% of installed capacity. Key constraints: (i) inadequate supplies of oilseeds; (ii) outdated technologies, (particularly for small processors) and lack of standards and enforcement mechanisms for oil expelling technology (10-15% of oil is left in the seedcake); (ii) lack of small-scale technology for oil refining for products to conform to TFDA requirements; (iii) inadequate power supply; and (iv) limited accessibility to packaging materials (some evidence that packaging contributes ~30% of sunflower oil costs).

• Other issues for processors include competitive pressures from imports of cheap refined/ semi-refined oils (e.g. vegetables oils industry); while SME oil processors have also been side-lined by recent food fortification initiatives.

• Reliance on raw material imports due to inadequate local oilseed supply (e.g. ~80-85% of palm oil seeds and other inputs are imported by Murzah Oil Mills), resulting in exchange rate risks and other costs; e.g. the import process is lengthy, taking ~15 days to offload and clear cargo from Dar es Salaam port, increasing storage costs and delaying production.

• Limited access to value-added services and markets, with no clear enabling policies in place. E.g. despite the potential, there are no national initiatives to support seedcake exports.

• Institutional issues include multiple taxations system and limited support from TFDA/ TBS to certify domestic oil quality exports. Exporters are also constrained by document requirements (particularly for EU & US markets) and high transport costs.

3.1.3. Scope for GAFSP PrSW/ IFC investment in edible oils

The desk-based research suggests that there may be scope to develop the sector with a particular opportunity to increase the production of oilseeds, particularly for sesame and sunflower\(^8\), as well as to explore investments in oil seeds processing.

\(^8\) TEOSA (2012) estimates that introduction of Good Agricultural Practices (GAP) has the potential to double sesame and produce 4-5 times more sunflower (per acre).
However, preliminary research indicates that the scale of the sector could be an issue. The Tanzania window of the AECF has financed a number of projects in the oilseeds sector (summarised in the table below) at quite low investment sizes; we have not found any evidence of larger scale investments in the sector through the desk-based research.

Table 3.1: AECF financed projects in the oilseeds sector

<table>
<thead>
<tr>
<th>Company</th>
<th>Approved funding (date)</th>
<th>Project objective</th>
<th>Direct household beneficiaries</th>
<th>Total benefit expected at end of project</th>
</tr>
</thead>
</table>
| Uncle Milo Sunflower Oil Company (sunflower oil processing business in Dodoma) | $420,000 (2013)          | • Invest in two new oil processing capabilities – refining and fortification of sunflower oil, to ensure alignment with recent regulations which require all edible oils to be fortified with Vitamin A.  
• Double existing production volumes over next six years.  
• Strengthen/expand contract farming arrangements to ensure consistent raw material supply. | 3,510 (annual income of US$425) | US$ 1,523,122 |
| Mount Meru Millers Ltd   | $800,000 (2015)          | • Establish a sesame seed processing unit and oil factory for producing clean, graded sesame seed, de-hulled Sesame, sesame meal and sesame oil.  
• Benefits throughout-grower scheme and training programs conducted by the company | 7,000 (additional $27 for each farmer; annual income of $214 per household) | US$1,498,000 |
| MSK Refineries (refinery producing edible cotton seed oil, sunflower seed oil, seed cakes and by-products) | $800,000 (2011)          | • Set-up 1.5m double refinery edible oil plant for processing cotton and sunflower seed.  
• Invest in a farmer contracting and extension support to improve cotton yields and sunflower production. | 30,000 (US $717 p.a.) | US$22,044,456 |

Source: AECF

Annex C presents an overview of some of the large agribusinesses operating in this sector.

3.2. Sugar

Sugar is thought to be the largest agro-processing industry in Tanzania, accounting for 35% of gross output by volume of food manufacturing and 8.5% of the total value-added in manufacturing.
FAOStat data indicates that while there have been increasing trends in the area used for sugarcane cultivation and in production levels, sugarcane yields have exhibited a significant decline – as discussed in section 3.2.2 below; key underlying constraints include the lack of irrigation and adequate water storage facilities; in addition to prevalence of sugarcane ratoon stunting disease. Overall production was estimated at close to 3m MT in 2013, with a total area of 58,500 Ha under cultivation.

Figure 3.3: Trends in production and yields of the sugar sector.

Source: FAOStat

Sugarcane production is mainly on four major sugar estates, having a total of 31,000 Ha under plantation management and average yields of 68 MT/ Ha. These are: (i) Kilombero Sugar Company (KSC), accounting for ~42% of total output; (ii) Tanganyika Planting Company (TPC), owning two sugarcane estates and factories respectively, and contributing ~25% of sugarcane output; (iii) Mtibwa Sugar Estate (MSE); and (iv) Kagera Sugar Limited (KSL).

Three of the four estates – KSC, MSE AND KSL – work with ~18,500 small-scale cane outgrowers, having a total of 27,000 Ha of land under cultivation and producing ~710,000 MT of cane at an average yield of 27 MT/ Ha. Annex D presents further detail on the activities on each of the four major estates, including a case study on the outgrower scheme adopted by KSC.

Domestic sugar consumption is estimated at ~520,000 MT (including 120,000 MT of refined sugar used for industrial purposes), exceeding the combined raw sugar production by the four large estates, which is estimated at around 300,000MT. The deficit of ~220,000 MT is met through sugar imports (mainly from outside the East Africa Region), which are valued at approximately ~US$132m annually. Reports indicate that import licenses exceed requirements, resulting in a raw sugar surplus imported annually. Sugar smuggling is also a key concern.

As Tanzania is a sugar-deficit country, exports from the sector are relatively low; official STB Annual Reports indicate sugar exports of 59,950 MT in 2012/13, with a total exported quantity of 98,950 MT estimated over the period between 2010/11-2012/13. Existing reports cite high transport costs and difficulties obtaining export permits, as some of the key constraints to expanding exports.
Increased sugarcane production (including outgrower schemes) is a key component of the SAGCOT project; in addition, GoT has been promoting large scale investments under the BRN Initiative given strategic importance of the sector to food security and import substitution. New greenfield projects in sugar have been planned in Kilombero District, under both these projects. However despite these developments and the introduction of the five-year industry development plan in 2010/11, there is perceived to be weakly organised government support for the sector including limited capital provided.

The sector is regulated by the Sugar Board of Tanzania (SBT) under MAFC. GoT recently also announced the establishment of a new sugar procurement entity under the SBT, to involve both local producers and importers. The sector is perceived to have had a successful PPP arrangement between SBT and the private sector centred on a research program undertaken by the Kibaha Sugarcane Research Institute (KSRI)\(^9\), whereby GoT provided the infrastructure and paid researchers’ salaries, with research funds contributed by private sugar processing companies.\(^10\) In addition, a number of donor programmes have provided support for training and inputs to outgrower programs.

### 3.2.1. Overview of the sugar value chain

<table>
<thead>
<tr>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key constraints</td>
<td>• Inadequate funding by government</td>
<td>• High input costs (fertilizers &amp; herbicides), with minimal government subsidies.</td>
<td>• Shorter growing period</td>
</tr>
<tr>
<td></td>
<td>• Low level of skills and training of out-growers (inadequate provision of extension services)</td>
<td>• Lack of irrigation</td>
<td>• Price volatility; unviable costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Drought and flooding;</td>
<td>• Outdated processing operations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Pests and disease</td>
<td>• Difficulties obtaining export permits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Competition from cheap/illegal imports</td>
<td></td>
</tr>
</tbody>
</table>

**Public sector**

| KSRI | Training: National Sugar Institute in Kidatu Access to finance: NMB; Savings and Credit Cooperative Organizations (SACCOS) | SBT; Tanzania Sugar Producers Association; Tanzania Sugar Cane Growers Association; Council of Cane Growers Associations; | SBT Tanzania Sugar Producers Association KNCU |

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\(^9\) Institution undertaking trials and research in pest and disease control, and in agronomic improvements.

\(^10\) The PPP supported an increase in cane production from 25-30 MT/ Ha to 40-55 MT/ Ha, with an increase in productivity from 70–90 MT/Ha to over 100 MT/ Ha from the perspective of the estates
3.2.2. Strengths and weaknesses of the sugar sector

<table>
<thead>
<tr>
<th>COMPETITIVE STRENGTHS</th>
<th>COMPETITIVE WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ideal soils and climate for sugarcane cultivation.</td>
<td>• Sugarcane yields are lower than elsewhere in East Africa, largely due to lack of irrigation and inadequate water storage facilities. Outgrower cane is almost entirely rain-fed (av. yields of ~40-80 MT/ Ha, vs. 80–110 MT/ Ha for irrigated cane) and as such, vulnerable to unpredictable weather and drainage issues. Estates having irrigation (e.g. TPC) face high electricity costs of pumping water from boreholes.</td>
</tr>
<tr>
<td>• Growing local demand for sugar supported by rapidly rising population (increasing at about 3% p.a.) and incomes. Domestic sugar consumption is projected to increase at a rate of 20,000 MT annually.</td>
<td>• Cane quality is affected by ‘smut’ and ratoon stunting disease (reducing yield by over 50%, with a decline in the plant population); white scale pest, increasing the need for replanting; and harvesting during short rainy season.</td>
</tr>
<tr>
<td>• The sector has benefited from investment from a number of global sugar companies (e.g. Illovo, ED&amp;F Man; Ciel Group; Groupe Quartier Francais), with all four estates initiating cane area expansion and development (through gradual expansion of irrigation, introducing improved cane varieties and improving field practices) as well as rehabilitating/improving milling capacity.</td>
<td>• Reduced producer prices due to decline in cane sucrose content (often below benchmark 10%), to levels lower than neighbours given fewer hours of crop exposure to sunshine.</td>
</tr>
<tr>
<td>• There is also a more long-term opportunity to expand supply to meet the regional sugar supply gap of ~400,000 – 500,000 MT/ year estimated for EAC common market (which is expected to be growing at &gt;10% p.a.); in addition to exporting to other global deficit markets including Middle East; East Asia; EU (duty-free access under EBA); and North America (duty-free access under AGOA).</td>
<td>• Post-harvest losses; poor transport links impede timely delivery of cane to factories (annual 9 month cane crushing campaign is not feasible).</td>
</tr>
<tr>
<td>• Opportunities also exist for expanding into ethanol and power markets – all four mills produce sufficient biogass to generate power for their cane processing and field irrigation, with some even exporting power to the national grid. The local market for power is expected to have ~100 MW of immediate unmet demand; in addition, there is potential to supply the local market for fuel.</td>
<td>• Underdeveloped state of the sugar sector by international and regional standards, with inefficient and outdated operations and factories reportedly operating below capacity.</td>
</tr>
</tbody>
</table>

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11 Mtibwa Out-growers Association; Ruembe out-growers Association; Kilombero Cane Growers Association.
3.2.3. Scope for GAFSP PrSW/ IFC investment in sugar

The desk-based research suggests that there is a need for investments to target a more long-term expansion in production to meet both the local and regional demand and supply gap, supported by GoT’s recent focus on promoting development of new greenfield sugar projects. Specifically, TIC has been allocated 40,000 Ha of land for coordinating investment in large-scale commercial farming for sugar in Mkulazi area (two farms of 20,000 Ha each, with TIC reporting interest of global players such as Illovo and Tereos in pursuing these opportunities). Other strategic areas identified for cane farming expansion include Rufiji Valley, Kigoma, Kilosa, Ngerengere and Bagamoyo.

Rabobank have also identified a number of investments in new sugar estates, involving organisation of outgrowers into larger units (block farming) to facilitate economies of scale. For instance, Indian investors are collaborating with local Tanzanian entrepreneurs to establish a large sugar estate in the Rufiji area, with cane cultivation on ~10,000 Ha to produce ~125,000 MT of raw sugar annually. There is significant scope for further expansion, with the project eventually aiming to produce 250,000 MT of cane/hour, making it the largest estate in Tanzania. Out-growers would operate in blocks of 100 Ha.

Other projects identified include the rehabilitation of the Mohenda estate on Zanzibar Island, with potentially ~1,500 Ha under cane production and a mill capacity of 25 MT of cane/hour. Currently, the estate has ~400 Ha under rain-fed cane and potential to produce 8,000 MT of raw sugar annually. Development of large-scale sugarcane greenfield operations near Lake Tanganyika in the Rukwa/Kigoma region have also been proposed by a Dubai-based group.
In addition, there have been a number of private sector commitments to the sugar sector through the New Alliance framework, notably for the Bagaomoyo EcoEnergy (BEE) project, (summarised in the box below). Yara is reportedly exploring new partnerships in the sugar value chain. There might be scope for GAFSP PrSW/ IFC to provide support to some of the existing investment activities in the sector.

**Box 3.1: Bagaomoyo EcoEnergy Project**

Under the BEE project, Agro EcoEnergy (an African company) aims to produce sugar and renewable energy sustainably through development of a $425m agro-energy project (in a JV with GoT and supported by the African Development Bank (AfDB)) encompassing a sugar mill and bio-refinery via a 7,800 Ha sugarcane estate and 3,000 Ha out-grower programme, both fully-irrigated. The objective is to produce 125,000 MT of sugar, 8-15,000 m³ of ethanol, and 100,000 MWh/year of renewable electricity to the national grid.

Under the arrangements, government and local communities will be provided a 10% stake in the project company as ordinary equity (with further 15% in B-shares to be granted after 18 years), in exchange for land free of encumbrance, as a site for the facility. Further, there will be supplier contracts and off-taker agreements for sugar and power from ethanol.

However, the project appears to have been held up, with recently reports of the Prime Minister stating that the Bagamoyo project was unlikely to go ahead as it border’s the Saadani Game Reserve, and so its implementation would affect the area’s ecosystem.

*Source: New Alliance for Food Security and Nutrition and Grow Africa (2015)*

### 3.3. Maize

Maize is one of the most important food crops in Tanzania, accounting for approximately 20% of agricultural GDP, 30% of overall food production and 40% of the total calories consumed.

Figure 3.4 below indicates an expansion in production, driven largely by increase in planted area rather than increased yields. The country is thought to have one largest planted areas of maize in Southern and East Africa, estimated between 4-5m Ha, with a production close to 6m MT in 2014 according to a recent report commissioned by BMGF.

*Figure 3.4: Trends in production and yields of the maize sector.*

While maize is produced in all 21 regions in Tanzania, around 50% is concentrated in Southern Highland regions of Morogoro, lunga, Mbeya, Rukwa and Ruvuma. An estimated 85-95% of production is via small-scale farmers on an average landholding of ~0.7 Ha under low-input and rain-fed conditions. Overall, ~3.5-4m households (60% of farming families) are involved
in production, in addition to a limited number of large-scale farms, mainly in the Southern Highlands (30-50), which do not produce large quantities given unfavourably perceived market conditions.

The figure below presents the market share breakdown of the maize sub-sector, indicating that ~75% of maize production is consumed on-farm (including saved seeds\textsuperscript{12}) or is purchased by non-farming domestic households.\textsuperscript{13} Overall household consumption was estimated at 3.8-4.5m MT in 2014, mainly in the form of ugali stiff porridge made from maize flour.

*Figure 3.5: Market share of maize production*

\begin{figure}
  \centering
  \includegraphics[width=\textwidth]{figure3.5.png}
  \caption{Market share of maize production}
  \label{fig:maize_share}
\end{figure}

*Source: Bill and Melinda Gates Foundation (BMGF) (2014)*

The value chain is weakly organised and fragmented, with trade mainly through informal unregulated channels. As with other sub-sectors, there is a question around the accuracy of official statistics on maize production, marketing and exports – the share of production marketed through commercial channels is estimated to vary between 20-35%, while the farm-gate/ rural market is estimated at $665-900m (BMGF). In terms of processing, only around 12% of total maize production is milled into flour, with small-scale rural operations accounting for over 90% of milled maize – this segment of the value chain is discussed further as part of the sub-sector analysis on flour milling.

As *Figure 3.5* above indicates, exports account for approximately 12% of maize production. A USAID Report (2012) indicates that while official exports are minimal (estimated at just 3,000 MT), there is much higher informal trade with exports thought to have totalled 114,000 MT in 2011 (of which 95,000 MT were directed to Kenya). BMGF’s estimates are higher still; based

\begin{itemize}
  \item \textsuperscript{12} It is estimated that over 70,000 MT of maize seeds are used by farmers in Tanzania each year, with ~80% of these seeds retained from the previous harvest.
  \item \textsuperscript{13} With regard to consumption by domestic households, the maize is sold as grain to millers or markets, with households purchasing this either as flour or grain to mill themselves.
\end{itemize}
on interviews with traders, they estimate that at least 200,000 – 400,000 MT of maize exports are directed to Kenya each year.

The sub-sector is prioritised as part of TAFSIP, SAGCOT, BRN and CAADP framework. Previous efforts have targeted PPPs, with TAP outlining six district-level maize Commodity Investment Plans (CIP) operations in the Southern Highlands. The Collective Warehouse-based Marketing Schemes (COWABAMA) also targeted a significant increase in maize output by 100,000 MT by 2015, as well as other key objectives including 275 warehouse marketing schemes operational by 2015 (first 50 being funded by BMGF), with 165,000 SHF participating (across all crops).

In addition, the sub-sector has benefited from the support of donors and a few large-scale operators in the Southern Highlands. For instance, Clinton Development Initiative’s (CDI) Anchor Farm Project (2012) has integrated commercial farming and smallholder outreach through establishment of Ruaha Development Company to manage the operations of Ngongwa Farm, a 900 Ha commercial farm owned by the Tanzanian Agricultural Seed Agency. It has been working with over 4,000 farmers on improving agronomy and access to inputs and markets.

3.3.1. Overview of the maize value chain

<table>
<thead>
<tr>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key constraints</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Poorly-funded research.</td>
<td>• Low-input, rain-fed conditions.</td>
<td>• Weak rural infrastructure</td>
</tr>
<tr>
<td></td>
<td>• Lack of direct links between research and extension services.</td>
<td>• Limited use of agro-chemicals, resulting in lack of nitrogen and other nutrient deficits.</td>
<td>• Post-harvest losses of 20-40%</td>
</tr>
<tr>
<td></td>
<td>• Limited availability and high costs of improved seed and fertilisers.</td>
<td>• Lack of soil moisture.</td>
<td>• Lack of storage and aggregation at farmer level</td>
</tr>
<tr>
<td></td>
<td>• Weak extension (~4000 workers).</td>
<td>• Inappropriate fertiliser recommendations.</td>
<td>• Lack of market info and quality standards</td>
</tr>
<tr>
<td></td>
<td>• Inappropriate fertiliser recommendations.</td>
<td>• Low-input, rain-fed conditions.</td>
<td>• Bans on exports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Limited availability and high costs of improved seed and fertilisers.</td>
<td>• High cost and low quality of maize for feed processors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Weak extension (~4000 workers).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Inappropriate fertiliser recommendations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Low-input, rain-fed conditions.</td>
<td></td>
</tr>
<tr>
<td>Public sector</td>
<td>Uyole Agricultural Research Institute</td>
<td>Tanzania Agricultural Partnership (TAP); Agricultural Non-State Actors Forum (ANSAF); Farm Inputs Promotion System (FIPS)</td>
<td>TAP; ASDP; Mtandao wa Vikundi vya Wakulima Tanzania;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cereals Board; Tanzania Warehouse Licensing Board; Tanzanian Bureau of Standards; TFDA; NFRA; TAP; BRN</td>
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</tbody>
</table>
### 3.3.2. Strengths and weaknesses of the maize sector

<table>
<thead>
<tr>
<th><strong>COMPETITIVE STRENGTHS</strong></th>
<th><strong>COMPETITIVE WEAKNESSES</strong></th>
</tr>
</thead>
</table>
| - Major maize producer in East Africa with widespread cultivation and capacity for three harvests each year in different zones.  
- Rising production from increased land under cultivation; and improved use of legumes in Maize Farming Systems.  
- Research increasingly focused on variety development, diseases, droughts, pests and fertilizer application. There is also readily available appropriate technology which can be applied to the sub-sector.  
- Established national demand, with a dietary preference for maize over drought-adapted traditional cereals (e.g. sorghum and millet). Total annual consumption is growing at ~3%.  
- Market-based developments to support farmers, including WRS; professional Maize Growers Associations; Kibaigwa Maize Market (trade of over 100,000 MT of maize p.a.). To some extent, improved markets have increased market transparency (e.g. village representatives receive prices via SMS), while providing other benefits such as two weeks of free storage to sellers and more affordable long-term storage; as well as... | - Only ~2-3% of farmers undertake appropriate use of improved seeds and fertilisers. Yields have flattened at ~1.2-1.5 MT/ Ha, vs. potential 6-7 MT/ Ha under GAP and appropriate fertiliser use to address lack of soil moisture and other nutrient deficits.  
- Despite increased availability, improved seeds cover ~26-27% of cropped area for maize. Affordability is an issue given high interest rates (30%) and seed-to-grain price-ratio of using hybrid seed of 10:1. Most seed companies import hybrid maize seeds for marketing given weak legal protection for plant breeder’s rights or patent rights.  
- Lack of irrigation (and dependence on erratic weather conditions) is a key factor driving unreliable production (particularly in the Northern Highlands); prices correspondingly vary from season to season, resulting in market uncertainty, which is particularly a constraint for commercial investors.  
- Other disincentives to production include the inability of NFRA and WFP to make timely and expedient payments to farmers), as well as inconsistent policies and structural issues including: |
forming a single purchasing point for buyers from across Tanzania and region.

- Value chain support from international organizations (including USAID; WFP; BMGF; FTF; CRS; CDI) and private sector, including: (i) farmer organization and development, particularly linking production to markets and attracting commercial investments; (ii) improving soil health and maize varieties; and (iii) hermetic storage.

- Strong demand from Kenya, with maize prices ~20% higher on average than local prices. As a net exporter, Tanzania is also well-positioned to supply increasing demand from East Africa (given regional maize deficit of ~8m MT expected by 2020), particularly in light of the maize lethal necrosis disease. Tanzania’s competitive advantage is likely to increase as a result of climate change, given that trading partners are expected to have production affected by severe dry conditions. Overall, FAO (2015) indicates that Tanzania could be exporting ~2m MT of maize by 2020.

- Increased demand for poultry feed, with large processors present in the feed sector. Currently, 100,000-150,000 MT of maize is annually purchased by a small number of large processors, with remaining 400,000MT processed by large number of small-scale feed processors. There is further untapped potential to expand yellow maize production for animal feed.

- Post-harvest losses up to 30-40% in some rural areas due poor post-harvest handling, weak transport infrastructure, weather variability and biotic factors (e.g. insects, pests and mycotoxin-producing fungi). Inadequate low-quality storage is also an issue, as government warehouses are in disrepair, while available private warehouses are few in number and subject to prohibitive distances.

- Limited trade opportunities, as exports have largely been opportunistic, often illegal and depend on other internal/external factors (e.g. export bans). Legal exports are a costly, complex process, requiring multiple permit, while high transport costs from certain areas such as Mbeya in Southern Highlands also curb exports to Kenya.

- Constraints to processing (both milling and for feed), given insufficient throughput for small-local milling to be commercially viable; erratic nature of supply and demand; inefficiencies; and transaction costs of sourcing maize including high taxes, excessive transport costs and corruption. Feed processors are small and dispersed across the country.

3.3.3. Scope for GAFSP PrSW/ IFC investment in maize

The analysis commissioned by BMGF projects a CAGR of 8% for maize between 2014-20, with production increasing from approx. 6m MT to 9.1m MT. Correspondingly there is scope for investment targeted at expanding the maize processing sector. Scope for agro-processing activities relating to flour milling are discussed in Section 3.4 below.

