

# Assessing Policy Coherence for Development

## A Pilot Study on the Impacts of OECD Countries' Policies on Food Security in Tanzania

Conducted by the European Centre for Development Policy Management and the Economic and Social Research Foundation

Financed by the Ministry for Foreign Affairs of Finland

November 2015





# Table of Contents

|                                                                                                                                           |     |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Acknowledgements .....                                                                                                                    | vii |
| Acronyms .....                                                                                                                            | vii |
| Executive summary .....                                                                                                                   | x   |
| 1. Introduction .....                                                                                                                     | 1   |
| 2. Tanzania's Food Security Profile .....                                                                                                 | 4   |
| 2.1. Current food security conditions, trends and key drivers .....                                                                       | 4   |
| 2.2. Tanzanian agricultural and food policy environment .....                                                                             | 8   |
| 3. Economic and institutional linkages between OECD countries and Tanzania .....                                                          | 13  |
| 3.1. Development cooperation in Tanzania .....                                                                                            | 13  |
| 3.2. Trade linkages .....                                                                                                                 | 16  |
| 3.3. Investment flows .....                                                                                                               | 19  |
| 3.4. Other financial and non-financial flows .....                                                                                        | 22  |
| 4. Identification of relevant policies and agro-food sub-sectors in relation to OECD countries .....                                      | 23  |
| 4.1. Identification of relevant OECD policies in relation to food security in Tanzania .....                                              | 23  |
| 4.2. Identification of relevant agricultural sub-sectors in relation to selected OECD policies .....                                      | 24  |
| 5. Effects of OECD countries' policies on markets, trade and food security conditions in Tanzania .....                                   | 28  |
| 5.1. Evolution of farm policies in OECD countries and non-OECD countries and their spillover effects on international markets .....       | 28  |
| 5.2. Effects of OECD agricultural policies on food security: causal linkages and empirical evidence .....                                 | 33  |
| 5.3. Trade policies and product market regulations: implications for market access and food security in Tanzania .....                    | 43  |
| 6. Evidence on the effects of OECD countries' policies on selected agro-food sub-sectors .....                                            | 63  |
| 6.1. Cereals: transition from food to cash crop .....                                                                                     | 63  |
| 6.2. Sugar: difficult transition in EU sugar policies for Tanzania? .....                                                                 | 72  |
| 6.3. Horticulture: challenges and opportunities of OECD countries non-tariffs measure and privates standards for an emerging sector ..... | 87  |
| 6.4. Foreign investment, land acquisition and biofuels .....                                                                              | 101 |
| 7. Effects of OECD countries' policies on food security: The case of Morogoro region .....                                                | 104 |
| 7.1. Profile of Morogoro region—Tanzania's food basket .....                                                                              | 104 |
| 7.2. Agro-food value chain impacts of OECD policies in Morogoro region .....                                                              | 107 |
| 7.3. Development cooperation in Morogoro region and beyond .....                                                                          | 113 |
| 7.4. Foreign direct investment and land issues in Morogoro region .....                                                                   | 113 |
| 7.5. Livelihoods impacts of OECD policies in Morogoro region .....                                                                        | 114 |
| 7.6. Implication of OECD policies for food and nutrition security in Morogoro region .....                                                | 115 |

|                                                                                                               |     |
|---------------------------------------------------------------------------------------------------------------|-----|
| 8. Recommendations and conclusion.....                                                                        | 115 |
| Bibliography .....                                                                                            | 119 |
| Annex 1: Financial and technical partners in Tanzania .....                                                   | 123 |
| Annex 2: Donor-sponsored agricultural development and food security programmes and projects in Tanzania ..... | 124 |
| Annex 3: Commodity production and trade matrix.....                                                           | 126 |
| Annex 4: Donor-sponsored agricultural development and food security programmes in Morogoro region             | 128 |

## List of Boxes

|                                                                                           |     |
|-------------------------------------------------------------------------------------------|-----|
| Box 1: Private Voluntary Standards: Example of GlobalGap.....                             | 53  |
| Box 2: Food and agricultural product regulation system in Tanzania .....                  | 55  |
| Box 3: Compliance with Private Voluntary Standards: Example of GlobalGap .....            | 56  |
| Box 4: Standards and Tanzania export: Data and methods of the quantitative analysis ..... | 61  |
| Box 5: OECD countries' policies for sunflower and implications for Tanzania .....         | 71  |
| Box 6: EU Dairy sector policy and implications for Tanzania .....                         | 83  |
| Box 6: OECD policies for cotton and implications for Tanzania .....                       | 86  |
| Box 7: Impact of OECD countries NTMs and standards for fisheries on Tanzania.....         | 98  |
| Box 8: Cases of Land grab in Tanzania.....                                                | 104 |

## List of Figures

|                                                                                                         |    |
|---------------------------------------------------------------------------------------------------------|----|
| Figure 1: Prevalence of undernourishment in Tanzania .....                                              | 4  |
| Figure 2: Food insecurity map of Tanzania.....                                                          | 5  |
| Figure 3: Framework for food security analysis .....                                                    | 7  |
| Figure 4: Total ODA and ODA as a percentage of GNI in Tanzania .....                                    | 13 |
| Figure 5: Top multilateral donors of ODA (2010-14).....                                                 | 14 |
| Figure 6: Top bilateral donors of ODA (2010-14) .....                                                   | 14 |
| Figure 7: Repartition of ODA by sectors (2010-14) .....                                                 | 14 |
| Figure 8: Contribution of Tanzania exports of goods and services to GDP .....                           | 17 |
| Figure 9: Top destinations for Tanzania's exports .....                                                 | 17 |
| Figure 10: Main origins of Tanzania's imports .....                                                     | 17 |
| Figure 11: Food self-sufficiency ratio in Tanzania, 2000-10 .....                                       | 18 |
| Figure 12: FDI Inflow to Tanzania, 2003-13 .....                                                        | 19 |
| Figure 13: FDI stocks in Tanzania from the EU and the OECD group .....                                  | 20 |
| Figure 14: Shares of registered foreign and local investments in agriculture, 2006-15 .....             | 20 |
| Figure 15: Value and share of registered foreign investment projects in agriculture, 2006-15 .....      | 21 |
| Figure 16: Domestic support and level of protection in OECD countries .....                             | 29 |
| Figure 17: Value of domestic support in the OECD group and distribution across selected groupings ..... | 30 |
| Figure 18: NRA for Tanzania and several country groupings.....                                          | 33 |

|                                                                                                                                                                                       |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Figure 19: Causal chains for the impacts of OECD countries' agricultural and trade policies on food security .....                                                                    | 35  |
| Figure 20: Agricultural (selected commodities) trade balance (export-import) in the EU .....                                                                                          | 36  |
| Figure 21: International food price indexes and food price index in Tanzania .....                                                                                                    | 39  |
| Figure 22: Net trade balance (export-import) of selected food products in Tanzania .....                                                                                              | 42  |
| Figure 23: Food import and export in Tanzania .....                                                                                                                                   | 43  |
| Figure 24: Total EU imports of agricultural products from ACP countries in value and as a percentage (of total EU agricultural imports from all developing countries 1990-2012) ..... | 45  |
| Figure 25: Major EU agri-food imports from ACP countries 1990 vs 2012 (% of total agri-food import from ACP countries) .....                                                          | 46  |
| Figure 26: ACP LDC agricultural product trade flows 1997 (% ACD LDC total exports/imports) .....                                                                                      | 47  |
| Figure 27: ACP LDC agricultural product trade flows 2011 (% ACD LDC total exports/imports) .....                                                                                      | 47  |
| Figure 28: Cumulative number of NTMs affecting Tanzania exports over the period 1995-201 .....                                                                                        | 49  |
| Figure 29: Cumulative number of SPS Notifications to the WTO .....                                                                                                                    | 49  |
| Figure 30: Cumulative number of TBT Notifications to the WTO .....                                                                                                                    | 50  |
| Figure 31: Causal chain of the impact of public and private standards on food security .....                                                                                          | 54  |
| Figure 32: Total value and share of Tanzania food and agricultural products export to OECD and the RoW .....                                                                          | 59  |
| Figure 33: Total value and share of OECD countries import of agricultural products from Tanzania .....                                                                                | 60  |
| Figure 34: Number and proportion of agricultural households that sell their products .....                                                                                            | 62  |
| Figure 35: Support to Maize in OECD and world prices of maize .....                                                                                                                   | 69  |
| Figure 36: Support to Wheat in OECD and world prices of Wheat .....                                                                                                                   | 69  |
| Figure 37: Support to Rice in OECD and world prices of Rice .....                                                                                                                     | 70  |
| Figure 38: Transmission of international price to the domestic market in Tanzania .....                                                                                               | 70  |
| Figure 39: EU Sugar production and trade .....                                                                                                                                        | 76  |
| Figure 40: OECD and EU Producer Single Commodity Transfer and international sugar price .....                                                                                         | 77  |
| Figure 41: EU Average price for Industrial white sugar .....                                                                                                                          | 78  |
| Figure 42: EU Reference price and EU market price for white sugar .....                                                                                                               | 78  |
| Figure 43: Tanzania sugar production and trade .....                                                                                                                                  | 82  |
| Figure 44: Evolution of the production of vegetables and fruits in Tanzania .....                                                                                                     | 88  |
| Figure 45: Total value and share of Tanzania export of flowers and ornamental trees to OECD countries .....                                                                           | 95  |
| Figure 46: Total value and share of Tanzanian exports of edible vegetables to OECD .....                                                                                              | 96  |
| Figure 47: Total value and share of Tanzanian exports of fruits and nuts (except cashew) to OECD .....                                                                                | 97  |
| Figure 48: FDI Land Acquisition by Regions .....                                                                                                                                      | 102 |
| Figure 49: Firm's country of origin invested in Tanzania .....                                                                                                                        | 103 |
| Figure 50: Type of crops produced under large land acquisition .....                                                                                                                  | 103 |
| Figure 51: Breadbasket regions GDP performance, 2000-2010 .....                                                                                                                       | 105 |
| Figure 52: Tanzania and Morogoro HDI trend, 2008-2012 .....                                                                                                                           | 106 |
| Figure 53: Morogoro food crop production and productivity, 2006/07- 2013/14 .....                                                                                                     | 107 |
| Figure 54: Maize production trends at the national level and in Morogoro, 1982-2011 .....                                                                                             | 108 |
| Figure 55: Paddy production trends at the national level and in Morogoro, 1982-2011 .....                                                                                             | 108 |
| Figure 56: Development of irrigation schemes in Morogoro, 2005/06- 2009/10 .....                                                                                                      | 109 |
| Figure 57: Maize and paddy yield trends in Mvomero, 2002/03-2010/11 .....                                                                                                             | 110 |
| Figure 58: KSCL and MSEL Sugar Production Trend, 2004/05-2013/14 .....                                                                                                                | 111 |

## List of Tables

|                                                                                                                       |     |
|-----------------------------------------------------------------------------------------------------------------------|-----|
| Table 1: Selected food security indicators in Tanzania .....                                                          | 5   |
| Table 2: Tanzania's development policy framework for agriculture .....                                                | 9   |
| Table 3: Tanzania's investment treaties .....                                                                         | 21  |
| Table 4: Bilateral Investment Treaties signed by Tanzania .....                                                       | 22  |
| Table 5: Average trade-distorting supports as a share of PSE.....                                                     | 30  |
| Table 6: Producer support estimates in OECD and non-OECD countries .....                                              | 31  |
| Table 7: Average trade-distorting supports as a share of PSE in OECD and non-OECD countries.....                      | 32  |
| Table 8: Periods of the different ACP preferences .....                                                               | 44  |
| Table 9: Average frequency (number of NTMs) across economic sectors (all countries) .....                             | 50  |
| Table 10: Regression of Tanzania export value on the number of SPS and TBT in force in destination<br>countries ..... | 60  |
| Table 11: Illustrative standards and technical requirements by the EU affecting horticultural products .....          | 92  |
| Table 12: Selected indicators of the relative importance of Tanzanian non-traditional exports .....                   | 98  |
| Table 13: Morogoro food security situation, 2008/09 – 2013/14.....                                                    | 106 |
| Table 14: Current members of the donors Agriculture Working Group (AWG) in Tanzania .....                             | 123 |
| Table 15: Selected agricultural programs and projects in Tanzania by priority area.....                               | 124 |
| Table 16: Matrix of production, consumption, employment and trade of commodities in Tanzania.....                     | 126 |
| Table 17: Selected agricultural programs and projects in Morogoro region .....                                        | 128 |

## Acknowledgements

This study was undertaken jointly by the European Centre for Development Policy Management (ECDPM), based in Maastricht, The Netherlands, and the Economic and Social Research Foundation (ESRF), based in Dar es Salaam, Tanzania. ECDPM authors include Didier Alia and Fabien Tondel. ESRF authors include Solomon Baregu, Festo Maro, Abel Songole. The authors wish to thank Mathilde Douillet, Brecht Lein, Hoseana Bohela Lunogelo and Jeske van Seters for their comments on prior versions of this report and for their advice during this project. The authors are also grateful for the discussions with participants to the stakeholders consultation workshops held in Dar es Salaam on 17 September 2014, 24 November 2014, 24 July 2015 as well as with the interviewees met during field visits. The views expressed herein are those of the authors and should not be attributed to any of the organisations involved.

## Acronyms

|          |                                                         |
|----------|---------------------------------------------------------|
| ABF      | Associated British Foods                                |
| ACP      | African, Caribbean, and Pacific Group of States         |
| ACT      | Action by Churches Together                             |
| AfDB     | African Development Bank                                |
| AGOA     | African Growth and Opportunity Act                      |
| AICD     | Africa Infrastructure Country Diagnostic                |
| ASA      | Agriculture Seed Agency                                 |
| BoT      | Bank of Tanzania                                        |
| BRICS    | Brazil Russia India China South Africa                  |
| CFSVA    | Comprehensive Food Security and Vulnerability Analysis  |
| DESA     | Department of Economic and Social Affairs               |
| DG SANCO | Directorate General Health and Consumers                |
| DG TRADE | Directorate General on Trade                            |
| DRC      | Democratic Republic of Congo                            |
| DVS      | Directorate of Veterinary Services                      |
| EBA      | Everything But Arms                                     |
| ECDPM    | European Centre for Development Policy Management       |
| EPA      | Environmental Protection Agency                         |
| ESRF     | Economic and Social Research Foundation                 |
| ETI      | Ethical Trading Initiative                              |
| EU       | European Union                                          |
| FAO      | Food and Agriculture Organization of the United Nations |
| FAOSTAT  | The Statistics Division of the FAO                      |
| FDA      | Food and Drug Administration                            |
| FEWS NET | Famine Early Warning Systems Network                    |
| FSIS     | Food Safety and Inspection Service                      |
| FTA      | Free Trade Agreements                                   |
| GAP      | Good Agricultural Practices                             |
| GATT     | General Agreement on Tariffs and Trade                  |
| GCAP     | Global Call to Action Against Poverty                   |

|        |                                                         |
|--------|---------------------------------------------------------|
| GDP    | Gross Domestic Product                                  |
| GHI    | Global Hunger Index                                     |
| GIZ    | German Institute for Development                        |
| GNTM   | Group of Eminent Persons on NTMs                        |
| GPS    | Generalised Systems of Preferences                      |
| GPSD   | General Product Safety Directives                       |
| HBS    | Household Budget Survey                                 |
| HODECT | Horticultural Development Council of Tanzania           |
| I-TIP  | Integrated Trade Intelligence Portal                    |
| IDS    | Institute for Development Studies                       |
| IFPRI  | International Food Policy Research Institute            |
| IMF    | International Monetary Fund                             |
| IPPC   | Intergovernmental Panel on Climate Change               |
| ITC    | International Trade Center                              |
| JMP    | Joint Monitoring Programme                              |
| LDC    | Least Developed Countries                               |
| Ltd    | Limited                                                 |
| MAFAP  | Monitoring African Food and Agricultural Policies       |
| MAFC   | Ministry of Agriculture, Food Security and Cooperatives |
| MAST   | Multi-Agency Support Team                               |
| MDG    | Millennium Development Goals                            |
| MoW    | Tanzanian Ministry of Water                             |
| MRL    | Maximum Residues Limit                                  |
| NAIVS  | National Agricultural Input Voucher System              |
| NBS    | National Bureau of Statistics                           |
| NFCC   | National Food Control Commission                        |
| MNRT   | Ministry of Natural Resources and Tourism               |
| NPCI   | National Consumer Price Index                           |
| NPS    | National Panel Survey                                   |
| NTM    | Non-Tariff Measures                                     |
| OECD   | Organisation for Economic Co-operation and Development  |
| OIE    | World Organisation for Animal Health                    |
| PCD    | Policy Coherence for Development                        |
| PDI    | Poor Dietary Intake                                     |
| PHS    | Plant Health Service                                    |
| PVS    | Private Voluntary Standards                             |
| RASFF  | Rapid Alert System for Food and Feed                    |
| REPOA  | Research on Poverty Alleviation                         |
| SAGCOT | Southern Agricultural Growth Corridor of Tanzania       |
| SDT    | Special and Differential Treatment                      |
| SPAM   | Sugar Protocol Accompanying Measures                    |
| SPS    | Sanitary and Phyto-Sanitary                             |
| SSA    | Sub-Saharan Africa                                      |
| SUA    | Sokoine University of Agriculture                       |
| TAHA   | Tanzania Horticultural Association                      |

|        |                                                        |
|--------|--------------------------------------------------------|
| TASCS  | Tanzania - Agriculture Sample Census Survey            |
| TBS    | Tanzania Bureau of Standards                           |
| TBT    | Technical Barrier to trades                            |
| TDHS   | Tanzania Demographic and Health Survey                 |
| TFDA   | Tanzania Food and Drug Administration                  |
| THDR   | Tanzania Human Development Report                      |
| TNSCA  | Tanzanian National Sample Census, of Agriculture       |
| TPRI   | Tropical Pesticides Research Institute                 |
| TRQ    | Tariff Quotas                                          |
| TTSS   | Tanzania Tourism Sector Survey                         |
| UK     | United Kingdom                                         |
| UNCTAD | United Nations Commission for Trade And Development    |
| UNICEF | United Nations International Children's Emergency Fund |
| UNIDO  | United Nations Industrial Development Organization     |
| URT    | United Republic of Tanzania                            |
| US     | United States                                          |
| USD    | United States Dollar                                   |
| USDA   | United States Department of Agriculture                |
| USDA   | United States Department of Agriculture                |
| USITC  | United States International Trade Commission           |
| VAT    | Value Added Tax                                        |
| WASH   | Water, Sanitation And Hygiene                          |
| WB     | World Bank                                             |
| WFP    | World Food Programme                                   |
| WHO    | World Health Organization                              |
| WSP    | Water and Sanitation Program                           |
| WTO    | World Trade Organization                               |

# Executive summary

## Background, objectives and method

In the 1990s, concerns arose about the unintended effects of developed countries' policies, besides their development cooperation policies, on developing countries. These included trade policies, policies affecting capital flows, tax policies, farm policies, migration policies and so forth. Efforts were made to define an approach and establish institutional mechanisms in OECD country governments to coordinate efforts to mitigate the negative effects of those policies. This approach has been coined "policy coherence for development" (PCD). In this context, the policies of a developed country are coherent for development if they do not have any adverse—individually or through interaction among them—on the institutional, economic and social systems in developing countries, or, alternatively, if they are not contradictory with the international development goals of that country. A policy of that developed country is also be coherent for development if its effects are synergistic with its development cooperation policies and economic and social development strategies of developing countries.

Over the past decade, the governments of several OECD countries have gradually integrated the PCD approach into their development cooperation planning and inter-sectorial coordination processes, especially in Europe. Whereas progress has been made in integrating international development concerns across ministries, PCD proponents have had difficulty make this approach operational. Recent consultations among PCD practitioners (for instance, 2012 OECD Global Forum on Agriculture) emphasised the need for systematic evidence about the impacts of non-development cooperation policies potentially affecting developing countries and for dialogues involving stakeholders from the latters. Studies with a PCD angle were conducted, focusing on institutional arrangements in OECD countries, policy guidelines or positions, or the effects of OECD countries' on developing countries at relatively aggregate levels. Few studies focusing on the effects on food security conditions have been done.

The European Centre for Development Policy Management (ECDPM), in collaboration with the Economic and Social Research Foundation (ESRF) in Tanzania, and with support from the Finnish Ministry for Foreign Affairs, undertook a study to develop a knowledge base and a methodology to assess PCD in a specific context. This study aims to provide an understanding of how OECD countries' policies in critical sectors affect food security conditions in Tanzania, while taking into account domestic policies. With a relatively broad scope this study did produced "hard" evidence on the impacts on household food security of specific OECD policies, rather it explained how these policies had affected food security drivers in the Tanzania economy.

The approach followed by this study involved three main steps. In the first stage, the research team drew up a food security profile of Tanzania, looking at the key determinants of food security conditions. This profile included the trade and development cooperation linkages between Tanzania and OECD countries, so as to select a set of policy areas and sub-sectors where OECD countries' policies could plausibly have significant positive or negative impacts. In the second stage, the market impacts of selected OECD policies were examined, theoretically and empirically, in the context of the Tanzanian market. The effects of these policies were investigated in particular in selected subsectors, including cereals, sugar and horticulture, covering the policy areas aforementioned. The third part of this study assessed the implications of those market impacts for food security at the local level and the level of households in a particular region of Tanzania (Morogoro region). At the end, some recommendations are provided to improve the international policy environment for food security in Tanzania. Besides its technical aspects, an important feature of the methodology followed is the participation of multiple stakeholders to the assessment process, from both

developing countries and development partners, so as to take into account various perspectives and experiences and ensure that findings are taken up in relevant policy processes.

## Effects of farm and trade policies

From the 1970s to the 1990s, a number of OECD countries heavily supported their agricultural sector with policy measures directly influencing domestic production and exports. Market price support was a widely used approach to supporting food production, stabilising agricultural prices and guaranteeing a minimum level of farm income, and a particularly trade distorting one as it would directly encourage farmers to produce more. Export subsidies and food aid to dispose of surpluses internationally, as the declining import needs of these countries exerted downward pressure on international prices. These lower prices reduced incentives for agricultural producers and increased food commodity imports into these countries. This policy context was one of the factors that induced a disproportionate allocation of agricultural production in industrialised countries.

The conclusion of the Uruguay Round of negotiations, under the General Agreement on Tariffs and Trade marked a significant turn in the world agricultural trading system. Over the past couple of decades, some OECD countries made consequential reforms in their farm and trade policies, notably the EU, Japan, and the US, which contributed to significant changes in the market context. These countries changed their farm policy measures, with a reduction in market price support and also a reduction in total public support (albeit to a lesser extent) to their farm sectors. Between the 1990s and 2000s, OECD farm policies became less trade distorting than they were earlier. The case of the EU illustrates this shift. The 1992 reform of the Common Agricultural Policy led to a reduction in guaranteed prices, the control of production, reduced import tariffs and reduced export subsidies. This policy shift contributed to a retrenchment of OECD exporters from international markets for certain agricultural commodities.

Meanwhile, other countries came to play an increasingly important role in international agricultural markets, notably the emerging economies. Whereas many of them (in Asia and Latin America) taxed their agricultural sectors until the early 1990s, since then their governments have provided increasing amounts support to their farmers. Furthermore, they have used trade-distorting forms of support, including input and output subsidies as well as government interventions in markets (guaranteed prices, public stockholding, state trading enterprises and so forth). Brazil, China, and India, for example, have become major exporters or importers of agricultural commodities that are produced and consumed in developing countries. Brazil has become a major exporter of oilseeds and sugar; China nowadays is the biggest cotton producer and importer, with a large amount of subsidies for this crop; India has become a net agricultural exporter in aggregate, including for rice, beef and cotton; other Asian countries are large exporters of rice and vegetable oils. The rise of emerging economies had another type of effect on international agricultural markets. In recent years, in several occasions, these countries used temporary export restrictions to secure their domestic supply and avoid an increase in food prices following a domestic or an international production shortfall (for instance, during the 2008 food price crisis). These trade restrictions, combined with fluctuations in output, have contributed to market volatility.

In the 2000s, some OECD countries, notably the EU and the US, encouraged the production and utilisation of biofuels made from agricultural feedstock, which diverted land and agricultural commodities away from regular food, feed and fibre production. This new demand, which rose in the run-up to and in the period following the 2008 food and fuel price crisis, contributed to maintain food commodity prices at relatively high levels. In the case of Tanzania, which is close to being self-sufficient in cereals (and close to self-sufficiency in other field crops as well), the rise in international prices in the late 2000s had modest impacts

on non-farm households and farm households that are net consumers. Farm households with a marketable surplus of grain and oilseeds benefitted from those higher prices. Exports of oilseeds, especially sunflower seeds, from Tanzania to overseas markets, notably Europe, grew considerably over the past few years. High prices for agricultural feedstock also attracted investments in sugarcane for ethanol production.

Yet, in some agricultural sub-sectors, trade distortions caused by OECD countries' policies most likely continue to affect countries like Tanzania: this is the case of exporting sub-sectors (with a relatively large share of the world market) in which producer subsidies remained significant as a share of gross farm receipts (whether it is linked to output or decoupled from production) and products are substitutes for Tanzanian or East African products. These sub-sectors include barley, wheat, dairy and sugar. High tariffs and special safeguard mechanisms that protect OECD countries' markets in these sub-sectors contribute to these negative spillover effects.

This study also considered the effects of trade policies of OECD countries and related policies that restrict access to their markets. The EU in particular has entered preferential trade arrangements with developing countries to encourage trade in agricultural products, stimulate developing countries' agro-food sectors and secure the supply of the raw agricultural commodities in the EU market. In addition to evidence in the literature that suggests that developing countries in general have benefitted from market opportunities due to their preferential access to the EU market, anecdotal evidence indicates from that Tanzanian exporters have benefitted from preferential import tariffs and, starting in 2001, duty-free and quota-free access to the European market. However, over time, non-tariff measures (NTMs) in the EU have become numerous, in the form of product market regulations and private standards (which to some extent have been a response of the private sector to regulations but for the most part are due to increasing demand for quality, safe products).

The sector most affected by NTMs is horticulture. These NTMs have created challenges for exporters in developing countries like Tanzania to access OECD markets, and for smallholder farmers to participate in export-oriented value chains. The Tanzanian horticultural sector holds promises, as its rapid development in Arusha and Kilimanjaro regions shows, but it remains much less developed than in Kenya. The strict requirements for certification by private organisations most likely are creating obstacles for producers and exporters in other regions of Tanzania who could export to OECD markets. Yet, with a strong demand for a wide range of fruits, vegetables and flowers in EU markets as well as in emerging markets (in the Middle East notably), those standards are useful to formalise and improve productivity and quality along domestic value chains. To address those market access issues, development assistance programmes sponsored by OECD countries, notably the EU and EU member states, often in cooperation with private operators, have helped many operators overcome these barriers to trade and integrate local farmers in export value chains.