- **Demand from feed sector.** The livestock sector (around half of which is dominated by poultry) is estimated to be growing by 3-4%, with a corresponding increase in the demand for maize used for poultry feed, supported also by opening up broiler and hybrid poultry market. There are already a number of large agribusinesses processing 100,000-150,000 MT of maize annually and are keen to find a reliable source of maize. E.g. Interchick and Hill Feeds are feed processors based in Dar es Salaam, purchasing 5,000 MT and 20,000 MT of maize respectively annually each year. The latter have expressed interest in being connected to farmers to ensure quality. Kijenge Animal Products Ltd is a medium sized feed processor based in Arusha, which has recently
been expanding facilities to increase animal feed production. There is also significant undeveloped potential to introduce and expand yellow maize production.

- **Expansion of exports.** Given the growing regional demand and East Africa deficit, exports could be more broadly targeted beyond Kenya to Zambia, Malawi, Burundi, DRC, Southern Sudan, Somali, Djibouti and possibly Ethiopia. Key issues at present include the fragmented nature of the market – weakly organized foreign traders and separation of surplus from demand.

There could be scope for GAFSP PrSW/ IFC investment in maize to target consultations with the main processors to determine the scope to support additional investment in the sector.

### 3.4. Flour milling

Maize flour is the largest segment in the flour milling industry of Tanzania. The flour milling industry also consists of wheat flour and to a lesser extent, rice, sorghum and cassava. Tanzania’s exports of flour has increased dramatically in recent years, rising to US$43m in 2010 from just US$2m in 1997. An overview of the key sub-sectors identified is presented below.

#### Maize flour production

Maize flour milling accounts for 12% of total maize production in Tanzania. The processing industry is highly fragmented with ~30,000 flour mills of all sizes, the majority of which operate at less than 5MT/ day:

- **Small-scale local milling operations in rural/ urban areas.** Over 90% of maize milling is at village based posho & small hammer mills, where households can have their maize milled for a fee (converted into low-cost and low-quality flour). These mills account for the majority of milled maize bought by Tanzanian consumers.

- **Limited number of medium/ large sophisticated (roller) millers.** These commercial mills provide a higher-quality product for middle and upper-income middle urban consumers. Reports indicate that many are operating below capacity (~10-15 MT/day) and/ or leaving the industry given consumers’ preferences for flour derived from smaller mills, which impede profitability of commercial operations. Recent government regulations also require large millers to fortify maize flour with vitamins and minerals. The large players include Mohamed Enterprise and Export Trading Co (which trade in maize as well as exporting maize and its products); Bakhresa/Azam and General Mills of East Africa.

Maize flour is used to make *ugali*, a staple starch consumed by both urban and rural populations.
Wheat flour production

The wheat sector in Tanzania is relatively small, with an estimated production of 170,000 MT in 2014, mainly by smallholder farmers in the Southern Corridor, cultivating a few acres of wheat each. There is also some wheat production in northern Tanzania, which is sold to the millers in Arusha and Dar es Salaam.

Unlike the maize flour industry, wheat flour milling is dominated by large commercial players such as Bakhresa, Azam and ANZANIA. Local wheat production competes with wheat produced from FSU, Canada, Australia, USA and Germany, which is imported by the millers through Mombasa and Dar es Salaam.

Wheat is mainly consumed in the form of flour in urban areas (with urban consumption accounting for 83% of wheat flour market). However, consumption has been recently declining due to high world wheat prices. Around 75% of wheat exports are directed to DRC, with the remainder going to EAC partners.

While wheat flour is used in baked goods and breads, more traditionally, wheat flour is used for ugali (though less frequently than maize-based ugali). Fortification of iron, folic acid and vitamin A is becoming increasingly prominent, seen by some large millers as a form of CSR.

Cassava flour

Although cassava is not traditionally consumed in flour form, it presents a viable alternative to wheat or maize flour. Cassava is the second most produced food crop behind maize, supporting the livelihood of 37% of farmers in rural areas. Cassava flour is most commonly consumed as ugali through a blend with maize flour for a desirable texture. Cassava flour could play a significant role in food security given the periodic shortage of maize and the reliance on wheat imports.

3.4.1. Overview of the flour milling value chain

<table>
<thead>
<tr>
<th>Key constraints</th>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-yielding seeds with poor drought adaptability</td>
<td>Low-yielding seeds with poor drought adaptability</td>
<td>Reliance on imported wheat</td>
<td>High competition of maize flour mills results in low margins</td>
<td>High cost of transportation to export overseas</td>
</tr>
<tr>
<td>Reliance on imported wheat</td>
<td>High competition of maize flour mills results in low margins</td>
<td>Poor nutritional content without fortification</td>
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</tr>
</tbody>
</table>

Public sector

- Ministry of Agriculture
- Tanzanian Food and Drug Authority
- Tanzania Food and Nutrition Centre

<table>
<thead>
<tr>
<th>Public sector</th>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Agriculture, the Tanzanian Food and Drug Authority, and the Tanzania Food and Nutrition Centre</td>
<td>Tanzania Food and Drug Authority, and the Tanzania Food and Nutrition Centre</td>
<td>Millers Association of Tanzania International Association of Operative</td>
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### 3.4.2. Strengths and weaknesses of the flour milling sector

<table>
<thead>
<tr>
<th><strong>COMPETITIVE STRENGTHS</strong></th>
<th><strong>COMPETITIVE WEAKNESSES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Private investments have targeted improvements in the nutritional value of maize meal; e.g. soya-enriched maize meal product introduced by Powerfoods Ltd.</td>
<td>• Low margins in maize milling due to competition from 30,000 flour millers, with commercial expansion impeded by erratic nature of supply and demand.</td>
</tr>
<tr>
<td>• Potential for growth in commercial maize sector is evidenced by increasing commercialisation in neighboring countries with similar consumption patterns.</td>
<td>• Small local millers are inefficient, unregistered and un-licensed. Cost-effectiveness of milling facilities is constrained by unreliable electricity supply.</td>
</tr>
<tr>
<td>• Bi-products of flour production can be used as animal feed</td>
<td>• Transaction costs such as high taxes, excessive transportation costs and corruption increase costs of sourcing maize; in addition, maize processors have costs and barriers associated with procuring municipal council permits etc.</td>
</tr>
<tr>
<td>• Fast growth in flour exports to neighboring countries</td>
<td>• Medium maize millers have had to focus on producing their own maize due to unreliable and low quality maize from other farmers.</td>
</tr>
<tr>
<td>• Importing wheat flour is prohibited, protecting the wheat flour milling industry. Imported wheat tariff of 10% was removed in 2008 to offset high wheat prices and has not yet been reinstated</td>
<td>• Wheat milling also faces an inadequate/inconsistent local supply; e.g. only 20% of wheat used by Azania Wheat Flour is locally purchased.</td>
</tr>
</tbody>
</table>
• Local abundance in production of both cassava and maize (through contracts with local suppliers); remaining 80% is imported from Canada, US, Australia, Germany and Argentina. While Bakhresa and Coast Millers imports 98% of its wheat (latter from Ukraine, Croatia, Argentina, German, Russia, Pakistan and India)

• Wheat imports face high transaction costs/ constraints, such as power interruptions and unreliable suppliers. Azania Wheat Flour has had to pay the army up to US$45,000 per import consignment to patrol the dock (e.g. due to issues of piracy); further the company is required to pay the shipper a penalty of up to $120,000 per day for docking delays at the port of Dar es Salaam

3.4.3. Scope for GAFSP PrSW/ IFC investment in milling

Reports suggest that large maize flour processors have been pushed out of the market by small and medium millers (who can produce flour tailored to consumers’ demand) and are shifting their focus to wheat. However, given recent trends towards commercialisation of maize flour milling in neighbouring countries, there may be an opportunity to capitalise on industry consolidation in the future if millers can connect with smallholders and develop the technology to produce maize flour to consumers’ taste, at scale. For instance, Tofauti Sembe, a medium-sized mill which uses its own maize for flour processing, has indicated interest in connecting with small-scale farmers, provided quality is assured. Equally, there may be an opportunity to backward integrate along the maize value chain given Tanzania’s potential for local maize production.

Other areas with scope for investment include agro-processing to expand into the market for animal feed (cattle, pigs and local breeds of poultry) and quality maize meal. For instance, USAID’s ‘Feed the Future’ initiative, the Tuboreshe Chakula Projects will work to support fortified maize flour. The PE firm Fanisi Capital, has also reportedly bought a $65m minority stake in Tanzanian agro-processing company, Kijenge Animal Products Limited (Kijenge), a mid-sized maize flour milling, animal feed milling and poultry production firm.

However, in the nearer-term, there may be more potential for investments in wheat milling given the presence of several large domestic players in this sub-sector, as well as to increase value-add, especially to increase the nutritional content to might malnutrition. Although, we note that this would need to be considered against key constraints, particularly the reliance on wheat imports, compounded by existing policy risks surrounding the absence of import tariffs.

3.5. Cashew nuts

According to the African Cashew Alliance, Tanzania is Africa’s fourth-largest producer of cashew nuts (behind Ivory Coast, Nigeria and Guinea-Bissau). However, the sector accounts for a small share of total agricultural production in Tanzania, with significant volatility
observed in FAOStat data, particularly in terms of area used for cultivation and cashew nuts yields, which could in part be attributed to increasing disincentives to production (discussed further in sub-section 4.4.3 below). As Figure 3.6 below indicates, production of raw cashew nuts (RCN) appears to have declined from a peak of 160,000 MT in 2012 to ~128,000 MT in 2013, with a total area of ~410,600 Ha estimated under cultivation.

**Figure 3.6: Trends in production and yields of the cashew net sector.**

![graph showing trends in production and yields of the cashew net sector]

*Source: FAOStat*

According to the Cashew Nut Board of Tanzania (CNBT), at least 700,000 households rely on the crop for 75% of their annual income. Smallholder farmers typically cultivate 1-2 Ha of cashew nut trees, at times inter-cropped with food crops such as cassava, grain staples and legumes. Close to 80% of total area and production of cashew nuts is concentrated in southern coastal regions of Mtwara, Lindi, and Ruvuma.

Following introduction of the Warehouse Receipt System, all exports must be marketed through Agricultural Marketing Co-operative Societies (AMCOS) before being sold via auction, where exporters and processors bid for raw cashew nuts.

Approximately 88% of production is exported as raw nuts for processing abroad, mainly to India, with the sector estimated to account for 10% of total agricultural exports. The desk-based research indicates that cashew exports were valued at $133.5m for the year ending May 2014, as compared to $150m in the previous year, with the decline in earnings attributed to falling global prices and lower production.

Only 12-20% of production is processed. The country’s processing capacity in 2013 was estimated at ~136,700 MT at 25 plants, with per plant capacity ranging between 300 –12,000 MT. However, reports suggest maximum estimated processing of 30,000 MT in 2012.

Olam Tanzania is the largest processor with a capacity of 25,000 MT p.a., followed by Export Trading Company (Tunduru) and Mohammed Enterprise (Dar es Salaam), which have a maximum processing capacity of 5,000 MT p.a. each; while. Jumbo nut (Dar es Salaam) and Perfect cashew nut (Masasi) are medium-scale, processing a maximum of 3,000 MT p.a.

The CNBT is the main sector regulator. It is involved in policy formulation and quality control, as well as being the main coordinating body in the sector.
3.5.1. Overview of the cashew nuts value chain

<table>
<thead>
<tr>
<th>Key constraints</th>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Financial; technical resource constraints</td>
<td>• Inadequate use of inputs, especially pesticides</td>
<td>• Lack of irrigation</td>
<td>• Poor drying and storing of nuts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Inadequate and weak coverage of extension (lack of skills, training &amp; equipment)</td>
<td>• Poorly maintained &amp; aged trees</td>
<td>• Insufficient bags for packaging</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Insufficient availability of planting materials</td>
<td>• High production costs, coupled with low farm-gate prices</td>
<td>• High energy costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Inefficient use of processing technologies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Low hygiene in manual processing</td>
</tr>
</tbody>
</table>

| Public sector | Cashew Research Institute; NARI; University of Dar es Salaam (UDSM) | District Agricultural and Livestock Offices; NARI; Cashew Nut Development Centres; National Cashew Input Fund; CAMATEC; SIDO; NARI; VETA; Primary cooperative societies; cooperative unions | Cooperatives: TANECU; MAMCU; ILULU; TAMCU; CORECU; and DARECU | CNBT; Cashew Nut Industry Development Trust Fund; Ministry of Agriculture and Cooperatives; Primary cooperatives and cooperative unions; AMCOS |

| Private sector | Chemical companies; e.g. Syngenta | Masasi High Quality Farmers Products Limited (MHQFP) | Processors: Olam Tanzania; Export Trading Company; Mohammed enterprise (METL – Mo Cashew); Jumbo nut and Perfect Cashew Nut Newala factory; Kitama Farmers Association; MHQFP Warehouses |

| Donor interventions | | | NGOs: Action Aid, Dutch Connection – support to MHQFOP; 3ADI – VCDSP | 3ADI – VCDSP; UNIDO; FAO |

3.5.2. Strengths and weaknesses of the cashew nuts sector

<table>
<thead>
<tr>
<th>Competitive strengths</th>
<th>Competitive weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tanzania produces larger nuts than other African countries and the harvest coincides with the end of the Indian and West African season.</td>
<td>• Poorly-maintained over-aged plantations, with insufficient availability of planting materials to support rehabilitation; lack of farmers’</td>
</tr>
</tbody>
</table>
- The Tanzanian crop is also considered to be one of the best quality cashews globally; high quality (more than 90% is sold as Grade A) and value means that Tanzanian cashew nut is relatively easy to market.
- Global increase in demand for cashews is estimated at 9% p.a., with African production contributing ~45% of global output.
- CNBT has implemented an auction system, with a view to rationalising marketing costs between producers (organised through cooperatives) and Cooperative Unions, through the use of WRS. A commodity exchange has also been initiated.
- Under 2016/17 national budget, GoT recently announced that it is abolishing “unnecessary” levies and fees charged by agents, regulatory bodies and local government authorities – that is, farmers no longer need to pay the levy of US$0.01/ kg of cashew nuts charged by the Cooperative Union, nor the US$0.02/ kg transportation levy.
- Untapped potential to develop value addition of kernels such as in the form of butter, soups, powder, pastes etc.; as well as pursuing marketing of by-products (CNSL, testa and shells) and capturing and reusing energy in cashews and shells. Bloomberg has reported that Tanzanian authorities are looking to increase local processing from 40 small-scale factories, including by-products such as cashew nut shell used in pharmaceuticals.
- Yields are less than 1 MT/ Ha, which although productive by East African standards, is below comparable yields in West Africa (2 MT/ Ha in Nigeria), or the most productive countries (3 MT/ Ha in Mexico; ~5 MT/ Ha in Philippines).
- Lack of irrigation has increased vulnerability to weather conditions with RCN production expected to have declined by 40% in 2015 due to poor rains in the major growing areas.
- Weak marketing system, with lack of information on opportunities and prices. There have also reportedly been riots due to CNBT paying farmers less than the agreed price.
- Disincentives to production, mainly due to export tax of 15% on RCN as well as the move towards centralised auction and WRS, increasing costs (as processors go through a double transaction of selling the crop through the primary societies and buying stocks from warehouses on auctions) and allegedly leading to a grey market. Local taxes of ~5% are also applied to the farm gate price.
- Local processing is at a competitive disadvantage to the Indian industry which benefits from a low-cost skilled workforce. Average capacity utilisation for large scale processors in Tanzania is estimated at just 21% (2012); key constraints include: (i) difficulties accessing loans to purchase RCN at affordable prices to maintain continuous processing operations year-round; (ii) shortage of workers for labour-intensive processing activities as local processing is based on manual technology from India; (iii) aside from a few companies (e.g. OLAM), most commercial processors lack technological and managerial capacity, facing high fixed and running costs and need to upgrade factories, adapting to lower scale operations.
- Bureaucratic constraints to exports, with multiple permit requirements for traders and overregulation (multiple bodies). The export tax has had limited effectiveness in promoting in-country processing, as exports are still seen as more attractive. The Indian market also benefits from purchasing power.

### 3.5.3. Scope for GAFSP PrSW/ IFC investment in cashew nuts

Given the increasing global demand for cashews (estimated at 9% p.a.), a number of private players are pursuing expansion activities in Tanzania, with a view to accelerating exports of processed cashews through backward integration. For instance, Mo Cashew (under METL) is currently expanding its own plantations, with a target production level of 30,000 MT.
Key projects supported by development partners include 3ADI’s Value Chain Development Support Program (VCDSP), which has aimed at doubling cashew nut production by 2020, accompanied by an increase in domestic processing (to 80%), with 30% of production sold on domestic and African regional markets.

In general though, our initial findings suggest that is a limited pipeline of GAFSP PrSW/IFC investments in the cashew nut sector, given for instance, the greenfield risk for investors associated with establishment of new cashew nut orchards. In practice, it also seems difficult to develop value addition activities in the sector – including modernising and/or expanding processing plants – due to the inherent competitive advantage currently enjoyed by India in this regard.

### 3.6. Coffee

Although Tanzania is not a major producer of coffee on a global scale (accounting for just ~0.6% of the world market), the sector represents 24% of the value of traditional cash crops and is one of the largest export crops in the country.

Overall, production of coffee beans was estimated at ~71,000 MT in 2013, with approximately 224,000 Ha under cultivation. According to the FAOStat data, production has increased in the last few years, but as shown in the figures below, the longer-term trend suggests that production has been stagnant.

*Figure 3.7: Trends in production and yields of the coffee sector.*

(Source: FAOStat)

One of the underlying factors identified for this trend is the declining production in the Northern Highlands, where production has been largely based. Other regions of coffee cultivation include Southern Highlands (Mbeya, Ruvuma and Ludewa Regions), and the Western Lake Zone (in Kagera Region), in addition to Tanga, Iringa, Manyara, Morogoro, Kigoma, Mwanza, Rukwa and Mara Regions.

Most production (~90%) is by ~450,000 smallholder families, typically operating on 0.5-1 Ha of land; with the remainder output accounted for by largest estates (over 110 have been estimated). Overall, approximately 2.4m individuals are supported by the coffee sector.

Arabica coffee contributes around 70% of total coffee production and is almost entirely wet-processed; the remainder 30% of production is of robusta, grown only in the Kagera region.
There are thought to be around 15 coffee and hulling plants, with production capacities varying between 1.5-8 MT/hour. Larger plants typically operate with older equipment and are owned by cooperative unions, while most smaller plants are owned by multinational coffee companies with modern technologies and fewer employees. In addition to coffee processors, the value chain also includes coffee roasters and blenders.

Domestic coffee consumption is relatively low (per capita consumption of ~0.06 kg p.a.), with over 90% of production directed to export markets – mainly to the E.U., but also Japan and the U.S.A. As such, coffee is one of the largest agricultural export commodities, valued at US$162.4m in 2013 (FAOStat).

Marketing of coffee exports is largely through a centralised auction in Moshi (Northern Tanzania). Historically, purchases at Moshi have been concentrated in terms of four key traders – Mazao; Tchibo; Dorman; Taylor Winch.

In addition to sector prioritisation under the ASDP, the Coffee Industry Development Strategy 2011–16 has been introduced by the Tanzania Coffee Board to establish a framework for expanding production and improving quality. Further detail is provided in Box 3.2 below.

Box 3.2: Coffee Industry Development Strategy 2011–16

Key objectives of the Coffee Industry Development Strategy include: (i) expanding production (from 50,000 MT to at least 80,000 MT by 2016 and 100,000 MT by 2021); (ii) improving quality of output by 2016 (by increasing share of coffee sold with price premiums on export markets from 35% to 70% by 2021); (iii) improving the business environment; (iv) increasing farmer incomes and price premiums (increasing farmers’ share of net FOB price on coffee exports to at least 75% by 2021); and (v) increasing value addition throughout the coffee value chain.

The strategy is based on the following key strategic thrusts: (i) increased productivity; (ii) enhanced internal marketing process and business environment; (iii) improved quality; and (iv) development on new markets including sustainable coffee. Key areas of GoT support will include:

- Progressive replacement of old trees with improved varieties, combined with application of GAP to support +100% increase in average yields from current level of 225 kgs/ Ha of clean coffee to 450 kgs/ Ha of clean coffee by 2021 (+55% in 2016);
- Expanding area under production, with a total of 10,000 Ha planted by both small holders and large scale investors by 2021 (at least 1,000 Ha per year).
- Support from TaCRI seedlings multiplication program, whereby ~20m seedlings will be availed annually on this period.
- Increased coffee agronomy extension support on the field, through Training of Trainers and capacity building of extension officers to provide village-based training and facilitate technology transfer to farmers in their groups.

Expected outcomes include additional revenues (at a national level) of at least US$150M annually through export earnings, of which at least 75% would be redistributed to coffee farmers. This is expected to almost double the coffee incomes of an estimated 400,000 households, contributing to a sustainable capacity for self-improvement of the coffee industry in Tanzania.