## Trends in investment inflows and policy drivers

The high level of agricultural prices since 2008 has encouraged international investors to find new opportunities in the agricultural sector. Tanzania, which has a vast arable land area, has attracted many of them. In addition, the advent between the late 2000s and early 2010s of public and private initiatives promoting large-scale, commercial agriculture led agribusinesses from OECD countries to explore investment opportunities in Tanzania. To date, few of these intentions have been translated into actual investments. OECD countries have been actively involved in promoting private investment in the agricultural sector in Tanzania, notably through the Southern Agricultural Growth Corridor of Tanzania, the New Alliance for Food Security and Nutrition, and Grow Africa. Investors from emerging economies have been increasingly active in Tanzanian agro-food value chains.

## Development cooperation in a changing context

Many development partners are present in Tanzania and agriculture is a priority sector for most of them, especially after the 2008 food price crisis. Donors have supported the agricultural sector with budget support. The effectiveness of that support is uncertain. Budget support has mostly funded a state-centred agricultural and rural policy, which has had little impact on the development of the farm sector and agro-food value chains, despite a favourable market context. Support to CAADP implementation has yielded meagre results, notably with regards to the inclusiveness of policy processes and implementation modalities. This has tempered donors' willingness to support public agricultural institutions.

In parallel, development partners have implemented programmes and projects to develop and maintain rural infrastructure, strengthen value chains, build the capacity of farmers and private operators, enhance access to farm credit and inputs. In recent years, donors have adopted a value chain approach with greater emphasis on market-oriented smallholder agriculture, agro-food processing and marketing. A notable tendency among donors is to promote value chains, or sub-sectors, in which their own private sector can seize trade and investment opportunities. This trend is consistent with a general trend in development cooperation to link trade and development cooperation policies and to pursue tangible results. These strategies are conducive to market-led value chain development, although they are unlikely to ensure that development partners' interventions are adequately coordinated. Public-private partnerships such as the Southern Agricultural Growth Corridor of Tanzania and the New Alliance for Food Security and Nutrition have also contributed to this trend, albeit with a focus on large-scale, commercial farming (Cooksey, 2013). These efforts Tanzanian stakeholders and development partners at mobilising private investment in the agricultural sector is one aspect of the current decline in ODA's share in total capital flows in developing countries like Tanzania. Meanwhile, foreign direct investment flows, remittances, sovereign debt markets and development aid from emerging economies and into Tanzania is rising.

## Case studies: effects in the cereals and sugar sub-sectors

Tanzania is nearly self-sufficient for cereals. In a typical year it imports barley, wheat and rice. It generally exports small quantities of maize to neighbouring countries, as it is competitive compared with maize traded in the international market. The downward pressure on international grain prices due to OECD countries' farm policies until the early 1990s and then, to a lesser extent, until the early 2000s, has most likely negatively affected prices and producer incentives in Tanzania for commodities that the formers export and the latter imports, that is, barley (mainly for beer brewing) and wheat. Low prices may have positively affected food access for consumers, but the small shares of these commodities in the dietary caloric intake would have made this impact quite small. Concerning maize, price transmission between the international market and the Tanzania market is limited due to a relatively differential between international and domestic prices and also to a high import tariff. Maize price movements due to OECD countries' policies probably have had little impact on the Tanzanian market and food security conditions. However, exported bans imposed by the Government of Tanzania in the post-2008 period depressed producer prices and were detrimental to farm households.

The Tanzanian rice sector is more exposed to competition from Asian producers than it is to that from OECD countries. As domestic rice prices are sensitive to variations in international prices, Tanzanian rice producer have been negatively affected by producer subsidies in rice exporting countries. Rice is an important component of Tanzanian households' diet, especially among middle classes in urban areas. Given the large number of farm households growing rice and the potential of Tanzania for attaining a

higher rice output level, it is plausible that international trade distortions have negatively affected real farm income in Tanzania.

The sugar sector in Tanzania is an important source of income for rural communities in sugarcane producing areas. Sugar processing operations also generate social benefits through infrastructure, economic linkages and social services that they bring about. OECD countries still provide support to farmers and processors in their sugar sector, a sector in which production and trade traditionally were very regulated, but they have implemented reforms to liberalise this sector and reduce trade distortions due to supporting policy measures. For example, the EU drastically reformed its sugar sector policy in 2006 whereas this sector had been spared from previous reforms of the EU Common Agricultural Policy (CAP). This reform led to a much less trade-distorting sugar sector policy, with significant implications in the international market as suggested by the decrease in EU exports and the increase in international prices following this reform. The current situation is in contrast with market conditions in the late 1990s and early 2000s when Tanzania saw surges in imports of low-cost sugar. The 2006 reform also led to the erosion of trade preferences that Tanzania had with the EU, which has affected its exports. However, the Tanzanian sugar sector is generally under-performing compared to other high-productivity countries in Eastern and Southern Africa. Tanzania has become a net importer of sugar in recent years and has not been able to exploit the preferential trade agreement with the EU. With a productivity and value chain efficiency gap as well as an unfavourable policy environment, the Tanzanian sugar industry still has difficulty competing with sugar imports and notably those from emerging economies.

Biofuel policies in OECD countries have had mixed impacts. These policies have put upward pressure on grain and oilseed prices in international markets since the second half of the 2000s. On the one hand, the transmission of this price increase to the Tanzanian market has raised food prices for urban consumers. On the other hand it has given incentives to Tanzanian farmers and processors of coarse grains and oilseeds to produce more. In the particular case of oilseeds, a rapid increase in production can be observed in Tanzania in the post-2008 period. So far, few internationally funded biofuel projects have been implemented in Tanzania. Biofuel projects in Tanzania are based on jatropha oil (the major energy crop in Tanzania), sugarcane, palm oil and sorghum. Existing sugar companies are exploiting opportunities for diversification in the production of bio-ethanol, which is beneficial to local economies.

Tanzania's dairy sector is exposed to the competition from OECD exporters. In this case, some OECD countries, including in the EU, are large exporters of dairy products, notably milk powder, a product that is imported into Tanzania in large quantities. In the EU, the CAP still supports the dairy sector even though payments to dairy farmers have been decoupled from production for the most part. Historically, the downward pressure on dairy prices due to OECD countries' farm policies have most likely been transmitted to the domestic market in Tanzania, which has made it more difficult for Tanzanian dairy farmers and processors of locally produced milk to be economically viable. This would have hindered the development of this sector.

## Implications for food security conditions in Morogoro region

To triangulate the findings from the national-level analysis, the research team examined various sources of information on agricultural development and food security in Morogoro region and conducted fieldwork in several districts of this region. Interviews were done with private actors in the sub-sectors aforementioned, including cereals, dairy, sugar and horticulture. Morogoro region has favourable agro-climatic conditions and a very diversified agricultural sector. This region has benefitted from many development assistance programmes and projects. This case study provided evidence supporting a number of linkages between

OECD countries' policies and food security conditions previously identified. For example, rural communities traditionally growing grains have increasingly integrated sunflower into their crop mix. Farmers find opportunities in this market pulled by the increasing demand for edible oil, vegetable oil-based food products and feed, both domestically and internationally.

Horticulture is growing as a share of Morogoro's agricultural sector and as a source of income for farmers. Horticultural production essentially supplies in and around Morogoro region, including Dar es Salaam. But there are signs that opportunities in overseas markets are within reach if farmers and value chain operators can reach a critical mass and the required quality standards. Another sub-sector that presents a lot of potential but remains underdeveloped in Morogoro region (unlike Tanga region) is the dairy sector. In this sector, although imported dairy products constitute a significant hurdle for local producers, the domestic policy and institutional environment is inadequate to support the emergence of local dairy value chains. Concerning land, rapid demographic growth and urbanisation are making land access increasingly difficult for poor rural households. Interactions between sedentary farmers and pastoralists remain the main cause of land use disputes in this region. Foreign direct investments do not constitute a prominent cause of disruption in land use.

## Recommendations and conclusion

This study provides a better understanding of some causal mechanisms between OECD countries non-development cooperation policies and food security conditions in developing countries. Although farm policies in OECD countries are now less distortive than in the past, especially in the EU, international trade appears to remain distorted to the detriment of countries like Tanzania in some sub-sectors where: OECD countries are large exporters; producer support (even decoupled from output or prices) remains significant; and products are substitutes for Tanzanian or East African products. These sub-sectors include barley, wheat, dairy and sugar. More analysis should be done on the impacts of OECD countries' farm and trade policies on international markets for these commodities so as to better quantify their trade-distorting effects.

This study showed that emerging economies have become major players in international markets for agricultural commodities that are important for food security in developing countries. Furthermore, the farm policies of emerging economies have been increasingly distortive and a source of market volatility. Yet, international dialogues about PCD have taken place mainly among OECD member states. These findings suggest that the PCD debate should be expanded to this other category of international actors so as to promote policies coherent with food security objectives more globally.

Following the increase in food prices in 2008, and decades of underinvestment in agriculture in Sub-Saharan Africa, there has been tremendous interest by international investors in seizing opportunities in the agricultural sector in countries like Tanzania. This has been cause for concerns with alarming reports about land grabs and the promotion of large-scale, commercial agriculture to the detriment of inclusive agricultural development. In the case of Tanzania, these concerns appear to be grounded in actual developments although in practice, few large-scale projects supported by foreign capital have been implemented. Similarly, biofuel projects appear to have developed mainly out of existing operations (such as sugar processing companies) than out of new foreign investments. However, it will be important to continue monitoring the social and environmental performance of initiatives such as the New Alliance for Food Security and Nutrition.

This type of analysis shows that it is important to take into account the policies of developing countries when assessing the market and food security impacts of OECD countries' policies. Assessing the impacts

of OECD countries' policies on developing countries' food security conditions poses a number of challenges, especially the fact that developing countries' policies can themselves depend on OECD countries' policies.

The inadequate policy environment in Tanzania is major obstacle to agricultural and rural development and to adjusting to the changes taking place in the global market environment. Globally agricultural and food markets are becoming more competitive. Sub-Saharan African producers have to compete with OECD producers and also face the rise of emerging economies and other developing countries as major players in international agricultural markets. In OECD markets, as the case of horticulture shows, consumers are increasingly demanding quality and high-value added products. In African regional markets, competitiveness and quality requirements increasing as well.

In this context, Tanzanian producers and value chain operators will need a much improved business environment. OECD countries, to be coherent with agricultural development and food security objectives, should help provide space in the international markets for Sub-Saharan African exporters by continuing to reduce their trade-distorting farm support in key sectors such as the ones identified in this assessment, lower their tariff on agro-food products, and support developing countries to adjust to trade preference erosion. They should also continue to invest in both the institutional and market environment in those Sub-Saharan African countries, for local staple food crops, for products with a strong trade potential in regional markets and also in sectors offer opportunities in international markets and global value chains. Besides the mobilisation of public and private financing for agricultural and rural development, which do not seem to be the most limiting factors in Tanzania currently, what it is needed is more transfer of capacity (technological, organisational and institutional) so as to create the conditions for the modernisation of smallholder agriculture and local agro-food value chains.

# 1. Introduction

Despite sustained efforts made by countries and the international community to tackle the scourge of global hunger and malnutrition, food insecurity continues to be a major challenge faced every day by individuals and communities all over the world but more acutely in developing countries. While domestic policies and investments in food insecure countries will be key in addressing the needs and gaps that exist, policies from outside their borders also play a role and need to be better supportive of domestic efforts.

The OECD is actively engaged in efforts to promote policy coherence for development (PCD) across its member countries to ensure that OECD government policies are mutually supportive of development goals in the developing world. In practice, working on impacts on people in developing countries means examining how OECD policies influence specific development outcomes, such as levels of income and consumption, access to basic services, health, educational and nutritional status, etc. Given the range of development outcomes, an incremental approach based on selecting some key priorities for PCD work is necessary. Discussions at the OECD level and among various policy circles suggested to strengthen impact monitoring, particularly focussing on specific policy areas, such as migration, illicit financial flows or food security, rather than trying to assess the impact on 'development' more broadly (OECD, 2013; EC, 2010). Food security is a good choice for an initial focus. It is a key priority for many donors and one of the MDG targets, where progress has been relatively weak. Because of who hungry people are in any country, it also serves to focus PCD work on impacts felt by the poorest. In the realm of food security PCD means that domestic policy objectives in areas such as trade, agriculture, the environment, and development co-operation should avoid consequences and spillovers that negatively affect food security in poor countries.

Previous PCD impact assessments have mostly focused on specific OECD country policies. However, discussions in recent OECD PCD focal points meetings and the 2012 Global Forum on Agriculture have suggested that impact analysis should examine the effects on specific development outcomes, in individual developing countries. Evidence of specific impacts in individual country contexts is important for informing policy decisions taken by OECD member countries – but it is also important for developing country decision-makers and stakeholders. It can facilitate the design of their own policy responses to the impact of incoherencies as well as providing a stronger basis for advocacy and negotiation bilaterally and multilaterally. Further, an analytical approach that takes account of domestic policy contexts and how they interact with OECD policies can enhance the focus and scope of national policies to promote development.

In order to better understand the effects of a range of policies that affect food security – both positively and negatively – in the developing world, the European Centre for Development Policy and Management (ECDPM), has developed a methodology to be tested for identifying and assessing the impacts of OECD policies on food security in individual developing country context. This initiative has been prompted by a recognition that more evidence collected on the ground in developing countries regarding the negative impacts of incoherent OECD policies is necessary. Such an assessment is useful to provide DAC members with evidence for policy change domestically and for incorporating responses to external policy impacts into their ODA programme design at country level. It will also assist partner governments to advocate for improved PCD and to understand and respond to the impacts of external policies in the national economy.

The Finnish Ministry of Foreign Affairs is committed to contribute to, and use, this methodology. This fits its efforts to strengthen PCD, and particularly responds to one of the key conclusions of the recent Finnish exercise of testing the OECD's policy coherence tool, which recognised that country-level evidence is of paramount importance to promote global food security and therefore recommended Finland to contribute to international efforts to assess PCD impacts on food security at country level. In this context, Finland has

decided to support the undertaking of testing the methodology in its long-term partner country the United Republic of Tanzania (hereafter referred to as Tanzania).

Tanzania was judged a suitable country to test the methodology, not only as a result of its long-standing partnership with Finland, but also given the interest expressed by its Tanzanian government and non-governmental stakeholders in this initiative during exploratory discussions. Food security and agricultural development remain challenges in Tanzania, regardless of impressive economic growth in recent years, and are identified as policy priorities in key policy frameworks such as the Agriculture Sector Development Programmes (ADSP) and the Tanzanian Agriculture and Food Security Investment Plan (TAFSIP).

The methodology developed by ECDPM advocates a light assessment to be undertaken jointly by donors and partner governments, using in-country research capacity and involving different stakeholder groups. It involves a range of analytical tools and data sets that empirically establish linkages between OECD policies and impacts at the developing country level and that assess the impact of domestic policies in country on food security. Country assessments are complex exercises fraught with methodological difficulties and constraints such as data availability, attribution uncertainty – i.e. the precise role OECD members' policies play in the determination of food security in developing countries and the difficulty of weighing the relative importance of different policies on food security outcomes. The methodology takes these challenges into account.

The primary objective of the assessments is to fill an evidence gap or complement existing knowledge, rather than to explore completely new grounds since a lot of the usual suspects in terms of policies with an impact on food security are indeed well known already. By generating nuanced evidence of OECD country policy impacts, the methodology sought to move beyond theory to actual impact and give more clarity on specific trade offs between domestic policies and their externalities on developing countries.

The methodology consisted of five research modules.

- Module 1 outlined the collaboration modalities between the different partners involved, notably the ESRF, the ECDPM, the Finnish Ministry of Foreign Affairs and the OECD. The ECDPM led the overall project and contributed to the research process, the ESRF was lead in the research process including the organization of consultative workshops while the OECD provided punctual technical and financial support in the design of the methodology and the implementation of specific module (mainly module 3).
- The aim of Module 2 was to establish a comprehensive, yet straightforward profile of the country's food security situation and the key underlying dynamics that determine that situation. Module 2 is primarily based on a desk analysis of relevant literature and secondary data. A stakeholder workshop in Dar es Salaam was organised on 17 September 2014 to discuss preliminary findings and confirm, complement or question the key provisional conclusions distilled from the desk research. Both the desk review and the conclusion of the workshop helped to identify the relevant OECD countries policies with a potential impact, positive or negative, on Tanzania's food security situation, and the key Tanzania agro-sectors where these impacts could be sizeable.
- The third module aimed at mapping out the channels through which the selected OECD countries' policies impinge on the food security situation in Tanzania. In line with the flexibility allowed in the impact assessment, the research for this module also consisted of a desk-based review of relevant literature and evidences, combined with a qualitative and quantitative analysis of secondary data. It

consisted of a set of sectoral case studies (sugar, horticulture and cereals) in which the market impacts of a broad range of OECD countries policy were analysed in detail and when relevant, a light analyses of other important sectors (oilseed, dairy and livestock, cotton, fisheries, etc.) conducted. A second stakeholder consultation workshop was held on November 27<sup>th</sup> 2014 in Dar es Salaam to discuss the initial findings. Additionally, qualitative interviews with a wide range of stakeholders of Tanzanian agricultural sector were conducted between November 28<sup>th</sup> and December 4<sup>th</sup> 2014 to integrate ground-evidence into the analysis.

- The fourth module consisted of empirical research at the country level, contextualizing and deepening the findings of the third module. It focused essentially on one representative region of Tanzania, selected based on number of criteria: extent of and trends in food insecurity, importance of the key commodities identified in Module 2, and accessibility from Dar Es Salaam. Morogoro stood out as a good case study based on these criteria. The region is often called the ‘food basket’ of Tanzania because of its relative importance in the food supply of the country, and particularly of Dar es Salaam. It is also a region where all major crops are grown and the specific sector targeted in the assessment is very important to farmer livelihoods and for food security. The region is borderline food region despite significant progress over the past decade. Finally, Morogoro is easily accessible from Dar es Salaam and therefore quite vulnerable to shocks in this market.
- The fifth and final module lays out a communication strategy and defines follow-up actions. It defines the different target audience, the communications tools to reach them and the monitoring and evaluation approach to assess the effectiveness of the communication.

The structure of the report is as follows. The section 2 summarises the Tanzania food security situation and its key determinant from the findings of module 2. It discusses the potential linkages to OECD countries policies in order to select the key policies and the agro-food sectors where their impact – positive and negative – could be sizeable. Next, the market impact of OECD countries policies are analysed both theoretically and empirically in the context of Tanzania. A set of sectoral studies focuses on policy issues such as investment, land and biofuel transversal across different sectors; particular agro-food sectors and cross-sectorally. The fourth section homes in on the analysis of the Morogoro region in order to derive the implications of OECD countries policies on food security. As much as possible the findings related to Morogoro region are also extrapolated to similar regions of Tanzania to infer the broader effects of OECD countries policies on food security at country level in Tanzania. The fifth section builds upon the findings of the assessment to formulate recommendations for change and adaptation in both OECD policies and Tanzania government policies.

## 2. Tanzania's Food Security Profile

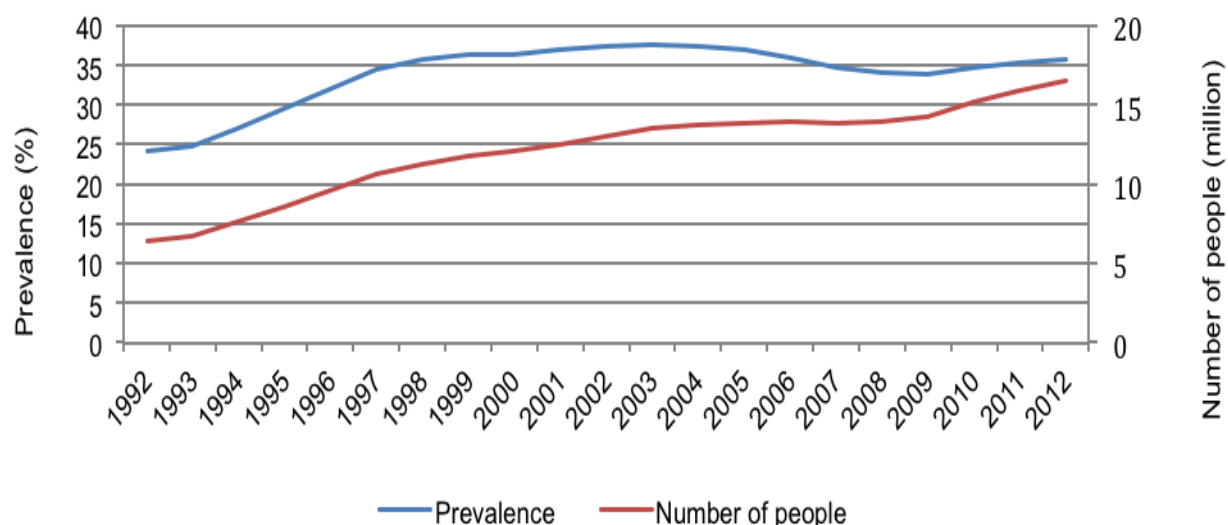
### 2.1. Current food security conditions, trends and key drivers

The Food and Agriculture Organization (FAO) defines food security as a situation in which '*all people at all times have physical and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life*' (FAO, 1996). In general, there is clear distinction to be made between food security outcomes, which characterise the prevalence of food insecurity and measure the number of people who are food insecure, and its underlying determinants which are often grouped into four pillars: availability, access, utilisation and stability.

#### 2.1.1. State of food security and trends

Despite considerable economic growth over the past twenty years, food security remains a major economic and social problem in Tanzania. The country ranked 62<sup>th</sup> out of 78 countries on the 2013 Global Hunger Index (GHI) with a score (of 20.6) categorised as 'alarming' (IFPRI, 2013).<sup>1</sup> Although the prevalence of undernourishment has slightly decreased since its peak in 2002-03 (above 37%), the food security situation seems to have slightly deteriorated since the 1990s, from an undernourishment rate of 24% in 1992 to 36% in 2012. In 2013, some 15.7 million of Tanzanians (about one-third of the population) were still food insecure.

**Figure 1: Prevalence of undernourishment in Tanzania**



Source: FAOSTAT, 2014.

The World Food Programme (WFP) estimated that in 2011 8.3% of all households were classified as having Poor Dietary Intake (PDI), which indicates that they lacked sufficient caloric intake and did not consume a sufficient variety of foods (CFSVA, 2012). Between 2008 and 2011, caloric intake deficiency increased from 36% to 43% of the Tanzanian population and households with PDI sourced more than 80% of their caloric intake from staple foods like cereals, roots or underground plants. However, it should be noted that although the quantity of food consumed by Tanzanian households has decreased in recent years, diet diversity has slightly improved (CFSVA, 2012).

<sup>1</sup> Note that countries with a 2013 GHI score of less than 5 were excluded from the ranking. More information about the GHI score can be found at <http://www.ifpri.org/ghi/2013/concept-global-hunger-index>.

Despite important efforts from Tanzania actors and development partners, little improvement in nutrition has been recorded since 2004. In 2010, more than 42% of children under the age of five were stunted, or too short for their age, which indicates chronic malnutrition, poor feeding practices and regular infections. Wasting, or low weight-for-height, a sign of acute malnutrition, is far less common, at a prevalence rate of 4.9% in 2010. Finally, 16.2 % of Tanzanian children under five were underweight, or low weight-for-age, at that time, which reflects a combination of chronic and acute malnutrition. Stunted and underweight children are most likely to suffer from impaired physical and cognitive development and are more vulnerable to diseases. An estimated 50% of the under-five mortality rate in Tanzania is due by malnutrition (URT, 2011a).

**Table 1: Selected food security indicators in Tanzania**

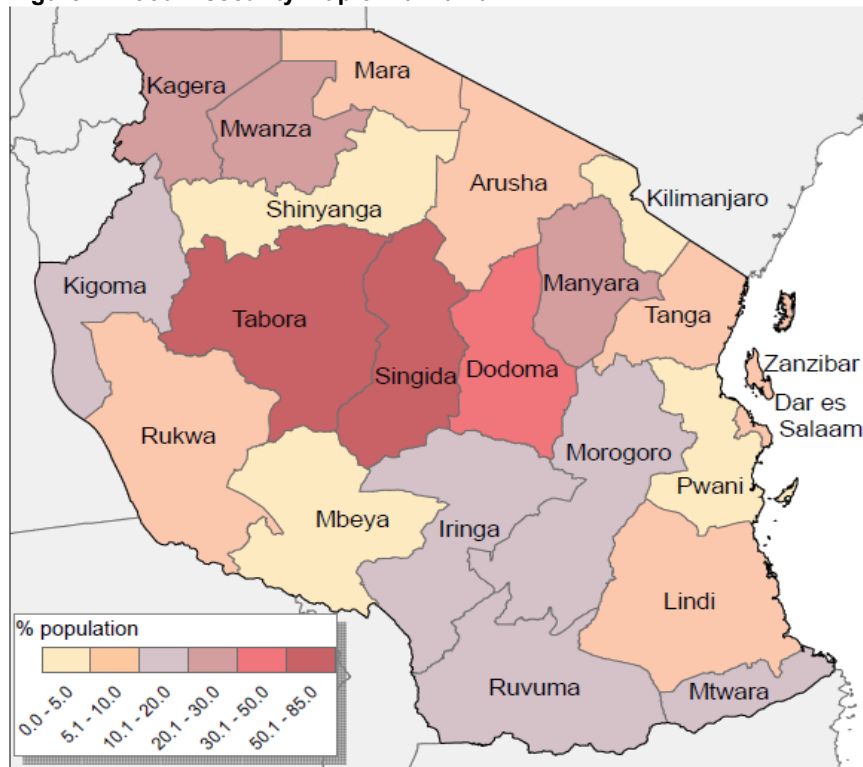
|                                                               | 1991  | 1999  | 2004  | 2010  |
|---------------------------------------------------------------|-------|-------|-------|-------|
| Percentage of children under five who are affected by wasting | n/a   | 5.6%  | 3.5%  | 4.9%  |
| Percentage of children under five who are stunted             | n/a   | 48.3% | 44.4% | 42.5% |
| Percentage of children under five who are underweight         | 25.1% | 25.3% | 16.7% | 16.2% |

Source: FAOSTAT, 2014.

### 2.1.2. Spatial and socio-demographic dimensions of food security in Tanzania

Making sense of the food security situation of Tanzania requires an understanding of the spatial and socio-demographic dimensions of food insecurity in the country. Food insecurity and vulnerability occur everywhere in Tanzania but their prevalence varies regionally with the highest proportions of food insecure households in the Central regions of Dodoma, Singida and Tabora where 45 to 55% of households are food insecure (WFP, 2007).

**Figure 2: Food insecurity map of Tanzania**



Source: WFP, 2007.