The sector has also benefited from introduction of innovative financing mechanisms, including the WRS and KILICAFE’s financial linkage, supported by TechnoServe. GoT is in process of establishing a commodity exchange, which would eventually cover coffee & tea.
### 3.6.1. Overview of the coffee value chain

<table>
<thead>
<tr>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for more research into improved varieties</td>
<td>Inadequate access to and low use of inputs</td>
<td>Lack of irrigation</td>
<td>High transaction costs and restrictive regulations</td>
</tr>
<tr>
<td>Low availability of improved coffee varieties</td>
<td>Limited access to credit</td>
<td>Insufficient, ageing trees.</td>
<td>Price volatility</td>
</tr>
<tr>
<td></td>
<td>Lack of knowledge infrastructure</td>
<td>Poor husbandry</td>
<td>Inadequate functional central pulperies</td>
</tr>
</tbody>
</table>

#### Key constraints
- Need for more research into improved varieties
- Low availability of improved coffee varieties
- Inadequate access to and low use of inputs
- Limited access to credit
- Lack of knowledge infrastructure
- Lack of irrigation
- Insufficient, ageing trees.
- Poor husbandry
- Coffee Berry Disease; Coffee Leaf Rust
- High transaction costs and restrictive regulations
- Price volatility
- Inadequate functional central pulperies

#### Public sector
- **Tanzania Coffee Research Institute**
  - Association of Kilimanjaro Specialty Coffee Growers (KILICAFE)
  - TaCRI seedlings multiplication program
- **Tanzania Coffee Board**; **Tanganyika Coffee Growers Association**; **KILICAFE**; **Kilimanjaro Native Cooperative Union (KNCU)**; **Kagera Cooperative Union Ltd**; **KILICAFE**; **Mbinga Cooperative Union**

#### Private sector
- **Israel Chemicals Limited (ICL) Specialty Fertiliser**
  - Coffee farms (estates & smallholdings); Burka Estates Limited; Mufindi Tea Company
- **Processors**: Tanganyika Coffee Curing Company; **International processing companies**: Neumann Kaffee Gruppe (two curing plants – City Coffee of Mbeya & Mazao Limited); Volcafe Ltd (Rafiki Coffee Ltd of Moshi); Gourmet Coffee Company
  - **Instant coffee producer**: Tanzania Instant Coffee Company; **Exporters**: Ibero Coffee Tanzania Limited (owned by Neumann Kaffee Gruppe); Tailor Winch Tanzania (owned by Volcafe Ltd Dorman Export)

#### Donor interventions
- **TechnoServe (support to KILICAFE)**
  - Fairtrade Coffee
- **Fairtrade Coffee VSO Tanzania**
- **Fairtrade Coffee**
### 3.6.2. Strengths and weaknesses of the coffee sector

<table>
<thead>
<tr>
<th>Competitive strengths</th>
<th>Competitive weaknesses</th>
</tr>
</thead>
</table>
| - Increased reliability of quality of supply of robusta and Arabica coffee, supported by on-farm improvements, adoption of Central Pulpery Units (CPUs) (via government-imposed regulations on smallholders to use these external services) and increasing estate-based production. Available reports suggest that large private estates can yield up to 2,500kg/ Ha with proper use of irrigation and fertilisers.  
- There has been some support from cooperative ventures (e.g. KNCU) to replace ageing trees with newer, more productive and disease-resistant varieties. KNCU has also introduced nurseries in various parts of Kilimanjaro region; while KILICAFE has a role in supporting small-scale coffee growers to produce better quality, secure credit facilities and establish links to more lucrative markets.  
- Tanzanian coffee benefits from a high value on the international market, as most coffee is hand-picked and is not ground-dried. There has been increasing international demand for specialty highest-quality coffee; in particular, Tanzania is a “Colombian Mild Arabica” producer (accounting for 6% of world production), which is considered top quality bean. Tanzania is also well-served to meet demand from Japan for “Kilimanjaro” coffee.  
- There is scope to expand domestic consumption, which is currently at a low level estimated at 0.06 kg per capita annually.  
- Under the 2016/17 national budget, GoT recently announced that it is abolishing levies and fees charged by agents, regulatory bodies and local government authorities, including $250 cherry processing license charged by the Coffee Board. | - Relatively low smallholder yields (~200-300 Kg/ Ha). Key constraints to productivity and quality include: increasing population density (and declining farm sizes); crop berry disease and pests; weak extension and low inefficient use of industrial inputs; overall lack of improved disease-resistant varieties; ageing trees; lack of replanting; poor husbandry and impact of climate change given recent temperature rise.  
- Increased crop competition (esp. from bananas) and increased risk of disease due to high intensity of inter-cropping.  
- Limited sector liberalisation, as all coffee must be sold through the Moshi auction or under a direct export contract approved by the Tanzania Coffee Board. Cooperatives also face difficulties selling high-end premium coffee due to multinational companies’ presence in the coffee auction, under the buyback system approach.  
- High production costs relative to av. world prices; total costs of marketing coffee from the farm gate to Dar es Salaam port is ~$800/ MT, around 41% of the auction price (FAO)  
- Dis-incentives to production also include levies and charges for membership to Tanzania Coffee Board; market development gaps – e.g. transport costs/lack of price transmission, with reports of some farmers receiving as little as half of the auction price for their coffee.  
- Other institutional constraints include a complex tax system and different licensing requirements at each stage of the value chain.  
- Excess processing capacity at factories: ~90% of coffee is home-processed (especially in the South), resulting in inconsistent and heterogeneous (low) quality due to deficient post-harvest practices – e.g. lack of clean water and insufficient drum pulpers and drying tables for mild Arabic smallholder processing. Overall, there are insufficient modern/functional CPUs (particularly in the north).  
- Limited value-addition beyond curing plant, with only a small amount of processing into instant coffee. |
3.6.3. Scope for GAFSP PrSW/ IFC investment in coffee

While the Coffee Industry Development Strategy has set ambitious targets – including a two-fold expansion in production by 2021 – preliminary findings suggest that the industry is still constrained by low quality and productivity due to factors including limited use of inputs and insufficient replanting; inefficient marketing and lack of value addition. In this context, any investments to expand the number of processing units, would need to be accompanied by support targeted at agronomic improvements and increasing farmers’ adoption of these CPUs.

Indicative examples of the types of investments required in the coffee sector include a $14m loan provided by FMO to Aviv Tanzania (a subsidiary of Olam International), a 1,200 Ha greenfield coffee plantation and a wet and dry mill processing facility in the Songea district (South West Tanzania). The project provides training to outgrowers to improve yields, as well as supporting development of roads and energy services in the region and implementation of an Integrated Water Resources Management Plan, facilitating drip irrigation for coffee production. Under the New Alliance Framework, Armajaro (a global soft commodity trading house and supply chain manager), is also supporting development of smallholder coffee farmers in the Mbeya and Mbinga regions by providing access to finance, improving productivity (e.g. through training in GAP and increasing processing in the wet mills); and strengthening market linkages.

Given that there is currently limited processing beyond the curing plant, other opportunities highlighted by the available research relate to an expansion of value addition activities. However, at present it is unlikely that such investments would be sufficiently large and of the scale typically required by GAFSP PrSW/ IFC. For instance, Tanzania Instant Coffee Company Ltd – which is among the few instant coffee factories in East and Central Africa – has a relatively low annual production of 500 MT of instant coffee and sales of ~US$1.9m in 2010 (of which ~US$1m were exports). Another identified player, Afri Tea and Coffee Blenders Ltd. is the only East African producer of instant coffee exporting to Japan. However, again, it has a small capacity of 300MT p.a. for instant coffee powder and 750 MT p.a. for roasted and ground coffee.

3.7. Cotton

Cotton is one of Tanzania’s largest sources of export revenue. Cotton products (including cotton lint, seed, cake and cotton seed oil) brought in over US$96m in 2013. The crop is mainly grown on small scale farms ranging from 0.5 to 10 Ha, with average farm size being 1.5 Ha.

97% to 99% of Tanzania’s cotton is grown in the northwest of the country near Lake Victoria. Simiyu, Shinyanga, Mwanza, and Geita are the largest cotton producing regions in Tanzania, with Simiyu region producing over 40% of the national output. Production is dominated by smallholder farmers who use rain-fed techniques/basic technology. In total it is estimated
that between 350,000 and 500,000 smallholder farmers are involved in producing cotton on around 400,000 Ha of land each year. Cotton yields in Tanzania are reported to average 0.55 MT/ Ha, which is well below global averages of around 0.8 MT/ Ha; in addition the poor quality of Tanzanian cotton has meant that traders have had to sell the product at a discount on the world market.

As Figure 3.8 below shows, cotton seed production has been quite volatile over the past 15 years, varying from around 75,000 to 225,000 MT, but with no real extended period of sustained growth. According to USDA estimates, around just 120,000 MT of cotton seed was produced in 2015/16, with current forecasts suggesting that this will increase to 140,000 MT in 2016/17. The decline in production in 2015/16 was attributed to lower than expected levels of rain during the February - March 2015 period, which are important months for cotton production.

Alongside changes in the global price of cotton, erratic weather conditions is reported to be the main factor behind the level of volatility in production of seed cotton. More structural factors constraining the growth of the sector include a lack of affordable and quality inputs for smallholders and the lack of trust/ working relationship between cotton producers and ginners, which has helped to prevent the growth of contract farming arrangements and has continued to constrain the level of seed cotton production in Tanzania.

*Figure 3.8: Cotton production in Tanzania*

![Cotton production in Tanzania](image)

*Source: FAOSTat*

The Tanzania Cotton Board, which is the institution responsible for regulating the quality of cotton production in Tanzania, sets an indicative seed cotton price each year that is announced at the beginning of June each year. The actual market price that is received by smallholders depends on multiple factors such as the quality and quantity of the cotton that smallholders end up producing and the level of market demand for the good in the Tanzanian market.

According to the government’s Cotton Advisory Committee 28 ginning companies obtained a licence to trade in cotton lint production by mid-way through 2015/16. Overall, there is estimated to be capacity to gin 400,000 bales of cotton (around 72,400 MT) per month in
Tanzania, suggesting that there is currently excess ginning capacity in the country – which subsequently can lead to significant competition amongst the ginners to acquire sufficient supplies of seed cotton and exacerbates the issue of side-selling, which has undermined contract farming arrangements in the country.

Table 3.2 below sets out some statistics on cotton lint production in Tanzania. It shows that cotton lint production has been falling in recent years, due to low production of cotton seed and the recent decline in prices for lint exports. Around 80% of cotton lint production is exported, with countries such as Bangladesh, India and China being the main destinations.

Table 3.2: Cotton statistics

<table>
<thead>
<tr>
<th>Year</th>
<th>Area under production (Ha)</th>
<th>Ave USDA/ Kg farm-gate price for seed cotton</th>
<th>Ave local lint export price USC/ Lb</th>
<th>Lint production (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009/10</td>
<td>348,464</td>
<td>0.49</td>
<td>0.53</td>
<td>89,496</td>
</tr>
<tr>
<td>2010/11</td>
<td>469,445</td>
<td>0.40</td>
<td>0.77</td>
<td>54,809</td>
</tr>
<tr>
<td>2011/12</td>
<td>450,000</td>
<td>0.65</td>
<td>1.00</td>
<td>75,731</td>
</tr>
<tr>
<td>2012/13</td>
<td>450,000</td>
<td>0.41</td>
<td>0.72</td>
<td>119,756</td>
</tr>
<tr>
<td>2013/14</td>
<td>350,000</td>
<td>0.43</td>
<td>0.83</td>
<td>82,394</td>
</tr>
<tr>
<td>2014/15</td>
<td>350,000</td>
<td>0.46</td>
<td>0.84</td>
<td>67,812</td>
</tr>
<tr>
<td>2015/16</td>
<td>n/a</td>
<td>0.4</td>
<td>0.64</td>
<td>Estimated 54,300</td>
</tr>
</tbody>
</table>

Source: Tanzanian International Cotton Advisory Committee

3.7.1. Overview of cotton value chain

<table>
<thead>
<tr>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key constraints</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Lack of funds to support sufficient research</td>
<td>• Disputes between farmers and ginners and bad history of enforcing contracts/side-selling</td>
<td>• Pests; disease</td>
<td>• Inadequate storage facilities</td>
</tr>
<tr>
<td></td>
<td>• Poor technical assistance from ginners</td>
<td>• Loss of soil fertility</td>
<td>• Volatility in global cotton lint prices, and exchange rate</td>
</tr>
<tr>
<td></td>
<td>• Declining use of seasonal inputs</td>
<td>• Weather variability</td>
<td>• Outdated technologies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Declining quality of seed production and lint</td>
<td>• Most cotton exported as lint, limited processing of textiles</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• High transport costs</td>
</tr>
<tr>
<td>Public sector</td>
<td>TCB, Cotton Development Trust Fund (CDTF)</td>
<td>TCB</td>
<td>TCB</td>
</tr>
<tr>
<td>Private sector</td>
<td>Quton Seed Company</td>
<td>Smallholder farmers</td>
<td>Over 40 ginning companies: Gaki investment; Olam; Kahama cotton; Mwanza</td>
</tr>
</tbody>
</table>
3.7.2. Strengths and weaknesses of the dairy sector

<table>
<thead>
<tr>
<th>Donor interventions</th>
<th>Textile Mills and S&amp;C ginning company (under Sumaria group). Textile companies include Tanzania – China Textile Friendship Mills (URAFIKI) and Karibu Textile Mills Vegetable Oil Industries Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatsby Foundation, TechnoServe</td>
<td>Gatsby Foundation, TechnoServe, CMiA, Rural Livelihood Development Company (RLDC)</td>
</tr>
<tr>
<td>Gatsby Foundation, TechnoServe, CMiA</td>
<td>Gatsby Foundation, TechnoServe, DFID</td>
</tr>
</tbody>
</table>

**COMPETITIVE STRENGTHS**

- Currently the largest producer of cotton in East Africa.
- Tanzania has made progress in developing its production of organic cotton. It is thought to be in the world’s top-five producers of organic cotton and brands such as the Better Cotton Initiative (BCI)/ Cotton Made in Africa (CMiA) establishing themselves in the sector.
- There are ongoing efforts to improve yields, particularly through development of high-yielding and disease-resistant varieties and an increased overall use of certified cotton seed. The private sector has been brought into these R&D programs – e.g. TCB has contracted Quton Seed company to multiply and process cotton seeds for planting
- Under the 2016/17 budget, GoT announced that Cotton growers will no longer be paying the US$205 paid to the Cotton Board for the Uhuru Torch.
- The sector benefits from committed support from donors such as the Gatsby Foundation, which has been trying to develop the sector for a number of years.
- Tanzania is geographically well positioned to serve key markets for cotton lint in South Asia, as compared to its West African competitors in particular.

**COMPETITIVE WEAKNESSES**

- Smallholders achieve very low yields as a result of lack of access to sufficient inputs, reliance on rain-fed agricultural and inadequate farming techniques that also leads to poor quality production. Low and fluctuating prices are a further disincentive to farmers.
- Lack of trust/ effective working relationships between smallholders and ginners. Part of the issue is that there are a number of traders operating in the sector that have cheated smallholder farmers. However, the large number of small/ mid-sized ginners has meant that there is significant potential for side-selling by smallholders engaged in contract farming arrangements; hence it has been difficult to implement contract farming models on a sustainable basis.
- Poor infrastructure, e.g. lack of power and inadequate transport links reduce the competitiveness of the sector. One of the country’s largest mills, Mwanza Textile Mills, had to suspend its operations last year because of a lack of constant power supply. Other issues concern outdated technologies used.
- Exports are impeded by: (i) declining cotton quality due to poorly ginned cotton (seed cotton is splashed with moisture or sand is added, to increase cotton weight); (ii) significant fluctuations in domestic cotton supply; and (iii) price shocks in the world market, compounded by a lack of price stabilisation mechanisms. Further, despite EBA facility, there have been limited sales to the EU due to rules of origin.
3.7.3. Scope for GAFSP PrSW/ IFC investment in cotton

The government has a stated ambition to support the development of the cotton sector in Tanzania. There is a target to increase the production of cotton seed to 1.5m MT mainly by increasing yields by 2020 (however, a similar target had been set for 2010). The TCB recently finished implementing the 2009 – 2015 Cotton Sector Development Strategy, it is not yet clear what impact the strategy had or what policy framework will be in place going forwards.

It is clear that if efforts to develop the sector are to be achieved, more needs to be done to improve smallholders’ access to improved inputs, in particular seeds and fertiliser as well as their access to training; in addition to improving returns through facilitating price stability. Some of the programs developed to address the issue – e.g. by the Gatsby Foundation – initially failed due to the inability/ unwillingness of government to regulate effectively the ginners. There are reported to be ongoing efforts to re-establish the contract farming model alongside other efforts to develop the sector by providing capacity building to farmers/ farmer groups directly.

Given the highly competitive and diffuse structure of the ginning sector in Tanzania it would seem that there is very limited scope for GAFSP PrSW/ IFC investment in the cotton processing sector – reports suggest that investors have been put off the sector due to factors such as the unreliable power supply and the disputes between ginners and smallholders, which have negatively affected sector competitiveness. Unless there is potential to support the provision of inputs on credit alongside an established partner such as Olam or together with the Gatsby Foundation it is unclear that there will be much scope for investment in the sector.

3.8. Dairy

Consumption of milk in Tanzania is measured to be around 43L per person each year, which is significantly below the 200L recommended by the World Health Organisation, but is a similar level to other countries in the region (though notably consumption in Kenya is more than double the level in Tanzania). Most studies suggest that demand for milk is growing significantly driven by population growth, urbanisation and the recent economic growth experienced in Tanzania.

Milk consumption is quite common in Tanzania, though there is a general preference for local raw milk over processed milk. Consumption of processed dairy products such as cheese, yoghurt etc. is quite marginal. Most estimates suggest that imports of dairy products, mainly in the form of milk powder, butter and cheese are roughly the same size as Tanzania’s processed dairy sector. The available data suggests that imports of dairy products have grown at over 10% per annum to over US$25m in 2014 (though this is driven partly by a considerable increase in the last year of over US$10m).
Tanzania is thought to have one of the largest cattle populations in Sub Saharan Africa. The most recent data put the number at almost 22m (Tanzania Investment Centre (2013). Tanzania Investment Guide 2014-15). Over 95% of the cattle population are estimated to be the indigenous breeds (the shorthorn East African zebu), which is low milk yielding compared to crossbred and exotic breeds (mainly Friesian and Ayrshires). The overall milk production yield is estimated to be around 2L per cow per day, which is significantly lower than that achieved in Kenya (around 5L per cow per day).

It is estimated that over a third of all rural households own cattle (over 2m households), of these around 70% keep between 1 and 10 cattle. The majority of cattle are kept in the following regions: Shinyanga, Mwanza, Arusha, Mara, Manyara, Singida and Dodoma, which are mainly lowland and humid regions. The improved dairy breeds are concentrated in the Kilimanjaro, Arusha and Mbeya regions – the cooler highland regions.

Milk production has been growing at over 7% per annum over the last 14 years driven by increases in the cattle population. By 2013, close to 2m MT of milk were produced. Around 80% of production is consumed at the farm level by subsistence farmers; between 15 and 20% is sold through informal channels as and when smallholders have excess milk that they want to sell; the remainder – less than 5% of total production – is sold through formal channels.
The processing sector is small and focused mainly on the pasteurisation and production of dairy products, most of the companies have small and medium sized plants with the capacity to process between 500 to 30,000L per day; the overall capacity in Tanzania is approx. 400,000L. Examples of the largest companies are Tanga Fresh (which has received investment from CDC in the past), which is the largest dairy company in the country (50,000L per day capacity and annual turnover in region of US$4m); Asas; Musoma dairies; Mara milk and Tan dairies. The processors typically source over half their milk from smallholder farmers, with the remainder coming from commercial farms.

### 3.8.1. Overview of dairy value chain

<table>
<thead>
<tr>
<th>Key constraints</th>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of funding; disconnection between research and extension systems; limited availability/provision of the appropriate genetics</td>
<td>Lack of funding; disconnection between research and extension systems; limited availability/provision of the appropriate genetics</td>
<td>Limited provision of extension services; and poor delivery of appropriate genetics, veterinary services and animal health inputs</td>
<td>Technical skills</td>
<td>Cost and availability of power</td>
</tr>
<tr>
<td>Poor quality of fodder and of genetic stock</td>
<td>Poor quality of fodder and of genetic stock</td>
<td>High costs of medicine and vaccines for treatment and prevention of tick-borne disease</td>
<td>Access to credit to purchase inputs</td>
<td>Absence of cold-chain facilities</td>
</tr>
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<td>Poor quality of fodder and of genetic stock</td>
<td>Distance from markets</td>
<td>Quality and availability of milk</td>
</tr>
<tr>
<td>Poor and disorganised milk marketing system</td>
<td>Poor and disorganised milk marketing system</td>
<td>Poor and disorganised milk marketing system</td>
<td>Livestock diseases</td>
<td>Disposable income of consumers</td>
</tr>
<tr>
<td>Technical skills</td>
<td>Technical skills</td>
<td>Technical skills</td>
<td>Smallholders typically make direct sales in small volumes so a struggle to improve coordination/ get economies of scale etc.</td>
<td>Underutilisation of processing capacity</td>
</tr>
<tr>
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<td>Smallholders</td>
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<tr>
<td>Smallholders</td>
<td>Smallholders</td>
<td>Smallholders</td>
<td>generally make direct sales in small volumes so a struggle to improve coordination/ get economies of scale etc.</td>
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<tr>
<td>Cost and availability of power</td>
<td>Cost and availability of power</td>
<td>Cost and availability of power</td>
<td>Distance from markets</td>
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<tr>
<td>Absence of cold-chain facilities</td>
<td>Absence of cold-chain facilities</td>
<td>Absence of cold-chain facilities</td>
<td>Livestock diseases</td>
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<tr>
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<td>Quality and availability of milk</td>
<td>Smallholders</td>
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<tr>
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<td></td>
</tr>
</tbody>
</table>

| Public sector/ Associations | Tanzania Livestock Research Institute; Tanzania Dairy Board; Livestock Training Agency; | Tanzania Dairy Board; Tanzania | Tanzania Dairy Board; Tanzania | Tanzania Milk Processors Association; |
3.8.2. Strengths and weaknesses of the dairy sector

<table>
<thead>
<tr>
<th>COMPETITIVE STRENGTHS</th>
<th>COMPETITIVE WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Conducive climate for livestock operations; high rainfalls provide mostly flat grasslands, with sufficient water for keeping livestock at a stocking rate of 1 animal/ 3 Ha (or better).</td>
<td>• Limited access to key inputs including lack of quality breeding heifers and breeding bulls; and good quality feed for cattle, especially during dry season.</td>
</tr>
<tr>
<td>• One of the largest cattle populations in SSA.</td>
<td>• Yields have been stagnating due to factors such as limited skills/ understanding among farmers on how to raise cattle effectively; poor nutrition and disease; weak extension services.</td>
</tr>
<tr>
<td>• Dairy, albeit local raw milk, is a popular drink for local consumers; findings also indicate popularity of fermented milk and yogurt, given taste preferences.</td>
<td>• The inadequate transport infrastructure is a key issue for processors; collecting the milk from farmers requires significant travel which is costly and creates uncertainty for the supply chain.</td>
</tr>
<tr>
<td>• Land availability for grazing not highlighted as a constraint - though quality of feed/ grasses is not high.</td>
<td>• Poor network for milk collection. The lack of cold chain facilities and limited supply of power is a significant constraint, as the power outages result in high use of expensive generators and causes a lot of milk to become spoilt.</td>
</tr>
<tr>
<td>• Opportunity to improve productivity through introducing improved breeds, which at present represent less than 1% of the national herd.</td>
<td>• Under-used capacity of chilling/ processing plants (estimated at ~25% of processing capacity). In general, the quantity of processed local milk is estimated to be equivalent to the quantity of milk imports.</td>
</tr>
<tr>
<td>• Interest shown by foreign companies such as Brookside Dairies and Nestle Group. The sector has also benefited from the support of development partners, such as BMGF which is targeting improvements in productivity and increased market access for dairy products through the East Africa Dairy Development (EADD) II Programme (2014-2018).</td>
<td>• Disorganised milk marketing system, with relative lack of demand for processed milk. Commonly cited constraints to dairy consumption include high prices (of processed milk), lack of availability in dry season and distance between homes and retail locations.</td>
</tr>
<tr>
<td>• The milk producers association Tanzania Milk Producers Association (TAMPA), has successfully advocated for removal of VAT on locally processed dairy products to increase</td>
<td>• Under-used capacity of chilling/ processing plants (estimated at ~25% of processing capacity). In general, the quantity of processed local milk is estimated to be equivalent to the quantity of milk imports.</td>
</tr>
</tbody>
</table>
3.8.3. Scope for GAFSP PrSW/IFC investment in dairy

The largest milk processing company has a turnover of around US$4m so, unless an international firm is considering entry into the market, there seems to be limited scope for the sector to yield a pipeline of opportunities of the size under consideration by GAFSP PrSW/IFC.

Although not of large scale, there have been several recent investments in the sector through investors such as AECF-TZAW, the New Alliance Framework and a collaboration with TDCU and Dutch investors. For instance, AECF-TZAW has provided $450,000 in funding to Mgolole Agro-Processing Co. Ltd to develop an integrated dairy project to produce and sell quality heifers to farmers in Morogoro region. Further detail on these investments is provided in Annex E.

If there is a desire to get engaged in the sector, it may be necessary to explore opportunities around the provision of credit to groups of farmers in partnership with the processors/an existing financial intermediary.

3.9. Horticulture

The Tanzania Horticulture Association (TAHA) defines horticulture as being any agricultural activity that involves production, processing or packaging of flowers, fruits, vegetable seeds, spices and roots and tubers. The sector therefore includes quite a wide range of different goods that are individually quite small, but are combining to make horticulture an important part of the agricultural sector in Tanzania.

The sector is reported widely as being the fastest growing agribusiness sector in Tanzania, achieving growth rates of 9 – 12% per annum over the past five years (2008-2013). Overall, the sector is estimated to provide employment for 500,000 individuals, with women making up around 65% of the workforce. Most of the farmers in the sector, around 70%, control landholdings of less than 2 Ha.

Horticultural products are produced mainly in three parts of the country:

- Southern highlands – Morogoro, Iringa, Mbeya and Ruvuma.
- Northern corridor – Arusha, Kilimanjaro, Tanga and Manyara.
- Coastal zone: Coastal regions and Zanzibar.