Food insecurity is intrinsically linked to poverty. According to the 2011-12 Household Budget Survey (HBS), 28.2% of Tanzanians live below the poverty line, mostly in rural areas. Farm households tend to be more food insecure than non-farm households. Poor Dietary Intake is also far greater in rural areas. According to the WFP's 2012 CFSVA, 87% of those households with PDI live in rural areas. Yet, there are also substantial pockets of food insecurity in urban areas. Women are more likely to be in a situation of food insecurity. In 2010-11, 11% of female-headed households experienced PDI, compared to 7% of the male-headed households (CFSVA, 2012).

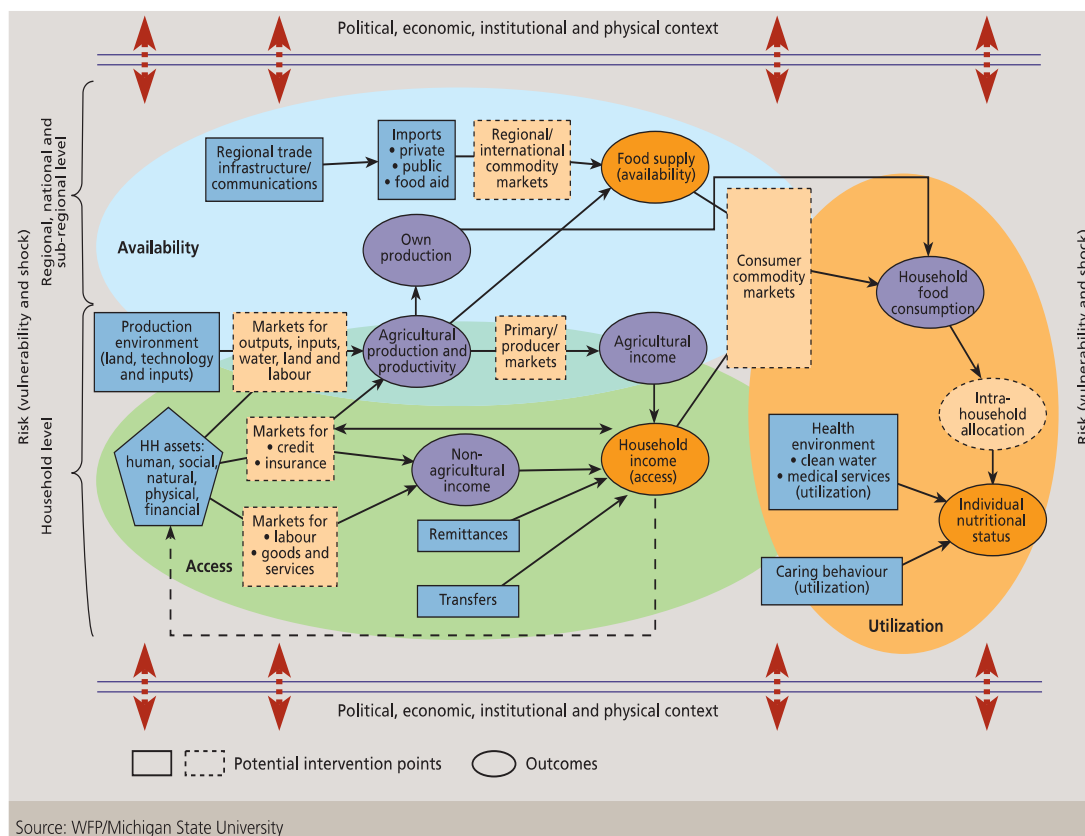
### **2.1.3. Key drivers of food security conditions**

Analysing the underlying determinants of the food security situation and assessing the impacts of OECD countries' policies on that situation is a challenging task due to the complex interrelations among the pillars of food security and the plethora of domestic, regional and international factors that could potentially interact with those policies. Various frameworks have been elaborated to analyse the factors of food insecurity, for example that developed by WFP and Michigan State University in Figure 3. This framework shows the key factors affecting the four food security pillars, including climatic shocks and other natural disasters, economic, social, and institutional factors, at the household-level, domestic, regional and international factors. Below we briefly discuss how those factors can affect household food security conditions through the four different pillars.

**Food availability relates to the year-around supply of food through production, import, stocks and distribution.** The extent and determinant of food availability in Tanzania depend on the commodity considered. For its main staple food crops (maize, rice, cassava and beans) Tanzania, as a whole, has gradually turned from a deficit to a fairly self-sufficient country. The availability of these staple crops is largely assured by domestic production and when necessary imports (in the case of maize and rice). For the other food products, in particular processed food such as sugar, milk, wheat flour, canned products, etc. Tanzania is still a net-importer.

Factors affecting food availability are intrinsically linked to the condition of food production and imports. The nature of the production system in Tanzania with a heavy reliance of rain due to a lack of sufficient irrigation schemes, poor infrastructure, low productivity, important post-harvest losses, and insufficient storage and processing capacity all negatively affect food availability. Also insecure land tenure, low producer price and lack of market access for smallholders also hamper household incentive to invest in productivity-improving technologies and in the expansion of production, hence limiting the supply of locally-produced food and increasing the dependence on imports. The dependence means that food availability is vulnerable to international markets shocks, especially price spikes. While high prices reduce the purchasing power and also the quantity of food imported, lower price international prices accompanied by surge in imports could destabilises the local production system increasing further the dependence on imports.

**Figure 3: Framework for food security analysis**



**Access to food relates to the affordability and allocation of the available food.** According to the UN Committee on Economic, Social, and Cultural Rights, poverty is the main limiting factor of household access to food. Low-income households invest little, in agricultural production and also lack the necessary power to purchase food. Thus, they lack both direct (physical) access and indirect (economic) access to food. Food insecurity amongst the poor is widespread. Fluctuation in agricultural production combined with low productivity mean that smallholder producers has low direct access to food and earn little to afford imported food.

Within the country, there is also a large heterogeneity in food access at household level across different regions. In some parts of the central regions of Dodoma, Singida and Tabora, food availability remains problematic while other regions like Morogoro and the southern highlands regions are food surplus zones. Poor transportation and storage infrastructure, and the low level of food processing compromise the temporal and spatial distribution of food to all households across the country. Also, international fluctuations, particularly low price of cash crops combined with market restriction induced by trade policies in developed countries translate into lower earnings for households engaged in production of export crops.

**Food utilisation refers to the metabolism of food and the factors determining such utilisation.** Beside the mere consumption of food, proper utilisation of food to ensure nutrition security depends on several factors that include access to sanitation, health care education and basic other infrastructure. Access to sanitation and health care both determine individual health conditions and their ability to metabolise foods and absorb the necessary nutrients. Education and education on nutrition can help to ensure that the choice and the preparation of food are healthy. While there have been important

improvement in the past years, access to sanitation, health care and education is still limited in Tanzania and the poor are the group most excluded exacerbating their vulnerability to food and nutrition insecurity.

**Food stability refers to the ability to obtain food over time and concern both the stability in the availability, access and utilization of food.** Climate-related shocks affect the production and stable availability of food. Fluctuations in production as well as in price imply fluctuating revenue for producers and variability in purchasing power for consumers causing unstable access to food. Chronic disease and lack of adequate access to sanitation, health care and even education induces poor food utilization.

## 2.2. Tanzanian agricultural and food policy environment

Guaranteeing food security generally requires effective public policies under the four pillars mentioned above. A country needs government policies supporting private investment in agricultural production, agro-food processing, and food distribution to ensure that domestic food availability is adequate. Ensuring that poor households have adequate access to food usually requires social safety nets. This study also necessitates having a basic understanding of the domestic policy environment so as to properly attribute changes in Tanzania's food security conditions to the potential impacts of OECD countries' policies.

Tanzania's policy framework for agricultural development is anchored in its long-term strategy for socio-economic development. The **Tanzania Development Vision 2025** (Vision 2025) formulated in 1999 as a general policy to guide Tanzania's economic and social development efforts up to the year 2025 outlines five broad areas of progress that Tanzania is expected to attain by then, namely i) high-quality livelihoods and the eradication of abject poverty; ii) peace, stability and national unity; iii) good governance; iv) a well-educated and learning society with an ambition to develop; and v) a diversified semi-industrialized economy capable of sustained economic growth of at least 8% per year (URT, 1999).

In parallel to the preparation of Vision 2025, the Government of Tanzania developed a **National Poverty Eradication Strategy (NPES)** to provide the policy framework for coordinating and supervising the formulation, implementation and evaluation of policies and strategies for the eradication of poverty by 2025 (URT, 1998). A first medium-term Poverty Reduction Strategy Paper (PRSP) covered the implementation period 2000-03. A second-generation poverty reduction strategy was adopted in 2005 and is best known under the Swahili acronym **MKUKUTA I**, the National Strategy for Growth and Reduction of Poverty (NSGRP), which focuses on three broad clusters for its envisioned impact: i) economic growth and poverty reduction; ii) improvement of quality of life and social well-being and iii) governance and accountability. A second NSGRP, **MKUKUTA II** was adopted in 2010 and has proceeded with this cluster-based approach.

Finally, President Kikwete launched in 2011 the first of three **Five Year Development Plans (FYDP)** which seeks to accelerate Tanzania's progress to achieving Vision 2025's goals through the targeting of strategically-selected priority interventions. As a fast-track initiative for accelerated economic growth, the FYDP I also implies a shift from basic needs prioritisation to productive capacity enhancement -based interventions in areas where potential gains are deemed most attainable. In practice this includes focusing on development corridors and Special Economic Zones (SEZ) where the impact of project synergies and complementarities can have a catalytic effect. Agriculture is one of the five core priorities identified for targeted interventions, focusing in particular on i) infrastructure for irrigation; ii) the usage of modern agricultural inputs and mechanisation; iii) research, training and extension services; iv) improved market access; v) the promotion of agro-processing and value addition activities; and vi) climate-compatible agriculture (URT, 2012b).

**The Agriculture Sector Development Strategy (ASDS)** provides a sectoral strategy contributing to the medium-term development objectives identified in MKUKUTA I & II and the long-term objectives outlined in Vision 2025. First established in 2001 and revised in 2012, the ASDS is a blueprint for the agricultural sector's development and transformation, providing an overarching framework for the implementation of specific interventions to improve the sector's performance. Its core objectives are to: i) strengthen the institutional framework for managing agricultural development; ii) create a favourable climate for commercial activities, including improving the marketing of inputs and outputs; and iii) improving transport and trade. The ASDS recognised the crucial role of the private sector but this would prove insufficient to change the existing strategy that was excessively focused on public investments and projects.

The policy-level below the ASDS encompasses a variety of often overlapping or even contradictory strategies. The coordination of these strategies and of specific programmes and projects for food security has therefore been a challenge, all the more since several institutions are involved including the MAFC, the Tanzania Food and Nutrition Centre (TFNC), the Ministry of Industry and Trade (MIT) and the Ministry of Health and Social Welfare (MoHSW). Table 2 provides a schematic representation of the different strategies, initiatives and programs fitted under the ASDS and Vision 2025. This overview shows that Tanzania has been pursuing three agriculture policy initiatives since 2006, notably the Agricultural Sector Development Programme (ASDP), Kilimo Kwanza and the Tanzania Agriculture and Food Security Investment Plan (TAFSIP).

**Table 2: Tanzania's development policy framework for agriculture**

|                                                                                                                                                                                                                                                                                                               |                            |                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------|
| TANZANIA MAINLAND                                                                                                                                                                                                                                                                                             |                            |                                   |
| LONG TERM                                                                                                                                                                                                                                                                                                     |                            |                                   |
| Tanzania Development Vision (TDV) 2025                                                                                                                                                                                                                                                                        |                            |                                   |
| MEDIUM TERM                                                                                                                                                                                                                                                                                                   |                            |                                   |
| National Strategy for Growth and Reduction of Poverty (MKUKUTA I) 2005/06-2009/10                                                                                                                                                                                                                             | MKUKUTA II 2010/11-2014/15 | Five Year Development Plan (FYDP) |
| BIG RESULTS NOW (BRN)                                                                                                                                                                                                                                                                                         |                            |                                   |
| SECTOR LEVEL                                                                                                                                                                                                                                                                                                  |                            |                                   |
| Agricultural Sector Development Strategy (ASDS) 2001                                                                                                                                                                                                                                                          |                            |                                   |
| PRIVATE INVESTMENT FRAMEWORK                                                                                                                                                                                                                                                                                  |                            |                                   |
| Kilimo Kwanza (Agriculture First) 2009                                                                                                                                                                                                                                                                        |                            |                                   |
| Southern Agricultural Growth Corridor of Tanzania (SAGCOT)                                                                                                                                                                                                                                                    |                            |                                   |
| PUBLIC INVESTMENT FRAMEWORK                                                                                                                                                                                                                                                                                   |                            |                                   |
| Agricultural Sector Development Programme (ASDP) 2006- 2012/13                                                                                                                                                                                                                                                |                            |                                   |
| <ul style="list-style-type: none"> <li>• District Agriculture Sector Investment Project (DASIP)</li> <li>• Agricultural Marketing Systems Development Programme (AMSDP)</li> <li>• Rural Financial Services Programme (RFSP)</li> <li>• Marine and Coastal Environment Management Project (MACEMP)</li> </ul> |                            |                                   |
| COMPREHENSIVE AFRICA AGRICULTURE DEVELOPMENT PROGRAMME (CAADP)                                                                                                                                                                                                                                                |                            |                                   |
| Tanzania Agriculture and Food Security Investment Plan (TAFSIP) 2011/12–2020/21                                                                                                                                                                                                                               |                            |                                   |

**The Agriculture Sector Development Programme (ASDP), for the period 2006-13,** is the implementation programme of the ASDS. Provides for the financing for agricultural research and extension services, rural infrastructure works, input distribution, agricultural trade and capacity building and institutional strengthening for food security interventions. Generally, it focuses on improving the productivity on smallholder agriculture. Activities at the local level are based on District Agricultural Development Plans (DADPs) and are to be implemented by Local Government Authorities (LGAs) and farmers groups. Focus on irrigation for smallholder rice production. State-centred.

In terms of financing for the ASDP, the Government of Tanzania contributes the lion's share (75%) of a total projected budget of USD1.9 billion over seven years, supported by donors and the private sector that account for 13% and 12% of the funding, respectively. The bulk of this budget supports small-scale irrigation projects targeted at some of the most poverty-stricken areas in the country (Cooksey, 2012).

According to a mid-term evaluation, the ASDP's focus on irrigation schemes appears to have delivered on its promise of increased productivity. Particularly for paddy rice, agricultural performance has shown an increase in both harvested quantities as well as yields. However, limited investment in marketing and other services are likely to prove crucial to sustain and enhance the returns made so far (Nkonya et al., 2013).

**Kilimo Kwanza (KK)**, "Agriculture First" in Kiswahili, is a private-sector-led initiative that was launched in 2009, under the aegis of President Kikwete. The Tanzania National Business Council (TNBC) was the main promoter of this initiative that led to the establishment of a public-private forum (chaired by the President) and a number of public-private partnerships. The KK initiative was not intended to be a new policy or programme. Rather, it was supposed to strengthen the role of private actors in the ASDP, which was perceived as being too focused on centrally planned public investments, especially in small-scale agriculture and irrigation schemes. Instead, the promoters of Kilimo Kwanza brought forward a vision of agricultural transformation through the modernisation of agriculture, the transition to commercial, "large-scale", modern farming and the development of agro-industries, challenging the state-centred approach.<sup>2</sup> The Southern Agricultural Growth Corridor of Tanzania (SAGCOT) was the first, and so far the most visible, public-private partnership supported by the KK's backing. The SAGCOT proposal emerged from the 2010 World Economic Forum on Africa that took place in Dar es Salaam. This partnership includes international agribusiness corporations alongside with Tanzanian businesses, domestic private sector organisations, farmers organisation, and the GoT. It aimed to attract both local and international investors.

Another aspect ASDP had 'forgotten' about was how to attract **private sector involvement**. When implementing the ASDP I, the private sector felt somewhat left out, and there was a perceived need for a mechanism to clarify their role. Kilimo Kwanza (KK, 2009, "agriculture first") fulfils that role as a private sector led agenda, formulated jointly with the GoT. It contains a list of 10 outstanding issues, basically saying that agricultural development requires the development of all sectors. KK is about linking up with local and international partners from the private sector, inviting them to invest in the agricultural sector and making sure local small scale farmers engage with them, and benefit from their critical mass. As such, **SAGCOT** was presented as a tool to operationalize both TAFSIP and KK.

In conclusion, the current agricultural policy framework provides for a complex setup, which some have described as creating a division between two camps, those wanting to support the private sector in priority and others focusing on public investments (Cooksey, 2012). TAFSIP designed as a financing mechanism

---

<sup>2</sup> Under this initiative, smallholder farmers are seen as contract farmers, or "out-growers". Foreign investors are seen as partners in the process of agricultural transformation. However, some observers noted that the promoters of the KK represented only part of private stakeholders.

and a framework for the implementation of ASDP is anchored to, and aligned with, Tanzania's social and economic development aspirations together with a number of key strategic programmes including the KK and SAGCOT. The latter is indeed focused on engaging large-scale agribusinesses for agricultural transformation, but is also meant to incorporate smallholder producers in their business models.

### 2.2.1. CAADP/TAFSIP

The Comprehensive Africa Agriculture Development Programme (CAADP) has been rolled out in Tanzania through the 2010 CAADP Compact and the Tanzania Food Security Investment Plan (CAADP/TAFSIP), which was adopted in 2011. CAADP is an initiative of the African Union (AU) Heads of State and NEPAD that was intended to spur agricultural development, economic growth and poverty reduction throughout the African continent. The CAADP Compact and TAFSIP built upon the ASDS, the ASDP, for Tanzania mainland, and the Agricultural Strategic Plan, for Zanzibar. In spite of its initial reluctance to implement CAADP due to its concerns about the latter duplicating existing policies, the Government eventually recognised that the CAADP process would allow it to improve to fill gaps in the ASDP and improve coordination among stakeholders. According to various sources, CAADP/TAFSIP complemented the ASDP and informed the preparation of the ASDP II (2014-17), particularly in the areas of private sector development, food marketing and processing, and food and nutrition security. Yet, CAADP landed in Tanzania on a busy policy field comprising a number of sectorial strategies, policy frameworks and programmes.

In the process toward the Tanzanian Agriculture and Food Security **Investment Plan** (TAFSIP), the AUC helped shape the Investment Plan, while the AfDB and the FAO hired consultants for technical assistance. NEPAD as well send some experts and provided some funding. In general, the AUC was deemed a very responsive and effective partner in laying out the CAADP process in Tanzania. USAID and IFAD joined later, at the business meeting, which itself was entirely funded by USAID. Once USAID knew the Ministry of Agriculture Food Security and Cooperatives (MAFSC) was about to start implementing an Investment Plan, they immediately proposed to fund that process.

Both the EAC and SADC where signatories to Tanzania's **CAADP Compact** in July 2010, yet EAC and to a lesser extent the AUC-DREA have been the main contributors to the CAADP process toward the Compact. In particular the EAC was involved in every step from stocktaking exercise to the drafting of the Compact and facilitated stakeholder meetings. However, to date the EAC has never accessed MDTF funding, so any support to national CAADP processes in Tanzania from the EAC was funded through own resources or derived from bilateral donor support to the REC. Donor partners who contributed to the formulation of the CAADP compact were the AfDB, WB, FAO, WFP and Irish Aid.

The **EAC** currently already has a Food Security Action Plan in place and will develop a regional M&E tool, with support from ReSAKSS. Regarding the drafting process toward **EAC's Regional CAADP Compact**, initial versions of the Compact were presented at two validation workshops so far, always with involvement of the national CAADP focal points. This whole process was funded bilaterally by USAID (Kenya): 200 000 \$, incl. 92 000 \$ for the country- consultation rounds. The drafting is almost finished ( all in all with limited stakeholder involvement) but now the draft will be circulated and discussed with the MS. Since all 5 MS already have national compacts, the Regional Compact has to take into account a lot of factors which is likely to burden the validation process.

At the time of the Compact preparations, **SADC** did not have a clear agricultural policy yet, so they only joined the process after the Compact was signed, and in general SADC is not perceived as a key driver for CAADP in the country. That said, some increased activity on food security on their behalf was

acknowledged and one interviewee noted (increased) investments in TA for technical officials, particularly in the area of food security and early warning mechanisms. Also, SADC has organised meetings for decision-makers at regional and country-level. At the Ministry of Agriculture Food Security and Cooperatives (MAFSC), the CAADP desk had heard of SADC encouraging countries to access funds through the MDTF and also FANRPAN who seemed to have been active in pushing the CAADP agenda in Tanzania received funds from SADC. Although it is highly unclear who provided the funding for SADC to support these activities, it is unlikely they had anything to do with the MDTF.

In 2013, the President of the URT launched Big Results Now (BRN), an initiative to accelerate policy implementation in a number of areas, including agriculture. The interventions prioritised by the BRN were the rehabilitation or establishment of 78 collective irrigated rice production schemes, the establishment of 25 out-grower schemes for paddy and sugarcane, and the establishment of 275 warehouses for crop marketing, drawing on existing plans from the ASDP, CAADP/TAFSIP, the KK and SAGCOT. Under BRN, ministers and other senior civil servants are held accountable for their performance, following a Malaysian model public sector management.

Tanzania has also joined Grow Africa, an alliance of African countries committed to engaging with the private sector in their agricultural development processes, particularly in the context of corridors.

### **2.2.2. Financing**

An ASDP Basket Fund was established for 2006-2013 to fund the ADSP (the ADSP was funded from the general budget support). The WB was the main funder and brought in other donors like JICA, EU, IFAD and Irish Aid. Funding through the Basket Fund will not be extended however because i) the call for funding from GoT is too much, ii) there have been considerable difficulties in tracking the pay-offs in terms of impact, particularly considering the large funding amounts. There is discontent with the efficiency and effectiveness of the public sector to implement reforms, with a limited number of beneficiaries. The World Bank supported a large irrigated rice project under the ASDP. The ASDP II Basket Fund was therefore supposed to be limited to some earmarked funding from WB, JICA (Irish, IFAD and EU simply stated they are no longer interested). Following the adoption of CAADP/TAFSIP, the GoT gained access to a USD 22.9 m grant from the Global Agriculture and Food Security Program (GAFSP) that funded a seed and fertiliser subsidy programme for rice growers in the SAGCOT area and Zanzibar, and the rehabilitation and expansion of rice irrigation schemes in the SAGCOT area.

Over the period 2002-07 public agricultural expenditures oscillated between 4.5% and 6.8% of the public budget (Cooksey, 2013). Public expenditures in the agricultural sector have remained at similar levels in the following years. They rose in 2010, an election year, when this sector was allocated 7.8% of the national budget, but then declined as a percentage of the public budget, and so remaining well below the 10% target.

### 3. Economic and institutional linkages between OECD countries and Tanzania

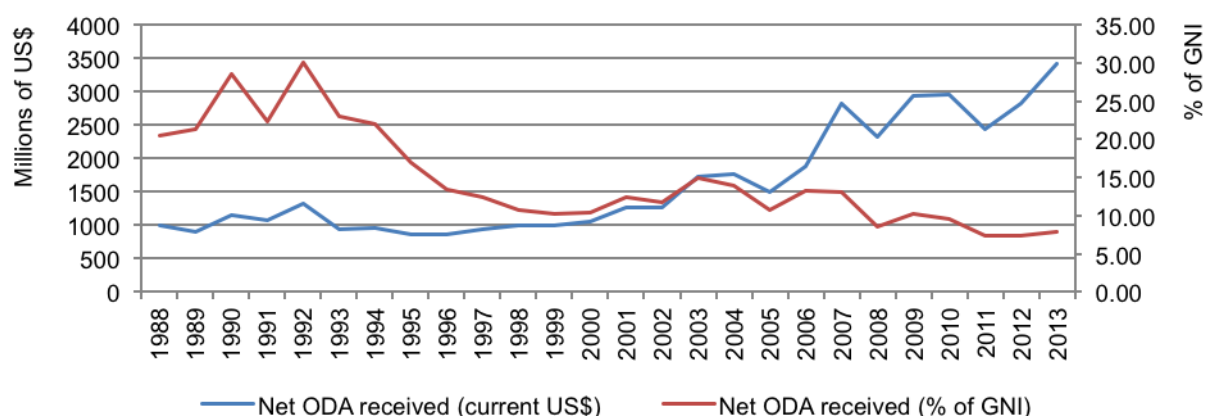
This section explores the different types of economic and institutional linkages between Tanzania, on the one hand, and OECD countries and the rest of the world, on the other hand. It begins with a description of development cooperation in Tanzania, looking at specific interventions promoting food security. Then, it describes trade flows between Tanzania and these groupings. Finally, it provides information about financial flows, including investments and remittances.

#### 3.1. Development cooperation in Tanzania

##### 3.1.1. Trends in development assistance

With its long-time political and social stability, Tanzania has attracted sizeable flows of official development assistance (ODA) over the past three decades. The second largest aid recipient in Africa, after Ethiopia, Tanzania is widely regarded as a donor “darling” (Harrisson, 2001; Tripp, 2012). Tanzania is one the few least developing countries to have benefited from a substantial increase in ODA (Lunogelo, et al. 2015). Between 1990 and 2013, the amount of ODA received by Tanzania has grown from 1.163.15 million US\$ to more than 3.430 million US\$. However, although ODA remains an important source of (external) financing of its development, its share in Tanzania’s gross national income (GNI) has been gradually shrinking. As in most other developing economies, alternative sources of financing, including domestic resources, debt, remittances and private investment have played an increasingly important role.

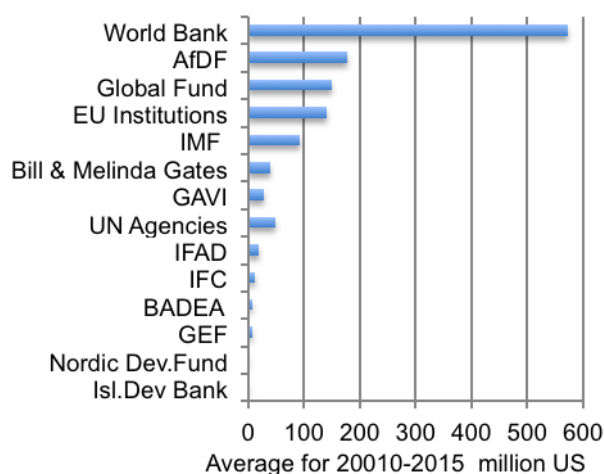
**Figure 4: Total ODA and ODA as a percentage of GNI in Tanzania**



Source: WDI (2015).