The horticultural sector has grown to become the second largest source of export earnings for Tanzania, according to Tanzania Bureau of Statistics data. As shown in the figure below, the Tanzania Revenue Authority estimates that between 2010 and 2014 export earnings from horticulture have more than doubled from US$212m to US$447m.
Figure 3.11: Tanzania horticulture export data 2010 - 2014

Figure 3.12 shows that the growth in horticultural export earnings has occurred primarily due to the growth of the vegetable sub-sector. Vegetable exports have increased by over US$100m between 2010 and 2014.

Source: Tanzania Revenue Authority

Interestingly, according to a study by Mashindano et al (2013), only around 5% of the horticultural products produced in Tanzania are destined for export markets. The remainder are produced for own consumption, sold in the domestic market or go to waste. This suggests
that there may be considerable scope to continue to grow the sectors export earning potential.

Tanzania has less than 30 large scale growers/exporting companies operating in the sector. These agribusinesses are based mainly in Arusha and Manyara. These companies are an important source of employment in their respective regions. Many of the agribusinesses are owned by international players. For instance, Hortanzia Farms has an overall turnover of over US$1bn and employs 450 people; its main product is cut roses which it exports to the Netherlands, Norway and the UK, with lower quality roses sold on the domestic market.

### 3.9.1. Overview of horticulture value chain

<table>
<thead>
<tr>
<th>Key constraints</th>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
</table>

### 3.9.2. Strengths and weaknesses of the dairy sector

<table>
<thead>
<tr>
<th>COMPETITIVE STRENGTHS</th>
<th>COMPETITIVE WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• One of the fastest growing sectors in Tanzania, with strong export growth achieved in recent years</td>
<td>• Overall, sector is still quite small relative to say Kenya. It is not big enough to support the required investment in infrastructure, e.g. in cold room facilities, to facilitate much greater expansion.</td>
</tr>
<tr>
<td>• Large availability of land, with less than 5% currently in use of the estimated 500,000 Ha of land deemed suitable for growing horticultural crops in Tanzania.</td>
<td>• Weak subsector associations limit the level of coordination amongst organisations in the sector.</td>
</tr>
<tr>
<td>• Soils and diverse climatic conditions (cool climate, altitude, rainfall) give Tanzania a good</td>
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</tbody>
</table>
basis to produce a wide range of horticultural crops. A number of investors are already involved in production and marketing of crops, mainly for exports.

- Commitment by government, at least in the development of new policy frameworks, to support the sector such as Tanzania Horticultural Development Strategy (2012-21), in addition to sector focus as part of SAGCOT etc. There are also a number of donor-supported projects including by USAID, the Dutch Government, WB, EU, BEST-AC etc.
- Tanzania benefits from good links to ports and airports in both Tanzania and Kenya, which provide guarantee for sea freighting and air-lifting of horticultural products to international markets.

- Poor production and harvesting techniques lead to low productivity and low quality of products. Post-harvest losses of over 40% estimated in the domestic market (and 10% in export sectors). Key issues concern transport and unreliable electricity supply.
- Inadequate market support infrastructure and inconsistency in supply of quality products has meant that Tanzania is still importing fruits, vegetables and spices.
- Limited technical knowhow of practices required to access international markets, including limited safety assurances.
- Imposition of taxes and charges by government affects competitiveness.
- Inefficiency at ports/airports reduces competitiveness in international markets.
- Less than 10% of fruits and vegetables produced are processed.

3.9.3. Scope for GAFSP PrSW/IFC investment in horticulture

The combination of the size of the sector, recent growth in export earnings and presence of a number of international commercial agribusinesses suggest that there is a relatively strong potential for the horticulture sector to yield some investment opportunities for GAFSP PrSW/IFC but potential is that individual investment opportunities might be small. Many investors are already involved in production and marketing of horticultural crops, primarily for export markets.

Moreover, there appears to be strong policy and donor support for development of the sector; the horticulture sector has been earmarked as one of the potential fast-growth areas in the TAFSIP and SAGCOT. The GoT objectives include establishing modern vegetables, fruits, flowers, spices and horticultural seed business operations for domestic, regional and international markets.

Meanwhile, international players such as Unilever and Syngenta are also involved in the horticulture sector. Alongside the recent investment in high tech cultivation equipment by the AfDB-managed AFT Fund, there have been several investments made recently by AECF-TZAW ranging between US$100,000-$1,000,000, with the objectives of supporting smallholder production and expansion of fruit processing operations. Further detail is provided in Annex F.

AgDevCo has also made a number of investments in Tanzania’s horticultural sector. It recently invested US$400,000 in EA Fruits and Farm Ltd to enable them to purchase a refrigerated delivery vehicle and a central pack house to support the expansion of their business. AgDevCo also invested US$1.5m in Rungwe Avocado Company (RAC) to fund the installation of 100 Ha of micro-jet irrigation systems on their commercial farm, update their cold storage supply chain infrastructure and support their ongoing smallholder farmer outgrower scheme.
Sasumua Holdings Limited (a commercial banana and pineapple producer) received US$2m of investment to develop a dam to secure a supply of water for 100 Ha of irrigated land for the company and support investment in capital expenditure for the in-field irrigation.

3.10. Tea

Tea has traditionally been an important crop for Tanzania. It has long been one of the country’s leading export earners and is thought to have an indirect impact on the livelihoods of around 2 million Tanzanians.

According to FAOStat data, tea production has grown at a steady CAGR of 2.8% between 2000 and 2013, with this slow growth rate attributed to the very slow improvement exhibited by yields (with exception to the spike observed between 2010 and 2012), which over the period have only increased from 1.2 MT per Ha to 1.6 MT per Ha.

**Figure 3.13: Tea production in Tanzania**

![Graph showing tea production and yield](source: FAOStat)

Tanzania is the fourth largest tea producer in SSA, after Kenya, Malawi and Uganda, producing approximately 1% of the world’s tea production. The vast majority (over 75%) of tea production is for export, with the sector one of Tanzania’s top-five largest export earners, bringing in revenue of over US$50m in 2013. Over the period since 2000, export earnings growth has been similar to the increase in overall production.
There are three main tea growing areas in Tanzania: the Highland zones of Mufindi, Njome and Rungwe district; the North East Zones of Lusotho, Korogwe; and Muheza districts and the Northwest Zone areas of Bukoba and Muleba districts. Overall, approx. 22,000 Ha of land is used to produce tea, which is split roughly 50:50 between land under production by smallholders and land used by the commercial tea estates.

Around 50,000 smallholders are involved in the production of tea, relying on rain-fed production and making limited use of inputs. The smallholder yield is estimated at less than 1 MT/ Ha, whilst the estates have been achieving close to 2 MT/ Ha. Unilever and Mufindi, which are both growing under irrigation, are reportedly achieving 2.8 – 3.5 MT/ HA.

The main tea estates include Unilever Tea Tanzania (which is reported to account for around 40% of tea output), Tanzania Tea Packers (which has received significant CDC investment in the past) and Mufindi Tea Company (which exported around US$7m in 2010). The processors, such as Unilever, have their own commercial tea estates and also purchase/ process the tea produced by the smallholders. In 2013 Unilever signed an MoU with the government as part of the SAGCOT to create an additional 5,000 jobs linked to its Mufindi tea estates and support the development of 6,000 Ha of smallholder tea farms.

Primary processing of tea is carried out mainly by agribusinesses that are dispersed throughout the growing areas. Around 20 of these are owned by the different commercial producers and 4 are owned jointly by the smallholders and the farmers. On average they are estimated to produce 33,000 MT of processed tea annually. 75% of the tea produced is exported, the remainder of the tea is packaged and sold in the domestic market. The packaging and marketing of tea is carried out by five licensed factories such as Afri Tea and Coffee Ltd., Chai Bora Ltd., and International Food Packers.
3.10.1. Overview of tea value chain

<table>
<thead>
<tr>
<th>Key constraints</th>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Inadequate funding</td>
<td>• Inadequate funding for/ lack of access to extension workers and services</td>
<td>• Rain-fed production</td>
<td>• Inadequate supportive infrastructure (roads, power)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Lack of access to finance to purchase inputs</td>
<td>• Low farm-gate prices</td>
<td>• Taxes</td>
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<tr>
<td></td>
<td></td>
<td>• Lack of market given smallholders’ limited incomes</td>
<td>• Poor quality of production; low green-leaf throughput.</td>
<td>• Distance to processors/markets</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Licensing procedures</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Tea imports from Kenya/the region</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Public sector/Associations</th>
<th>Tea Research Institute of Tanzania</th>
<th>Tea Board of Tanzania (TBT)</th>
<th>TBT</th>
<th>TBT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TBT Tanzania Smallholder Tea Development Agency</td>
<td>Tea Association of Tanzania</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Private sector</th>
<th>TBC</th>
<th>Fertiliser/seed companies: SmartMoney Tanzania</th>
<th>~30,000 smallholders</th>
<th>~20 primary processors (some not functional)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Commercial tea estates: East Usambara Tea Company (part of Mac Group), Unilever Tea Tanzania, Mufindi Tea Company</td>
<td>~5 licensed tea packers: Afri Tea and Coffee Ltd, Chai Bora Ltd (Mafinga-Iringa), Promasidor Tanzania (PTY) Ltd (DSM), International Food Packers Ltd (Tanga), Zanzibar Tea Packers Ltd (Zanzibar). Main exporter: Tanzania Tea Packers (TATEPA)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Donor interventions</th>
<th>Wood Family Trust, Gatsby Foundation</th>
<th>Wood Family Trust, Gatsby Foundation</th>
<th>Wood Family Trust, Gatsby Foundation</th>
<th>Wood Family Trust, Gatsby Foundation</th>
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3.10.2. Strengths and weaknesses of the tea sector

<table>
<thead>
<tr>
<th>COMPETITIVE STRENGTHS</th>
<th>COMPETITIVE WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Presence of large international players with a long commitment to the sector.</td>
<td>• The sector is caught in a downward spiral at the moment. Reports suggest that production levels are not high enough to enable existing processing factories to operate at an efficient scale. As a result farmers are offered lower prices</td>
</tr>
<tr>
<td>• Government has been committed to developing the sector and has tried to introduce subsidies to</td>
<td></td>
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</tbody>
</table>

increase access of smallholders to improved clonal planting materials.

- The sector has benefitted from a successful PPP between tea producing estates (in Mufindi, Mbeya, Tanga and Kagera regions), processing companies and government to support Tea Research Institute of Tanzania (TRIT). Observed outcomes have included increase in area planted by smallholders; dissemination of new recommended management practices etc.
- Increased production of value-added teas, with the launch of Ikanga - a new black tea factory, which will have the capacity to produce 3,500 MT per annum, having a process capacity of 1.5m kg. annually.

than in neighbouring countries (Tanzanian farmers are said to receive just 33% of the sale price compared to 51% in Kenya), which limits their incentive to invest and therefore limits the growth of the sector.
- Smallholders lack access to finance to purchase necessary inputs, as a result their yields are very low, estimated at 40% less than average yields in Kenya.
- Reliance on rain-fed production.
- Quality of tea produced in Tanzania is low and has a poor reputation in international markets — Tanzanian tea gets less than half the price per kg than tea produced in regional competitors such as Kenya and Rwanda.
- Competition from cheaper priced imports for blended and packaged tea, due to the high unit production cost of packaged tea in Tanzania compared to other countries in EAC.
- Tea packers have generally been located in urban areas, have yet to exploit in full local production of tea in part because they are not located near to smallholder producers — they generally rely on supply from the large tea estates.
- Illegal imports (to avoid taxes) is also a key issue, with reports suggesting that this supplies around a third of domestic demand.

3.10.3. Scope for GAFSP PrSW/ IFC investment in tea

Based on the desk-based review it could be interesting to explore the scope for GAFSP PrSW/ IFC to support provision of finance to smallholders to enable them to purchase increased inputs, as well as exploring opportunities in the packing stage of the value chain. Beyond that, there are some established international players in the sector (such as Unilever), which could be potential partners for investment, although the desk-based research suggests that there is limited need for investment in increased processing capacity until supply constraints are addressed. AECF-TZAW has made a couple of small investments in this regard recently, including provision of US$450,000 to Kagera Tea Company Limited in 2015 to support scaling-up of technology used by farmers and improvements in the transport system, with a view to increasing quality and production of green leaf tea sold to the company for processing. Furthermore Tanzania Tea Packers has recently received over approx. US$3.5m to finance investment in a new hydropower plant to enable it to boost production.

Key donor-supported interventions include the Chai Project launched by the Gatsby Foundation and Wood Foundation Africa, with a view to transforming the sector through providing matching grants with private factories (to address specific local constraints); strengthening a farmers’ association; and working with the Tea Board to introduce a new
market-based pricing mechanism for all 30,000 smallholders, and with the Tanzania Smallholder Tea Development Agency to pilot a land titling project.

3.11. Sisal

Sisal is grown to produce fibre that can be used in a range of products such as rope, cloth, paper, and carpets. The plant typically has a 7 – 10 year lifespan and takes a number of years after planting before it is ready for harvesting. Only 2% of the sisal plant is made up of the fibre. Recent studies have shown that the waste can be used to produce biogas. UNIDO and the Common Fund for Commodities (CFC) helped to support the establishment of a demonstration biogas from sisal leaf waste plant. Other uses of sisal waste include the production of bio-fertiliser and for animal feed.

The statistics that are available on the sector are produced by the Tanzania Sisal Board (TSB), which is responsible for a range of functions across the sector, such as issuing the licences that all producers, traders and exporters in the sector require to operate, developing and enforcing regulations relating to quality of production, marketing and export; collecting data on the sector; and providing advice to government on policy matters.

According to data from the Tanzania Sisal Board (TSB), sisal fibre production has increased by around 4% per annum between 2000 and 2011. Total production has reportedly grown to around 40,000 MT by 2015. Tanzania is in the top-five global producers of the product; Brazil has the largest share of global production (it produces in excess of 150,000 MT). The TSB has a target of trying to overtake Brazil as the world’s largest producer within the next ten years. Approx. 45% of the fibre produced is exported, key destinations include the UK, China and Saudi Arabia. The remainder of sisal produced is either sold on domestic markets or goes to waste.

In total around 60,000 Ha of land is used to produce sisal each year. As of 2012 around a quarter of sisal produced came from smallholder farmers. Smallholder production of sisal was established by Katani Ltd in the Tanga region of Tanzania, through a contract farming scheme that includes around 2,000 farmers. Most other smallholder production was developed through NGO/ government based programmes. Commercial production takes place on large plantations of between 3,000 to 7,500 Ha.
There are four sisal spinning mills operating in Tanzania. Reportedly only 35% of installed capacity is being utilised. The mills were established back in the 1960s/70s, but some of them have been modernised in the last 10 years. Katani is the largest firm and accounts for approx. 30% of the share of production. Ruhinda and Co ltd and Mohamed Enterprises are other prominent firms operating in the sector. The process of extracting the fibre from the sisal leaves requires considerable use of power and water; problems accessing reliable power is a significant constraint for the producers.

### 3.11.1. Overview of sisal value chain

<table>
<thead>
<tr>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key constraints</strong></td>
<td>• Lack of access to inputs</td>
<td>• Limited short-term profitability</td>
<td>• Limited access to power</td>
</tr>
<tr>
<td></td>
<td>• Inadequate access to long-term finance</td>
<td>• Low quality of production</td>
<td>• Inadequate modernisation of infrastructure and utilities</td>
</tr>
<tr>
<td><strong>Public sector/Associations</strong></td>
<td>Tanzania Sisal Board (TSB)</td>
<td>TSB</td>
<td>TSB</td>
</tr>
<tr>
<td></td>
<td>Agricultural Research Institute (ARI) Mlingano</td>
<td>Sisal association of Tanzania</td>
<td></td>
</tr>
<tr>
<td><strong>Private sector</strong></td>
<td>Katani Ltd.</td>
<td>Smallholder farmers</td>
<td>Four sisal spinning mills</td>
</tr>
<tr>
<td></td>
<td>Private estates such as METL</td>
<td>Private estates such as METL</td>
<td>METL</td>
</tr>
<tr>
<td></td>
<td>Katani Ltd; SFI Tanzania</td>
<td>Katani Ltd; SFI Tanzania</td>
<td>Katani Ltd; SFI Tanzania</td>
</tr>
</tbody>
</table>
3.11.2. Strengths and weaknesses of the sisal sector

<table>
<thead>
<tr>
<th>COMPETITIVE STRENGTHS</th>
<th>COMPETITIVE WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• One of the world’s largest producers of the crop, with established operators. In addition, ARI Mlingano is reportedly the only research station devoted to sisal in the world.</td>
<td>• Lack of profitability of fibre production in the short term, with smallholder involvement impeded by limited access to markets and finance, extension services, access to information (market, technical and R&amp;D) etc.</td>
</tr>
<tr>
<td>• Sisal is thought to be a drought resistant crop that is well suited to production in Tanzania; there is also adequate land available to increase production.</td>
<td>• The limited access to power increases significantly costs of production as well.</td>
</tr>
<tr>
<td>• Donor-supported interventions have reportedly improved efficiency in fibre extraction and sisal growing, through development of high density planting, development of new processing methods, using hammer mills and mobile decorticators which lower losses in fibre and utilise less water and energy.</td>
<td>• Quality of production is currently below international standards, with an observed need for mills and exporters to receive consistent and reliable supplies complying with formal contractual arrangements (such agreements are still not widely used.)</td>
</tr>
<tr>
<td>• Recent projects have supported uses from the biomass, produced with 96-98% of the sisal plant which otherwise goes to waste. Under the Ten-Year Sisal Crop Development Plan (2011-2020), the Mlingano Agriculture Research Institute planned to initiate a sisal characterization program for developing a protocol for the production of ethanol and citric acid from liquid effluents.</td>
<td>• Spare capacity in the sisal processing units</td>
</tr>
<tr>
<td></td>
<td>• Tariff structure on semi-finished and final products</td>
</tr>
</tbody>
</table>

3.11.3. Scope for GAFSP PrSW/ IFC investment in sisal

The total export earnings for the sector are in the region of US$10-15m, and a rough estimate suggests that the leading firms in the sector most likely turnover a maximum of US$5m. This suggests that the sector is potentially too small to support investments of the size targeted by GAFSP PrSW/ IFC.

That said a biogas plant developed by Katani Ltd. with support from the likes of Unido in 2007 cost approximately US$4.5m. Going forward, there could be scope for some of the existing producers to undertake additional investments in this area, to increase utilisation of sisal and increase value addition of the sector, whilst addressing the key constraints associated with limited supply of power in Tanzania.

As such, there may be some value in consulting with some of the larger firms operating in the sector, such as Mohamed Enterprises Tanzania and Sagera Estates. But in practice the sector is unlikely to have the capacity to yield a robust pipeline of investment opportunities.
3.12. Rice

According to data from FAOStat, rice production in Tanzania has more than doubled over the past 14 years with production growing at a CAGR of 9% p.a. This growth has been driven by both an increase in rice yields, which have grown from 1.9 MT/ Ha to 2.8 MT/ Ha and an increase in the amount of land under rice production.

Figure 3.16: Rice production in Tanzania

Source: FAOStat

Rice is an important crop for both subsistence and commercial farming in Tanzania, and consumption has been increasing in recent years. Rice is more expensive than other cereal crops including maize (Tanzania’s chief staple crop) but similar to a number of other countries in Sub-Saharan Africa (SSA), the combination of increasing urbanisation and household income has led to households consuming more rice and substituting away from the cheaper cereals.

Dar es Salaam market is the largest market for rice in Tanzania and is responsible for approximately 40% of the country’s rice consumption. According to a BMGF commissioned study, Tanzanian consumers are willing to pay a 21% premium for Tanzanian rice, over cheaper imported rice, because of their inherent preference for its flavour, aroma and freshness. Further, consumers are brand conscious, with Kyela and Mbeya rice regarded as the best quality rice, followed by Morogoro rice.

In order to meet growing demand, Tanzania imports rice (e.g. Pakistani long-grain non-basmati white rice IRRI-6, 5% broken and 25% broken varieties). Historically imports constituted as much as 30% of domestic supply. But since the introduction of the East African Community’s Common External Tariff (EAC-CET) in 2005, which increased the duty on imported rice from 25% to 75%, rice imports have fallen to roughly 10% of domestic supply. However there has been some inconsistency with respect to the government’s policy on rice imports. In 2013 the government made the decision to import 175,000MT of rice from Pakistan duty free. The impact of this policy on the local rice market was to depress significantly local rice prices, causing the domestic agribusinesses and smallholder rice producers to lose significant revenues.
Rice is produced mainly in the Morogoro, Shinyanga, Tabora, Mwanga and Mbeya regions of Tanzania; with production dependent on smallholder farmers. It is estimated that between 1.2m to 1.8m smallholder farmers are engaged in the production of rice on farm sizes between 0.5-3 Ha. The majority of smallholder production relies on traditional rain-fed production (either lowland flood or upland dry), which makes very limited use of technology, fertiliser, seeds etc. Yields achieved by these farmers are as low as 0.4 MT/ Ha (in rain-fed upland production) to 2.5 MT/ Ha (rain-fed lowland).

Only 6% of rice is produced by large-scale commercial farms. The commercial farms can achieve yields in excess of 8 MT/ Ha. Each of the producing regions have their own wholesale market, all of which use the Dar es Salaam price as their benchmark wholesale market price (less cost of transport). Examples of commercial processors include Kilombero Plantations Ltd (KPL) which is the largest commercial producer in the Tanzania; Kapunga Rice Plantation Limited and Mbarali Rice Farm, both in Mbeya.

### 3.12.1. Overview of the rice value chain

<table>
<thead>
<tr>
<th>Key constraints</th>
<th>Research and development</th>
<th>Inputs and farmer services</th>
<th>Production</th>
<th>Post-harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Public sector/ Associations</strong></td>
<td>Uyole Agricultural Research Institute, KATRIN</td>
<td>Agricultural Seed Agency, Uyole Agricultural Research Institute, Iringa Veterinary Investigation Centre</td>
<td>Association of Kilombero High Quality Rice Growers, Tanzania Agricultural Partnership</td>
<td>SAGCOT</td>
</tr>
<tr>
<td><strong>Private sector</strong></td>
<td>TBC</td>
<td>Export Trading Group, Yara</td>
<td>Smallholder farmers, Small number of commercial producers</td>
<td>Mtenda Kyela, Kapunga, Mbarali, KPL, Bahkresa Group</td>
</tr>
</tbody>
</table>

- Lack of funds
- Low capacity of existing staff
- Limited availability of different varieties of improved seed and fertiliser due to policy constraints
- Increasing input costs
- Lack of irrigation
- Limited availability of labour
- Traditional planting techniques
- Disease and pests
- Irregular/ poor quality supply from smallholders
- Access to power
- Inconsistent government policies
- Supportive infrastructure e.g. road network linking farmers to markets, storage
- Limited value-addition
3.12.2. Strengths and weaknesses of the rice sector

### COMPETITIVE STRENGTHS

- Continued rapid population growth/urbanisation and rise in incomes expected to drive increased demand for rice in Tanzania over the coming years creating opportunities for domestic producers.
- Local varieties are preferred and growing middle class consumers are reportedly willing to pay a premium; as such, local production supplies ~92% of domestic consumption, despite a 21% price premium over imported rice.
- Only 720,000 Ha of a total potential area estimated at 2-3m Ha, are currently under production, indicating significant potential to expand cultivation.
- Although there have been persisting issues in implementation, government has sought to prioritise rice through the National Rice Development Strategy. SAGCOT and BRN Initiative under which it has earmarked a number of sites for large-scale irrigation rice scheme.
- Some examples of nucleus out-grower rice models; TIC refers to one case which is already cultivating more than 10,000 Ha achieving out-grower yields of 8T/ Ha.
- A wide range of donor supported initiatives are active in the sector, targeted at funding out-grower irrigation systems, training and input supplies.
- Potential to expand exports to EAC given the large rice gap estimated in the region.

### COMPETITIVE WEAKNESSES

- Reliance on rain-fed production limits the productivity of the majority of rice production in Tanzania. Paddy yields average ~1.5 MT/ Ha, as compared to 2.5 MT/ ha for Africa as a whole and 4.4 MT/ Ha in Asia.
- Lack of access to finance limits smallholders’ access to inputs. Only 1% of cropped area is planted with improved seed.
- Local production is more costly than imported rice due to labour-intensive production practices and high transport costs. As such, the local industry is seen to be in part dependent on import tariffs.
- Production, processing and rice market are all very fragmented. Key constraints at the collection stage include limited capital and use of unauthorised weighting measures; while processing is impeded by low and untimely supply of paddy; poor milling quality; inadequate storage facilities; lack of formal arrangements with traders and unreliable power supply.
- Difficulty enforcing contracts for any commercial farmers seeking to employ contract farming techniques.
- Distribution of rice also faces high collection costs, low quality of rice, high transport costs, limited grading techniques, lack of rice standards and government levies.

### 3.12.3. Scope for GAFSP PrSW/ IFC investment in rice

The size and continued growth of the sector should open up the sector for investment opportunities that could be considered by GAFSP PrSW/ IFC. Government support for reducing policy barriers in the sector is evident through promotion of investments in the rice sector under BRN, and strengthening the Tanzania Rice Partnership to represent private...
sector stakeholders. In particular, GoT has allocated 20,000 Ha of land for investment in large-scale commercial rice farming, with transactions coordinated by TIC.

In recent years a number of investments have been completed and agribusinesses from outside of Tanzania have shown interest in the sector. For instance,

- AgDevCo has invested over US$11m to fund the construction of a biomass gasifier plant to facilitate the roll-out of a 3,000 Ha irrigation scheme. AgDevCo is also working with them to develop further KPL’s outgrower scheme to enable input credit packages and off-take contracts to be provided to smallholders.

- Bhati Bangla Agrotec, owned by the Al Falah Group in Bangladesh, has been trying to develop a US$5.5m 30,000 Ha project to support increased rice, maize and pulses production.

- Reuters reported that the Indian Bank – Yes Bank has been pursuing the acquisition of 30,000 to 50,000 Ha of land for rice and wheat production in Tanzania, and the construction of a processing plant near the farm.

- AGCO, the US-based global manufacturer for farm equipment has conducted exploration visits to Tanzania evaluating existing opportunities with SAGCOT and MOA and other partners like AgDevCo and Agrica/KPL.

Whilst some of the projects have yet to be completed, with the uncertain policy environment one of the key factors limiting progress, the available desk-based evidence suggests that there could be a potential pipeline of investment opportunities in the rice sector for consideration by GAFSP PrSW/IFC.
4. **Priority sectors and next steps**

This section was written during the first (desk-based) phase of our study and may not reflect the most current or detailed information available.

Section 3 presented an overview of selected agribusiness sectors in Tanzania to identify three to five sectors to take forward for the second phase of the project. Phase 2 identified the key stakeholders and specific investment opportunities that could be suitable for support from the GAFSP PrSW/IFC in the priority sectors.

It is important to emphasize that this does not preclude any GAFSP PrSW/IFC investments in the sectors not taken forward – we note in particular that some interesting cross-sector opportunities might present themselves during the country visit.

It is necessary to identify some priority sectors to guide the Phase 2 analysis. It is probable that through the process of consulting with multiple country stakeholders additional opportunities in non-priority sectors will be identified.

4.1. **Approach to identifying the priority sectors**

To identify the short-list we have reviewed each sector against five criteria, summarised in the Table 4.1. Each sector is scored out of five for each indicator – the maximum score possible is 50.

Table 4.2 then sets out the data gathered for each of the sectors.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indicators</th>
<th>Scaling approach used</th>
<th>Sources/ how measured</th>
</tr>
</thead>
</table>
| Development impact | Estimated number of smallholder farmers in sector | 1: < 100,000  
2: 100,000 - 1,000,000  
3: 1,000,000 - 2,000,000  
4: 2,000,000 - 3,000,000  
5: > 3,000,000  | FAOSTat data; USAID Feed the Future reports; Ministry of Agriculture Census; CEPA estimates    |
|                   | Contribution to food security based on contribution to average daily calorie consumption | 1: No contribution  
2: 0 - 100 calories per day  
3: 100 - 200 calories per day  
4: 200 – 400 calories per day  
5: > 400 calories per day  | USDA study http://www.ers.usda.gov/media/1784075/eib135.pdf and others |
| Economic impact   | Average value of production of crop over last five years | 1: < $50m  
2: $50m - $100m  
3: $100m - $500m  
4: $500m - $1bn  
5: > $1bn  | FAOSTat value of production data (US$m constant value). Data available up until 2013 |
|                   | Average value of exports/ imports over last five years | 1: < $10m  
2: $10m - $50m  
3: $50m - $100m  
4: $100m - $200m  
5: > $200m  | FAOSTat trade data. Data available up until 2013. |
| Competitiveness   | Yield per hectare achieve in Tanzania relative to the average yield of the world’s top five producers | 1: 0 – 25%  
2: 25 – 50%  
3: 50 – 75%  
4: 75 – 100%  
5: >100%  | FAOSTat comparative yield data. |
|                   | Share of global exports over the past five years ($m) - for import crops (dairy, rice, | 1: Significant decline  
2: Marginal decline  
3: Stagnation  | Review of FAOSTat trade data; FAOSTat domestic production and supply data |
<table>
<thead>
<tr>
<th>Enabling environment</th>
<th>maize and sugar) have compared import (tonnes) vs domestic production</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4: Marginal increase</strong></td>
<td></td>
</tr>
<tr>
<td><strong>5: Significant increase</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Investment potential</th>
<th>The level of support provided by government and quality of policies and regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Highly unsupportive environment</td>
<td></td>
</tr>
<tr>
<td>2: Unsupportive environment</td>
<td></td>
</tr>
<tr>
<td>3: Broadly neutral environment</td>
<td></td>
</tr>
<tr>
<td>4: Supportive environment</td>
<td></td>
</tr>
<tr>
<td>5: Highly supportive environment</td>
<td></td>
</tr>
</tbody>
</table>

| Qualitative judgement based on findings of the desk-based review, as presented in the summary competitive advantages and disadvantages analysis for each sector |

<table>
<thead>
<tr>
<th>Investment potential</th>
<th>The level of support provided by donors and development partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Highly unsupportive</td>
<td></td>
</tr>
<tr>
<td>2: Unsupportive</td>
<td></td>
</tr>
<tr>
<td>3: Broadly neutral</td>
<td></td>
</tr>
<tr>
<td>4: Supportive</td>
<td></td>
</tr>
<tr>
<td>5: Highly supportive</td>
<td></td>
</tr>
</tbody>
</table>

| Qualitative judgement based on findings of the desk-based review, in particular the review of donor interventions presented in Annex A and the sector level analysis |

<table>
<thead>
<tr>
<th>Investment potential</th>
<th>The level of private sector activity in sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Few actors involved in sector</td>
<td></td>
</tr>
<tr>
<td>2: Some actors involved but only in parts of value chain</td>
<td></td>
</tr>
<tr>
<td>3: Some actors involved across value chain</td>
<td></td>
</tr>
<tr>
<td>4: Significant private activity across parts of value chain</td>
<td></td>
</tr>
<tr>
<td>5: Significant private activity across all value chain</td>
<td></td>
</tr>
</tbody>
</table>

| Qualitative judgement based on findings of desk-based review. As presented in the summary overview of the value chain of each sector |

<table>
<thead>
<tr>
<th>Investment potential</th>
<th>The amount of recent investment activity in sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: No real evidence of investments found</td>
<td></td>
</tr>
<tr>
<td>2: Limited examples of investment but all donor related</td>
<td></td>
</tr>
<tr>
<td>3: Several investments found but mainly donor related</td>
<td></td>
</tr>
<tr>
<td>4: Evidence of donor and private investment</td>
<td></td>
</tr>
<tr>
<td>5: Significant private and donor investment activity</td>
<td></td>
</tr>
</tbody>
</table>

| Qualitative judgement based on findings of desk-based review. We identified investments discussed in G-8 Alliance, and also reviewed industry info in various published reports |
### Table 4.2: Data for long-list sectors\(^{14}\)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Development</th>
<th>Economic</th>
<th>Competitiveness</th>
<th>Enabling</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of smallholders</td>
<td>Ave. daily calories</td>
<td>Ave. value of exports US$ 000s</td>
<td>Ave. value of exports US$ 000s</td>
<td>Yield as % of competitors</td>
</tr>
<tr>
<td>Cashew</td>
<td>700,000</td>
<td>8</td>
<td>98,435</td>
<td>137,607</td>
<td>19.7%</td>
</tr>
<tr>
<td>Coffee</td>
<td>450,000</td>
<td>0</td>
<td>64,532</td>
<td>141,374</td>
<td>31.4%</td>
</tr>
<tr>
<td>Cotton</td>
<td>425,000</td>
<td>0</td>
<td>35,397</td>
<td>22,424</td>
<td>46.1%</td>
</tr>
<tr>
<td>Dairy</td>
<td>2,000,000</td>
<td>50</td>
<td>583,614</td>
<td>6,519</td>
<td>47.9%</td>
</tr>
<tr>
<td>Edible Oil</td>
<td>4,000,000</td>
<td>109</td>
<td>750,000</td>
<td>98,183</td>
<td>48.6%</td>
</tr>
<tr>
<td>Horticulture</td>
<td>500,000</td>
<td>79</td>
<td>376,311</td>
<td>354,600</td>
<td>38.3%</td>
</tr>
<tr>
<td>Maize</td>
<td>3,750,000</td>
<td>882</td>
<td>647,712</td>
<td>23,779</td>
<td>26.5%</td>
</tr>
<tr>
<td>Rice</td>
<td>1,500,000</td>
<td>233</td>
<td>570,057</td>
<td>58,423</td>
<td>45.1%</td>
</tr>
<tr>
<td>Sisal</td>
<td>15,000</td>
<td>0</td>
<td>16,069</td>
<td>12,500</td>
<td>28.6%</td>
</tr>
<tr>
<td>Sugar</td>
<td>18,500</td>
<td>88</td>
<td>94,768</td>
<td>101,741</td>
<td>78.7%</td>
</tr>
<tr>
<td>Tea</td>
<td>50,000</td>
<td>0</td>
<td>35,508</td>
<td>54,606</td>
<td>137.7%</td>
</tr>
</tbody>
</table>

*Sources: FAOStat, USDA, UnComtrade, CEPA analysis*

\(^{14}\) The data has been pulled together from a range of different sources. We have tried to use the most up to date information where possible, on occasion we have made use of back of the envelop estimates where data was not available.
4.2. **Priority sectors**

We ranked each of the twelve sectors in the long-list against the different criteria described in the table above. The final scores for each sector are shown in Table 4.3 below.

Overall the analysis suggests that the Phase 2 work should focus on the **horticulture, rice and edible oil sectors**.

4.3. **Next steps**

For phase 2 of the assignment the team will visit Tanzania to meet with key private and public sector stakeholders primarily in the potential priority sectors but will also take advantage of the chance to meet with potential GAFSP PrSW/IFC opportunities in other sectors as they arise.

The objective of this visit will be to update the information available on the key stakeholders present along each stage of the value chain for the priority sectors and to identify a pipeline of investment opportunities for GAFSP PrSW/IFC.
### Table 4.3 Ranking of the long-list of sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Development</th>
<th>Economic</th>
<th>Competitiveness</th>
<th>Enabling</th>
<th>Invest</th>
<th>Summary assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horticulture</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>9</td>
<td>Combination of the size of the sector, recent growth in export earnings and presence of a number of international commercial agribusinesses suggest that there could be an opportunity to identify a number of investment opportunities, though possible that individual opportunities might be small.</td>
</tr>
<tr>
<td>Rice</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>The size and continued growth of the sector should open up the sector for investment opportunities that could be considered by GAFSP PrSW/ IFC. Some evidence of recent investments of &gt; US$10m, though there is some evidence of policy uncertainty in the sector.</td>
</tr>
<tr>
<td>Edible Oil</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>Could be an interesting area to review; sector is growing rapidly and export earnings have grown to around US$150m. Some evidence of investment activity in the sector, but again not clear that investments of required scale will be available.</td>
</tr>
<tr>
<td>Maize</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>Important smallholder crop, which receives significant support from donors and government but limited evidence of commercial investment opportunities in the sector apart from potentially in the maize milling sub-sector.</td>
</tr>
<tr>
<td>Sugar</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>Large players in the sector are already well known to IFC so we expect that scope to find new opportunities is limited. Sector has a relatively more limited impact on benefiting smallholder farmers.</td>
</tr>
<tr>
<td>Coffee</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>Sector has stagnated in recent years, and no evidence found of recent investment activity that would be sufficiently large and of the scale typically required by GAFSP PrSW/ IFC.</td>
</tr>
<tr>
<td>Cashew</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>Our initial findings suggest that is a limited pipeline of GAFSP PrSW/ IFC investments in the cashew nut sector the greenfield risk for investors associated with establishment of new cashew processing units – unless OLAM is interested in investing in new capacity.</td>
</tr>
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The largest milk processing company has a turnover of around US$4m so, unless an international firm is considering entry into the market, there seems to be limited scope for the sector to yield a pipeline of opportunities of the size under consideration by GAFSP PrSW/IFC.

Based on the desk-based review it could be interesting to explore the scope for GAFSP PrSW/IFC to support provision of finance to smallholders to enable them to purchase increased inputs, as well as exploring opportunities in the packing stage of the value chain. In practice unless Unilver is interested, it could be difficult to find appropriate partners for IFC in the sector.

Desk-based review suggests that investment in the sector would be difficult because of ongoing difficulties on issues such as contract enforcement between ginners and growers. No examples of large scale investment in the sector were found.

Sector is probably currently too small to support a GAFSP PrSW/IFC investment.

Could be an interesting sector to review, particularly the wheat milling sub-sector. But we understand that IFC already has a good grasp of investment opportunities in the sector.

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15 Flour milling is not suitable for ranking in the same way as the other sectors. We have instead taken a more qualitative view on the scope for the sector to yield GAFSP PrSW/IFC investment opportunities.
5. **HORTICULTURE VALUE CHAIN**

This section provides an overview of the horticultural value chain in Tanzania, and concludes by presenting the investment and advisory opportunities identified during consultations with some of the larger agribusinesses operating in the sector.

5.1. **Sector overview**

Tanzania’s horticultural sector is reported to be one of the fastest growing sectors in the economy, with estimated growth rates of 9% to 12% per annum. Overall, the sector is estimated to provide employment for 500,000 individuals, with women making up around 65% of the workforce. It is dominated by smallholder farmers, own landholdings of less than 2 Ha.

The vast majority of production is either for home-consumption or local markets. According to a study by Mashindano et al (2013), only around 5% of horticultural products produced in Tanzania are destined for export markets.\(^\text{16}\)

Horticultural production takes place throughout the country, but it is concentrated nearby to the larger towns or where the climate is most suited to a particular crop. The export industry targeting the EU tends to be based in the cooler climate around Arusha whereas Southern Highlands and Coastal zones produce for the main local conurbations. The main horticultural export products are fruits and vegetables such as avocados and green beans; whilst flower exports remain an important part of the sector.

Hence we targeted the Arusha area for the majority of our consultations in the horticultural sector as the exporters are much larger organisations and therefore represent a much better market opportunity for the IFC.

5.1.1. **Export performance of the horticulture sector**

Estimates provided by the Tanzania Revenue Authority (TRA) and quoted by the Tanzania Horticulture Association (TAHA) suggest that Tanzania makes around US$500m from exporting horticultural products each year, which is around 40% of the country’s agricultural export earnings. It is reported that fruits and vegetables (such as green beans and avocados) make up over 50% of horticultural exports, with spices and flowers (roses and cut flowers) the other key export earning segments.

However, these figures are probably inflated by including the export of pulses and possibly cashew fruits to Asia, which would not normally be counted as being horticultural exports. According to most anecdotal evidence, up to 80% of Tanzania’s horticultural exports are

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\(^{16}\) Mashindano, O Kanyuze; Kazi, V Mashauri; and Baregu, S (2013). Tapping export opportunities for horticulture products in Tanzania: do we have supporting policies and institutional frameworks.
meant to be destined for EU markets; hence we reviewed EuroStat data to see what information there is on Tanzanian exports to this market.

According to the EuroStat data, Tanzanian exports of fruit & vegetables, flowers and spices amounted to €28.7m Euros in 2015, with around €21.1m Euros of that total coming from fruits & vegetables, just over €6.6m from flowers and around €1m from the export of spices. If even just 50% - as opposed to the 80% commonly quoted - of Tanzanian horticultural exports are to the EU, it suggests that the US$500m quoted by the industry is a significant overstatement of realised export earnings. Further the data from Eurostat is a bit closer to the export information that we received from the agribusinesses operating in the sector. Though it is also possible that EuroStat data understates Tanzanian exports by including some Tanzanian exports within Kenyan export figures.

The figure below shows that Tanzania has had some success in growing horticultural export earnings, achieving a CAGR of around 4% since 2002. That growth has been driven by increases in the exports of fruits and vegetables. However the flower sector has declined – it achieved exports of over €10m Euros in 2008, but has fallen back to €6.6m since then. This is attributed to the fact that some of the flower companies that were active in Tanzania exited the sub-sector following a decline in prices per stem post 2008, e.g. Hortanzia that has moved from producing cut roses to chives and Arusha Blooms that now exports green beans.

*Figure 5.1: Tanzanian horticultural exports to EU*

Source: Eurostat

Our consultations and desk-based research suggested that green beans and avocados are two of the most important fruit and vegetable export crops. The figure below shows that the exports of the two commodities was over €10m Euros in 2015 with over €7m coming from the export of avocados, which has grown quickly to become one of the larger horticultural
exports to the EU and reflects the emergence of Africado and to a lesser extent Rungwe Avocados Limited.

Figure 5.2: Tanzanian exports of green beans and avocados

Source: Eurostat

Kenya and Ethiopia are the two largest horticultural exporters to the EU so it is useful to see how they have performed in recent years compared to Tanzania. The figure below shows that both Kenya and Ethiopia achieve a much higher level of horticultural exports to the EU – Kenya achieving €750m Euros and Ethiopia around €150m Euros – compared to Tanzania. But it is most interesting to see how Ethiopia has achieved rapid export growth in the sector, growing at a CAGR of 21%, since 2002. Ethiopia used to have a similar level of exports to the EU as Tanzania but has been able to achieve a much higher level of growth.
Why have Kenya and Ethiopia outperformed Tanzania?

The above export data highlights the fact that Tanzania has been much less successful in developing the horticulture sector than its regional competitors Kenya and Ethiopia. This is despite the fact that it targeted the sector at about the same time as its neighbours. It is therefore important to understand why it has been less successful. The Tanzanian Horticultural Association (TAHA) and a number of stakeholders in the private sector emphasise that the Kenyan Government’s support of exports and the private sector allowed its exports, initially mainly green beans and other fine vegetables to become established.

Kenyan growers also have much greater areas of good land and varying altitudes, which means it is a much better position to grow horticultural crops at their optimum temperatures (for example, different types of roses require different temperatures, therefore sweetheart, spray and t-hybrid roses are grown in different parts of Kenya; the sample applies to vegetables where green beans and mangetout are grown at different altitudes).

The addition of a wider range of crops added more volume to exports and facilitated the establishment of a freight aircraft service out of Nairobi; today there are often 15 to 25 wide-bodied freighters/week taking off from Kenya to Europe each with a capacity of 120 to 140 tonnes. This volume has enabled Kenyan exporters to build more effective cargo handling facilities around the airport perimeter and negotiate very competitive freight rates.
The situation in Ethiopia was slightly different in that its Government made a determined effort to attract investors by providing a conducive policy environment and subsidised loans to investors. This accounted for the very significant expansion, especially in rose production in green houses. Ethiopia does not export the wide range of products that Kenya does, but it has a very significant rose-export industry. This does show that if the growing conditions are correct and a Government adopts supportive policies and the correct incentives, it could be possible to significantly expand perishable horticultural exports.

Today, the key to Kenya’s success compared to Tanzania is probably based on its very significant economies of trade; for example Kenya’s green bean exports are 20 times larger than Tanzania’s. Furthermore, interviews with the floriculture industry suggest that rose production in Tanzania is at a much lower scale compared with over 3,000 Ha in Kenya and over 1,000 Ha in Ethiopia. This tends to suggest that if the World Bank Group wants to support the Tanzanian horticulture industry, it would be best to focus on supporting the entire industry rather than individual producers.

TAHA has been vocal in advocating for policy changes to improve competitiveness compared to regional rivals. We discuss some of the main outstanding policy constraints highlighted by the industry below.

5.1.2. Key policy constraints in the horticulture sector

TAHA articulated a number of the policy-related constraints that are specific to the horticulture sector in its position paper on incentives in the horticulture sector which was produced back in 2011. We understand from our consultations that these issues continue to affect horticulture in Tanzania, suggesting that the government is still not providing sufficient support to the sector.

Excessive taxes, levies affecting the competitiveness of the sector

One of the issues raised by exporting companies is the problem of double taxation. In particular companies have to pay tax which is included on the price of purchasing inputs but then have to pay produce cess, which is charged as a proportion of total earnings (3 – 5% of the producers’ farm gate price – though most Districts charge the maximum 5% rate). According to the Local Government Authority (LGA) Finance Act, produce cess is meant to be levied on the buyer rather than the producer. The local government has targeted horticultural producers because they know that much of their produce is destined for export, which is not consistent with the terms of the Finance Act.

In addition to produce cess, horticulture firms are being charged a 0.3% levy on their turnover. The 1999 Finance Act is also clear that firms should not have to pay both the service levy and produce cess.
Payment of VAT and receipt of refunds on VAT claims

Another issue related to tax payment is the extent to which agribusinesses in the sector have to pay VAT on agro-inputs such as seeds and plant materials. Horticultural planting material is charged a 25% tariff and 18% VAT. Many of the inputs that the horticulture sector needs are not available locally so have to be imported. These additional taxes limit the competitiveness of Tanzanian horticultural products.

Horticultural exporters are meant to be able to reclaim VAT payments from the Tanzania Revenue Authority (TRA); however the companies report that they face significant time delays when trying to do so – often as long as a year.

Air freight charges and facilities at Kilimanjaro airport

As we discuss in the agribusiness profiles below, most of the exporters in Tanzania’s horticulture sector have to rely on Nairobi to export their produce. This is because the provision of cargo plane services at Kilimanjaro airport has never really taken off. A number of consultees suggested that this was because of the excessive charges in place for using Kilimanjaro airport. We heard that there used to be a regular dedicated cargo service landing at the airport, but which was stopped as landing fees increased. The scope for other players to benefit from the airport is therefore limited. Given that a number of the large horticultural firms are located in and around Arusha there would be potential benefits for the sector if the government could coordinate some joint action to improve the cost effectiveness of service provision at Kilimanjaro airport. Though the ongoing work to develop the road link between Arusha and Kenya will also help to reduce the travel time and cost for exporters in the medium-term.

Fertiliser registration laws

According to the Tanzania Fertiliser Regulations, 2011, any new fertiliser in Tanzania has to be registered by the Tanzania Fertiliser Regulatory Authority (TFRA). The regulations state that the new fertiliser has to go through three consecutive seasons of testing (which can take three years), at a total cost of US$30,000 (US$10,000 per season).