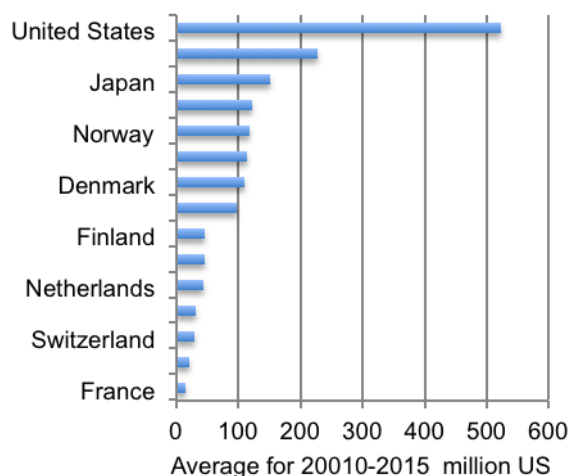
The donor community in Tanzania is large, comprising both multilateral institutions and bilateral development partners (from both OECD and non-OECD countries). Over the period 2010-15, multilateral aid represented about two thirds of total foreign aid, the top donor institutions being the World Bank, followed by the African Development Bank, the Global Fund, the EU, and the IMF. Bilateral aid amounted to the remaining one-third and originated mainly from OECD countries, with the top donors being the US, followed by the UK and Japan. Data on foreign assistance from emerging economies and other non-OECD countries are scant, but the available information suggests that aid flows from countries like China, India, Arab countries and other economic powers have been increasing.

**Figure 5: Top multilateral donors of ODA (2010-14)**



Source: OECD/DAC (2015).

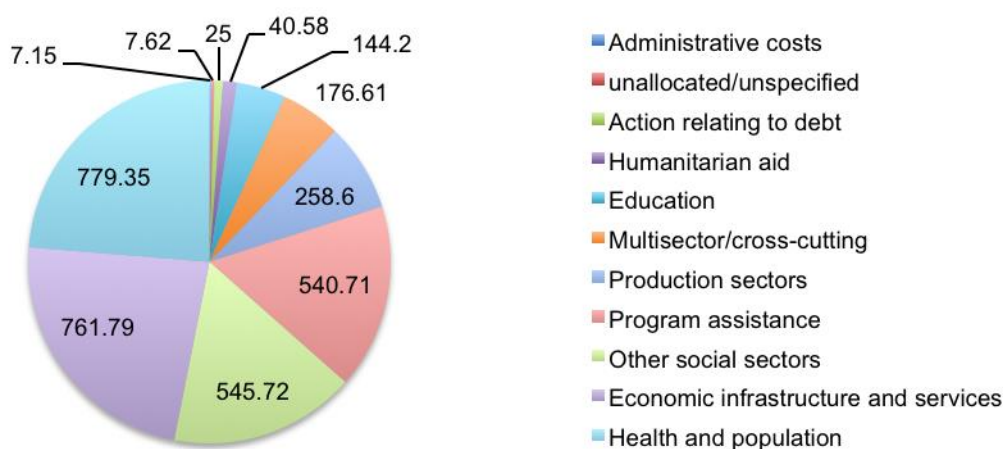
**Figure 6: Top bilateral donors of ODA (2010-14)**



Source: OECD/DAC (2015).

Much of the foreign aid to Tanzania over the past five years has been directed to health, education, and other social sectors. An increasing amount of aid also went to infrastructure, public services, productive sectors like energy, manufacturing and agriculture. Budget and programme support and humanitarian aid also represented a substantial amount of ODA to Tanzania.

**Figure 7: Repartition of ODA by sectors (2010-14)**



Source: OECD/DAC (2015).

### 3.1.2. ODA for agricultural development and food security

For most OECD development partners, agriculture is a priority sector in Tanzania. These development partners support a number of programmes and projects directly targeting the agricultural sector (see Annex 2). Their support to infrastructure, public services, private sector development and social sectors such as health may also contribute to improving agro-food value chains and food security conditions.<sup>3</sup> They coordinate their support to the agricultural sector through the Development Partners Agriculture Working

<sup>3</sup> This support includes regional initiatives that improve the policy and business environment. For example, TradeMark East Africa (TMEA), which is funded by Belgium, Canada, Denmark, Finland, the Netherlands, Sweden and the United Kingdom, implements activities to reduce trade costs on major transport corridors in five EAC countries.

Group (AWG), which has about twenty-two members from multilateral and bilateral development agencies. The AWG has led to an improvement in coordination. Traditionally, poor coordination reduced the effectiveness of projects and the exchange of information and lessons learned (Wolter, 2008; Cooksey, 2012).

Between 2004 and 2011, foreign aid to the agricultural sector in Tanzania (including grants and loans) was estimated at about USD1.069 bn (IFAD, 2014). General budget support, a Basket Fund for the agricultural sector and project funding have been the main modalities to provide support to the agricultural sector. Agricultural development projects have mainly focused on rural infrastructure, rural finance, access to agricultural inputs, value addition and capacity building. In recent years, donors have shifted to a value chain approach with greater emphasis on private sector development and the development of domestic markets, agro-food processing and marketing. The mixed outcomes of CAADP in Tanzania, as mentioned above, have tempered donors' willingness to support the agricultural policy framework and institutional strengthening in this sector.

Donors have supported the agricultural sector and in particular SAGCOT through the New Alliance for Food Security and Nutrition (NAFSN, or New Alliance for short), an initiative sponsored by the G8 and especially US.<sup>4</sup> The New Alliance, launched in 2012, primarily aims to foster local and international private investment in the agricultural sector and agro-food industries in developing countries (for example, by providing matching grants for investments by private companies). In the case of Tanzania, the NAFSN cooperative framework agreement contains pledges by 19 companies. Many of those intended private investments are based on out-grower schemes. Under this agreement, in exchange, the GoT has committed to execute reforms that would ease constraints to private investment, notably in the areas of land policy, taxation, seed regulations and trade policy. The New Alliance supports interventions to formalise land tenure in Tanzania, by demarcating rural land and certifying customary rights of occupancy, with a commitment of the GoT to secure access to land for local communities and smallholder farmers.

The US, Japan and the EU pledged the largest contributions to the New Alliance. The UK, Germany and France also made significant pledges. In Tanzania, donor funding under the New Alliance was intended to fund infrastructure, electrification and agricultural programmes.

In this context of the opening of the agricultural sector (which can be traced back to the 1990s and the economic liberalisation reforms of that time) and the lack of reform in the public sector, development cooperation, especially bilateral donors, seems to have become more closely linked to trade and investment opportunities for foreign investors in particular value chains. For example, the Norwegian embassy in Tanzania provided financial support for the planning of investments under SAGCOT.<sup>5</sup> At the same time, the Norwegian fertiliser company YARA has been a lead investment partner (and a recipient of aid from the Norwegian embassy) in this economic development corridor scheme.<sup>6</sup> Multilateral and bilateral donors have started to support agribusinesses and private investors, with concessional loans, syndicated loans (or credit guarantees), grants (matching grants in some cases) and also through equity funds and venture capital funds. In this scheme, donors also fund in priority localised public goods (infrastructure notably) that will enable agribusinesses/investors to secure economic returns. Matchmaking between local and international businesses is another type of service that donors sometimes sponsor. An example is the support (grants and loans) provided by DFID, the EU and USAID to the improvement and maintenance of roads and other rural infrastructure in the SAGCOT area. Examples also from the emerging economies'

---

<sup>4</sup> The NAFSN in Tanzania nonetheless considered CAADP/TAFSIP as the reference agricultural policy framework.

<sup>5</sup> Norfund is another Norwegian partner of SAGCOT.

<sup>6</sup> YARA Tanzania Ltd has planned to build and operate a fertiliser storage facility in the SAGCOT area.

side, with the loan from India's Export-Import Bank for agricultural machinery in 2010. Traditional donors also fund non-profit organisations that provide advisory services and training.

The provision of development cooperation along those lines can yield opportunities for exports of products and technologies as well as the sourcing of agricultural products and investments in local agro-industries. The incoherence is that the donors backing the NAFSN have also supported the CAADP/TAFSIP, while the NAFSN is actually based on an approach akin to the KK, even though it was advertised as supporting CAADP/TAFSIP. Which is de-linked from the CAADP/TAFSIP (Cooksey, 2013). Indeed, as underscored by Cooksey (2013), there appears to be major incoherencies between the objectives of the ASDP and CAADP/TAFSIP (state-led, smallholder farmers agricultural development), on the one hand, and the KK, SAGCOT and the NAFSN on the other hand. Although these two different approaches may be complementary, they probably require different policy implementation arrangements that would present some incompatibilities.

The approach of SAGCOT and the NAFSN, with its emphasis on large-scale farm investments, present opportunities for the members of the political and state elite that have access to land and can earn large returns from partnerships with foreign investors. Already, investors have been able to lease large tracts of land (estates and ranches). The securisation of land rights and improvement in the "business environment" are key requirements to ensure the feasibility of this approach and ensure rents for the members of the elite able to control land assets. Plus risks of bribery, regulatory capture and non-respect of social and environmental standards by (domestic and international) investors.

The New Alliance added the removal of barriers to trade (including addressing erratic export bans) to the agricultural policy agenda in Tanzania. This is logical given the involvement of international companies and the support of donor governments to the development of international trade and investment linkages.

Nonetheless, donor support to the public agricultural budget has decreased rapidly over the past few years. This is partly due to discontent with the effectiveness of the coordination and implementation of the agricultural policy. *This trend may hinder public investment in large-scale rural infrastructure (construction and maintenance of rural roads and water infrastructure). It also shows the necessity to mobilise more domestic resources for agricultural and rural development.*

## 3.2. Trade linkages

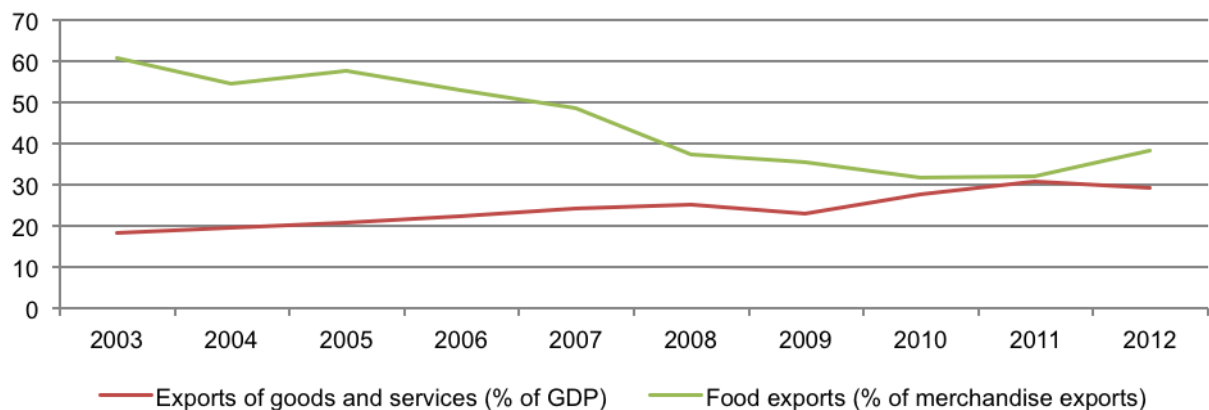
### 3.2.1. Structure of and trends in Tanzania's trade

Since 2000, the contribution of exports of goods and services to Tanzania's GDP has been increasing. The ratio of exports to GDP increased from 17% in 2003 to 30% in 2012. This increase in exports has been driven primarily by the exportation of gold and other extractive commodities. However, Tanzania's current account has remained negative for some time, with a deficit of about 14% of GDP in 2013 (AfDB, OECD and UNDP, 2014) largely driven by imports of oil, other energy products and capital goods (machinery and equipment). In 2012, Tanzania exported 428 products (at the HS6-digit level) to 84 countries worth USD5.547 million and imported 1.752 products from 114 countries for a bill amounting to USD11.716 million. This current account deficit has mainly been financed by external borrowing.

A large share, 34%, of Tanzania's exports goes to OECD countries (trade data are from 2002-13). Switzerland is the destination of 15% of Tanzanian exports. Japan, which receives 6% of Tanzania's exports, the UK, 5%, Germany, 4%, and the Netherlands, 4%, are also among the main OECD markets for

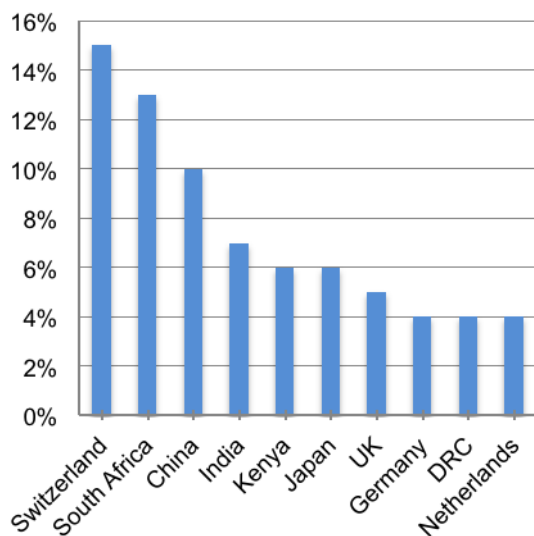
Tanzanian exporters. On the other hand, Tanzanian imports come mostly from Asia, including 11% from India, 10% from the United Arab Emirates (UAE), and 9% from China. Four OECD countries are among the top 10 countries exporting to Tanzania, including Switzerland (7% of exports to Tanzania), Japan (7%), the UK (3%) and the US (3%). The destinations and origins of Tanzania's exports and imports, respectively, vary greatly across product categories. Nonetheless, Tanzanian trade relations have steadily shifted towards Asian partners and away from European partners.

**Figure 8: Contribution of Tanzania exports of goods and services to GDP**



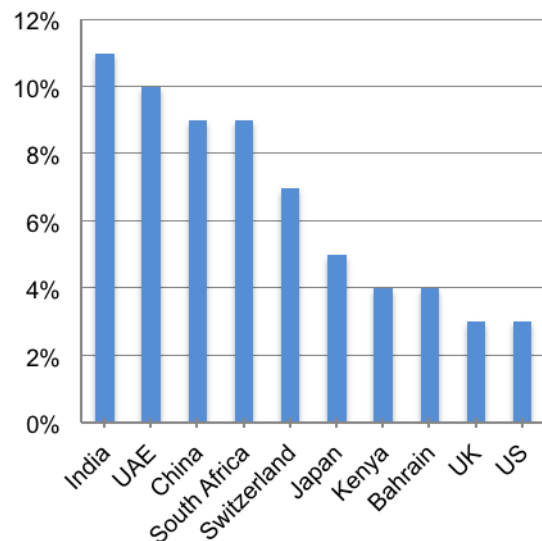
Source: World Development Indicators, 2014.

**Figure 9: Top destinations for Tanzania's exports**



Source: UN COMTRADE, 2014.

**Figure 10: Main origins of Tanzania's imports**



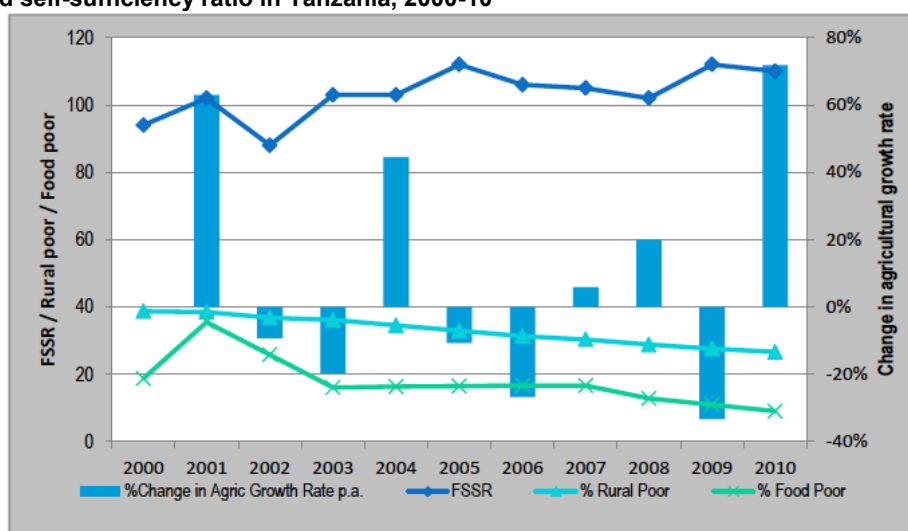
Source: UN COMTRADE, 2014.

In the agricultural sector, Tanzania's trade balance has been hovering around zero. In recent years, the country has become less dependent on food imports and has reached food self-sufficiency (see Figure 11). However, the structure of Tanzanian agricultural trade has evolved over time. Although traditional tropical products, including coffee, tea, tobacco, fish and cotton, have remained the main agricultural exports, their share in total agricultural exports has almost halved since 2000 (URT, 2013b). The emergence of the fisheries and horticulture sectors as sources of primary sector exports as well as the growth in the regional market and the shift in trade relations away from Europe and towards Asia have contributed to this change

in export patterns. On the other hand, Tanzania has continued to import agricultural and food products, especially processed foods.

Trends observed in Tanzania's agricultural trade reflect the evolution of global agricultural trade flows over the past 15 years. The value of global agricultural trade (excluding intra-EU trade) has tripled. The distribution of imports and exports has shifted from OECD countries to emerging economies. The share of China's agricultural imports increased from 5.3% to 11.1% between 2002-04 and 2011-13. Over the same period, Brazil became a major agricultural exporter, with its share of global agricultural exports rising from 6.9% to 9.0%. Meanwhile, the relative importance of the EU in global agricultural markets declined, with its import and export shares decreasing from 22.3% to 16.1% and from 16.3% to 15.1%, respectively (Laborde, 2014), while remaining a net importer of agricultural goods. After a long period of declining agricultural prices in international markets, until the mid-2000s, the balance between supply and demand shifted from a demand-constrained to a supply-constrained market, from which ensued a rise in prices. This development reflected several short- and medium-term trends, including weather-related production shortfalls, rising energy prices (and the rising utilisation of crops for biofuel production), increasing food demand in rapidly-growing emerging and developing economies, and slow agricultural productivity growth in many producing areas.

**Figure 11: Food self-sufficiency ratio in Tanzania, 2000-10**



Source: MAFAP (2013).

Note: FSSR denotes the food self-sufficiency ratio, an indicator that measures the extent to which domestically produced food satisfies domestic food consumption needs.

### 3.2.2. Tanzania's trade policy

Generally, tariffs on imports into Tanzania are relatively low, especially compared to developed countries. As of 2013, the simple average import tariff across all tariff lines was 13.2%. About one-third of imported goods are duty-free tariff lines. As a member of the East African Community (EAC), Tanzania applies the EAC Common External tariff (CET) to products imported from outside the regional economic community, with few (in some cases temporary) exemptions. Within the EAC, goods are supposed to move freely or are subject to low tariffs, but numerous non-tariff measures, administrative procedures and frequent trade bans restrict trade with other EAC member states. Yet, even for agricultural and food products classified as sensitive and in principle protected by a high CET (maize, rice, wheat, sugar and milk powder), when these goods are not subject to waivers, smuggling of these goods, which includes counterfeit, sub-standard

products, is very common. Tanzania is also a member of the Southern African Development Community (SADC), which has its own intra-regional and external trade rules.

In the EAC, Tanzania has the particularity of having repeatedly imposed export bans for maize so as to maintain consumer prices relatively low following the 2008 food price crisis. Although this measure has led to increased informal cross-border trade, it has created inefficiencies in regional maize supply chains.

As an LDC, Tanzania has benefitted from preferential access to developed countries' markets through bilateral trade agreements. Since the early 2000s, Tanzania as well as other LDCs from the ACP Group of States has been granted duty- and quota-free access to the EU market under the Everything-but-Arms (EBA) regime. Before the EBA, Tanzanian exporters had preferential access to the EU market under its Generalised System of Preferences (GSP) and a succession of ACP-EU agreements that granted unilateral trade preferences to developing countries. Under the African Growth and Opportunity Act (AGOA), the central framework for US-Africa economic relations established in 2008, Tanzania has duty-free access to the US market. Many other OECD countries grant similar trade preferences with zero or reduced tariffs to Tanzania as part of bilateral agreements.

### 3.3. Investment flows

#### 3.3.1. Trends in investment

Since the early 2000s, Tanzania has attracted increasing amounts of foreign direct investment (FDI). Between 2003 and 2013, the FDI inflow in Tanzania increased from USD364 million (3.1 % of GDP) to USD1.872 billion (5% of GDP). In 2009, the amount of FDI dropped essentially due to the global economic and financial crisis. Foreign investors' increased interest in Tanzania has been driven in large part by the economic reforms implemented by the Government, in particular the deregulation of product markets and the opening of the country to trade and foreign investment that the Government has been pursuing since the 1990s, which led to an improvement in the business environment.

**Figure 12: FDI Inflow to Tanzania, 2003-13**

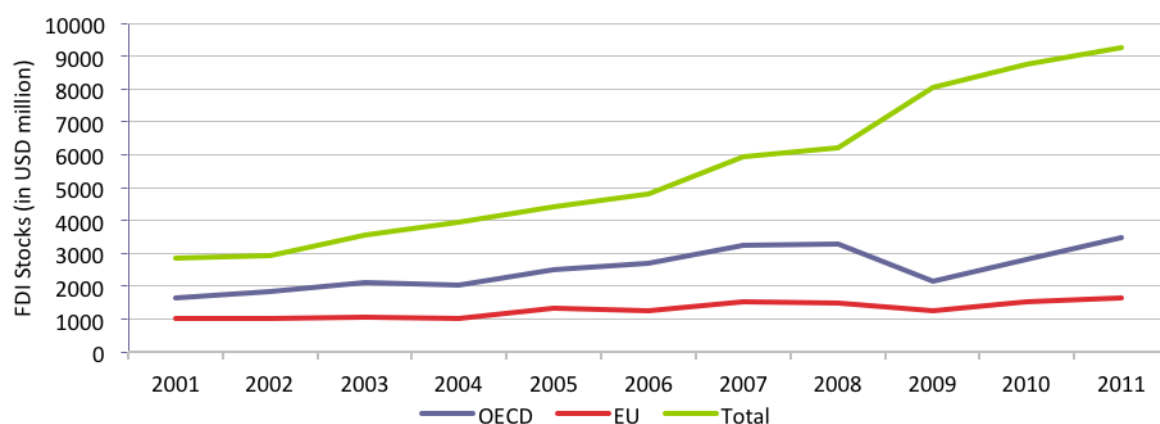


Source: WDI, 2014.

OECD Countries have remained a largest source of FDIs in Tanzania but FDI flows from emerging economies and Eastern and Southern Africa have grown faster since the 2000s. According to the 2012

Tanzania Investment Report (TIR), FDIs from the UK and Canada accounted for 74% of the total FDI inflow from OECD countries in recent years.

**Figure 13: FDI stocks in Tanzania from the EU and the OECD group**

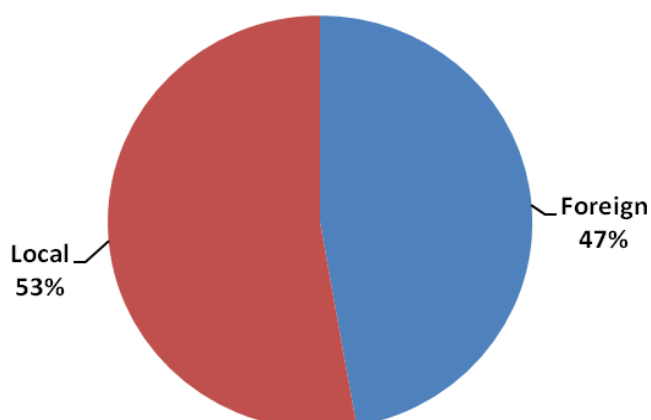


Source: TIR, 2012.

### 3.3.2. FDIs in the agricultural sector and large-scale land acquisitions

Foreign direct investments in the agriculture sector, although still relatively small, have been increasing since 2008. The most recent available data indicate that the FDI flow into agro-food sectors continue expand in 2011, reaching USD31.4 million, up from USD21.2 million in 2008. Data from the Tanzania Investment Centre (TIC) show 465 newly registered agricultural investment projects between 2006 and 2015, 53% of which were domestic-borne and 47% foreign-borne. This trend is consistent with the GoT's policy for the agricultural sector and the Kilimo Kwanza initiative.

**Figure 14: Shares of registered foreign and local investments in agriculture, 2006-15**

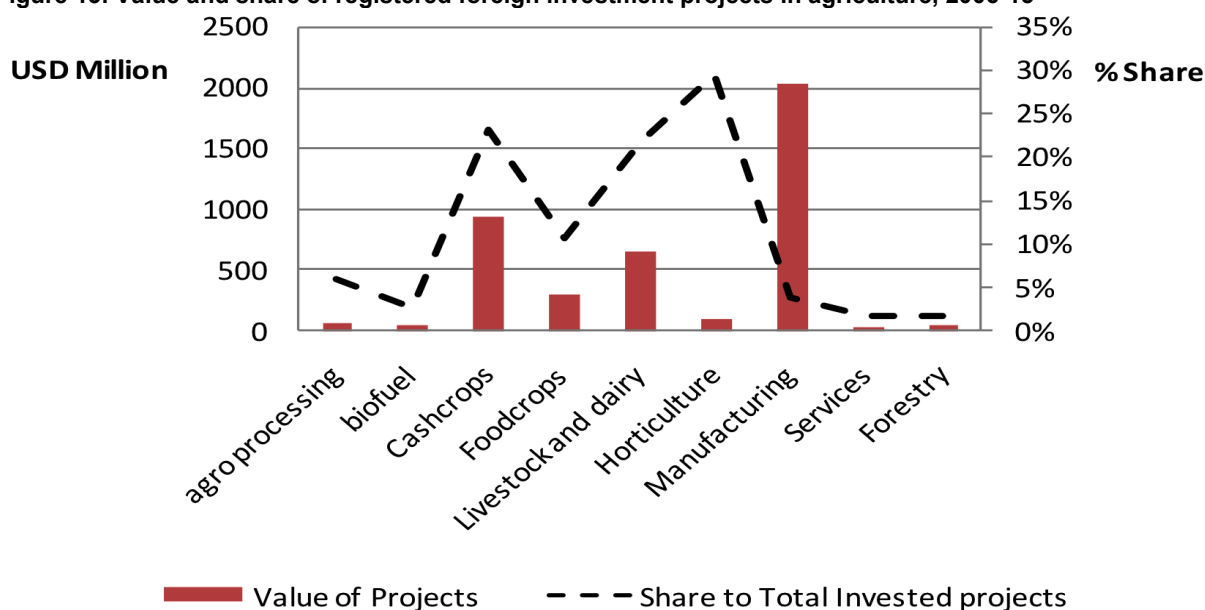


Source: TIC, 2015.

As Tanzania has generated much interest from foreign investors in investing in agriculture owing to bountiful fertile land, adequate water availability, and political stability, investment projects have rapidly emerged in various sub-sectors, including traditional cash crops, horticulture, livestock and dairy (see

Figure 15). In contrast with claims in the news and NGO reports<sup>7</sup>, investments in biofuel production and agro-industrial operations represent a small part of the FDI activity in the agricultural and agro-food sectors.