The existing regulations are disproportionate when compared with other countries in the region. The available evidence suggests that the length of time required to register new fertilisers specified in the regulations is too long and the cost are too high. In other countries such as Uganda, Rwanda, Ghana and Zambia it typically takes less than 1 year to register new fertiliser with total registration costs estimated to be less than US$2,000.

The regulations have restricted severely the availability of new fertiliser blends to Tanzanian farmers. There are currently just 37 different fertiliser varieties registered in Tanzania compared to over 200 in countries such as Zambia. The constraint also reduces investment in fertiliser blending, which has limited the growth of a local blending industry in Tanzania.
This constraint is reportedly having a material effect on the sector - in particular the emergent commercial farmers that need access to a wide range of blends to optimise yields. We understand that horticulture requires lots of different varieties of fertiliser in quite small quantities. Given current registration laws it is not financially viable for a firm to undergo the three seasons of testing and US$30,000 costs to register a new blend because the size of their potential sales would not cover registration costs. The small varieties of fertiliser available in Tanzania is reported to be significantly affecting the ability of emergent farmers to access the fertilisers that they need for their crops.

Developing a programme to address the policy constraints

The above highlight some of the main policy constraints highlighted as limiting the growth of the horticulture sector. Horticulture was included as one of the priority areas in the Kilimo Kwanza back in 2009, and following on from that the Horticultural Development Council of Tanzania (HODECT) developed the Tanzania Horticultural Development Strategy, which was published in 2010.

However, the view from the range of consultees is very much that the sector lacks genuine commitment from government to support its development; reading the strategy it is clear that many of identified actions have not been implemented. As a result the sector is characterised as having lots of potential, with some individual success stories – some of which such as Africado, have individually been able to benefit from supportive government policies (it has Export Processing Zone status).

Despite the numerous government strategy documents that have been developed in the past there is a sense from the feedback that we received that there is almost a need to start from a blank sheet of paper when considering the steps to develop the sector.

- First, as alluded to in the discussions above there is a need for Tanzania to stop focusing on trying to compete with/ mimic the Kenyan horticultural sector. The agronomic conditions for the horticultural sector in Tanzania are distinct from those in Kenya; there is a need to develop something that takes best advantage of Tanzanian conditions, rather than just copying Kenya at a smaller scale and less efficiently.
  - For instance, although a number of flower exporters are operating in Arusha, the area does not offer the same range of altitudes that Kenya has to enable the production of a broader range of varieties. This partly explains why the flower sector in Tanzania has stagnated with a number of companies leaving the industry as they didn’t have their own niche which enabled them to compete when there was more price pressure in the sector.

- One of the first steps is to refresh the sector strategy and identify what products are best suited to Tanzanian conditions. Again at the moment this seems like a process that is being led by some of the individual agribusinesses such as Rijkzwan Afrisem and Africado are actively in the process of testing conditions to identify which types of
crops have potential. There is scope for an advisory programme that brings together government policy makers and these type of companies to help develop a more Tanzania-focused horticultural development strategy.

- Once it is more focused strategy is developed government will need to identify the steps that will be needed to create the enabling environment for the sector to grow. Tanzanian policy makers could be supported to determine how to provide a sustainable package of incentives for the sector. Tanzania could learn from how the Ethiopian government went about designing and then implementing successfully its horticultural sector development plan.

The above describes a set of actions that could support the medium-term development of the sector. In the short-term central government and local government need to work together to address the issues around the more effective implementation of existing laws and regulations. TAHA has tried to advocate on these issues on multiple occasions and could potentially benefit from support from development partners to make more progress.

5.2. Investment/advisory opportunities in horticulture for GAFSP PrSW/IFC

*Some Information in this section has been omitted for confidentiality reasons.*

Overall, our assessment of the horticulture sector in Tanzania is that there is limited scope for the sector to grow in the coming years unless government takes a much more proactive approach to supporting the growth of the sector. Whilst there is reportedly high and growing demand for horticultural products in the EU markets it is not clear that Tanzania has much of a competitive advantage in many of the products, particularly given the competition provided by Kenya.

However, we did identify a number of professionally managed farms that are having varying degrees of success in exporting to the EU and other developed markets. Most of the companies that we consulted with are achieving a turnover in the US$3m to US$10m range. They indicated a desire to invest to expand their operations over time, but noted that most agribusinesses in the sector do not have the capacity to absorb one-off US$5m + investments at the moment. Instead they need investments in the US$500K to US$5m range to support more sustainable growth, given the supporting infrastructure and human resource needs associated with any expansion.

As a result the immediate investment needs for the prospective companies is in general less than the intended US$5m project size *with one exception omitted for confidentiality reasons*. However, with the right partner, there could be potential to complete a number of investments to support expansion over the coming years.

The scope for advisory support with potential to lead to investment activity also seems more limited at this stage apart from the opportunity identified to support the pilot wholesale market. Most of the existing firms that could benefit from investment in the coming years are
already operating in partnership with technical advisors or are able to manage their activities in-house, though this would need to be explored with the target agribusinesses in more detail.

5.2.1. Scope to establish a risk-sharing facility

One possible area for intervention raised during consultations was the scope to establish a risk-sharing facility focused on supporting the growth of emergent farmers in the horticulture sector [details are omitted for confidentiality reasons].

It is unlikely that the overall size of the horticulture sector is large enough to justify development of a dedicated risk-sharing facility, but there is some scope to follow-up with existing initiatives to link them to the IFC’s interventions with the Private Agricultural Sector Support Trust (PASS).

5.2.2. Scope to support companies to scale-up out-grower programmes

There could be potential for GAFSP PrSW/IFC to provide advisory support to agribusinesses that want to increase the scale of their out-grower programmes. We consulted with three horticultural companies that could present an immediate advisory opportunity; however they are all at different stages of development so would require a tailored approach [details are omitted for confidentiality reasons].

5.3. Next steps for GAFSP PrSW/IFC in the horticulture sector

There are some potential individual investments for GAFSP PrSW/IFC to consider in the horticulture sector in Tanzania [details are omitted for confidentiality reasons]. Depending on the extent to which IFC wants to engage with horticulture we have also identified a range of other businesses which it may wish to consult to review their stated investment needs.

However, our overall assessment is that, apart from some individual success stories, the horticulture sector in Tanzania has failed to take advantage of the opportunity to develop. While Kenya has some agro-climatic advantages over Tanzania, it is striking to look at the way Ethiopia has been able to achieve such rapid growth in export earnings since starting from a similar base as Tanzania through proactive government measures to develop the sector. Engagement with government to address the sector’s various policy and infrastructure constraints may be more important than making individual investments. Furthermore, one of the potential issues with the sector is that it has yet to really develop a niche that is designed to make best use of Tanzanian conditions and market access rather than simply mimicking what takes place in Kenya at a smaller scale.
6. **EDIBLE OILS VALUE CHAIN**

This section provides an overview of the main edible oil sub-sectors in Tanzania. The section concludes by outlining the projects identified during the country visit.

6.1. **Sector overview**

The edible oil sector is growing at over 10% per annum according to FAO Stat statistics on domestic production levels. The main edible oilseeds produced in Tanzania are sunflower, groundnuts, and cottonseeds which account for over 85% of production. Domestic production of edible oils is about 200,000 tonnes to 250,000 tonnes, with sunflower oil accounting for around 160,000 tonnes, both cottonseed and sesame oil production at around 20,000 tonnes, and 15,000 tonnes of palm each year.

Tanzania’s total demand for edible oil is estimated to be up to 500,000 tonnes. At the moment around 50% to 60% of Tanzania’s edible oil consumption is imported (as illustrated in Figure 6.1), suggesting an opportunity for import substitution. It is estimated that over US$120m is spent on edible oil imports each year, with oil palm the most imported product, though domestic production of oil palm is very low.

*Figure 6.1: Left - Edible oils production (tonnes); Right - sub-sector breakdown, 2012*

[Graph and chart showing production and sub-sector breakdown]

Source: Left - FAOSTAT; Right - Tanzania Edible Oilseeds Actors Ltd (TEOSA)

We present a review of sunflower, palm and cotton oil sectors below, before presenting our findings on investment opportunities.

6.1.1. **Sunflower oil**

Global exports of sunflower oil are greater than US$10bn. The sub-sector has been growing at over 10% per annum over the last ten years, driven by increased consumer demand. The global price for sunflower oil has increased from around US$700-900 per tonne a decade ago
to its current level of around US$1,000 per tonne. Over the last twenty years, global production of sunflower seeds has nearly doubled from around 20m tonnes to close to 40m tonnes. The leading global producers of sunflower seeds are Russia, the Ukraine and the EU block. In SSA Tanzania is second to South Africa as the leading sunflower seed producer, though African countries account for only around 5% to 6% of world output.

In Tanzania sunflower seed production has increased rapidly in recent years. Between 2010 and 2014 production has reportedly more than doubled. This has been driven by a significant improvement in yields and an increase in the planted area. Sunflower seeds are grown across a range of different regions in Tanzania.

**Figure 6.2: Sunflower seed production in Tanzania**

Sunflower oil production in Tanzania has mirrored the increase in seed production, growing by over 200% since 2010. Most sunflower oil produced in Tanzania is consumed domestically – exports of sunflower oil products are estimated to be around US$6m a year. However, there is an important trade in sunflower cake (a bi-product of the oil production). Exports of cake have grown to over US$60m, with the vast majority exported to India.

**Sunflower oil value chain**

The production of sunflower seeds in Tanzania is dominated by smallholder farmers which make up around 95% of production. Smallholders typically operate on farms of less than 2 Ha and have no access to on-farm machinery or storage facilities. The farmers use primarily recycled traditional seed varieties – though in some cases get access to seeds distributed by the Agricultural Seeds Agency (ASA). Overall it is estimated that around 35% of farmers are using improved seed varieties.

It is estimated that around 8m smallholders are involved in producing sunflower seeds in Tanzania. The crop is usually grown as an intercrop together with maize, sorghum and cowpeas.

The sunflower seed produced by smallholders is sold to local traders, agents or collected by the Agricultural Marketing Cooperatives operating on behalf of local processors, though a
proportion is sold directly to the large processors. Sunflower seed produced by medium and large-scale producers is generally sold directly to processors.

The largest processors are Mount Meru Millers (IFC is already in discussion with them and asked us not to meet them for this assignment), Sunshine Industrial Limited (a sunflower processing company located in Dodoma) and Murzah Oil Mills. The majority of sunflower oil produced by the large processors is for export markets. It is estimated that despite the rapid increase in sunflower seed production there remains significant spare processing capacity in Tanzania. There does not seem to be much scope for additional investment in processing capacity at present, efforts to develop the sector will need to focus on improving smallholder productivity by increasing use of improved seeds and other inputs.

An overview of the sunflower oil value chain is presented below.

*Figure 6.3: Overview of sunflower value chain*

Input-costs faced by sunflower oil farmers

As mentioned above one of the main development opportunities for the sunflower sector is to continue efforts to develop the productivity of sunflower farmers. One option could be to work with one/a group of processors to help them provide finance to smallholders so that the farmers can make use of improved inputs and so increase productivity levels.

Based on some existing studies we present a simple back-of-the-envelop analysis to give an idea of the potential size of such a scheme.

- The rough cost per Ha of the inputs required to produce sunflower seeds is around US$250 to US$500 per Ha, this is to achieve yields of around 1 tonne per Ha.
- Fertiliser (around 23%) is estimated to be the largest cost in the study, with labour, ploughing, packing and transport costs also significant.
- As we describe in more detail in the profile below, Murzah Oil is interested in investing to develop a sunflower seed processing unit which has the capacity to process 500 tonnes per day.
- Depending on the level of capacity utilisation this might mean that it needs between 100,000 to 150,000 tonnes of sunflower seed a year.
- Given the input cost per tonne of US$500, this implies that input costs would be within the US$25m to US$75m range.
- If a scheme were developed in which smallholders had to pay half of the input costs up-front and where then provided with the remaining input costs on credit this would still involve a financing requirement in the region of US$10m to US$40m to support an expansion in processing capacity similar to that suggested by Murzah.

Key constraints in the sunflower sub-sector

The government’s recent sunflower strategy document highlights the following as the main constraints facing the sector:

- The need to improve farmers’ access to improved seeds and inputs. In addition, there is a need to train more farmers in GAP practices so that their produce can be exported to international markets.
- Improving coordination and transparency between the smallholder farmers, traders and processors.
- The processors have indicated that they face a complicated tax regime including VAT, produce CESS and other duties on their imports which creates uncertainty for their business and can reduce the competitiveness of domestic production compared to imports.
6.1.2. Palm oil

Tanzania produces very little of its own crude palm oil. In 2013 it imported 256,000 tonnes of crude palm and palm kernel oil, compared to smallholder-based domestic production of only 14,000 tonnes. The imported oil is fractioned and refined in one of five-or-so plants around Dar es Salaam. The largest refiners include:

- **East Coast Oils and Fats Ltd (MeTL Group subsidiary).** Has a single plant with a refining capacity of around 200,000 tonnes. MeTL is reportedly acquiring 25,000 Ha of land for large-scale palm cultivation, with an estimated eventual yield of 118,000 tonnes of crude oil.

- **Murzah Wilmar East Africa Ltd.** A joint venture between the Murzah Group and Wilmar International formed in December 2015. Owns two major refineries with a joint refining capacity of 108,000 tonnes per annum, but is currently planning to consolidate operations onto a single site.

- **Bidco Oil & Soap Ltd.** Has a single plant with a refining capacity of around 120,000 tonnes.

As well as the major MeTL expansion referenced above, plans are underway for a 10,000 Ha “Integrated Oil Palm Project” in the Ruwu River Basin near Dar Es Salaam. The project is being undertaken by TB Tanagro Ltd - a joint venture between the state-run National Development Corporation (20%) and Singapore-based Nava Bharat Pte Limited (80%). At the moment 6,000 Ha of land has been secured. NDC predicts eventual yields of 7.7 tonnes of crude oil per hectare per year (up to 77,000 tonnes, assuming 100% of the proposed area is used).

In July 2016 the GoT introduced a 10% import tariff on crude palm to incentivise domestic production. This was a departure from the 0% tariff which still holds in other EAC countries. The effect on refiners is unclear, but it raises the chances of increasing domestic palm production or substitution towards other oilseeds.

6.1.3. Cotton oil

According to existing data around 400,000 Ha of rain-fed land in the Lakes zone are sown each year by around 400,000 smallholder farmers who sell to ginners. Ginners separate out cotton lint as the primary product, of which 80-85% is exported as raw lint rather than being processed in-country. Cottonseed is produced as a bi-product, but which is increasingly being crushed for oil and oilseed cake rather than being sold back to farmers for sowing.

Our consultations have suggested that Tanzania’s cotton sector is struggling. Tanzanian smallholders are finding it difficult to compete in what is a highly competitive global market. In 2014/15 Tanzania had an estimated average yield of 200 kg lint / Ha, compared to 475 in Burkina Faso (Africa’s leading producer) and 550 in India. As a result, the sector is reported to be shrinking. We have heard that Tanzania’s cotton mills are operating at about 20% of full capacity, with only 20 of around 32 ginners with installed oil mills currently operational. This
is in line with a similar picture of decline in several African countries in the face of competition from synthetic fabrics and mills operating in Asia.

Oil production from cottonseed crushing, on the other hand, is reported to have doubled between 2010 and 2013 as world prices jumped. In Tanzania, crude oil prices reportedly rose from around 250 to 720 TZS/kg. Exports of cotton by-products were negligible until 2014, at which point they jumped from US$4.7m in 2013 to US$32.7m (of which 93% was crude cottonseed oil). The sudden increase appears to have been almost entirely due to a buyer in Switzerland.\textsuperscript{17}

During our consultations we spoke to several stakeholders (including Sumaria - owner of S&C Ginning Ltd.) who confirmed that cotton ginners have been struggling in recent years, are heavily indebted and are not looking to expand. Some of the larger ginners or crushing and refining plants (e.g. Mount Meru Millers, Kahama Oil Mills, Birchand Oil Mills, Olam Tanzania) may seek to expand their crushing capacity at an appropriate scale for IFC. Although we are not aware of any current expansion projects, we understand that Cooperative Rural Development Bank (CRDB) are providing working capital credit to several ginners: including KSH35bn of credit to a major Chinese-owned miller based in Shinyanga.

\subsection*{6.2. Investment/ advisory opportunities in edible oils for GAFSP PrSW/IFC}

\textit{Some Information in this section has been omitted for confidentiality reasons.}

Overall, our consultations have indicated that the most likely sub-sectors to yield investable opportunities are sunflower seed oil and, more speculatively, domestic palm production. The cotton sector is generally in decline, although seed crushing appears to be defying the downwards trend. The introduction of a 10% crude palm import tariff may generate opportunities in domestic palm production, though could also dampen appetite for additional refining capacity.

\subsection*{6.3. Next steps for GAFSP PrSW/ IFC in the edible oils sector}

With respect to identifiable investment opportunities, the following represent opportunities that are worth following up on: [details are omitted for confidentiality reasons].

More broadly, there may be an opportunity to meet the high demand for working capital among growers and millers in the edible oils sector, possibly through a bank such as CRDB.

\textsuperscript{17} United Republic of Tanzania Cotton-to-Clothing strategy 2016-2020, International Trade Centre (ITC), 2016
7. **Grain Value Chain**

This section covers the grains value chain in Tanzania. We provide an overview of the main grain sub-sectors and then discuss the investment opportunities identified for consideration by GAFSP PrSW/IFC. It is important to note up-front that we were asked not to cover the grain milling sector in any detail given existing IFC activity in this area.

7.1. **Sector overview**

The main grains produced in Tanzania are maize, rice and wheat. We have focused our analysis on rice and wheat value chains given the general lack of commercial activity in Tanzanian maize production (smallholders were reported to account for 95% of production in 2013). The only large-scale maize producer we are aware of (Kilombero Plantations Ltd.) is profiled below under rice - its main crop.

7.1.1. **Wheat**

Wheat is Tanzania’s fourth most important crop after maize, cassava and rice. Over 90% of production comes from the northern highlands (Arusha, Kilimanjaro, and Manyara regions) and the southern highlands (Iringa, Mbeya regions). Production in the southern highlands is predominantly small scale and large scale in the northern highlands. Wheat production has grown to 167,000 tonnes, from around just 43,000 tonnes in 2008 driven by increases in land allocated to wheat production. Wheat yields have remained stagnant at just below 1 tonne per Ha over the last ten years.

*Figure 7.1: Wheat production in Tanzania*

The wheat milling industry is dominated by two companies that are based in Dar es Salaam – Bakhresa (2,500 tonnes per day milling capacity) and Mikoani (650 tonnes per day capacity), though there are a number of smaller millers operating in the sector such as Coast millers.

*Source: FAOStat*
Wheat consumption is higher in urban areas and the growth of the major cities of Dar es Salaam, Mwanza and Arusha will further spur demand for wheat products. The main growth categories for the wheat industry are pasta, biscuits, and breakfast cereals.

The current production of wheat is estimated to account for approx. 10% of total domestic consumption; the country is reliant on imports to meet demand, with wheat imports costing between US$225m to US$300m per annum.

7.1.2. Rice

According to data from FAOStat, rice production in Tanzania has more than doubled over the past 14 years with production growing at a CAGR of 9% p.a. This growth has been driven by both an increase in rice yields, which have grown from 1.9 tonnes per Ha to 2.8 tonnes per Ha and an increase in the amount of land under rice production.

*Rice production in Tanzania*

![Graph showing rice production in Tanzania](source: FAOStat)

Rice is an important crop for both subsistence and commercial farming in Tanzania, and consumption has been increasing in recent years. Rice is more expensive than other cereal crops including maize (Tanzania’s chief staple crop) but similar to a number of other countries in SSA, the combination of increasing urbanisation and household income has led to households consuming more rice and substituting away from the cheaper cereals.

Rice is produced mainly in the Morogoro, Shinyanga, Tabora, Mwanga and Mbeya regions of Tanzania; with production dependent on smallholder farmers. It is estimated that between 1.2m to 1.8m smallholder farmers are engaged in the production of rice on farm sizes between 0.5-3 Ha. The majority of smallholder production relies on traditional rain-fed production (either lowland flood or upland dry), which makes very limited use of technology, fertiliser, seeds etc. Yields achieved by these farmers are as low as 0.4 tonnes per Ha (in rain-fed upland production) to 2.5 tonnes per Ha (rain-fed lowland).

Only 6% of rice is produced by large-scale commercial farms. The commercial farms can achieve yields in excess of 8 tonnes per Ha. Each of the producing regions have their own wholesale market, all of which use the Dar es Salaam price as their benchmark wholesale market price (less cost of transport). The largest commercial rice producer is KPL.
assessment from a number of consultations is that they are the only rice producing company that has potential to partner with GAFSP PrSW/ IFC, but not at present. The other large producers are Kapunga Rice Plantation Limited and Mbarali Rice Farm, both located in Mbeya. We consulted with KPL as part of this project and present findings below.

**Rice imports vs. domestic production**

Dar es Salaam market is the largest market for rice in Tanzania and is responsible for approximately 40% of the country’s rice consumption. According to a BMGF commissioned study, Tanzanian consumers are willing to pay a 21% premium for Tanzanian rice, over cheaper imported rice, because of their inherent preference for its flavour, aroma and freshness. Further, consumers are brand conscious, with Kyela and Mbeya rice regarded as the best quality rice, followed by Morogoro rice.

In order to meet growing demand, Tanzania imports rice (e.g. Pakistani long-grain non-basmati white rice IRRI-6, 5% broken and 25% broken varieties). Historically imports constituted as much as 30% of domestic supply. But since the introduction of the East African Community’s Common External Tariff (EAC-CET) in 2005, which increased the duty on imported rice from 25% to 75%, rice imports have fallen to roughly 10% of domestic supply. The combination of forecasts for continued growth in demand for rice, combined with a strong preference for domestic supply suggests that there may be scope for supporting investment in increased rice production.

However there has been some inconsistency with respect to the government’s policy on rice imports as is discussed in the box below.

**Box 7.1: Importation of rice duty-free, inconsistent with existing trade policy**

In 2005 the East African Community imposed a Common External Tariff (CET) on rice imported from outside of the community of 75%. The presumable intention behind this policy was to help stimulate the growth of the region’s domestic rice sectors – indeed in Tanzania rice domestic rice production has doubled in the past ten years.

However in 2013, the government of Tanzania made the decision to import 175,000MT of rice from Pakistan duty free, based on misleading local price information (pricing data was used only for the premium market segment, which does not reflect pricing for the majority of consumers). The impact of this policy on the local rice market was to depress significantly local rice prices causing domestic agribusinesses and smallholder rice producers to lose significant revenues.

**Impact on private investment:**

Since 2008, after $40m of initial investment, KPL has become East Africa’s leading rice producer with a 5,000-hectare nucleus commercial farm and a transformative satellite smallholder programme lifting 5,000 farmer families from subsistence to surplus.

KPL recently attracted around US$11m of investment from AgDevCo to support an expansion in its business, which will benefit the company and the farmers attached to the scheme. The financial viability of the investment would be undermined if government were to dump duty free rice on the market again thus highlighting the uncertainty faced by an investor in the sector.

Although the figures are dated, the 2012 BMGF analysis shows that domestic rice production is not competitive with imported rice absent the imposition of the 75% tariff. This is due to
high labour costs involved in rice production, resulting from labour intensive production practices and high transportation costs. While consumers are thought to be willing to pay a premium for domestically produced rice, available evidence suggests that the commercial case for investment in the sector is highly dependent on the continued imposition of the common external tariff and the ability to export within the region. Rice producers in Tanzania are currently of the view that the EAC tariff is working and that the government retains commitment to enforcing it – though there is obvious wariness that government has shown in the recent past that it will dump imported rice on the domestic market. Also it should be noted that there are significant issues with cross-border smuggling of rice from outside the EAC region given the price incentive created by the external tariff.