**Figure 15: Value and share of registered foreign investment projects in agriculture, 2006-15**



Source: TIC and authors' own calculations.

### 3.3.3. Bilateral investment agreements between Tanzania and OECD countries

Tanzania is a member of two important regional economic communities in Africa, the EAC and SADC. As part of these memberships, Tanzania has entered trade agreements and investment treaties. Tanzania also has bilateral investment/tax treaties with countries outside Africa, most of them being OECD countries. Although the impacts of investment/tax treaties is the object of an on-going debate, empirical evidence suggests that those treaties foster FDI by providing guarantees to prospective foreign investors that they will be subject to the same rules as domestic investors and that their assets and returns will be protected from expropriation or any other unfair treatment. On the basis of this assumption, the numerous investment/tax treaties that OECD countries have signed with Tanzania have probably contributed to the increase in FDI flows to the latter.

**Table 3: Tanzania's investment treaties**

| Short title               | Parties | Status   | Date of signature | Date of entry into force |
|---------------------------|---------|----------|-------------------|--------------------------|
| EU-SADC Interim Agreement | EU      | In force | 22/01/2009        |                          |
| EAC-US TIFA               | USA     | In force | 16/07/2008        | 16/07/2008               |
| SADC Investment Protocol  | SADC    | In force | 18/08/2006        | 16/04/2010               |
| Cotonou Agreement         | EU      | In force | 23/06/2000        | 01/04/2003               |
| EAC Treaty                | EAC     | In force | 30/11/1999        | 07/07/2000               |
| SADC Treaty               | SADC    | In force | 17/08/1992        | 30/09/1993               |
| AU Treaty                 | AU      | In force | 03/06/1991        | 12/05/1994               |

Source: UNCTAD Investment Policy Hub.

<sup>7</sup> The Oakland Institute report (2011) reveals that foreign investors' interest in agrofuels outweighs interest in food production, as the main crops for which land is being sought by are currently jatropha, sugarcane and palm oil. Sulle and Nelson (2009) suggest that there is huge potential for Tanzania on domestic agrofuels production which is deemed as a substitute for the country's oil imports which cost some 25 percent of total foreign exchange earnings.

**Table 4: Bilateral Investment Treaties signed by Tanzania**

| Partners           | Group | Status                | Date of signature | Date of entry into force |
|--------------------|-------|-----------------------|-------------------|--------------------------|
| Canada             | OECD  | In force              | 17/05/2013        | 09/12/2013               |
| China              | Other | In force              | 24/03/2013        | 17/04/2014               |
| Denmark            | OECD  | In force              | 22/04/1999        | 21/10/2005               |
| Egypt              | Other | Signed (not in force) | 30/04/1997        |                          |
| Finland            | OECD  | In force              | 19/06/2001        | 30/10/2002               |
| Germany            | OECD  | In force              | 30/01/1965        | 12/07/1968               |
| Italy              | OECD  | In force              | 21/08/2001        | 25/04/2003               |
| Jordan             | Other | Signed (not in force) | 08/10/2009        |                          |
| Korea, Republic of | OECD  | Signed (not in force) | 18/12/1998        |                          |
| Kuwait             | Other | Signed (not in force) | 17/11/2013        |                          |
| Mauritius          | SADC  | In force              | 04/5/2009         | 02/03/2013               |
| Netherlands        | OECD  | In force              | 31/07/2001        | 01/04/2004               |
| Oman               | Other | Signed (not in force) | 16/10/2012        |                          |
| South Africa       | SADC  | Signed (not in force) | 22/09/2005        |                          |
| Sweden             | OECD  | In force              | 01/9/1999         | 01/03/2002               |
| Switzerland        | OECD  | Terminated            | 03/5/1965         | 16/09/1965               |
| Switzerland        | OECD  | In force              | 08/4/2004         | 06/04/2006               |
| Turkey             | OECD  | Signed (not in force) | 11/03/2011        |                          |
| United Kingdom     | OECD  | In force              | 07/01/1994        | 02/08/1996               |
| Zimbabwe           | SADC  | Signed (not in force) | 03/07/2003        |                          |

Source: UNCTAD Investment Policy Hub.

### 3.4. Other financial and non-financial flows

#### 3.4.1. Tourism

Tanzania is endowed with a wealth of natural and cultural assets that provide varied opportunities in the tourism sector. These natural resources include a rich wildlife, vast natural forests, mountains, rivers, lakes, and the coastal region bordering the Indian Ocean with sandy beaches. Tanzania has 15 national parks, 31 game reserves and 38 controlled areas where game is protected, which together make about one-quarter of the national territory. Tourism is among the fastest growing sectors of the economy in Tanzania and contributes a significant share of overall economic growth. As of 2011, the tourism sector generated about 25% of foreign exchange earnings and accounted for 17% of GDP and 11% of employment. Businesses involved in the tourism sector went from 4 in 1962 to 1.057 in 2014 (MNRT, 2014). In 2012, 42% of the tourists who visited Tanzania came from three OECD countries, the US, Italy and the UK.

To better exploit opportunities in the tourism sector, the Government recently adopted a five-year International Tourism Marketing Strategy. This strategy comprises capacity building activities for local communities to provide services to tourists and maintain natural and cultural assets, the organisation of athletic events to promote the image of the country, and promotion of tourism through domestic and international trade fairs and exhibitions.

#### 3.4.2. Migration

According to the national census data, in 2012, 421.456 people emigrated from Tanzania. The main destination countries were Kenya (with 87.079 emigrants), Mozambique (40.515), the US (38.018), Canada, the UK (33.224), Zambia (32.349), Uganda (31.291), South Africa (23.188), Malawi (17.019), the Democratic Republic of Congo (11.770), and Burundi (9.692). Tanzania had a positive net migration rate of 0.57 migrant per 1.000 inhabitants.

### 3.4.3. Remittances

Domestic and international monetary remittances have had significant positive impacts on economic and social development in Tanzania. Remittances have been steadily growing as a share of GDP over the past years, from 0.08% of GDP in 2003 to 0.24% in 2012 (WDI, 2014). Generally, monetary remittances are spent on housing, small infrastructure, businesses, healthcare, education, professional training, and unforeseen needs such as expenses due to accidents or natural disasters. International money transfer operators have facilitated remittances (Money Gram, Western Union, and others) while local operators such as the Tanzania Posts Corporation have also been involved in the handling of funds from abroad. The emergence of mobile payment systems involving partnerships between commercial banks and mobile telephone companies perhaps have had the largest impacts on remittances over the past years by reducing their transaction costs.

## 4. Identification of relevant policies and agro-food sub-sectors in relation to OECD countries

### 4.1. Identification of relevant OECD policies in relation to food security in Tanzania

The effects of non-development cooperation policies of OECD countries on developing countries' economic performance and social development have been a cause for concern for some time. However, the ways OECD policies can affect the general welfare of households in a developing country or a certain dimensions of economic and social development, food security for example, can be difficult to grasp. **The first step in our approach is to take an inventory and make a pre-selection of OECD policies that can affect the agricultural sector in Tanzania.** The description of the economy and agro-food system in Tanzania highlighted several linkages between food security conditions and regional and international agro-food markets. Through those linkages, external factors could affect food security conditions in Tanzania in a negative or a positive way. Some policies in OECD countries, for instance domestic agricultural subsidies, could be incriminated for having hindered progress in reducing food insecurity in Tanzania. Other OECD policies could have improved food security in Tanzania, for example science and technology policies, through the dissemination of agricultural knowledge and improved agricultural inputs and equipment. In a globalised world producing complex interdependencies among countries, finding a policy of an OECD country that has not any impact on developing countries might be difficult.

**The agenda of the European Commission (EC) for PCD has highlighted certain policy areas that have been found or suspected to have negative or positive impacts on developing countries.** These policy areas include: trade, finance, climate change, food security, migration and security. In the EC's PCD Work Programme for 2010-13, the policy areas of focus are: **agricultural policy; trade policy; research, development and innovation; biodiversity; land access and use and the impacts of bio-energy production; and the Common Fisheries Policy** (EC, 2010).

Given our focus on the agricultural sector in Tanzania and taking into account the policy areas that the EC has identified as relevant to PCD, we consider a number of transmission channels for OECD policies' effects on food security conditions in Tanzania. **Agricultural policies** in OECD countries affect their domestic markets and international markets, and because of **market integration** they can also affect Tanzania's domestic markets (they can affect Tanzania through the regional markets of Eastern and

Southern Africa as well). In several OECD countries, agricultural policies comprise **domestic support** to producers in the form of income support, market price support, input subsidies and export subsidies. By encouraging production, these policies can increase exports and depress international prices, negatively affecting developing countries. Although agricultural policies in OECD countries have undergone substantial reforms in recent years, which have led to a gradual reduction in market-distorting farm support, it is important to consider the possible lagged effects of past OECD policies on developing countries. More recently, EU and US policies encouraging the production and use of **biofuels** have affected cropland use patterns, which may have had consequences for developing countries such as Tanzania.

**Trade policies and product regulations** in OECD countries can affect the participation in OECD markets of importers and exporters from third countries. Exporters of agro-food products in many developing countries have had difficulty in accessing OECD markets. For instance, the EU has granted non-reciprocal trade preferences to developing countries under the Generalised System of Preferences and other bilateral agreements, but at the same time a rapidly increasing number of product regulations and private standards have been implemented, posing barriers to market access for exporters from developing countries and potentially hindering their agricultural development. OECD trade policies may also have affected input markets in Tanzania.

**Tax policies, international investment policies and economic diplomacy** in OECD countries could have affected foreign investment in agriculture and agro-food industries in Tanzania, in particular, through land transactions. Large-scale foreign investments in land for agricultural use have been decried for their negative impacts on food security in developing countries. As a response, many OECD countries have promoted practices to ensure that such investments be made in a responsible manner with regards to the welfare of local communities. This type of policy should be taken into account in an assessment of PCD for food security.

Other linkages between OECD countries' non-development cooperation policies and food security conditions in Tanzania that we might consider are **research and innovation** dissemination and **emergency food assistance**. However, to narrow down the scope of this assessment, we will not consider the effects of policies concerning fisheries, the environment, migration and security.

## 4.2. Identification of relevant agricultural sub-sectors in relation to selected OECD policies

To assess the impacts of OECD agricultural, trade and international investment policies on the agricultural sector and food security conditions in Tanzania, **the second step consists in identifying those agricultural products or subsectors of the Tanzanian agricultural economy that are (1) important for food security conditions in different ways (mainly food supply and rural household income) and (2) plausibly affected by OECD policies through trade and investments flows, whereby OECD policies may have economically and socially significant impacts in Tanzania.** We use a set of basic quantitative indicators to characterise agricultural subsectors and categorise them according to the two criteria above. Our first indicator is the **share of a sub-sector in agricultural gross domestic product (GDP)**. We also take into account the absolute value of output, from which the agricultural GDP share is derived, although it is not as useful as the agricultural GDP share because of its impracticability to compare quantities of different agricultural products. Our second indicator is **consumption**, measured in kilocalories per capita and per day. The third indicator to assess the importance of a sub-sector for food security is **employment**. Depending on the subsector and data availability, we may consider either agricultural labour

force in that subsector or employment in both agricultural production and the processing of the raw commodity. We also use these three indicators as **proxies for livelihoods indicators**.

To determine whether there are plausible linkages between OECD policies and subsectors of Tanzania's agricultural economy, we examine **trade flows between Tanzania and the rest of the world** (including the OECD group) and also the **agro-food trade patterns of OECD countries**. Our first indicator is the value of **Tanzania's imports** by "region" (rest of the world, Eastern and Southern Africa and the OECD group). Our second trade indicator is the value of **exports** by "region". To assess the role of OECD countries in the international markets of commodities produced and consumed in Tanzania, we look at the value of total **imports and exports of OECD countries**.

By combining the information on the importance of different subsectors for the livelihoods of Tanzanian households and on trade linkages, we can then make assumptions regarding the transmission of OECD policies' effects to different factors of food security (availability, access, utilisation and stability) in Tanzania. Considering the large number of OECD countries and the many possible linkages between OECD agricultural, trade and international investment policies and Tanzania's agricultural sector, **we focus on those linkages that appear strongest and could have the most significant economic and social implications, on the basis of the criteria and indicators described above.**

**Maize** is the top cereal crop, both in terms of quantity produced and value added, representing 6.5% of agricultural GDP. A large number of households grow maize (3.5m, that is, about 60% of farm households). Maize is also the main staple food, making up the largest portion of the dietary caloric intake for the average household (548 kcal/capita/day). Maize is imported and exported in and out of the country in small quantities so that, overall, Tanzania's maize trade balance is sometimes negative, sometimes positive, but negligible in general. This, however, does not mean that the Tanzanian domestic maize market is unaffected by the circumstances of international markets. Under different conditions in international markets, Tanzania could either export more or import more maize. Concerning OECD countries, as a whole, they represent a small share of world trade flows. This suggests that they have little influence on international maize markets, yet this question also depends on their domestic policies.

Tanzania produces **other coarse grains**, including millet and sorghum, in quantities much smaller than for maize. Their agricultural GDP share is relatively high as the prices of millet and sorghum, to name just these two commodities, are usually higher than the price of maize, which may explain this situation. Coarse grains other than maize make up a small share of the typical household's dietary caloric intake. Yet, Tanzania imports large quantities of these coarse grains and has a negative trade balance for this category of commodities. These coarse grains are in large part destined to non-food uses, especially barley and sorghum used for feed and brewing. Furthermore, roughly a third of those imports are from OECD countries. OECD countries have a significant share of the world export market for coarse grains other than maize. Despite its sub-tropical geography, Tanzania also produces **wheat** in modest quantities. It even exports wheat, essentially within the EAC and SADC areas. The wheat subsector employs a tiny share of the agricultural labour force. OECD countries play an important role in the international wheat market as a net exporter. **Rice**, the main staple food with maize, is the second most important cereal crop in terms of output and value added (5.2% of agricultural GDP). It is grown by a large number of households (although significantly less than for maize) who rely on earnings from the sale of their rice production for their livelihoods. Tanzania generally is a small net importer of rice. OECD countries as a whole play a significant role in the international rice market, both as importers and exporters, but they trade little rice with Tanzania.

Given these indicators for cereals, we select maize, other coarse grains and rice as subsectors where linkages between OECD policies and the Tanzanian agro-food system should be examined further. Although there appears to be little trade in maize and rice between OECD countries and Tanzania, there could be indirect linkages through regional and international markets, given that OECD countries as a whole are a major net exporter of cereals. The competition between cereals originating from OECD countries and cereals from other origins in the international markets, the regional markets of Eastern and Southern Africa and the Tanzanian domestic market could affect farmers in Tanzania. Given the importance of the coarse grains and rice subsectors for value added, employment and food consumption (and also given that Tanzania imports large quantities of coarse grains other than maize from OECD countries), it is justified to subject them to a more detailed analysis.

**Cassava** is the second most important crop in terms of value added (8.2% of agricultural GDP). It is also comes second, after maize, in terms of households involved in production. And it is the top non-cereal crop in terms of dietary caloric intake. The quantities of cassava imported and exported are negligible, and so is the trade balance. OECD countries only have a very small share of world imports and exports for cassava. For **sweet potato**, which is less important than cassava in both production and consumption, the situation is similar. The production of **Irish potatoes** is less than for cassava and sweet potatoes and the number of households producing them is smaller as well. As for cassava, quantities traded are negligible. In this case, however, OECD countries' exports represent a significant share of the international market. Because of the weakness of trade linkages between OECD countries and Tanzania for these crops (and the small importance of Irish potatoes in the Tanzanian agro-food system), we will not further analyse the impacts of OECD policies on these subsectors.

In terms of value added, **banana** is the top crop in Tanzania, representing nearly 13% of agricultural GDP. A large number of households are involved in banana production (although less than for maize, rice and cassava) and banana is a significant source of calories for households. Tanzania exports bananas in very small quantities, and just one-fifth of its exports are destined to OECD countries. The group of OECD countries play an important role in the international banana market as a major importer. Despite the importance of banana in the agro-food system, trade linkages with OECD markets do not appear as sufficiently strong to justify that we further examine the banana case.

**Beans** represent a major category of food crops, in terms of value added, agricultural labour and consumption. The quantities of beans traded across Tanzania's borders are small. Tanzania imports very small quantities of beans from OECD countries and its exports to these countries are slightly larger. OECD countries as a whole are not major players in international beans markets. Thus, beans will not be considered for the rest of the assessment.

Raw **sugar** represents a modest share, 1.2%, of agricultural GDP. A relatively small number of households (0.06m) grow sugar cane and about the same number of households are involved in sugar processing activities. Sugar, which is a significant component of the diet of households, is traded in sizeable quantities, Tanzania being a net importer of sugar. Tanzania exports raw sugar to OECD countries, mostly to the EU, and it imports mostly refined sugar from various producing regions in the world. OECD countries as a whole are net importers and absorb a lot of the sugar on the world market. These potentially strong trade linkages and the significant, although modest, role of sugar in generating household income, export earnings and other local economic and social benefits are good reasons for including the sugar subsector in the rest of the analysis.

**Fruits, nuts, vegetables and flowers** contribute a modest share of Tanzania's agricultural economy but quantities exported are relatively large and considerable shares of these exports are destined to OECD countries, especially for flowers and vegetables. These two categories are emerging export sectors and present opportunities for strong growth. OECD countries are important players in the international markets for fruits, nuts, vegetables and flowers, both as importers and exporters, and Tanzania's horticultural products probably face competition from OECD products and barriers to access to OECD markets. On the basis of recent dynamics in these sectors of Tanzanian agriculture and strong linkages with OECD markets, fruits, vegetables and flowers will be included in the rest of this exercise.

**Livestock** (meat and other non-fishery animal products) and **dairy products** constitute the second and fourth subsectors, respectively, in terms of value added. Quantities traded are modest, whether it is exports of livestock products (mostly honey, ivory powder and bones) or imports of dairy products. Tanzania is a net importer of dairy products, mainly of milk powder that satisfies a significant share of the domestic demand. For both categories, however, the values of total imports and exports and the value of trade with OECD countries are very small in comparison to domestic value added. OECD countries are large players in the international markets for both livestock and dairy products. Considering the larger share of imports from OECD countries in the domestic supply in the dairy subsector compared to the livestock subsector, we select the former for further analysis. In the category of animal products, **fisheries** produce a large amount of value added. Tanzania exports large quantities of fishery products, with most of its exports going to OECD countries.

**Traditional cash crops—coffee, tea, cotton, tobacco and cashew nut**—individually represent small shares of agricultural GDP. Nonetheless, in aggregate, they generate a considerable amount of foreign earnings and farm employment. **Cotton** is the most important cash crop in this respect (2.9% of agricultural GDP). **Tobacco** comes second, with 1.3% of agricultural GDP. **Coffee** and **tobacco** employ the most households of all the traditional cash crops. In terms of export value, **coffee** and **tobacco** come first and second, respectively. Cashew nut is third, cotton fourth and tea fifth. Coffee and tobacco are exported mostly to OECD countries. Tea is exported to OECD countries to a lesser extent. Cashew nut exports are almost entirely to non-OECD markets. The group of OECD countries as a whole is a major player in the international markets for cotton and tobacco. Taking into account the importance of cotton and tobacco subsectors in agricultural GDP, employment and export earnings, and also considering potentially strong linkages with OECD markets, these two products will be included in the rest of the exercise.

In summary, **the following agricultural (crops and livestock) subsectors in Tanzania have been identified as potentially being the most significantly affected by OECD agricultural and trade policies**, on the basis of their importance in the Tanzania agricultural economy, food availability and accessibility among the Tanzanian population, and trade linkages with OECD markets for these commodities:

- Maize and other coarse grains;
- Rice;
- Dairy products;
- Sugar;
- Vegetable and flowers;
- Cotton;
- Tobacco.

In the following sections we examine in detail only a few these cases, namely, the cereals, sugar and horticultural sectors, and analyse how OECD policies may have affected these subsectors in Tanzania.

## 5. Effects of OECD countries' policies on markets, trade and food security conditions in Tanzania

Trade and investment flows are central transmission channels from OECD countries' policies to food security conditions in developing countries. These (mostly) market-based interactions are conditioned by various policies of OECD countries. These policies include farms policies, trade policies, including unilateral, bilateral, and multilateral trade regimes, non-tariff measures regulating domestic markets and trade regimes, and domestic policies affecting markets and trade in developing countries. This chapter discusses how these different policies affect agricultural production in OECD countries and their agricultural trade as well as domestic agricultural development in Tanzania and eventually the four pillars of food security in Tanzania.

### 5.1. Evolution of farm policies in OECD countries and non-OECD countries and their spillover effects on international markets

#### 5.1.1. Overview of agricultural and food policies in OECD countries

In most OECD countries, the structure and performance of the agricultural sector is significantly affected by public policies. These policies often have multiple domestic goals, including food security, food safety, rural development and the provision of environmental services. Various policy instruments are used to achieve those objectives (including market price support, input subsidies, farm income support decoupled from production, and public support to rural infrastructure, agricultural research and other public goods). In the EU, the Common Agricultural Policy (CAP) established in 1962 is the main policy framework for the agricultural sector. In the US, the main agricultural and food policy framework is the Farm Bill, which has been modified approximately every five years since 1933.

To monitor agricultural policies and evaluate potential and actual reforms, the OECD has developed a set of indicators showing the monetary value of agricultural policy instruments. The most widely used of these indicators is the Producer Support Estimate (PSE), which measures the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, as the results agricultural policies (OECD, 2014). The PSE equals the value of the market price support, derived from the gap between agricultural prices and international reference prices, plus the value of monetary transfers to producers arising from other policy measures, measured at the farm gate.

In addition to the PSE, the OECD calculates a number of useful indicators including the Nominal Assistance Coefficient (NAC) and the Nominal Protection Coefficient (NPC). The NAC is the ratio between the value of gross farm receipts measured at the farm gate (including policy support) and gross farm receipts valued at border prices. The NPC measures the ratio between the average price received by producers at the farm gate and the border price (OECD, 2013). In the 1980s the level of agricultural supports in OECD countries was high, amounting to about one-third of gross farm receipts. Both the NAC and the NPC were well above unity, suggesting that domestic producers were protected and receiving prices far higher than what they would have received on international markets.

#### 5.1.2. Reforms of agricultural policies and decline in trade-distorting measures

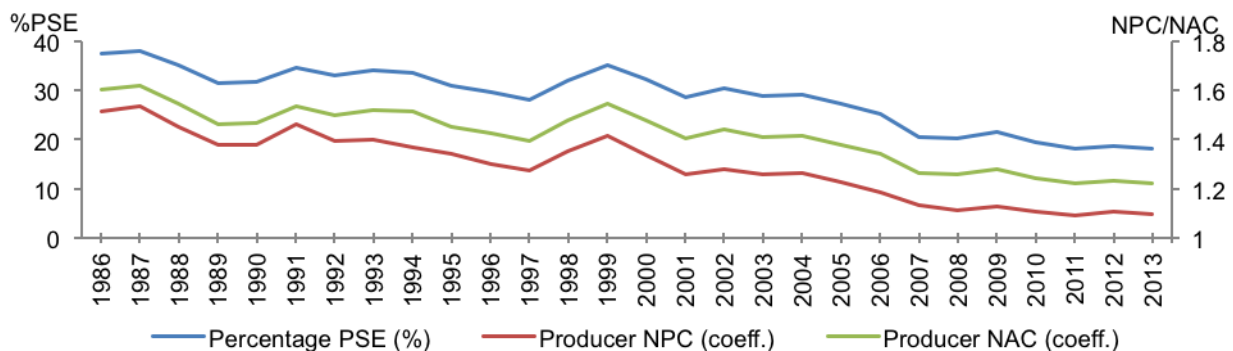
For years, agricultural policies in OECD countries have been criticised for having (unintentionally) important spillover effects beyond their borders, generally on developing countries (Brooks and Mathew, 2013). However, it has become clear that this narrative has changed over time. OECD data show that the level of

support for all countries has followed a downward trend. The average PSE slightly decreased from 36% in 1986-89 to 25% (2010-12). This decline is the result of external charges against these policies for their trade-distorting effects, domestic pressure within the OECD countries from various groups condemning their inefficiency, and the changing landscape of international markets.<sup>8</sup>

The charge against the high levels of support and protection for agriculture in OECD countries dates back from the early 1980s. Responding to these challenges, in 1982 OECD countries committed to reforming agricultural policies and more fully integrating the agricultural sector in the multilateral trading system (OECD, 2010). Agriculture was included in the GATT negotiations for the first time in 1985. The successful conclusion of the Uruguay Round and the signature of the Agreement on Agriculture (AoA) in 1994 brought about the most consequential shift in the agricultural trading system since the Second World War. For the first time, negotiated international rules applied to international trade of agricultural products and more importantly to domestic agricultural policies (Daviron and Douillet, 2014).

Since the mid-1980s, there have been numerous reforms undertaken in OECD countries to decrease or remove domestic farm support, generally moving from trade distorting measures to instruments that are less distorting. That is, it is generally accepted that price support is more trade distorting than direct payments that are decoupled from output and prices. The OECD produces an indicator of Trade-Distorting Support (TDS) that includes three types of support: support based on commodity output; payments based on variable input use and cropped area and number of animals; payments based on current receipts and income, with some production requirements. At the WTO, these forms of support, stemming from domestic support, import protection and export subsidies are classified in the "amber box" and are subject to reduction commitments (Díaz-Bonilla and Reca, 2000). Since 1986, there has been a sizeable reduction in the most distorting forms of farm support in OECD countries. However, there are disparities in the trends for high-income OECD countries and the newer members of this group. In the high-income countries, the share of TDS in the PSE was cut in half between 1986-89 and 2010-12. The reduction in TDS was particularly marked in the EU. In contrast, in the newer OECD countries, the share of TDS has decreased much more slowly.

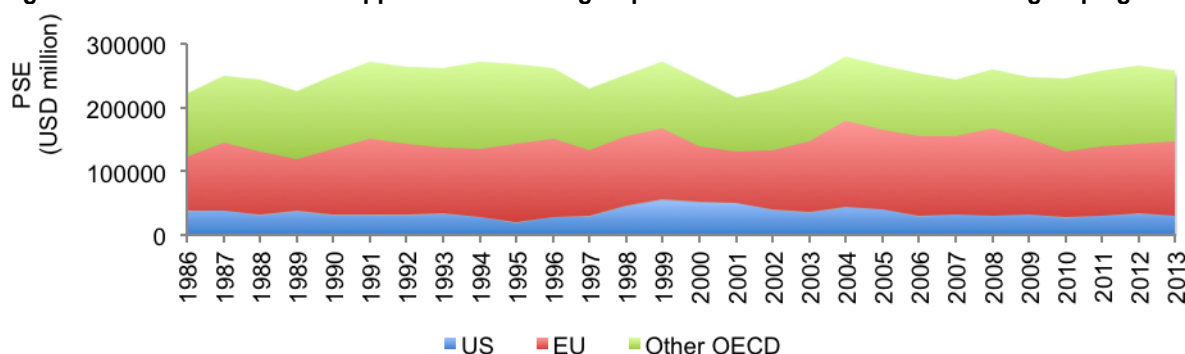
**Figure 16: Domestic support and level of protection in OECD countries**



Source: OECD, 2014.