Our consultations have suggested that Tanzania is currently enforcing the common external tariff on rice. However, Rwanda and Burundi still impose a 75% tariff on Tanzanian rice (see Box 7.1 above). As a result, Tanzania is now in significant surplus (500,000 tonnes of paddy). Market prices are accordingly low, and can fall below break-even point for growers with larger overheads.

7.2. Market information on the grain sector

7.2.1. Brewing - wheat, barley and sorghum

Tanzania lacks wheat or barley farms of a sufficient size to be of interest to IFC. Mountainside Farms Ltd, the largest of only four commercial producers, made US$2m of revenue in 2012. Although its scale may have increased since then, it is unlikely to be able to take a loan greater than $US5m.

Large investments in these sectors are most likely to be viable at the processing level. Both major breweries in the country, Serengeti and Tanzania Breweries (SBL and TBL), are reportedly planning to source locally more wheat, barley and white sorghum. They would ideally wish to engage with a commercial operation such as Mountainside Farms Ltd (which was originally formed in 2000 as a joint venture with SBL), although finding the requisite land would be difficult, or to partner formalised outgrower programmes (tax incentives make out-growing through smallholder farmers reasonably economical). We have also heard that grain storage is likely to be a focus area for expansion.

7.2.2. Milling

As the IFC is already in close contact with most of the major millers operating in Tanzania, we were directed not to engage with milling companies. This restricted the potential for finding new investable opportunities in the grains sector. We have therefore explored other areas in more depth - namely, brewing and rice - the only grain for which commercial growers of a suitable size exist in Tanzania.
However as part of our discussion with Murzah Wilmar East Africa (MWEAL) on edible oils we identified an opportunity to develop a rice and a flour mill (profiled in Section 7.3). We understand that the IFC has not yet made contact with this company.

7.2.3. Rice farming

Other than KPL (described in Section 7.3 below), the two other commercial rice operations in Tanzania are:

- Kapung Rice Plantation Ltd, owned by ETG and Duxton Asset Management; and
- Mbarali Rice Farms Ltd, owned by Highland Estates Ltd.

Both companies are based in the Mbeya region and mostly now rely on smallholder production. Our consultations have confirmed that both estates had large donor sums invested into their establishment through the National Farming Corporation (in the region of US$60-80m each). Our contacts do not expect either estate to be an IFC investment opportunity. Mbarali in particular was not considered likely to pass IFC’s social criteria due to land dispute issues.

7.3. Investment/ advisory opportunities in grain for GAFSP PrSW/IFC

Some Information in this section has been omitted for confidentiality reasons.

Our consultations have confirmed that grain producers in Tanzania are too small to be recipients of IFC financing with the exception of the three major rice producers. Of these three, none appear to have a current need for additional external finance, and at least one would not be likely to meet due diligence requirements. We have identified one company that is seeking significant finance for multiple projects [details are omitted for confidentiality reasons]. Although neither brewery is looking for external finance themselves, there is potential to explore opportunities to provide credit to their grain suppliers either through the breweries, or through an intermediary.

7.4. Next steps for GAFSP PrSW/ IFC in the grains sector

Our ability to review the value chain and identify the investment opportunities in the sector was limited because we were asked not to see the major grain milling companies. Despite this we were able to identify some opportunities that could be worth following up with: [details are omitted for confidentiality reasons].
8. **INVESTMENT OPPORTUNITIES IN OTHER SECTORS**

In addition to the analysis of the priority sectors we identified opportunities that we came across during our country visit. They cover the following sectors, which we present below:

- tea;
- sugar;
- financial services; and
- one individual project opportunity in the sisal sector.

8.1. **Tea sector**

8.1.1. **Tea value chain**

There are three main tea growing areas in Tanzania: the Southern highland zones of Mufindi, Njome and Rungwe district; the North East zone of Lusoto, Korogwe and Muheza districts; and the Northwest zone of Bukoba and Muleba districts. Overall, approx. 22,000 Ha of land is used to produce tea, which is split roughly 50:50 between land under production by smallholders and land used by the commercial tea estates, though estates account for around two thirds of made tea production.

Around 50,000 smallholders are involved in the production of tea, relying on rain-fed production and making limited use of inputs. The smallholder yield is estimated at less than one tonne/ Ha, whilst estates have been achieving close to 2 tonnes/ Ha. Unilever and Rift Valley, which are both growing under irrigation, are reportedly achieving 2.8 – 3.5 tonnes/ Ha.

Tanzania’s production of made tea has climbed gradually over the last ten years - reaching around 37,000 tonnes in 2014, but dipping back to 32,000 tonnes in 2015 following a prolonged dry spell in Rungwe District and uneven rainfall in Mufindi District. In both years around 30,000 tonnes were exported, generating $52m of export earnings in FY15/16. The remainder is packaged and sold to domestic markets. Packaging and marketing of tea is carried out by five licensed factories run by Afri Tea and Coffee Ltd., Chai Bora Ltd., Chai Amani Ltd., International Food Packers, and Rift Valley Tea Solutions.

The Tea Board of Tanzania has forecast that both local sales and export of tea will continue to climb over the next 7 years. Our consultations have suggested that producers continue to invest in improving and expanding their plantations despite suffering from low world prices in recent years. Part of the investment rationale for tea in Tanzania is that domestic consumption is expected to grow as population and household wealth rises. Kenyans reportedly consume four times as much tea per capita as Tanzanians, which industry stakeholders tend to attribute to the larger disposable incomes of Kenyan consumers.
There are four companies currently operating in Tanzania at a scale that might yield investment opportunities appropriate for IFC (not including METL). These are:

- **Rift Valley Corporation.** A Harare-based group of mainly agricultural businesses owned by the Höegh and von Pezold families. In Tanzania, Rift Valley owns and operates three tea estates through Mufindi Tea Company / Mufindi Tea Estates with factories in Itona, Luponde and Kibena (ex CDC), and a factory in Lupembe for processing tea from smallholders. It also started a trading and blending business based in Dar in 2013.

- **Unilever Tea Tanzania Ltd.** Unilever owns and operates estates in the Mufindi district of southern Tanzania, with three factories at Lugoda, Kibwele, and Kilima. Unilever is currently undertaking a c. €47m project to build a new factory and estate in the Njombe area and to establish a service company serving smallholder farmers in the region. Project partners include DfID (£7.5m), the Wood Family Trust, and the Gatsby Foundation as part of their “Chai” project.

- **Tanzania Tea Packers Ltd (Tatepa).** Tatepa is a tea and avocado producer, majority-owned by Maris Capital. It owns and operates the Katumba tea estate and factory through Wakulima Tea Company Ltd (WATCO).

- **East Usambara Tea Company Ltd (EUTCO).** EUTCO, which is 50% owned by MAC Group, operates on 14,164 Ha of land in Muheza District with factories at Kwamkoro and Bulwa.

### 8.1.2. Investment opportunities in the tea sector

*This section has been omitted for confidentiality reasons.*
8.2. Sugar sector

*Some Information in this section has been omitted for confidentiality reasons.*

We also had consultations with Coca Cola Kwanza and Sumaria - two coke bottlers and major sugar consumers, we combined these discussions with some research to present some initial findings on the sugar sector.

Industry and government stakeholders alike recognise the potential for expansion of Tanzanian sugar production. There are several different estimates of Tanzania’s sugar requirement were quoted (up to 600,000 tonnes per year), but there is agreement that it is not currently being met by domestic production which fluctuates around 300,000 tonnes. As shown in Figure 8.2 below, Tanzania is therefore importing large quantities of sugar each year, mostly from Thailand, Brazil, India and Indonesia. Most of this is white refined sugar for industrial purposes. We understand that Tanzania currently has only one refined white sugar factory - Kilombero’s K2 factory at Ruhembe.

*Figure 8.2: Sugar production by factories (left) and import-export balance for 2012/13 (right) - tonnes*

**Source:** Sugar Board of Tanzania

*Note:* KSC = Kilombero Sugar Company Ltd; TPC = Tanganyika Planting Company Ltd; MSL = Mtibwa Sugar Estate Ltd; KSL = Kagera Sugar Ltd.

Sugar is an issue of growing political concern in Tanzania. In February 2016, President Magufuli ordered the restriction of sugar import permits in a move to protect domestic producers from highly competitive world prices. We understand that this ban was lifted in early September. This has heightened interest in adding production capacity, but the investment environment remains challenging.

The Bagamoyo EcoEnergy project to plant 8,000 Ha of sugar cane for sugar, ethanol and power production has been trying to put up a refinery for the last 5 years. However, we have heard reports that the project may not now go ahead, which may be explained by the
difficulty of securing land rights. Existing sugar farms’ access to land for expansion is also restricted without securing further land grants from the government.

The government has reportedly directed two pension funds to invest in government part-owned farms. Although we are not aware of the specifics of these plans we have heard that the investment may be in the region of US$50-75m, but that they are not actively looking for private sponsors.

There may be opportunities to co-invest in schemes with government backing such as these. This could require sustained political engagement and may not be within the remit of GAFSP.

8.3. Financial sector

This section has been omitted for confidentiality reasons.

8.4. Opportunities identified in other sectors

In addition to our other findings we discussed an opportunity in the sisal sector, which is profiled below [details are omitted for confidentiality reasons].
## ANNEX A  SUMMARY OF COMMITMENTS TO INPUT SECTOR

The table below presents examples of private sector commitments to the agricultural input sector in Tanzania, made under the New Alliance Framework. *This annex was collated during the first (desk-based) phase of our study and may not reflect the most current or detailed information available.*

**Table A.1: Private sector commitments to the input sector in Tanzania**

<table>
<thead>
<tr>
<th>Company</th>
<th>Commitment</th>
<th>Progress under commitment (as of 2014)</th>
</tr>
</thead>
</table>
| **AGCO, US-based global manufacturer of farm equipment** | Capacity building, knowledge transfer of the agronomic system and intensification of agriculture and farming mechanisation by:  
  i. establishing a demonstration farm and training centre in collaboration with global and local partners, aimed at large- to small-scale farmers, agriculture students and local schoolchildren;  
  ii. providing infrastructure and technical support with mechanisation, storage and livestock systems, including after-sales services for commercial smallholders, and emerging and large-scale farmers; and  
  iii. offering finance solutions and developing leasing models for tractor supply to small-scale farmers with little working capital. | The Company has already conducted exploration visits and evaluated existing opportunities with SAGCOT and Ministry for Agriculture, including TAN25, and other partners like AgDevCo and Agrica/KPL on rice.  
In addition, it is in Concept Stage for the nucleus farm project and out-grower scheme in Kigom and with Tanzania Horticultural Association (TAHA) for a horticulture development project.                                                                                                                                                                                                 |
<p>| <strong>Syngenta, global agricultural inputs co.</strong> | Contribute to delivering cluster initiatives to support development of large farms and surrounding smallholders, such as by supporting SAGCOT Centre with funding, planning and delivery; and partnering with other companies and USAID to develop a village-based agro-dealer network, among other sector-specific initiatives for rice and maize. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <strong>Tanseed</strong>                                   | Contributing to stabilising and increasing rice and maize productivity and profitability among smallholders, though improving availability and adoption of affordable, high-quality rice and maize seed varieties, as well as better crop management practices. | As of 2013, Tanseed had produced 11 MT of certified seed, processed and packed in 298,200 small packs and distributed to 119,243 smallholders through 102 seed distributors across 43 districts. It also engaged in strategic partnerships with the International Maize and Wheat Improvement Center, the International Rice Research Institute, AGRA, USAID and Root Capital, focused on developing unique crop genetics for greater market pull, facilitating staff training and attracting working capital. |
| <strong>United Phosphorous</strong>                        | Improving productivity and income of small and marginal farmers of interest crops (corn, sorghum, sunflower, canola, rice, cotton, forages, legumes and | Blueprint for implementation was ready as of 2013, with the company awaiting registration of seeds (expected in 2014).                                                                                                                                                                                                                                                                                                                                 |
|                                              |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |</p>
<table>
<thead>
<tr>
<th><strong>(UPL)/ Advanta, India-based seed and crop production co.</strong></th>
<th>vegetables) through technology transfer to small and marginal farmers via on-farm training schools (3,000 trainees planned in 1st year), and through its role as key input and knowledge partner to large farms.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yara, Norway-based multinational fertiliser company</strong></td>
<td>Develop long-term partnerships to further the national fertiliser market through: (i) continuing existing efforts in SAGCOT (particularly the rice value-chain partnership with KPL and developing an Integrated Green Corridor); (ii) initiating an integrated sustainability approach with NORAD and AGRA; (iii) developing 2-3 subsequent value-chain initiatives under SAGCOT; and (iv) developing a pilot initiative with Vodafone and government to field-test mobile phone delivery mechanisms for improved supply-chain efficiencies.</td>
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<tr>
<td></td>
<td>Progress updates as of year 3: (i) finalising construction of a $20m revolving fertiliser terminal in Dar es Salaam; (ii) established 5 in-market storage facilities in key agricultural areas and a smallholder outreach programme focused on improving food security; (iii) conducted several field missions to neighbouring Rwanda and Burundi to develop regional distribution and agro-dealer market, with Tanzania as hub; (iv) held numerous discussions on project-specific activities in SAGCOT including with NORAD and AGRA; (v) provided technical expertise and products to develop smallholder capacity in the tea value chain in partnership with Unilever; (vi) trained 10,000 farmers on improved coffee production practices in partnership with ECOM Trading Group; (vii) provided plant nutrition expertise, fertiliser and practical support to ECCAg research partnership field trials; (viii) signed MoU with microfinance NGO BRAC to collaborate on Livelihood Enhancement through agricultural development project on maize; (ix) establishing trials and providing technical support related to key crops and value chains; and (x) exploring new partnerships in sugar, cotton and maize value chains.</td>
</tr>
</tbody>
</table>

*Source: Partnership Accountability Committee, New Alliance (2014)*
**ANNEX B SUMMARY OF DONOR ACTIVITY IN TANZANIA**

The table below presents a summary of key donor-supported programmes and projects in the agriculture sector in Tanzania. *This annex was collated during the first (desk-based) phase of our study and may not reflect the most current or detailed information available.*

**Table B.1: Donor activity in agriculture sector in Tanzania**

<table>
<thead>
<tr>
<th>On-going/ recent programmes</th>
<th>Size</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><strong>GAFSP/IFC</strong></td>
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<tr>
<td>GAFSP Private Sector:</td>
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</tbody>
</table>
| CRDM Bank SME and agribusiness support | US$75m | • Currently, only 15% of small business owners or women business owners have access to loans.  
• IFC and CRDB Bank partnership focuses on underserved SME and retail market segments as well as agribusiness producers and exporters.  
• IFC will also provide advisory services for trade and warehouse financing to strengthen CRDB’s operations.  
• The investment is expected to reach over 800 clients including SMEs and farmers cooperatives, thereby reaching 6,000 farmers  
• GAFSP will contribute $10m to the program |
| GAFSP Public Sector:        |      |             |
| TARIPA-SAGCOT Expanding Rice Production Project | US$22.9m | • The project will support rehabilitation of irrigation schemes and an input voucher scheme for rice input packages in project zones.  
• The ultimate aim is to improve food and nutrition security of smallholder farmers. Indirect benefits will include increased income and better livelihoods, price stability for rice in the domestic market, and curbing rising food prices  
• The specific GAFSP intervention promotes a seed multiplication distribution system, accelerated adoption of new technologies, rehabilitate irrigation schemes, enhancing capacity for monitoring and evaluation |
| **IFC/ World Food Programme (WFP)** | | |
| Patient Procurement Platform (2015 – 2016) | US$9.2m pilot | • To improve access to crop input finance for farmers in traditional crops, the WFP Farmer Financing Facility is working with a number of partners in the value chain to create market links and reduce risks. IFC and WFP are working together to identify ways to introduce innovative risk mitigation structures around crop loss and price in markets where these products do not exist or are not well utilized. |
### USAID

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Funding</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><strong>Feed the Future/ Tanzania program</strong></td>
<td>US$315m</td>
<td>Feed the Future/ Tanzania program is focused on priority value chains – rice; maize; and horticulture, primarily in SAGCOT development corridor. Key components are value chain development (NAFAKA project for rice and maize, and TAPP project for horticulture), processing (Tuboreshe Chakula project), nutrition (Mwanzo Bora project), infrastructure (roads and irrigation basket funding with support from CDM engineering firm), policy (SERA project), and research and training (iAGRI project at Sokoine University of Agriculture). Direct grant funding is provided for TAHA and SAGCOT Center; planned for SUA and BRN in 2014. Feed the Future particularly supports analysis related to policy commitments in the New Alliance agreement, including export and import policy, the crop cess, land, and seed taxes; in addition, projects support and collaborate with New Alliance LOI signatories including Yara, Vodaphone, KPL, Tanseed, TAHA and TASTA. The specific GAFSP intervention promotes a seed multiplication distribution system, accelerated adoption of new technologies, rehabilitate irrigation schemes, enhancing capacity for monitoring and evaluation.</td>
</tr>
<tr>
<td><strong>Kilombero-Ifakara Road Project</strong></td>
<td>US$400,000</td>
<td>Involves construction of 103.3 Kilometre tarmac road along a strategic section of Tanzania’s southern corridor; including upgrades to the Ifakara-Madete road and the construction of three bridges near Ifakara. Objective is to improve transport facilities and enhance access to rural areas with strong agricultural potential; and is directly aligned with USAID’s Feed the Future program.</td>
</tr>
<tr>
<td><strong>Partnership for growth</strong></td>
<td></td>
<td>Partnership between the Government of Tanzania and the United States Government, to mobilize interagency efforts of development assistance. Part of the project includes developing rural roads to provide adequate market access to rural agricultural land. It also includes expanding rural electrification to reach rural agribusinesses.</td>
</tr>
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### AGRA
<table>
<thead>
<tr>
<th>Project</th>
<th>Amount</th>
<th>Description</th>
</tr>
</thead>
</table>
| **AGRA Seed Program in Tanzania** (Phase 1: 2007-2011, Phase 2: 2013-2017) | US$150m | - Active program of grants under its Program for Africa’s Seed Systems (PASS), including grants to seed companies, projects to strengthen agro-dealer networks and to agriculture research organizations.  
- The largest grant has been to Citizens Network for Foreign Affairs, of almost 4,000 registered agro-dealers. It developed a database of dealers and a Tanzanian soil map  
- Work on agro-dealers also continues under the Tanzania Agricultural Market Development Trust, in partnership with USAID’s NAFAKA program. |
| **AGRA Tanzania Bread-Basket Transformation Project** (2010-2015)       | US$173m | - Designed to support the Ministry of Agriculture in piloting the bread-basket approach with the goal of unlocking Tanzania’s latent agricultural potential, focusing on maize, paddy and beans  
- Interventions include: farmer aggregation, increased storage capacity, access to credit, engagement of contract buyers, export market zoning, roadway development, extension services, irrigation and inputs supply. |
| **IFAD Agricultural Sector Development Programme - Livestock: Support for Pastoral and Agro-Pastoral Development** (2005-2015) | US$32.8m | - Targeting the poorest members of herder and agro-pastoralist groups, the program is aimed at improving food security and increasing incomes in rural areas.  
- The program will improve livelihoods through: 1) helping farmers identify and manage their own development needs, 2) improving livestock production through research and technology, 3) improving marketing systems and infrastructure for livestock products, 4) strengthening national and local government institutions to improve services to livestock farmers, 5) promoting a participatory approach to natural resource management, and 6) investing in improved health care and water management. |
| **Marketing Infrastructure, Value Addition and Rural Finance Support Programme** (2010-2017) | US$169.5m (co-financed by AfDB, AGRA, SIDA) | - The objective of the project is to enhance the income and food security of rural households.  
- The project will increase access of poor rural people to a wider range of financial services for productivity-enhancing technologies, services and assets and increase access to sustainable agricultural markets and opportunities for rural enterprise. |
| **Bagamoyo Sugar Infrastructure and Sustainable** | US$136.6m (co-financed by AfDB) | - The project will assist smallholder farmers through an inclusive business model to adopt the modern crop, irrigation system and green harvesting technologies.  
- 24 out-grower companies will receive assistance to produce sugarcanes meeting international standards. |
<table>
<thead>
<tr>
<th>Programme</th>
<th>Funding</th>
<th>Description</th>
</tr>
</thead>
</table>
| Community Development Programme (BASIC) (2015-2024) | • The project will also assist smallholder producers to negotiate long-term supply agreements with beneficial conditions.  
• BASIC will finance the planning of village land use and titling to obtain land certificates. There will be investments in infrastructure that will benefit broader population.  
• It will build the capacity of smallholder farmers to manage sustainably natural resource and support them in forming agribusinesses and small and medium rural enterprises. |
| FAO                                            |                    | • Developed training manuals and trained Government and NGO officials in supporting smallholders taking “agriculture as a business” approach, linking farmers with agro-processors and developing commodity-based sub-sector development strategies for maize, rice, red meat & edible oil |
| Southern Highlands Food Security Programme (2010-2013) | US$5.3m ($2m disbursed through 2013) in project funding | • Aimed to develop, implement and build capacity in the use of a new information system (TANLITS software) for the Livestock Identification and Traceability System.  
• The TANLITS database is linked to the Animal Health (Veterinary Services Needs) and Animal Production (Animal Production Needs) Information Management Systems, in order to enable Tanzania to conform to international livestock trade requirements by ensuring efficient traceability mechanisms along the entire food chain, from the farm to the market. |
| Tanzania Livestock Traceability System (TANLITS) (2011-2014) | US$475,000 | • Aimed at providing assistance to GoT and other stakeholders to build capacity to implement inclusive economic growth strategies,  
• The project will accelerate poverty reduction and assist Tanzania’s progress towards achieving goals of MKUKUTA/MKUZA, as well as the MDGs, particularly MDG1, by supporting government’s efforts to address challenges as articulated in key policy and programming documents. |
<p>| Economic Growth (2011-2016)                    | US$1.5m            | • Aimed at increasing the adoption of new technologies and marketing practices by smallholder farmers through expanding and creating partnerships between smallholder farmers and agribusinesses in Tanzania. |
| World Bank                                      |                    | • The first objective of the project is to provide farmers with better access to, and use of agricultural knowledge, technologies, marketing systems and infrastructure. |
| SAGCOT (2016-2021)                             | US$75m             |                                                                                                                                             |
| Tanzania Agricultural                           | US$151m            |                                                                                                                                             |</p>
<table>
<thead>
<tr>
<th>Project Description</th>
<th>Funding</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sector Development Project (2006-2016)</strong></td>
<td></td>
<td>- The second objective is to promote agricultural private investment based on an improved regulatory and policy environment. The implementing agency is the Ministry of Agriculture and Food Security.</td>
</tr>
<tr>
<td><strong>Additional Financing for Agricultural Sector Development Project (2009-ongoing)</strong></td>
<td>US$30m</td>
<td>- Aimed as an emergency program to provide credits in support of the Accelerated Food Security Program. The program responds to an urgent request from the Government of Tanzania to support its efforts to achieve greater food security by increasing food production and productivity and providing social protection for vulnerable groups and the rural poor.</td>
</tr>
</tbody>
</table>
| **AEZF TZA W**                                                                     | US$22.9m| - A special fund of the AECF for agribusiness in Tanzania. The fund seeks innovative agribusiness that impact the rural poor, including support for farming, plantations, ranching companies, out grower schemes, producers, manufacturers and distributors, traders, merchants and other private sector providers.  
- The TZA W scheme has funded 37 agribusiness projects to date. Partners of AECF include, Government of Canada, SIDA, IFAD, Australian Government, UKaid, DANIDA, Kingdom of the Netherlands and AGRA. |
| **UK**                                                                            | US$100m | - A number of projects are supported relating to agricultural development, including: (i) Coastal rural support programme, which supports rice and sesame value chains in the Mtwara and Lindi regions; (ii) Cotton development programme in Lake Zone; (iii) Horticulture, and food processing activities in Arusha, Morogoro and Zanzibar; (iv) Supporting Agribusinesses with linkages to smallholders across Tanzania through a challenge fund arrangement; (v) Supporting the development of the agricultural finance sector through the Financial Sector Development Trust, and (vi) Supporting private sector organisations that advocate for a better business environment for agriculture.  
- In subsequent years four new programmes will start to disburse. These include: (i) Support to the SAGCOT initiative; (ii) Support to BRAC-implemented Livelihoods enhancement through agricultural development; (iii) A rural roads programme; (iv) A programme to support improved land administration and titling. |
| **(DFID) The Land Tenure Support Program (2016)**                                  | US$11.5m| - DFID’s Land Tenure Support Programme, beginning in 2016, is designed to make information on land records and processes of land allocation publicly available, and clarify and address current constraints to protecting legitimate land claims |
- In partnership with SIDA and DANIDA, the programme will contribute to growth in agricultural production and better-planned investment in urban infrastructure, including housing.