<sup>8</sup> The first major reforms of the CAP were driven by the objectives to increase price competitiveness in domestic and international markets and reduce the CAP's budget.

**Figure 17: Value of domestic support in the OECD group and distribution across selected groupings**



Source: OECD (2014).

**Table 5: Average trade-distorting supports as a share of PSE**

|                    | 1986-89 | 1990-94 | 1995-99 | 2000-04 | 2005-09 | 2010-12 | TDS value 2010-12<br>(millions US \$) |
|--------------------|---------|---------|---------|---------|---------|---------|---------------------------------------|
| OECD               | 93%     | 92%     | 89%     | 84%     | 62%     | 53%     | 95 029                                |
| High income        | 93%     | 91%     | 89%     | 85%     | 60%     | 48%     | 73 732                                |
| Australia          | 87%     | 94%     | 69%     | 6%      | 29%     | 28%     | 381                                   |
| Canada             | 89%     | 89%     | 83%     | 84%     | 81%     | 94%     | 7 036                                 |
| Switzerland        | 96%     | 93%     | 86%     | 75%     | 71%     | 67%     | 3 863                                 |
| EU                 | 95%     | 93%     | 96%     | 94%     | 60%     | 41%     | 43 191                                |
| Iceland            | 93%     | 95%     | 85%     | 80%     | 78%     | 74%     | 104                                   |
| Israel             |         |         | 90%     | 90%     | 89%     | 94%     | 900                                   |
| Japan              | 95%     | 96%     | 95%     | 95%     | 93%     | 91%     | 55                                    |
| Norway             | 97%     | 98%     | 98%     | 92%     | 84%     | 85%     | 3 357                                 |
| New-Zealand        | 24%     | 61%     | 60%     | 54%     | 75%     | 82%     | 106                                   |
| USA                | 88%     | 83%     | 68%     | 65%     | 52%     | 49%     | 14 738                                |
| Emerging economies |         | 93%     | 87%     | 80%     | 79%     | 83%     | 21 296                                |
| Chile              |         | 96%     | 86%     | 68%     | 44%     | 27%     | 92                                    |
| South Korea        | 99%     | 98%     | 97%     | 99%     | 95%     | 95%     | 18                                    |
| Mexico             | 54%     | 87%     | 54%     | 72%     | 51%     | 55%     | 3 765                                 |
| Turkey             | 99%     | 99%     | 99%     | 87%     | 90%     | 94%     | 17 422                                |

Source: Authors' calculations from Debar and Douillet (2014) and OECD data.

Note: UE12 in 1986-94 (RDA included from 1990); UE15 in 1995-2003; UE27 from 2007.

### 5.1.3. Changing conditions in international markets and increasing farm support in non-OECD emerging economies

Whereas from the 1980s to the 2000s, international trade negotiations have clearly influenced policy reforms in OECD countries, in recent years changes in farm support levels were in many countries driven by developments in international markets rather than by structural policy changes. Following the price spike of 2008, the context of agricultural markets has changed in many ways, and so have the implications of farm policies in OECD countries and their spillover effects on developing countries. In particular, when international prices rise, and especially when they are higher than guaranteed prices in domestic markets (if any), market price support as well as other forms of transfers to farmers automatically decreases (Brooks, 2013). The reduction in market price support due rising international prices is reflected in the PSE. It is also possible that agricultural trade policy reforms since the Uruguay Round, by removing obstacles to trade, have improved the functioning of international markets in the face of supply and demand fluctuations, and thus reduced the need for market price support during price slumps.

**Table 6: Producer support estimates in OECD and non-OECD countries**

|                             | PSE as share of farm receipts |         |         |         |         |         | PSE<br>(Millions US \$) |
|-----------------------------|-------------------------------|---------|---------|---------|---------|---------|-------------------------|
|                             | 1986-89                       | 1990-94 | 1995-99 | 2000-04 | 2005-09 | 2010-12 | 2010-12                 |
| OECD countries              | 36%                           | 34%     | 31%     | 30%     | 23%     | 25%     | 180 524                 |
| High income                 | 31%                           | 28%     | 27%     | 26%     | 20%     | 14%     | 155 028                 |
| Australia*                  | 9%                            | 9%      | 5%      | 4%      | 4%      | 3%      | 1 371                   |
| Canada*                     | 33%                           | 28%     | 16%     | 20%     | 17%     | 15%     | 7 467                   |
| Switzerland*                | 75%                           | 72%     | 70%     | 70%     | 60%     | 55%     | 5 730                   |
| EU*                         | 37%                           | 36%     | 35%     | 33%     | 25%     | 19%     | 105 305                 |
| Island*                     | 75%                           | 70%     | 65%     | 66%     | 58%     | 45%     | 140                     |
| Israël*                     |                               |         | 20%     | 16%     | 10%     | 12%     | 960                     |
| Japan*                      | 62%                           | 57%     | 59%     | 57%     | 50%     | 54%     | 61                      |
| Norway*                     | 69%                           | 71%     | 68%     | 69%     | 61%     | 61%     | 3 952                   |
| New-Zealand*                | 8%                            | 1%      | 1%      | 1%      | 1%      | 1%      | 129                     |
| USA*                        | 22%                           | 17%     | 17%     | 19%     | 11%     | 8%      | 29 913                  |
| OECD Emerging economies     | 13%                           | 26%     | 19%     | 22%     | 21%     | 18%     | 25 496                  |
| Chile*                      |                               | 10%     | 9%      | 7%      | 4%      | 3%      | 342                     |
| Korea*                      | 72%                           | 73%     | 65%     | 60%     | 55%     | 49%     | 23 570                  |
| Mexico*                     | 6%                            | 25%     | 11%     | 20%     | 13%     | 13%     | 1 565                   |
| Turkey*                     | 21%                           | 29%     | 29%     | 28%     | 29%     | 24%     | 19                      |
| Non-OECD Emerging Economies |                               | 0%      | 1%      | 6%      | 9%      | 14%     | 171 488                 |
| Brazil                      |                               |         | -9%     | 5%      | 5%      | 5%      | 8 728                   |
| China                       |                               | -6%     | 1%      | 6%      | 9%      | 15%     | 135 367                 |
| Indonesia                   |                               | 4%      | -8%     | 9%      | 5%      | 19%     | 23 570                  |
| Kazakhstan                  |                               |         | 11%     | 5%      | 10%     | 12%     | 1 565                   |
| Russia                      | 79%                           | 53%     | 14%     | 12%     | 18%     | 16%     | 14 979                  |
| Ukraine                     | 75%                           | 52%     | -5%     | 2%      | 7%      | 1%      | 280                     |
| South Africa                |                               | 9%      | 10%     | 7%      | 5%      | 3%      | 499                     |

Source: Debar and Douillet 2014 from OECD data.

Note: UE12 in 1986-94 (RDA included from 1990); UE15 in 1995-2003; UE27 from 2007. \* OECD countries.

Emerging economies have provided increasing amounts of transfers to their agricultural sector (for example, this trend is documented in Anderson (2010)). While the PSE in high-income countries fell from 27% of farm receipts in the period 1995-99 to 14% in 2010-12, the PSE for non-OECD emerging economies increase from 1% to 14%. These averages mask wide disparities among emerging economies. From 1995 to 1999, the PSE grew rapidly in China and Indonesia. In Brazil, the PSE went from negative to positive, although it has remained quite low. Meanwhile, the PSE decreased significantly in Europe and the United States. Looking at farm support in absolute value, it appears that China spent more than the EU during that period (135 billion US\$ vs. 105 billion US\$). Overall non-OECD emerging economies transferred almost as much support to agricultural producers as OECD countries as a group. In recent years, non-OECD countries have accounted for the major part of trade-distorting support globally. In 2010-12, China's TDS was almost three times as much as the EU's, which represented almost half of the OECD group's TDS.

**Table 7: Average trade-distorting supports as a share of PSE in OECD and non-OECD countries**

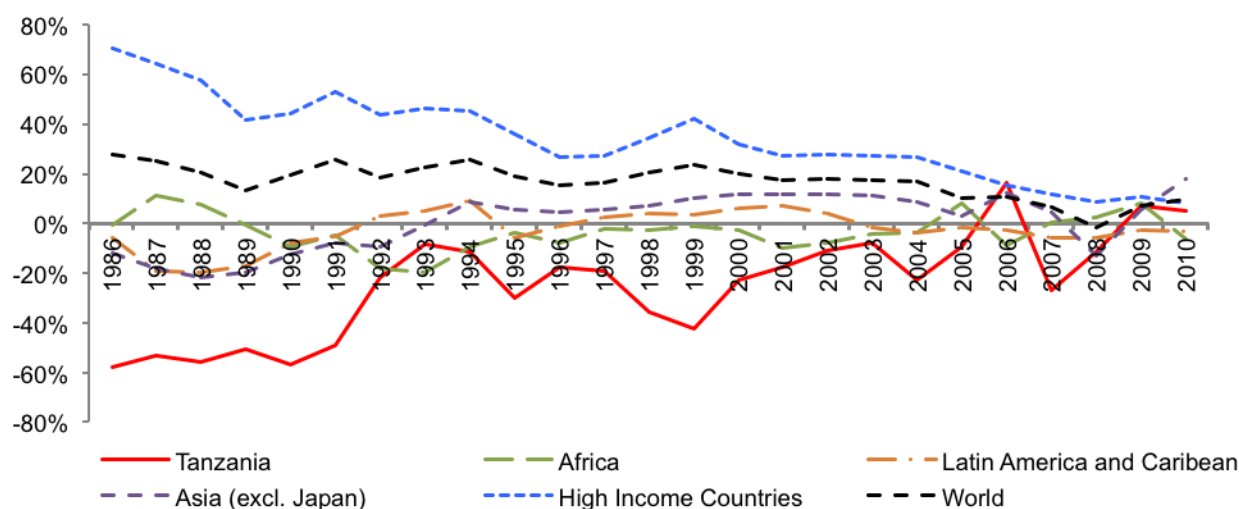
|                             | 1986-89 | 1990-94 | 1995-99 | 2000-04 | 2005-09 | 2010-12 | TDS value 2010-12<br>(millions US \$) |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------------------------------------|
| OECD countries              | 93%     | 92%     | 89%     | 84%     | 62%     | 53%     | 95 029                                |
| High income economies       | 93%     | 91%     | 89%     | 85%     | 60%     | 48%     | 73 732                                |
| OECD Emerging economies     |         | 93%     | 87%     | 80%     | 79%     | 83%     | 21 296                                |
| Non OECD Emerging Economies |         |         | <0%°    | 69%     | 75%     | 87%     | 161 080                               |
| Brazil                      |         |         | 131%*   | 52%     | 67%     | 80%     | 6 964                                 |
| China                       |         | 112%*   | -33%°   | 64%     | 71%     | 86%     | 116 764                               |
| Indonesia                   |         | 83%     | 105%*   | 97%     | 96%     | 99%     | 23 410                                |
| Kazakhstan                  | 0%      | 0%      | 95%     | 96%     | 87%     | 89%     | 1 413                                 |
| Russia                      | 96%     | 96%     | 70%     | 75%     | 86%     | 80%     | 11 975                                |
| Ukraine                     | 98%     | 98%     | 113%*   | 80%     | 93%     | 55%     | 156                                   |
| South Africa                |         | 99%     | 99%     | 96%     | 88%     | 80%     | 398                                   |

Source: Authors' calculations from Debar and Douillet (2014) and OECD data.

#### **5.1.4. Domestic agricultural policies in developing countries and in Tanzania**

The seminal study by Krueger et al. (1991) showed that the low performance of the agricultural sector in many developing countries between the 1960s and the mid-1980s was not solely due to the detrimental effects of OECD countries' policies. It showed that many developing countries, including LDCs, not only had not supported agriculture, unlike high-income countries, but they had also taxed it through various policies, including fiscal, trade and macroeconomic policies. Historical data from the Nominal Rate of Assistance database (Anderson and Nelgen, 2011) confirm that for a long time the poorest developing countries were also those most heavily taxing the agricultural sector. In Tanzania, as well as in Sub-Saharan Africa in general, the NRA was consistently negative until the 1990s. Economic reforms undertaken in the mid-1980s and early 1990s led to an improvement in price incentives for agricultural producers and agro-food value chain operators, although they did not completely remove the policy bias against rural economies. Developing countries in other regions exhibit a similar trend: Latin American, Caribbean and Asian countries taxed the agricultural sector until the early 1990s and since then they have generally supported it. However, there are significant disparities among and within these regions: the NRA in Asian countries rose much more rapidly than for Latin American countries and Sub-Saharan African countries (10, -2 and -3%, respectively, in 2008-10). Within the Asia groupings, rising farm support has mostly been driven by China and India.

**Figure 18: NRA for Tanzania and several country groupings**



Source: Authors' calculations using World Bank data.

Note: Regional aggregates are arithmetic averages following the World Bank's methodology.

S

## 5.2. Effects of OECD agricultural policies on food security: causal linkages and empirical evidence

The potential effects of OECD countries' agricultural and trade policies, particularly those that are trade distorting, on food security conditions in Tanzania can be traced through distinct channels as shown in Figure 19. These agricultural policies first and foremost affect farm production and the supply of raw and processed agricultural products in OECD countries, which then affect their export supply and import demand. A second major causal chain concerns the short-term variability of agricultural prices. OECD countries can affect domestic and international price volatility through various policies affecting farm production and the trading sector, which then can affect access and incentives in the supply chain in Tanzania. The third major channel is based on agricultural exports from Tanzania to OECD markets. Policies affecting market access for Tanzania exporters can affect the revenues of Tanzanian producers and access conditions for households relying on those export sectors for their livelihoods. The effects of different OECD policies might also interact through these different channels.

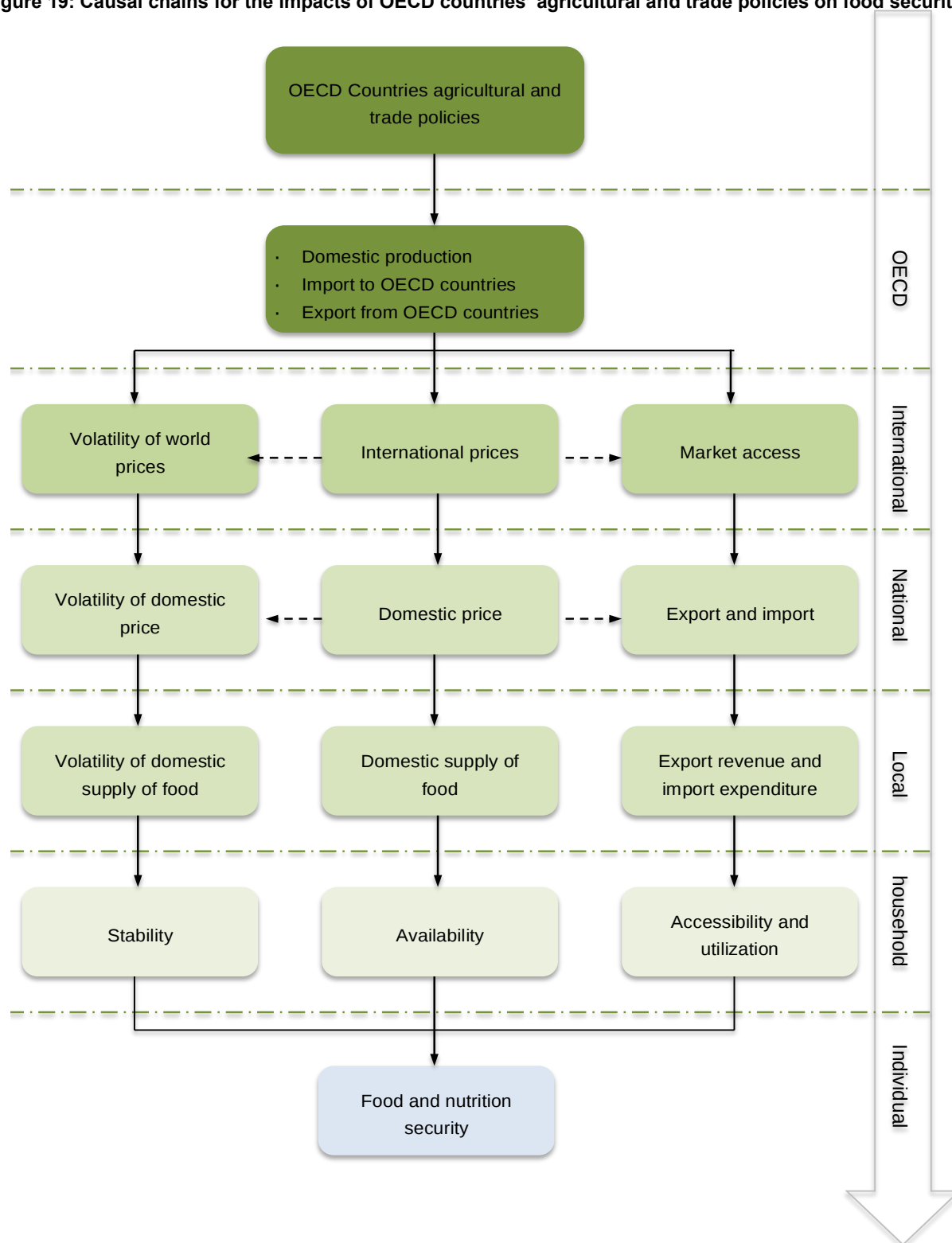
### 5.2.1. Effects of domestic farm support in OECD countries on production and exports and reduce market access

Historically, agricultural policies in many OECD countries aimed to reach production targets for different products so as to achieve food self-sufficiency and farm income objectives. For a long period of time in the post-war period, large amounts of farm support to producers and other private operators in OECD countries have provided them with incentives to produce agricultural commodities in quantities larger than domestic consumption needs and exports demanded at prevailing international market prices. The dominant narrative about agricultural policies in OECD countries (especially the EU and the US) is that since the 1980s, domestic market price support and other forms of subsidies have stimulated domestic farm production by artificially lowering production costs and raising farm product prices well above international market prices and also above prices that would have prevailed without government intervention (Brooks, 2012). Those policies, including production and export subsidies, stimulated growth in agricultural output and exports during a long period of time, while at the same time many developing countries were becoming more import dependent (Helming et al., 2011). It is generally recognised that the CAP has allowed the EU to reach self-sufficiency and even produce more than domestic consumption

needs in the case of many agricultural commodities, whereas it was a net importer when the CAP was introduced. As Figure 20 shows, EU output of cereals, milk, meat and sugar increased rapidly from the mid-1970s to the early 1990s. This trend in output is reflected in the agricultural trade balance of the EU, which went from a net import to a net export position for several commodities. After that output grew more slowly or flattened out. This inflexion point corresponds to the implementation of major farm policy reforms in OECD countries, notably the 1992 reform of the CAP, which led to a reduction in farm support and a liberalisation of agricultural markets.

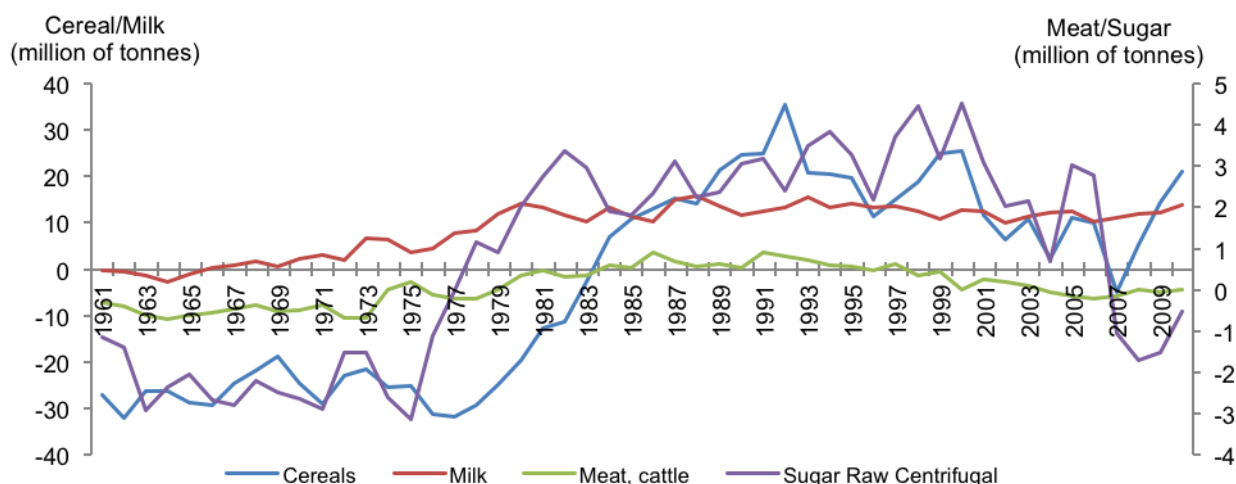
Over time, as reforms were implemented, agricultural policy objectives shifted away from market outcome targets and instead aimed at achieving non-market outcomes, notably food safety, rural development, and environmental issues. The EU CAP is a good example of such an evolution in agricultural policy (for example, see Keijzer and King, 2012), where decoupled farm payments were substituted for market price support and input subsidies. In the US, the Farm Bill provided little support in the form of decoupled farm payments (“direct” payments were removed from the Farm Bill in 2014). Similar changes took place in other OECD countries.

Figure 19: Causal chains for the impacts of OECD countries' agricultural and trade policies on food security



Source: Authors.

**Figure 20: Agricultural (selected commodities) trade balance (export-import) in the EU**



Source: FAOSTAT, 2014.

### **5.2.2. Domestic support in OECD countries depress international prices/increase supply/reduce market opportunities for developing countries exporters**

Up until the late 1990s, excessive agricultural production in some OECD countries led them to export sizeable quantities of agricultural commodities, which put downward pressure on international prices. Even earlier than that, the EU, for example, filled its structural deficit for a number of commodities, which led to a reduction in its imports. Private and public stocks of agricultural commodities built up rapidly in the 1980s and early 1990s, and some of this surplus was sold in the international market with the help of export subsidies or disposed of as food aid. These excessive exports, as well as reduced imports, put downward pressure on international prices and resulted in lower prices and increased imports in many developing countries. This was the case in particular for cereals, dairy products, sugar and cotton. For example, a number of studies showed that sugar policies in OECD countries, especially in the EU, depressed international prices for a long period of time. The implications of those changes in agricultural price levels are discussed below.

However, this changed at the turn of the decade. The reforms enacted in the 1990s started to produce visible effects in the early 2000s as EU and US agricultural exports began to decline or grew more slowly. Meanwhile, new, low-cost exporters of agricultural commodities started to play a significant role in international markets, notably Brazil (for example, in the sugar sector). The combination of these two opposite factors left international prices relatively stable. However, in the second half of the 2000s, in the period leading up to the 2008 food price crisis, other factors tilted the balance between supply and demand, with the latter growing faster. These factors included fast consumption growth in China and other emerging economies and slower agricultural productivity growth worldwide, in the general context of rapid, credit-fuelled global economic growth. Following the 2008 food price crisis, which was also the result of production shocks in key cereal producing areas, the utilisation of coarse grains and oilseeds for biofuels in the EU and the US increased, which in combination with the other medium-term factors aforementioned maintained agricultural commodity prices relatively high. In the 2010s prices have remained relatively high, although they followed a downward trend in 2013-14.

This rise in international prices in the 2000s, in turn, resulted in a decrease in farm support in OECD countries, especially for the market price support and export subsidy schemes that remained in place through successive reforms since the early 1990s. In recent years, domestic prices in the EU and the US

have been comparable to international prices both in terms of level and trend. In particular, the EU farm sector has not received export subsidies for crops and livestock products in the 2010s.

### **5.2.3. Effects on domestic markets in developing countries**

The effects of OECD countries' farm policies on international markets as described above have had repercussions on developing countries' agricultural value chains and food security conditions through various channels. Theoretically, repercussions on the domestic market in Tanzania can occur under three scenarios:

1. Sectors in which Tanzania is an exporter;
2. Sectors in which Tanzania is an importer;
3. Sectors in which Tanzania neither exports nor imports.

In case 1, trade-distorting farm policies in OECD countries would entail an excessive export supply from these countries, and so a higher supply and a lower price in the world market compared to a situation without such farm policies. At that international price, few Tanzanian exporters would be cost-competitive and they would export smaller quantities of product than without those farm policies. That is, they would export less either to OECD countries or to other importing countries. A similar argument can be made about the regional market. The penetration of imports from OECD countries with trade-distorting farm policies would affect Tanzania in much the same way. In case 2, trade-distorting farm policies in OECD countries, again, would entail a higher supply and a lower price in the world market compared to a situation without such farm policies. At that international price, Tanzanian traders would not be competitive enough to export to the international market, but Tanzanian importers would find it profitable to source products from the international market (either from OECD countries or other exporters) so as to supply the domestic market. They would import greater quantities than without those OECD farm policies. In the third case, at the price prevailing in the international market, neither exporters nor importers in Tanzania find it profitable to trade the agricultural commodity in question with international traders, after taking into account trade costs (logistical, transportation and insurance costs, in addition to import duties/export taxes). However, even in this situation, trade between Tanzania and other countries in Eastern and Southern Africa may be affected by OECD countries' farm policies if the cost structures in neighbouring countries allow them to trade products with international buyers/suppliers. For example, by importing more from OECD countries, they would import less from Tanzania. Empirically, the way in which OECD markets interact with the Tanzanian domestic market can be determined by examining relations between prices in these markets.

### **5.2.4. Price transmission argument**

Changes in international markets due to OECD countries' policies will actually have repercussions on the Tanzanian market if there is actual trade, that is, if transportation and logistical costs for Tanzanian exporters and importers are not too high and if policy barriers to trade do not prevent trade flows. Whereas it may be difficult in practice to measure trade flows or trade costs, it is relatively easy to examine the degree of correlation between international prices and prices in the domestic market in Tanzania. The relation between international and domestic prices is also referred to as price transmission or market integration. A high degree of correlation, or transmission, between international and domestic prices indicates that competing traders can take advantage of arbitrage opportunities due to differences these prices, taking into account trade costs, and that there are significant trade flows.

Agricultural price transmission from international markets to domestic markets in developing countries is a widely studied topic. For most cash crop exported by Tanzania, price have been heavily regulated until the vague of liberation in the mid 1990s and early 2000s. Since then, the price of most cash crops has been gradually linked to world markets though there are still sporadic government interventions to regulate price.

For instance, since 2000 the price of cotton paid to producers is determined each year with consultation with all stockholders involved in the cotton sector taking into production cost as well the trend and forecast in the internal cotton price. Obviously the lower is the international price, the lower the price received by producers. However, the transmission is often asymmetric short term or temporary increase in cotton price does not necessarily translate into better price for farmers.

The case food crop is different and more relevant for food security. A steady stream of price transmission research on African agricultural output markets has rigorously tested hypotheses relating to how completely and quickly demand or supply shocks transmit across space and time. Daviron and Douillet (2014) reviewed the literature on price transmission in food commodities in food insecure countries to see where Tanzania stands compared to other food insecure countries. Those studies have been able to precisely identify where transport costs, trade policies, etc. lead to inefficiencies in product market performance. Several studies have highlighted the low level of price transmission from international markets to African food markets including Tanzania (Quiroz and Soto, 1995; Conforti, 2004; Daviron et al. 2008, Meuriot, Temple et al. 2011, Minot, 2011, etc.).

Looking at the specific relationship between international and Tanzanian domestic prices of maize, rice, and cassava using monthly data from 44 Tanzanian markets over the period 1983-98 Delgado, Minot and Tiongo (2005) have showed that at least a quarter of locally produced food staple were behaving as non-tradable. The researchers estimated real domestic retail prices of the three commodities as a function of international prices for maize, rice, and wheat; the exchange rate; local and national production of the crop in the most recent harvest; seasonal dummy variables; and a time trend. Separate regressions were run for markets with good and poor access to Dar es Salaam, the main port. The results indicated that rice prices in all local markets were connected to the international rice price with a 20-40% transmission, though local prices are also influenced by the size of the local harvest. In contrast, cassava prices in all local markets were not connected to the international prices of rice, wheat, and maize, but were connected to local cassava production. Maize was in an intermediate position, its prices being influenced by the size of the harvest in all markets and by international prices only in the well-connected markets.

More recent analysis of Minot 2010 looking at price transmission within Tanzanian markets, found that there were significant marketing inefficiencies that additionally to transport costs reduced the integration of markets. On the period 2005-10, the researcher did not find a very close connection between world prices and domestic markets for maize, sorghum, and rice. This is not surprising in the case of maize and sorghum, since there were little international imports in those years, but it is somewhat surprising in the case of rice which was more traded then. His hypothesis is that administrative procedures required for rice imports made it difficult for importers to take advantage of arbitrage opportunities. On the other hand, he found that food prices in different markets of Tanzania appeared to move together in response to weather-related supply shocks, price differences between markets followed expectations, with the surplus regions having the lowest prices and deficit regions having the highest prices.

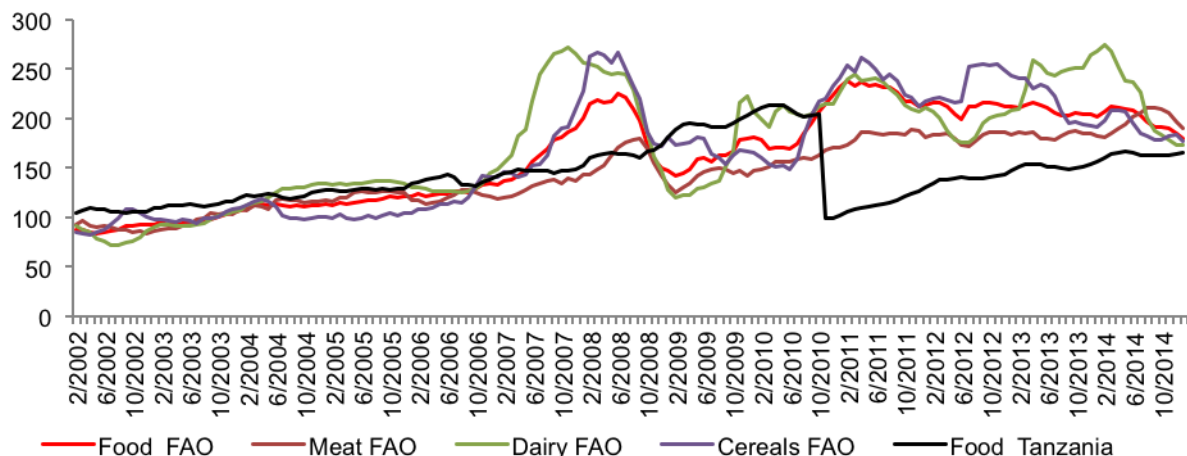
Based on the analyses of food markets in 9 African countries, Minot (2011) found that only 13 of 62 African food prices showed a statistically significant long-term relationship with international prices. Seven of the 67 prices tested showed a statistically significant increase in volatility between 2003-2006 and 2007-2010 and 17 prices showed a statistically significant decrease in volatility between these two periods. The remaining 43 prices tested did not show any statistically significant change in volatility between 2003-2006 and 2007-2010. Interestingly he highlighted that maize price volatility was actually higher in countries with the most active intervention to stabilize maize prices, which is not the case of Tanzania in those years. He also found that whether a country has a coast or not is only a rough measure of the access that traders in

the country have to international markets. For example, although Tanzania is a coastal country, the Kagera region in western Tanzania has less access to international markets than Kampala, even though Uganda is a landlocked country.

Abstracting from the price transmission for a specific commodity (more on that in the commodity specific case studies), we look at the aggregate transmission of change in food price to the aggregate price index in Tanzania. The Figure 21 presents the monthly value of the FAO food price index and its subcomponent related to cereal, dairy, and meat along with the Tanzanian food (excluding alcohol and beverage) price index. Except in September 2010 which marks a change in the base year for the computation of inflation by the Tanzanian National Bureau of Statistics, the series of food price index in Tanzania is positively correlated with international price indexes. Over the whole period 2002-2014, the correlation between Tanzanian food price index and FAO food price index is 0.36. The correlations with the subcomponents are respectively 0.40 with meat (including poultry), 0.38 with dairy products and 0.31 with cereals. When restricting to the sub-period before September 2010, the correlation ranges between 0.60 and 0.81.

However, number of studies conducted prior to 2008 indicates that international price variability have historically explained a very small share of domestic price variability in developing countries, and that domestic price volatility had mainly been of domestic origin (Byerlee *et al.* 2005). This has very likely been true in the case of Tanzania and is linked to the semi-tradability of many staples.

**Figure 21: International food price indexes and food price index in Tanzania**



Source: FAOSTAT (2014) and NBS (2014).

#### **5.2.5. Domestic supports in OECD countries increase volatility in international prices**

Whereas agricultural policies in OECD countries have had an influence on the level of international agricultural commodity prices, they have also had an effect of price variability by creating volatility (that is, excessive price variability) (Matthews, 2011). The main mechanism by which these policies have induced volatility is by “insulating” farmers and other value chain operators from price signals coming from international markets. In particular, the combination of minimum guaranteed prices, irrespective of international prices, and public stockholding, meant that farmers and processors in OECD countries with such policies would produce commodities in quantities greater than what the domestic and international markets could absorb at prevailing market prices. When international would go down due to an increase in supply, farmers received a minimum guaranteed price (above the international price) would produce as much as in prior conditions, which would further destabilise the supply-demand balance and induce a price

decline. When prices would go up, production quotas in the EU (for milk, sugar and other products) would limit upward adjustment in domestic production and further contribute to the price increase. As such, many observers argued that the EU CAP stabilised European farmers' incomes but "exported" volatility onto world markets (Cantor, 2012; Tangermann, 2011; Brooks and Mathew, 2013). The changes in OECD countries' farm policies that have taken place since the 1990s have alleviated this negative effect. Public stockholding in the EU was abolished in 2008, except for wheat, and reforms have limited the use of export subsidies. Domestic and international markets have become more responsive to changes in the drivers of supply and demand following farm sector reforms in OECD countries and WTO agreements on trade rules. In the run-up to the 2008 food price crisis, the increase in prices reflected a fundamental shift in the supply-demand balance, and this led to an increase in investment in agriculture in subsequent years. However, it appeared during the 2008 crisis and subsequent episodic price rises that many emerging and developing countries were not equipped with adequate policy instruments to deal with market risks and temporary supply-demand imbalances (well-functioning national food reserves, regional food markets, market and food security information systems, social safety nets and so on). To cope with the uncertainty about their ability to procure food commodities from the international market at affordable prices, they resorted to temporary, destabilising measures.

Besides OECD countries' farm and trade policies, new sources of agricultural price volatility emerged in the 2000s, especially during price spikes in 2007-08 and 2011-12. According to the HLPE (2011), *'trade measures adopted in reaction to the initial food price rises [in 2007-2008] played a decisive role in amplifying the problem'*. During that crisis, among emerging and developing countries, large exporting countries abruptly imposed export restrictions (export taxes, licenses, and bans) that reduced supply in international markets while importing countries adopted various import facilitation measures that increased demand, for cereals in general and for rice in particular<sup>9</sup> (Dawe and Slayton, 2010; Headey, 2011). These policy responses exacerbated the upward pressure on prices and created uncertainty in the market, which contributed to that crisis (Sharma, 2011; von Braun, Algieri and Kalkuhl, 2014). In 2011-12, policy measures taken by emerging and developing countries again contributed to the destabilisation of markets. These crisis episodes show that the problem of policy coherence for food security should be considered broadly by also taking into account the emerging and developing countries themselves.

### Quantity and income effect of change in domestic price

Price and quantity effects are distinct on the production and consumption side. On the supply side, a review of the numerous ex-post micro-level analysis of the supply response of farmers in developing countries to the increased agricultural prices of 2006-2008. Aksoy and Hoekman (2010) present a review of the past literature on supply response and several new case studies which highlight that factors such as credit constraints and possible asymmetries in responses to price, where **farmers would expand output with a lag if price increase is sustained enough, but might answer more rapidly to price drops, largely reducing long term investment**. Cadot et al. (2006) look at the entry cost of moving out of subsistence farming into commercial farming in Madagascar and find that the extent of those costs hamper the poorest farmers from switching to commercial agriculture.

Hence, local constraints have larger impacts on food security than international transmitted price and quantity effects. Particularly, transport costs loom large in African maize markets because the grain's low value-to-weight ratio, the long distances between population centers, and rudimentary transport infrastructure substantially inflate the costs of maize trade. This can lead to more volatile local prices, raise the cost of purchased inputs, reduce farmgate prices on surpluses exported to other regions or countries, thereby threatening food security, particularly in remote areas where transport costs are especially large.

---

<sup>9</sup> Rice export restrictions in India, Thailand and Vietnam.

Moyo and Harou (2013) document findings from in depth interviews across Tanzania that suggest that the price of maize fluctuates significantly over the course of a year due to seasonality and to many other factors beyond the control of smallholder farmers, e.g., rainfall, demand from neighboring countries, etc.

While price increases may benefit producers, most smallholder producers actually become maize buyers when prices are highest, having sold their reserves post-harvest. Because maize is a staple food consumed by most Tanzanian households, households are forced to make adjustments that still allow them to consume maize daily. Coping mechanisms include finding additional sources of revenue, skipping meals, eating less and/or substituting maize with other crops, some of which may have strong nutritional implications, especially for young children.

Hella and al. (2009) looked at the 2007-2008 increases in prices of staple food, through qualitative case studies in two regions Tanzania. They found that price increase were likely to raise the real incomes of those selling food (producers in rural areas), many of whom are relatively poor, while hurting net food consumers (consumers in rural and urban areas), many of whom are also relatively poor. Due to the subsistence nature of the Tanzanian economy, the traditional consumption and production behaviors and to some extent the pricing policy, institutional support and market failure, the impacts in terms of gaining or losing was certainly very diverse. Results using household and secondary data for the two study regions showed that the short-run impacts of higher staple food prices on the poor differ considerably by commodity, by region and by income status of the consumer. The large increases in food prices appeared likely to raise overall poverty although substantially more in food deficit households. In the short term, the winners were those who produced the most important and most preferred staples (mainly maize and rice) in large quantities; who lived and farmed close to good and all-weather roads that link to the main market; who could postpone selling when prices are low (soon after harvest) and sell when prices are good; who had access to inputs and technology; who also might produce less perishable produce, thus not affected by seasonal price variations, and who kept livestock which could be sold to buy staple food when the need arise. The losers were the poor consumers and low producers who could not produce enough for their households and thus had to buy extra food at the local market; who could not produce crops which are favored by the consumers; who resided in remote and poor accessed villages; and who produced crops which are of national interest in terms of food security (maize & rice) thus were bonded by the laws and regulations on what, when and where to sell. But this analysis, however relevant in the short term, is bound to change in the medium to long term, as the composition may change with structural development.

Arndt (2013) used a carefully calibrated CGE model to simulate the effects of an oil and grain price shocks on Tanzania's terms of trade and welfare. The advantage of using this tool, which is complementary to what has been done by other studies, is to have insight both on the short and long term effects. In the short term, positive grain and oil price shocks are found to cause significant welfare losses because Tanzania is a net importer in both sectors. In the longer term, however, the economy is expected to adjust to price changes by producing and exporting more high-value crops and substituting away from imported oil to the degree possible. With respect to agricultural price shocks, immediate welfare impacts depend on the import and export composition of the products whose prices have changed. The agricultural sector is found to shift to producing and exporting fewer commodities whose world prices have remained constant or declined, such as maize and milled rice, and more commodities whose prices have risen, such as coffee and processed sugar. Increases in agricultural prices for both imports and exports tend to favor the rural sector over urban sectors due to the higher number of rural producers that may benefit from price increases.

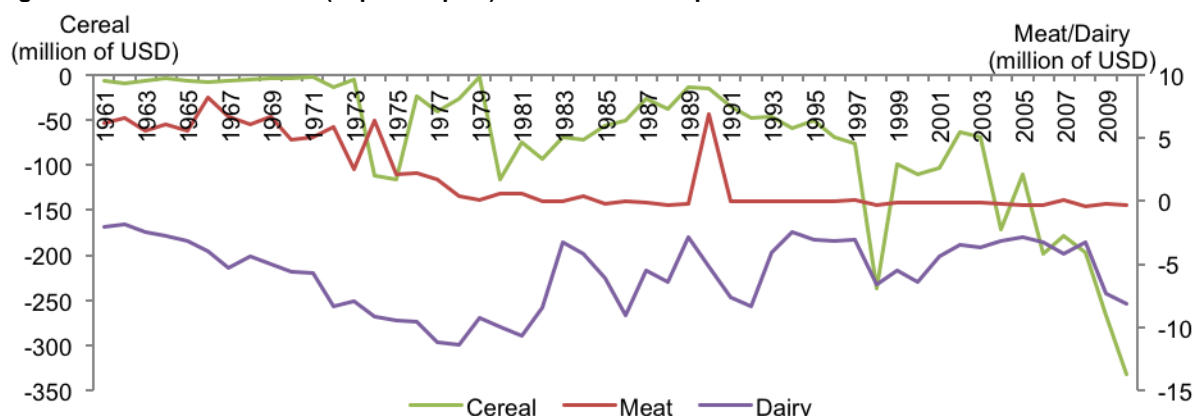
## OECD countries agricultural policies and the pillars of food security in Tanzania

OECD countries agricultural policies, through the price, quantity and income effects discussed above can influence substantially each dimension of food security in both positive and negative ways. By increasing domestic production in OECD countries and export to world market, they can increase food availability (imported food) in developing countries like Tanzania. Yet increase in import can raise concerns about import dependence and undermines the development of the local agricultural sector making the country vulnerable to variability and shocks on international markets. By depressing price of imported foods and cash crop export, they can improve the food access of net consumers whose (relative) incomes rise, but not (immediately) of those million of smallholder subsistence producers who derived a substantial share of their income from sale of cash crops and food crops on local market and use this income for subsequent production and to buy diversified. OECD countries a can improve the diversity of diets by mean of import of processed nutritious food and, but may introduce some new threats to nutrition. Finally, it reduces the risks associated with poor domestic harvests, but makes international instability a more relevant issue. The balance of such trade-offs is assessed in this paper.

Historically Tanzania has relied on agriculture to feed its population and generate export earnings. Although domestic production is the main source of consumption, the country depended and continues to depend on import mainly of cereal, rice and processed food for consumption. Looking at the aggregate food and agricultural trade balance of Tanzania, it seems that the country has always been a net-exporter of agricultural products. From 1962 to the late 1970s export revenue of agricultural product greatly outpaced import expenditure. However, since then, the gap has been consistently narrowing, with some fluctuations, to reach a point at which export earning was not enough to cover import bill in 1998 and a second time at the height of the global food crisis in 2007-2008. The down trend in the value of agricultural trade balance reflect more a decline in the term if trade, exacerbated by slow productivity increase, which could be due, at least partially to the suppression of the internal price of the country main exports commodities; suppression that has been largely attributed to the distortive effect of OECD countries policies which were in place until the late 1990s.

However, in term of food security in its availability dimension, it is better to look at food trade balance and food supply. Figure 22 looks at the net trade balance of selected food and animal products in Tanzania. On contrary to the positive level of trade balance for agricultural product in general, it is clear that Tanzania has been a net food importing country for decades with little improvement in its trade balance despite the preferential trade agreements and greater market access it should have benefitted from.

**Figure 22: Net trade balance (export-import) of selected food products in Tanzania**

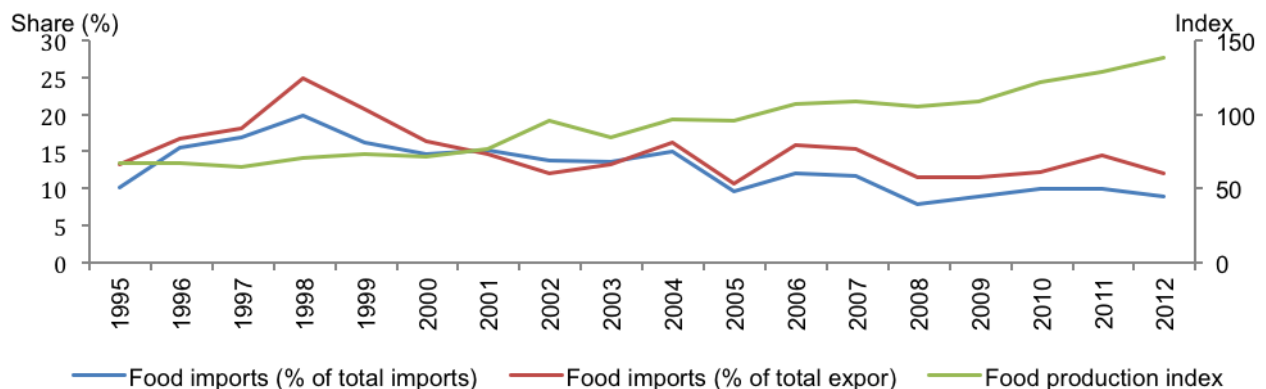


Source: FAOSTAT (2014).

In terms of national food availability, negative trade balance could imply that cheap import is beneficial for food security in Tanzania. However, as argued by Brooks and Mathew (2013), there are two major concerns for such dependence on import. The first is that the country may not be able to afford the associated food import bills, especially when price that are highly volatile abruptly. The second concern is that that rising cheap import is that rising imports does not necessarily imply an efficient allocation of Tanzania resource in line with its comparative advantage but rather the failure of domestic production to satisfy the country food needs, as results of negative spillover effect of rich countries agricultural policies or/and the ineffectiveness of domestic policies in enabling food self-sufficiency.

Brooks and Mathew (2013) suggest two indicators to gauge a net food importing countries capacity to finance its import bill: the share of food import ain total merchandise import and the share of food import as percentage of export earning (coverage ratio). Figure 23 presents both indicators for Tanzania and also food product index as a measure of domestic supply. Globally, the food import as share of total import has decreased after reaching a peck of 20% in 1998. It has been low and more or less stable over the recent years. Food exports as share of export earning has also been declining and production increasing. This mean that, on aggregate there is no fear that foo import bill is unsustainable in Tanzania.

**Figure 23: Food import and export in Tanzania**



Source: FAOSTAT (2014).

### 5.3. Trade policies and product market regulations: implications for market access and food security in Tanzania

#### 5.3.1. Preferential trade agreements

The EU has had preferential trade agreements and arrangements with ACP countries since the 1960s. Given Tanzania's membership to the ACP group and the importance of trade flows between the EU and Tanzania, particular attention is given to EU-ACP trade agreements and how they have affected trade. Table 8 below provides an overview of trade preference regimes between the EU and ACP over the period 1990-2012. In the 1970s, the Lomé Conventions (1975-2000) already granted non-reciprocal trade preferences to ACP countries for the vast majority of agricultural products supported by the EU CAP. These trade preferences consisted essentially in tariff concessions, with in addition special arrangements for bananas, beef and sugar, which were highly protected sectors. Later, the EU-ACP Cotonou Partnership Agreement (signed in 2000 and valid for 20 years) granted additional non-reciprocal trade preferences.

Later, under the Everything but Arms trade scheme (EBA Regulation adopted by the Council in 2001), the EU granted duty-free, quota-free access to all products from all LDCs<sup>10</sup>. Under the EBA, only fresh bananas, rice and sugar were not fully liberalised immediately in 2001. The EU gradually reduced import duties for these products, duty-free access for bananas being reached in 2006, for sugar in 2009 and for rice in 2009. Taking into account all trade regimes involving the EU and ACP countries (including MFN, GSP, Lomé-Cotonou and EBA), since 2000 the EU has progressively eliminated import duties on the vast majority of agro-food products imported from ACP countries.

The Cotonou Agreement signed in 2000 intended to introduce reciprocal (but asymmetric) trade preferences between the EU and ACP countries in 2007. The Economic Partnership Agreements that will soon be implemented between the ACP countries and the EU provide for reciprocal (but asymmetric) trade preferences. In the case of Tanzania, the SADC and EAC EPAs were concluded in 2014.

**Table 8: Periods of the different ACP preferences**

|           |                                                                                             |
|-----------|---------------------------------------------------------------------------------------------|
| 1990-1995 | Lomé IV preferences; initial GSP preferences                                                |
| 1995-2001 | Lomé IV preferences continue; significant changes in GSP scheme in 1995                     |
| 2001-2008 | EBA scheme introduced in 2001 for least developed countries; GSP+ scheme introduced in 1998 |
| 2008-2012 | Market Access Regulation introduced; end of commodity protocols; new GSP+ scheme in 2006    |

Source: EC, 2014.

Unilateral trade arrangements giving preferential access to developed countries' agro-food markets can in principle foster investment and employment creation in developing countries in the agricultural sector and also in the manufacturing and services sectors involved in agro-food value chains. Trade preferences have been criticised for being ineffective for various reasons (limited scope due to the exclusion of goods that play an important role in economic development; uncertainty with regards to the duration of temporary unilateral arrangements; market fragmentation with regional economic communities; and, in relation to rules of origins, administrative costs and hindrance to the development of transnational value chains). Studies have shown that trade preferences do not cause significant changes in trade flows (Brenton and Ikezuki, 2006). Other studies have shown that trade preferences granted by the EU have benefitted developing countries' agricultural exports in terms of trade volumes, trade diversification and value added traded (Cipollina and Salvatici, 2010). Trade preferences have also been criticised for inducing specialisation in raw agricultural commodities in developing countries and discouraging diversification into value-added food and manufactured products.

The fact that ACP countries' agro-food exports lost market share in the EU as well as in the world corresponds to the fact that intra-ACP agro-food trade has increased (although they remain relatively small). During the same period, the market share of exports from the BRICS rose rapidly.

The EC recently published an assessment of PTAs between ACP countries and the EU (E, 2014). This assessment concluded that these PTAs have had positive and economically significant impacts on agro-food trade between ACP countries and the EU. The key conclusions are:

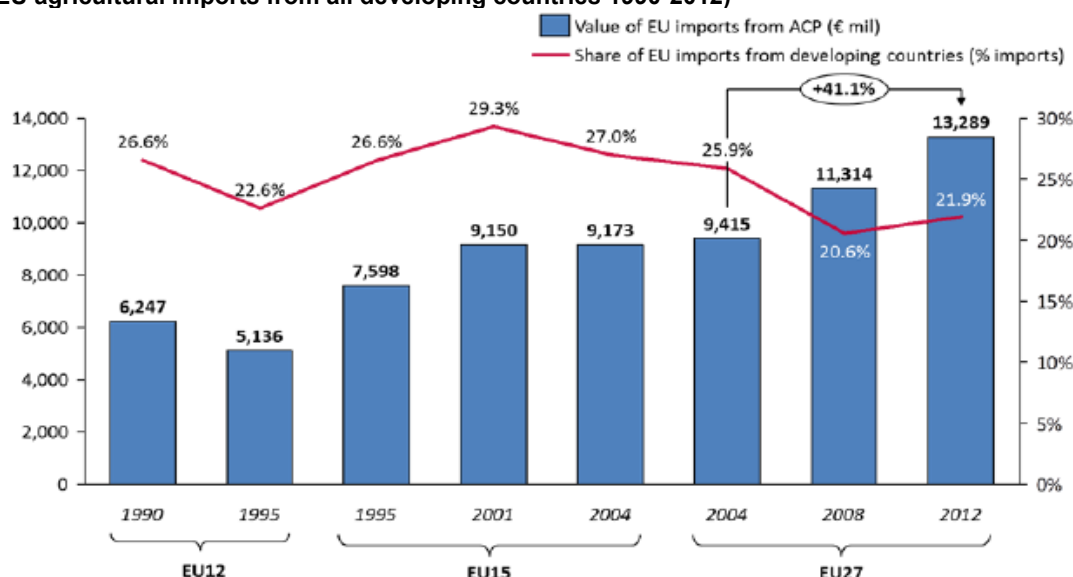
<sup>10</sup> Before that, under the GSP, LDCs benefitted from greater preferences than other countries participating in the GSP scheme, both for agricultural and industrial products.

- Over the period 1961-2012, EU preferential trade arrangements (ACP, GSP and EBA) brought about significant increase in agro-food trade, in comparison with developed and developing countries without such arrangements with the EU. This conclusion applies to most agro-food sectors although there is significant cross-sectorial variation in the magnitude of the trade impacts. EU PTAs led to increases in volumes traded of agro-food products and also a diversification of products traded.
- The EU-ACP agreements (Yaoundé I (1964-74), Lomé I-III (1975-88), Lomé IV-Cotonou (1989-2007), and EPA (2008-present)) appear to have had larger positive impacts on agro-food trade in early phases than in later phases. In particular, the authors of this study found that the effects of the EBA scheme on trade flows between LDC countries (including ACP countries) and the EU were not always significant (one major reason is that the earlier PTAs had already led to large increase in trade flows and with tariffs and quotas already low in many cases, there were little additional gains to reap).
- The ACP country-product case studies conducted by the researchers confirm the findings from the aggregate analysis: data analysis suggests that EU PTAs led to significant increases in trade flows for bananas from Cameroon, rice from Guyana, green beans from Kenya, sugar from Mozambique and beef from Namibia.
- The researcher found that non-tariff measures (NTMs) have had both positive and negative impacts on trade flows

### 5.3.2. Tanzania trade in the global context: the case of the ACP trade with the EU-ACP agreement

The trade performance of Tanzania trade, especially for export, over the past decades has to be analysed in the global context. As other countries of the African, Caribbean and Pacific Group of States, Tanzania has important economic relations with several EU countries. For this reason, this assessment will consider in particular the impact of EU trade policies on the Tanzanian agro-food sector.