**EU**

| 2011-2015 | US$120m | - Support for food security and rural development in Tanzania with a focus on trade, agriculture and rural infrastructure development:  
- The project consists of (i) Rural Roads Programme (US$28m); (ii) Support to SAGCOT US$1m (roads, energy, agriculture, environmental management); (iii) Trade and Agriculture Support Programme (Coffee, Tea, Cotton, Horticulture, Fisheries standards and quality improvement) US$28 million; (iv) Support to sugarcane out-growers and research (Kilombero, Mtibwa, Kagera, Moshi) US$8m; and (v) Food security and access to market. US$6m.  
- Project funding is through civil society, Tanzanian research institutions, or line ministries. |

**France**

| 2012-2015 | US$50m | - On-going project (US$2.7m) with the Foundation “Institut de Gestion de la Faune” for supporting socio-ecologic development of local populations in the corridors Tarangire/Manyara and Tarangire/Simanjiro.  
- Pre-identification of a local development program in selected rural areas. |

**Germany**

| 2012-15 | US$92m | - Germany is supporting programs in Tanzania that have a close link to rural development especially in the area of rural infrastructure development and nature conservation.  
- The program consists of: (i) Water Sector Development Programme US$19m; (ii) Rural Development Serengeti (US$30m); (iii) Selous-Niassa Wildlife Corridor US$10m; and (iv) Programme Renewable Energies US$33m. |

**Japan**

| 2012-15 | US$140m | - Japanese assistance policy to Tanzania is to promote economic and social development towards sustainable economic growth and poverty reduction.  
- In particular, it is supporting the following programmes in line with the New Alliance Cooperation Framework: (i) ASDP; (ii) Programme for Strengthening Rice Production Capacity; and (iii) Programme for Transportation and Traffic Network Development.  
- Some new projects were started (US$24m), which were not initially planned at the time of the commitment.  
- Funding is the form of technical cooperation, grant aid and loan |
| US$25m commitment raised from USAID and Swedish government | Managed by the AfDB, the multilateral fund targets country members of the New Alliance and aims at financing upstream project design work, feasibility studies, market analyses, site surveys, business plans, financial modelling and other activities necessary to ensure project quality and future funding opportunities.  
In Tanzania, AFT has provided grants to over three companies, aimed at improving their infrastructure and expanding their business operations.  
In May 2014, projects were initiated with Tanga Fresh UHT Milk Factory and Kijani Agro Integrated Horticulture – the companies received US$150,500 to expand production capacity and US$490,000 for producing a variety of fresh fruits and vegetables in high tech irrigated tunnel houses and open-fields respectively.  
The two grants have the potential to provide employment to more than 18,000 smallholders; the Kijani project alone should 3,000 smallholders (of which 60 percent are women). |
**ANNEX C  ADDITIONAL INFORMATION ON OILSEEDS SUB-SECTOR**

The following tables presents an overview of the key oilseed sub-sectors, followed by an overview of the key agribusinesses operating in the sub-sector. *This annex was collated during the first (desk-based) phase of our study and may not reflect the most current or detailed information available.*

**Table C.1: Overview of key oilseed sub-sectors**

<table>
<thead>
<tr>
<th>Sub-sector</th>
<th>Regions of cultivation</th>
<th>Production</th>
<th>Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunflower</td>
<td>Dodoma (22.5% of total output); Singida (8.9%); Rukwa, Kilimanjaro (13.2%); and Arusha and Manyara (13.1%). Other regions are Iringa, Mbeya, Ruvuma, Tanga, Morogoro, Rukwa and Coast.</td>
<td>Mainly grown by 150,000–200,000 smallholders on 0.4–1.2 Ha; large-scale farming accounts for only 10% of production.</td>
<td>Manufacture of sunflower oil and oilcake</td>
</tr>
<tr>
<td>Sesame</td>
<td>75% of production is from the south. Main regions include: Mtwara, Lindi, Dodoma, Arusha, Manyara, Iringa and Singida. Other areas include Tabora, Mbeya, Tanga and Ruvuma</td>
<td>Mainly small-scale farmers;</td>
<td>Processing is mostly via small machines, catered for home consumption and small-scale trading; In 2009, a medium-scale oil mill (capacity of 80 MT/day) was installed in Lindi by Frasal Inter Trade Limited.</td>
</tr>
<tr>
<td>Palm oil seeds</td>
<td>Traditionally in Kigoma; but also in Mbeya and some parts of the Tanga region</td>
<td>Large scale production by FELISA Company, which aims to cultivate total of ~10k Ha, around half of which will be from smallholder outgrowers</td>
<td>Local cooperatives collect ~150,000L of palm oil p.a., selling this on to local refineries and soap producers in Dar es Salaam. Women at the local level are also responsible for boiling and milling of palm oil and selling palm oil products.</td>
</tr>
<tr>
<td>Soya beans</td>
<td>Ruvuma, Rukwa, Iringa, Mbeya and Morogoro. Some is produced in Lindi, Mtwara, Kagera, Manyara &amp; Tanga.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotton</td>
<td>Most production is in Mwanza, Shinyanga, Tabora, Kigoma, Singida and Kagera. Other producing regions are Kilimanjaro, Manyara, Mbeya and Iringa.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundnuts</td>
<td>Dodoma, Shinyanga, Tabora, Singida, Mbeya, Mtwara, Ruvuma and Lindi.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: International Growth Centre (2012)*
Table C.1: Overview of key agribusinesses operating in the oilseeds sub-sector.

|----------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Murzah Oil Mills (part of the Murzah Group) (US$117m)          | 300 (100 FTE in oil mills plant; 200 are part-time) | • Largest sunflower oil producer in Tanzania.  
• Close links with farmers’ cooperative union in Kigoma, as well having a procurement centre in the region to ensure steady domestic supply of palm oil.  
• Seven refineries producing three types of vegetable cooking oil; it also produces toilet and laundry soaps, vegetable cooking fat, bakers fat and margarine (produced from by-products of its fractionation plant).  
A large level of local demand has enabled Murzah to reduce production costs and improve export competitiveness | • 93% of Tanzania’s exports of palm oil products in 2009, valued at ~US$3.36m.  
• ~34% of Tanzania’s exports of ‘other oilseeds & oleaginous fruits’, with exports worth US$1.12m.  
• 85% of Tanzania’s exports of soap products, valued at US$13m (via Murzah Soap and Murzah Oil). | • Plant and equipment is modern, sourced from Extraction De Smet of Belgium.  
• Expansion in fractionation plant capacity from 100 to 300 MT/day, introducing capability of processing basic raw materials of crude palm oil and to separate the liquid and solid fractions.  
• Development agenda included: expanding capacity of Mukwano factory; and setting up offices in Uganda, Zambia, Democratic Republic of the Congo and Switzerland. |
| Mount Meru Millers Limited (annual average turnover exceeding US$6.5m) | 400                | • Manufacturer of edible sunflower oil based in Arusha, with out-grower network covering 70,000 sunflower farmers in Arusha, Manyara and Singida region, to which it supplies sunflower & corn seeds.  
• It also produces seed cake and seed husk (for which there is strong demand in export markets, given use for animal feed and boiler fuel respectively).  
• Subsidiaries of Mount Meru Group include Mount Meru Seeds Limited, which deals with foundation seed farms and certified seed production. In particular, maize and sunflower seeds are purchased, processed, graded, hand cleaned, fumigated, packed, certified and sold.  
• ~70% of Mount Meru Millers Limited’s output is exported to neighbours (Kenya, Uganda, Zambia and Democratic Republic of the Congo) and Europe (Turkey and Ukraine), with annual exports of ~US$5m. | • Modern, automated machinery at manufacturing plant in Arusha; seed crushing plant and a nursery in Singida region.  
• Development agenda included plans to: (i) build another boiler, which uses byproducts (husk) as fuel; and to build a silo with the capacity to store 5,000 MT of seed; (ii) doubling oil crushing and refining capacity by building plants in neighbouring countries; (iii) establish an out-grower network of more than 10,000 farmers and promote sunflower growing over... |
<p>| | | | |</p>
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</tr>
</thead>
</table>
| Vegetable Oil Industries Ltd ($3.4m) | • Annual capacity of 16,000 MT  
• The Group operates a number of business including cooking oil, fats, plastic/cans, drinking water, battery solution and distilled water. | • Exports of vegetable oil to Uganda and Rwanda | 16,000 Ha to produce 300,000 MT of sunflower grain. |
| BIDCO Oil and Soap      | • Production of edible oil, soap and fat | • Exports are mainly to Democratic Republic of the Congo and Zambia, mostly in the form of edible oil  
• Exports were valued at over $7m in 2010 | • Over $20m capital investment to develop Tanzania’s most modern edible oil refinery.  
• Development agenda included plans to strengthen links with palm tree farmers through development of large-scale commercial oil palm farming. |

*Source: International Growth Centre (2012)*
ANNEX D  ADDITIONAL INFORMATION ON SUGAR SECTOR

The table below presents a detailed overview of the four major estates in the sugar industry in Tanzania, followed by a case study on the Kilombero Sugar Company (KSC). *This annex was collated during the first (desk-based) phase of our study and may not reflect the most current or detailed information available.*

Table D.1: Overview of major sugar estates in Tanzania

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Kilombero</th>
<th>TPC</th>
<th>Mlibwa</th>
<th>Kagera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Majority owners</td>
<td>Illovo</td>
<td>Terreos/Clei group</td>
<td>Superdoll</td>
<td>Superdoll</td>
</tr>
<tr>
<td>Total cane (Ha)</td>
<td>21,800</td>
<td>7,739</td>
<td>8,050</td>
<td>12,000</td>
</tr>
<tr>
<td>Irrigated cane (Ha)</td>
<td>6,174 – 8,022</td>
<td>7,739</td>
<td>7,500</td>
<td>4,000</td>
</tr>
<tr>
<td>Outgrowers cane (Ha)</td>
<td>12,000 – 15,000</td>
<td>No out-growers</td>
<td>Not known (high potential)</td>
<td>4,082 (e)</td>
</tr>
<tr>
<td>No. of outgrowers (if known)</td>
<td>8,000, supplying 43% of cane crushed by the two mills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plantation cane (Ha)</td>
<td>9,800</td>
<td>7,739</td>
<td>8,050</td>
<td>12,000</td>
</tr>
<tr>
<td>Total cane crushed (MT)</td>
<td>1,200,000</td>
<td>790,000</td>
<td>436,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Raw sugar produced (MT)</td>
<td>120,000</td>
<td>80,000</td>
<td>50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Mill capacity (MT cane/ hour)</td>
<td>245</td>
<td>150</td>
<td>150</td>
<td>120</td>
</tr>
<tr>
<td>Main future plans</td>
<td>Expansion based on outgrower production</td>
<td>Increase production/ Ha</td>
<td>Consolidation</td>
<td>Expansion (factory upgrade to increase capacity to 150 MT/ hour)</td>
</tr>
<tr>
<td>Main challenges</td>
<td>Increase output; limited potential for horizontal estate expansion</td>
<td>Water availability</td>
<td>Power supply</td>
<td>0 growers</td>
</tr>
<tr>
<td>Region</td>
<td>Morogoro</td>
<td>Kilimanjaro</td>
<td>Morogoro</td>
<td>Kagera</td>
</tr>
<tr>
<td>Distance to port (km)</td>
<td>350</td>
<td>450</td>
<td>250</td>
<td>1,500</td>
</tr>
</tbody>
</table>

*Source: Rabobank (2013); Future Agricultures (2014) Focus on Land (2014)*

Box D.1: Case study on KSC

Given limited potential for horizontal estate expansion, KSC has increased the number of outgrowers from 2,000 in 1998 to 8,000 in 2013, contributing 43% of cane crushed by two mills as of 2013. KSC outgrowers must join a cane growers’ association and register with the TSB. A Cane Supply Agreement (CSA) is signed between the company and the 15 farmers’ associations – under the CSA for 2013-16 period, KSC pays outgrowers for the weight and sucrose content of their delivered cane, less the costs of harvesting, transport, processing, marketing and distribution.

Outgrowers were estimated to have earned US$35.6/ MT for the year 2013/14, before adjustments for sucrose levels and actual sales. Although expansion of the out-grower scheme has benefited smallholders, recently the situation has deteriorated with incomes declining due to a fall in producer price, low sucrose levels and some some sugarcane remaining unharvested.
ANNEX E  PROFILES OF TANZANIAN DAIRY COMPANIES

The boxes below provide a brief profile of the major agribusinesses operating in Tanzania’s dairy sub-sector. This annex was collated during the first (desk-based) phase of our study and may not reflect the most current or detailed information available.

**Tanga Fresh** – A leading dairy foods company, contracting 4,500 farmers to supply milk to its plant; annual turnover estimated at $4m. The company produces fresh milk, fermented milk, plain and flavoured yoghurt, mozzarella cheese, butter and ghee. Company meets international hygiene standards and uses state-of-the-art European equipment and methods. In 2010, Tanga Dairies Cooperative Union (TDCU) collaborated with Dutch and local partners, to set up a breeding unit and a dairy farm in the Tanga region to increase the supply of heifers to TDCU farmers and to expand the supply of milk to the Tanga Fresh factory; in addition, the company introduced text messaging service for farmers and milk collection centres to facilitate information flow about market, new industry developments, animal husbandry practices etc (used by 2,000 of 4,500 farmers). Processing capacity doubled from 15,000 L/day in 2008 to 31,000 L/day in 2010, with plans to expand capacity to 50,000 L/day in 2015. Tanga Fresh is also investing in services of Virtual City, to automate the recording of milk collection and payments to farmers, with the objective or ensuring the farmer is paid the correct amount. In 2014, AfDB-managed AFT fund has provided a grant of USD$150,500 to Tanga Fresh UHT Milk Factory to expand production capacity.

**Mgolole Agro-Processing Co. Ltd** – Received funding of $450,000 in 2015 from AECF-TZAW to develop an integrated dairy project to produce and sell quality heifers to farmers in Morogoro region, specifically by adopting and using improved breeding methods; utilizing locally available feed resources supplemented with innovative feeding techniques; forming mutually beneficial and sustainable partnerships with financial institutions, smallholder farmers, milk processing companies and other stakeholders along the dairy value chain. The project is expected to directly benefit 2,139 households with an annual income of US$1,448 per household, resulting in a total benefit of US$ 3,097,272 at the end of the project.

**Shambani Graduates Enterprises** – Milk-processing company founded by 3 graduates of Sokoine University of Agriculture in Tanzania) have committed to contributing to national increased annual milk production targets by investments in expanding their milk collection, processing and marketing; and building quality/hygiene capacity of around 400 milk producers to supply 4,000 L/day, to create additional $900 in annual income per farmer.

Key progress updates as of Year 3 (2013): (i) development of business plan and focused strategy, with unique value proposition for expansion; (ii) investment of $62,500 in renovating facilities, including milk collection centres; (iii) discussions with two firms for financing but no commitment secured to date; (iv) 1,500 L/day of milk sourced from around 120 smallholders; and (v) near-completion of installation of a new boiler to enhance processing capacity.
ANNEX F  RECENT INVESTMENTS IN HORTICULTURE BY AECF-TZAW

The table below provides an overview of the major investments in horticulture, recently made by the Tanzania Window of the Agriculture Enterprise Challenge Fund. This annex was collated during the first (desk-based) phase of our study and may not reflect the most current or detailed information available.

Table F.1: Overview of investments in horticulture by AECF-TZAW

<table>
<thead>
<tr>
<th>Company</th>
<th>Approved funding</th>
<th>Project aim</th>
<th>Direct household beneficiaries</th>
<th>Total benefit at project end</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbruggen Juice Trading BV</td>
<td>$1,020,00 (July 2013)</td>
<td>• Establish a fruit processing plant in Tanzania, for producing frozen concentrated orange and pineapple juice only from local raw materials. This would be the first fully certified fruit processing facility in Tanzania</td>
<td>8000 (each having annual income of $670)</td>
<td>$5,580,000</td>
</tr>
<tr>
<td>Darsh Industries Limited</td>
<td>$1,020,000 (2013)</td>
<td>• Provide extension services to farmers to improve quality and quantity of tomatoes by promoting good agricultural practices. • Build and staff at least 8 collection centres in Iringa as buying stations and focal points for farmer outreach, and provide free plastic crates to farmers for packing tomatoes. • Construct a new factory to process 22,500MT of tomatoes in 150 days near Iringa town and produce both tomato concentrate and finished tomato products.</td>
<td>5,107 households (each having an annual income of US$72)</td>
<td>US$1,182,704</td>
</tr>
<tr>
<td>Soko Fresh Ltd</td>
<td>$800,000 (2015)</td>
<td>• Strengthen the wholesale market framework, to enable producers to capture greater value from production and to boost domestic consumption of locally grown produce, particularly horticultural produce by urban African consumers • 7 primary commodities to be sold in years 1-6, with the Dar es Salaam project breaking even by the fourth year. • Increase in annual volumes from 7,000 to 62,000 tons.</td>
<td>21,000 (annual income of $118 per household)</td>
<td>$ 2,478,000</td>
</tr>
<tr>
<td>Company</td>
<td>Approved funding</td>
<td>Project aim</td>
<td>Direct household beneficiaries</td>
<td>Total benefit at project end</td>
</tr>
<tr>
<td>------------------------------------------</td>
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</tr>
<tr>
<td><strong>Beth Equisolutions Company Limited</strong></td>
<td>$100,000 (2015)</td>
<td>• Expand smallholder horticultural production through development of modern irrigation schemes and post-harvest processing innovation.</td>
<td>250 (annual income of $599 per household)</td>
<td>US$ 149,750</td>
</tr>
<tr>
<td>(SBU focused on horticultural cultivation, e.g. onions, tomatoes, watermelon, pepper, black peas)</td>
<td></td>
<td>• Structure and facilitate rural smallholders to capture and access emerging local, regional and international horticultural produce markets by meeting East Africa and EU standards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Serengeti Fresh Ltd</strong></td>
<td>$600,000 (2012)</td>
<td>• Export 4,000 MT p.a. of fresh produce (e.g. snow and sugar snap peas, garlic, sweet potatoes &amp; avocados), using ozone sterilization and disinfection and Modified Atmosphere Packaging technologies to extend produce shelf life; and the sea freight option to reduce transport costs by 65%.</td>
<td>848 out-grower farmers (each benefiting with over US$ 1,822 p.a.)</td>
<td>US$2,338,459</td>
</tr>
<tr>
<td>(company growing fresh produce in Northern Tanzania - beans, baby corn, chillies and okra)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Coseke</strong> (incorporated Ngongoseke Farms as an independent sister company, specializing in greenhouse irrigation farming technology for producing fresh vegetables)</td>
<td>$270,000 (2013)</td>
<td>• Expand construction of the Ngongoseke greenhouse that will have the capacity of farming four different varieties of vegetables.</td>
<td>164 (income of US$619 p.a.)</td>
<td>US$ 3,226,004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Support local farmers through establishment of greenhouse farmer school demonstration farms to facilitate nursery planting and seed multiplication; and support farmers to engage in fruit irrigation farming, providing them with capacity building extension services such as training and awareness campaign in farmers group model.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Africado Ltd</strong> (avocado plantation at the foot of Kilimanjaro, growing Hass avocados for exports to the EU)</td>
<td>$1,001,406 (2012)</td>
<td>• Expand avocado production through 3,200 small-scale out-growers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Exports of mature avocado and avocado oil (to EU), of which 64% and 69% will be sourced from the out-grower scheme respectively.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Activities undertaken in 2013: completed construction of park house; installation of equipment; registration to Global-GAP; exports of avocado fruits to France, UK and Scandinavian countries</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: AECF-TZAW*
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USDA (). Tanzania cotton sector update.


# Annex H  List of Stakeholders Consulted

*Table H.1: Stakeholders consulted during Tanzania Agribusiness Diagnostic phase 2*

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hortanzia</td>
<td>Horticulture</td>
</tr>
<tr>
<td>Norfund</td>
<td>Development Finance Institution</td>
</tr>
<tr>
<td>Makuru farms</td>
<td>Horticulture</td>
</tr>
<tr>
<td>Kibo seeds</td>
<td>Agri-inputs</td>
</tr>
<tr>
<td>TAHA</td>
<td>Horticulture</td>
</tr>
<tr>
<td>HomeVeg Tanzania</td>
<td>Horticulture</td>
</tr>
<tr>
<td>Mount Meru Flowers</td>
<td>Horticulture</td>
</tr>
<tr>
<td>Arusha Blooms</td>
<td>Horticulture</td>
</tr>
<tr>
<td>Rijkzwan Afrisem</td>
<td>Horticulture</td>
</tr>
<tr>
<td>Vision Fund Micro-finance Bank</td>
<td>Micro-finance</td>
</tr>
<tr>
<td>Serengeti Fresh</td>
<td>Horticulture</td>
</tr>
<tr>
<td>Africado</td>
<td>Horticulture</td>
</tr>
<tr>
<td>MAC Group</td>
<td>Multiple, incl. tea &amp; sisal</td>
</tr>
<tr>
<td>Sumaria</td>
<td>Multiple, incl. bottling</td>
</tr>
<tr>
<td>Africa Enterprise Challenge Fund</td>
<td>Development Finance Institution</td>
</tr>
<tr>
<td>PASS (Private Agriculture Sector Support Trust)</td>
<td>Development Finance Institution</td>
</tr>
<tr>
<td>CRDB</td>
<td>Banking</td>
</tr>
<tr>
<td>Murzah Wilmar East Africa</td>
<td>Multiple, incl. edible oils; milling</td>
</tr>
<tr>
<td>AgDevCo</td>
<td>Venture capital firm</td>
</tr>
<tr>
<td>Anepa Food Products</td>
<td>Edible oils</td>
</tr>
<tr>
<td>Coca Cola Kwanza</td>
<td>Bottling</td>
</tr>
<tr>
<td>Serengeti Breweries</td>
<td>Brewing</td>
</tr>
<tr>
<td>Clyde &amp; Co. Tanzania</td>
<td>Legal, transactions &amp; advisory</td>
</tr>
<tr>
<td>Dutch Embassy</td>
<td>-</td>
</tr>
<tr>
<td>Maris Capital</td>
<td>Venture capital firm</td>
</tr>
<tr>
<td>Dekker Bruins Tanzania</td>
<td>Horticulture</td>
</tr>
<tr>
<td>Tanzania Gatsby Trust</td>
<td>Foundation</td>
</tr>
<tr>
<td>Kilombero Plantations Ltd (KPL)</td>
<td>Rice</td>
</tr>
<tr>
<td>Sasuma / Thorncastle</td>
<td>Fruit juice processing / wholesale market</td>
</tr>
</tbody>
</table>