**Figure 24: Total EU imports of agricultural products from ACP countries in value and as a percentage (of total EU agricultural imports from all developing countries 1990-2012)**

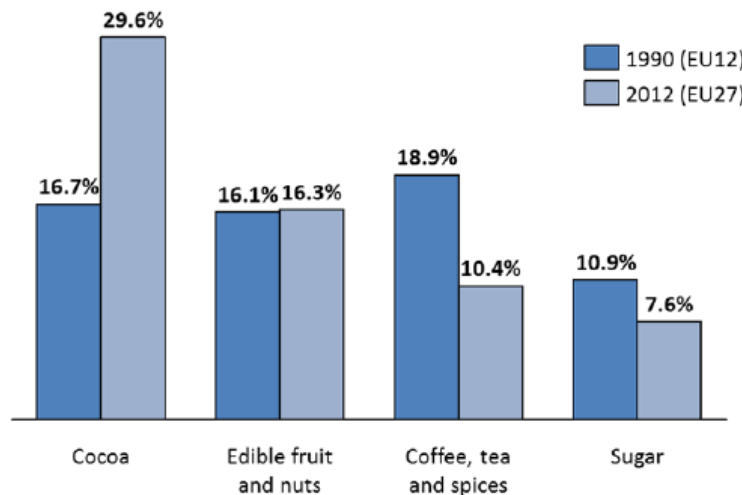


Source: EC, 2014.

Despite the improvement in EU market access conditions for ACP countries, the market share of their agricultural exports to the EU continued to decline. Between 1997 and 2011, the share of agro-food exports

from ACP countries to EU countries (among all agro-food exports to EU countries, including intra-EU27 exports) declined from 5.6% to 3.8%. For LDC ACP countries- including Tanzania-, their market share of agro-exports to EU countries fell from 2.9% to 0.8%.

**Figure 25: Major EU agri-food imports from ACP countries 1990 vs 2012 (% of total agri-food import from ACP countries)**

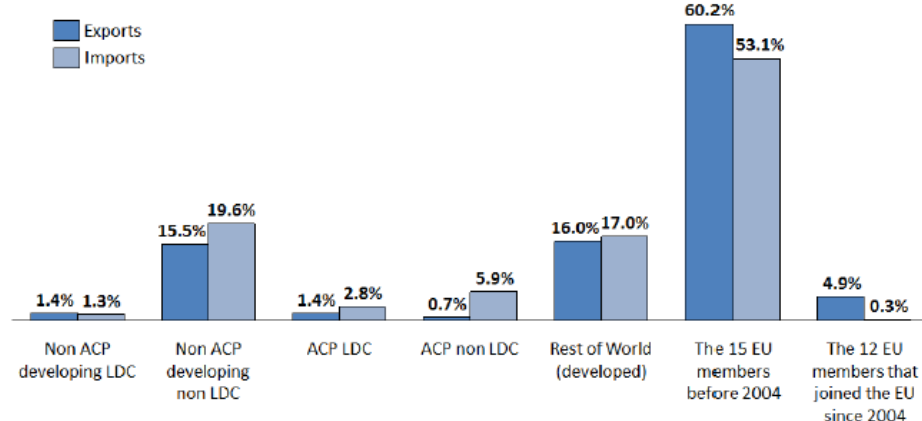


Source: EC, 2014.

As of 1997, the EU15 was the largest trade partner of ACP countries, both in terms of their exports and imports. Since then, the importance of the EU as an agro-food trade partner for ACP countries decreased significantly. The same can be said of OECD countries in general. In 2011, non-ACP, non-LDC developing countries (many of them being emerging economies) have become more important agro-food trade partner of ACP countries compared to 1997, especially for imports into ACP countries. This happened against the backdrop of the growing share of developing countries in world agricultural trade. In the 1990s, the five largest net agricultural exporters comprised only one developing country, Argentina; and the 10 largest net exporters only two others, Brazil and Thailand. In the early 2010s, Brazil and Argentina became the two largest net exporters and the top ten net exporters comprised Thailand and three other developing countries.

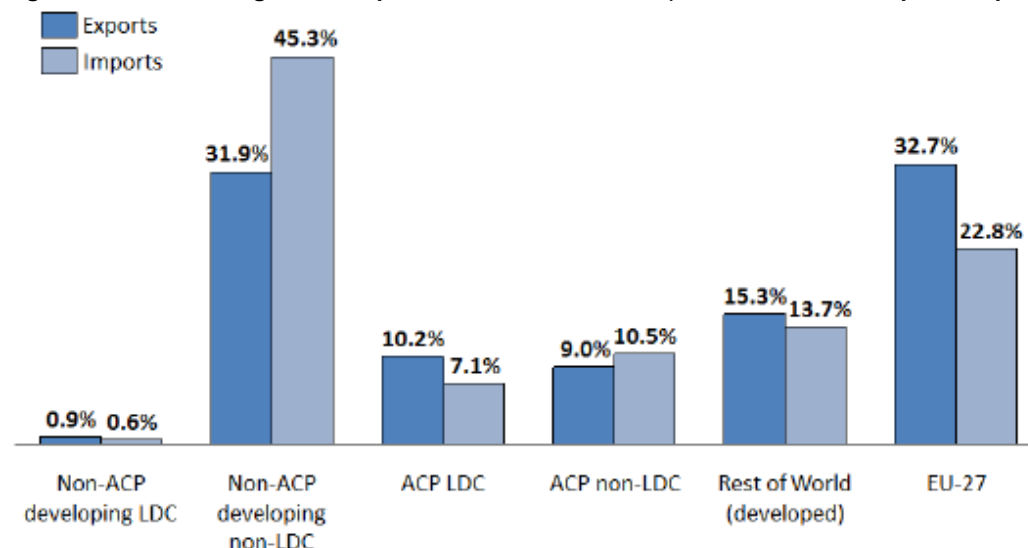
Between 1997 and 2011, agro-food trade among ACP countries increased significantly. During the period 1997-2011, the ACP agro-food market (imports and exports) grew by nearly 12% annually (in nominal USD terms), on average, faster than the growth in the world agro-food market of 8% annually. In the meantime, the EU27 market grew much more slowly, at the rate of 4.3% annually. As the EU market as grown more slowly than the ACP market, the importance of non-EU trade partners for ACP countries has increased.

**Figure 26: ACP LDC agricultural product trade flows 1997 (% ACD LDC total exports/imports)**



Source: EC, 2014.

**Figure 27: ACP LDC agricultural product trade flows 2011 (% ACD LDC total exports/imports)**



Source: EC, 2014.

However, over the past two decades, the ACP countries have lost competitiveness among developing countries (including the BRICS) exporting agro-food products to the EU market. Despite the global market developments and the economic growth in Africa in the past quarter century, Sub-Saharan African countries have not succeeded in taking part in global value chains, except for some isolated cases. Activities of transformation of raw agricultural commodities have not developed.

In addition, the specialisation of ACP countries in low-growth traditional export sectors (cocoa, coffee and tea) and geographic markets (western European countries, notably France, Germany and the United Kingdom) contributed to their loss of market share among developing country exporters to the EU market. The lack of diversification of ACP countries' agro-food exports in terms of products and destination markets have been a big factor limiting their growth.

### 5.3.3. Increasing role of Non-Tariff Measures in a context of global decline in tariffs

The global decline in tariffs has translated into a substantial increase in trade and a greater participation of Least Developed Countries (LDC) in the international market. Low tariffs in developed countries and preferential access granted to developing countries secure their access to high value markets. Over the period 1996-2013, OECD import from LDCs increased by more than five folds. Import of agricultural products has also increased, but only by a factor of 1.5. Tariffs' reduction in the global South and the increase emergence of new global actors such as the BRICS greatly enhanced South-South trade and boost LDCs' exports.

While global decline in tariff has offered increasing opportunities for LDCs to access developed countries markets and expand their export, over time there have been an increasing use of Non-Tariff Measures (NTMs) both in OECD countries and non-OECD countries. Non-Tariff Measures and private standards encompass various measure and requirements. The United Nation Commission for Trade And Development (UNCTAD) defines NTMs as ***"policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both"*** (UNCTAD 2010).

**Non Tariff Measures are heterogeneous in their nature and scope.** Unlike tariffs, NTMs are not numbers and are often embedded in complex legal documents (Gourdon and Nicita 2012). In order to facilitate data collection on NTMs, the Multi-Agency Support Team (MAST)<sup>11</sup> to the Group of Eminent Persons on Non-tariff Barriers (GNTM) established in 2006 by the Secretary General of UNCTAD proposed a hierarchical taxonomy of all forms of NTMs classified into 16 chapters (A to P) and grouped in three categories: **technical import-related measures, non-technical import-related measures and export-related measures** (see Box 2 for the different forms of NTMs).

A key challenge related to the analysis of NTMs is data availability. The landscape of NTMs is rapidly changing over time, in particular since particularly after the 2008 financial and food crisis<sup>12</sup>. There is hardly an up-to-date data providing a comprehensive overview of the universe of NTMs and their coverage across space and time (Bachetta et al., 2012). As the primary (international) organization in charge of trade regulations, the WTO has encouraged member states to submit new and revised regulations to its secretariat. These notifications made publicly available serve as the most important source of information on NTMs. Drawing on these data Figure 28 presents the number of measures notified to the WTO disaggregated by type of measure and group of notifying countries<sup>13</sup>.

**TBT and SPS measures are by far the most important form of NTMs notified to the WTO.** Other non-technical measures, mostly price control measures such as anti-dumping, countervailing and safeguards measures are also used but to a lesser extent. Over the period 1995-2014, among the 34489 measures notified to the WTO, 4396 affect directly Tanzania or a group of countries that includes Tanzania. Figure 29 presents the distribution of these measures across group of countries and type of measures. SPS related measures are the most notified and account for about half of all measures affecting Tanzania. TBT measures follow in second place with about with 33% of all measures. Other measures affecting Tanzania

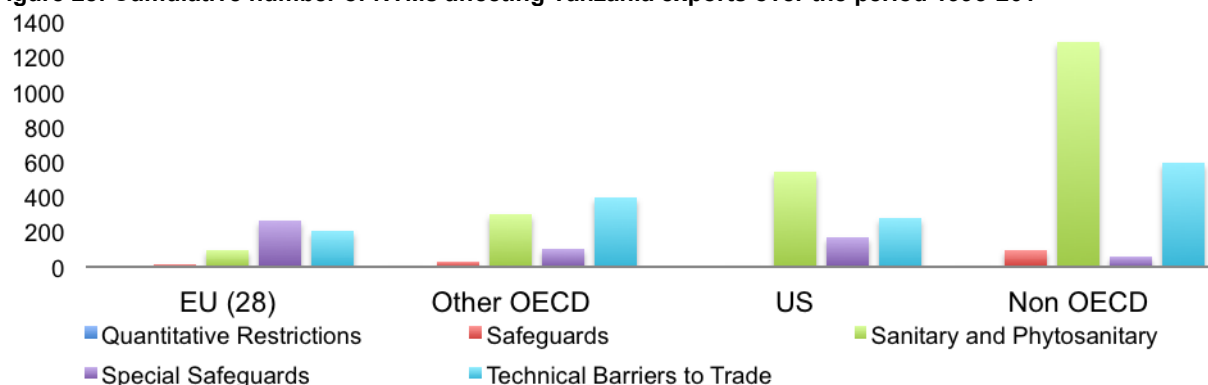
<sup>11</sup> The MAST comprises the following organisations: FAO, OECD, UNIDO, UNCTAD, WTO, ITC, IMF, World Bank, European Commission, USDA and USITC.

<sup>12</sup> According to the Global Trade Alert (<http://www.globaltradealert.org/site-statistics>), an initiative by the Centre for Economic Policy Research that aim to monitor the trade measures, there have been 5477 measures implemented since 2008 of which 3224 were classified as trade distortive.

<sup>13</sup> Only measures related to chapters A, B, D and E of the MAST's classification are in the WTO notifications databases.

exports are safeguards measures (15%)<sup>14</sup>. OECD countries impose more than 50% of all measures affecting Tanzania export<sup>15</sup>.

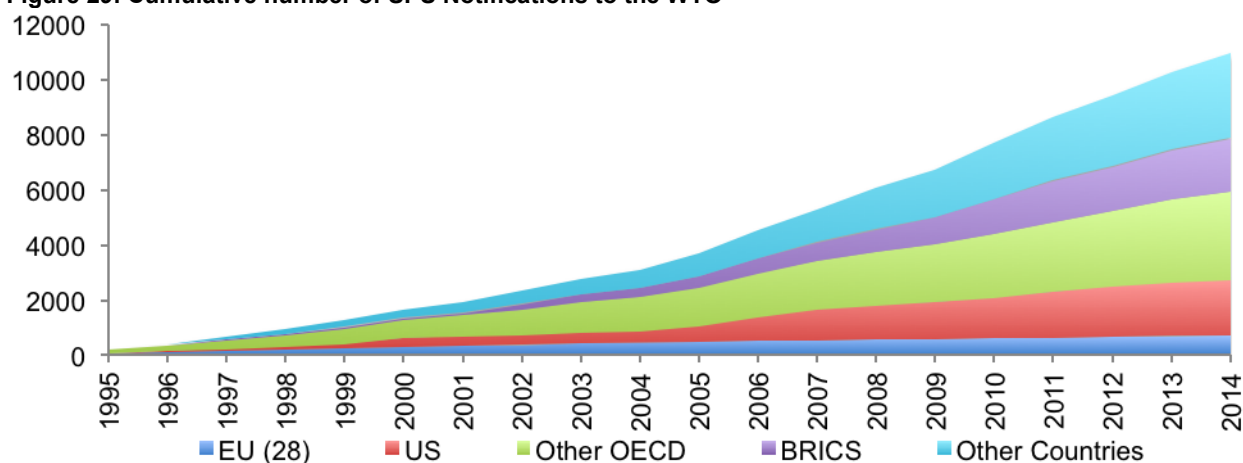
**Figure 28: Cumulative number of NTMs affecting Tanzania exports over the period 1995-201**



Source: WTO, 2014 available at <http://i-tip.wto.org/goods/Forms/TableView.aspx?mode=modify&action=search>

**NTMs, particularly SPS and TBT measures, are increasingly used to regulate trade.** Since 1995, the number of new notifications excluding alterations and corrections, received by the WTO has increased rapidly cumulating at 10,945 for SPS and 7,158 for TBT in 2014 (see figure XX, XX). According to Deardorff and Stern (1997), the upward trend in the use of SPS and TBT measures raises the question of **their use as policy substitution instruments** in a context of declining tariffs, binding legal constraints by the WTO and global economic crisis (OECD, 2011). Kee et al. (2009) examine this question and find some supporting evidence that reductions in tariffs are generally associated to substantial increases in the number of TBT measures notified to the WTO but not for SPS measures.

**Figure 29: Cumulative number of SPS Notifications to the WTO**



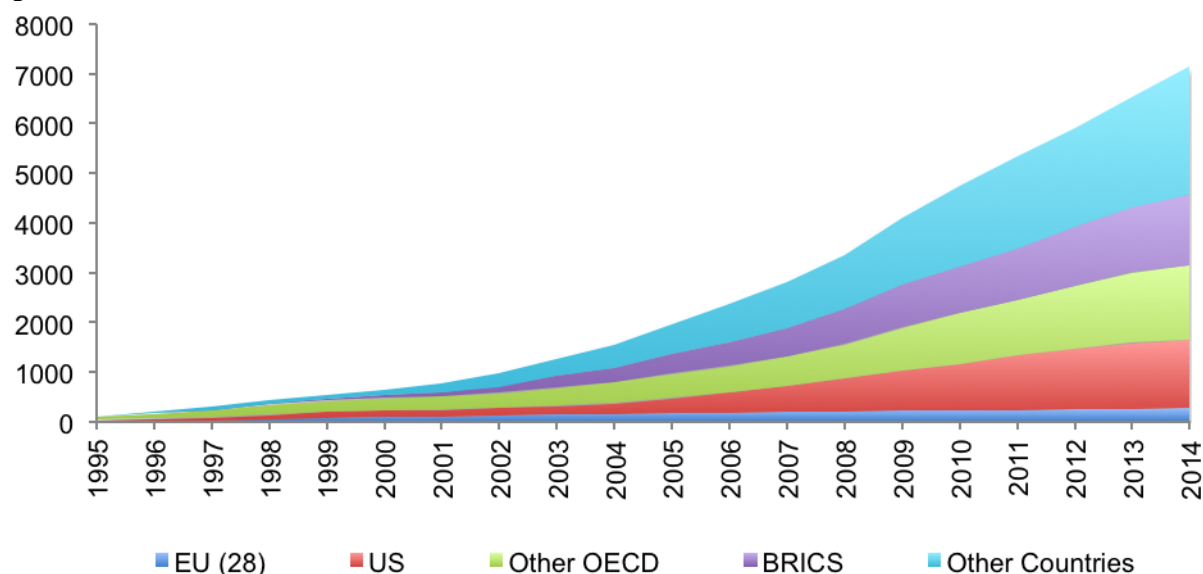
Source: SPS notifications from the WTO

Available at <http://spsims.wto.org/web/pages/search/notification/regular/Search.aspx>

<sup>14</sup> Safeguard measures are temporary measures, such as ban and import restriction, taken to protect an industry or consumers from a product threatening to cause a serious injury

<sup>15</sup> These measures are not necessary specific to Tanzania and include measures that concern all countries exporting to OECD countries.

**Figure 30: Cumulative number of TBT Notifications to the WTO**



Source: TBT notifications from the WTO

Available at <http://tbtims.wto.org/web/pages/search/notification/BasicSearch.aspx>

Looking at geographic distribution, it appears that the use of NTMs is not exclusive to developed countries. About half of the notifications are from OECD countries, with the US, the EU countries and Canada being the top notifiers. However notifications by non-OECD countries are also rapidly increasing and constitute a large share in the recent years. Many countries impose measures that can be even detrimental to they own export (Trebilcock and Howse 1999). In a recent business surveys conducted by the International Trade Center (ITC), many firms in LDCs report that domestic impediments are the major obstacle to their exports<sup>16</sup>.

NTMs affect unevenly different sectors. A break down by sector of the proportion of tariff lines are affected by at least one form of NTMs in Table 9 below shows that **food and agricultural products are the most affected**. Across all countries, more than 60 of products from the agricultural sector are affected by SPS measures and 34.1% by TBT measures. The corresponding number for non-agricultural products is much lower. Among the food products, live animal and animal products (including fishes) and fruits and vegetables are the most affected groups.

**Table 9: Average frequency (number of NTMs) across economic sectors (all countries)**

| Sector                           | SPS  | TBT  | Pre- shipment | Price control | Quantity control |
|----------------------------------|------|------|---------------|---------------|------------------|
| Agricultural products            | 62.2 | 34.1 | 18.9          | 5.2           | 25.4             |
| Live animals and animal products | 71.3 | 36.2 | 21.3          | 5.7           | 33.4             |
| Fruit and vegetable products     | 69.2 | 31.7 | 24.0          | 3.6           | 27.1             |
| Fats and oil                     | 51.1 | 26.8 | 12.9          | 8.0           | 20.7             |
| Processed food                   | 57.0 | 41.7 | 17.7          | 3.6           | 20.3             |
| Non-Agricultural products        | 5.3  | 25.8 | 9.6           | 1.5           | 12.9             |

Source: Adapted from Gourdon and Nicita (2012)

<sup>16</sup> <http://www.intracen.org/itc/market-info-tools/non-tariff-measures/business-surveys/>

#### 5.3.4. Importance of Non-Tariff Measures in OECD countries

Food and feed safety rules are designed to protect both human and animal life and most countries place a high importance in protecting their citizens. According to the European Commission's Directorate General on Trade (DG Trade), the main SPS measures in the EU can be classified into four categories of requirements: food and feed safety, animal health, plant health and public health. For all these categories, imports to the EU are governed by a set of general requirements listed in General Product Safety Directives (GPSD) and requirements from specific regulations for certain products or sectors<sup>17</sup>.

As such imports of food or feedstuffs to the EU must comply with general and specific rules at all stages of food and feed production and distribution, The general rules includes requirements on hygiene, products traceability which require the identification of suppliers and producers in third countries. The specific rules concern residues limits for specific substances such as pesticides (including the use of only approved substances), veterinary medicines and contaminants.

For SPS measures related to animal and plant health, products imported to the EU must be from an authorised countries and registered establishments, which detain an import licence for the concerned product. In addition, the products entering the EU market must be accompanied by a health certificate issued by the competent authorities of the exporting country and undergo customs and phytosanitary inspections at the point of entry into the EU.

In addition to these SPS measures, products imported to the EU must also comply with various TBT measures that define the specific characteristics products should. These characteristics include products size, shape, design, freshness, quality, packaging and labelling and are required to ensure the safety of the product. Labelling of all products must provide clear information on product contents, composition, and special precautions and the package must also satisfy environment and health requirements.

**The United States have a food regulation system as stringent that of the EU** (Jouanjean et al. (2012). It includes both SPS and TBT measures. Also, the US subject import to behind the border inspections and pre-approval of exporting firms and tight border controls. For most products, the US requires a written permit according to a positive list of products by countries. The export to the US of all other products not listed is banned until permission is obtained. The Animal and Plant Health and Inspection Service (APHIS)<sup>18</sup> within the US Department of Agriculture (USDA) and under the authority of the Plant Protection Act is responsible of regulating food entry eligibility into the US. The Food Safety and Inspection Service (FSIS), the Food and Drug Administration (FDA), and the Environmental Protection Agency (EPA) are responsible of border inspections and the enforcement of the regulations.

Similar to the EU and the US, the other OECD countries have some equally stringent requirements for imported products including pesticide and contaminant limits as well as specific rules on traceability, hygiene, labelling and hygiene.

Despite the existence of international guidelines for standards setting such as the Codex Alimentarius, country national standards are heterogeneous and often diverge from international standards. Using an aggregate index of the MRL requirement for a large number of pesticides, products and countries, Li and Beghin (2014) find that not only national, behind-the-border regulations are not harmonized with the international standards, but also are often stricter constituting protectionism measures. The authors find

---

<sup>17</sup> [http://ec.europa.eu/consumers/consumers\\_safety/product\\_safety\\_legislation/index\\_en.htm](http://ec.europa.eu/consumers/consumers_safety/product_safety_legislation/index_en.htm)

<sup>18</sup> <http://www.aphis.usda.gov/wps/portal/aphis/home>

that OECD countries, in particular the EU, Canada and Australia, rank among the most protectionist markets.

### 5.3.5. Rising role of Private Voluntary Standards

With the globalization of the world food system, large retailers increasingly source large shares of their products from developing countries. At the same time, consumers are becoming more sensible to sanitary risks and are more adamant in demanding high quality and safe products produced in respect with social and environmental norms. Beside mandatory public regulations, a large and increasing number of Private Voluntary Standards (PVS) are developed and enforced by these actors. While there is no formal definition for PVS, a working definition proposed by New Zealand and China and under discussions at the WTO considers as PVS ***“a written requirement or a set of written requirements of a non-governmental entity which are related to food safety, animal or plant life or health and for common and repeated use”***<sup>19</sup>. Despite their voluntary nature, PVSs are ‘de facto’ mandatory for producers and exporters to access developed countries markets (Henson and Northen, 1998). In an OECD’s survey, major Europeans retailers reported that their products from LDCs are only from certified producers (Fulponi 2006).

In principle importers are responsible of demonstrating compliance to public regulations. Thus, the emergence of PVSs is favoured by the desire of importers to minimise monitoring and inspection costs, remain competitive in attracting exigent consumers, and protect their reputation (Disdier et al. 2008; Fulponi 2006). As such, **many PVSs incorporate the requirements for public regulations and their certification contribute to the compliance with official standards** (Korinek et al. 2008). Like public standards, PVSs play an important role ensuring food safety. However, **the interrelation between public standards and private standards is not always explicit**. The latter are often criticized of being more complex and stringent and not necessarily based on scientific evidences (Henson and Humphrey 2009). While public standards focus mainly on the products, PVSs focus both on the product and the production process by defining the Good Agricultural Practices (GAP) (UNCTAD 2007).

There is no exhaustive list of PVSs. The **PVSs are diverse and expanding rapidly over a wide set of attributes**. UNCTAD estimated the number distinct PVSs in 2007 at 400. PVS comprising individual firm schemes (eg. “Engagement Qualité” Carrefour by the French retailer Carrefour), collective national schemes (eg. British Retail Consortium Global Standard – Food) and collective international schemes (eg. GlobalGap). A more recent inventory by the European Commission in 2010 identified 441 schemes only for agricultural and food products marketed within the EU<sup>20</sup>.

Private Standards also vary considerably in their geographical scope (country of origin or destination market), product coverage (fresh products, dried products, non-agricultural products, etc.) and the aspects of the production process their target (economic, health, social, environment, ethic, etc.). The Table 10 presents a summary of the number of PVSs abase and highlights their heterogeneity in terms of destination countries and a selected not exhaustive number of dimensions of the products or the production process they cover. PVSs cover a broad range of dimensions including food quality and safety, social equity, business integrity or organic production. Many of the PVSs apply simultaneously to several products, destination countries and aspects of product or the productions process.

---

<sup>19</sup> [http://www.wto.org/english/news\\_e/news14\\_e/sps\\_25mar14\\_e.htm#private](http://www.wto.org/english/news_e/news14_e/sps_25mar14_e.htm#private)

<sup>20</sup> [http://ec.europa.eu/agriculture/quality/certification/inventory/inventory-data-aggregations\\_en.pdf](http://ec.europa.eu/agriculture/quality/certification/inventory/inventory-data-aggregations_en.pdf)

**Box 1: Private Voluntary Standards: Example of GlobalGap**

PVSs vary in term of relative importance. GlobalGap (formerly EuroGap between 1997 and 2007), standing for Global Good Agricultural Practices, is the largest PVS in term of retailers ' membership and adoption by producer and exporters. As of September 2014, GlobalGap membership comprises 50 retailers and food services with 47 in Europe, 2 in US, 1 in Japan and 1 South Africa; 195 groups of producers and suppliers with 141 in Europe, 16 in North America, 16 in South America, 13 in Asia and Oceania and 9 in Africa and more than 130,000 certified farmers in over 120 countries.

GlobalGap aims at promoting GAP with over 250 rules covering food, pesticide use, traceability, worker welfare, environmental issues, and food safety. Its certification covers crops, livestock and aquaculture and focuses mainly on pre-farm gate production process from planting to harvest. GlobalGap's certifications are delivered every year producers after a third party audit and sometime surprise audits are performed. When non-full compliances to requirements are identified during an audit, the producers must address them within a 3 months limit to obtain a certification. The list of certified producers and suppliers is made available to retailers who then decide to source their products from these producers

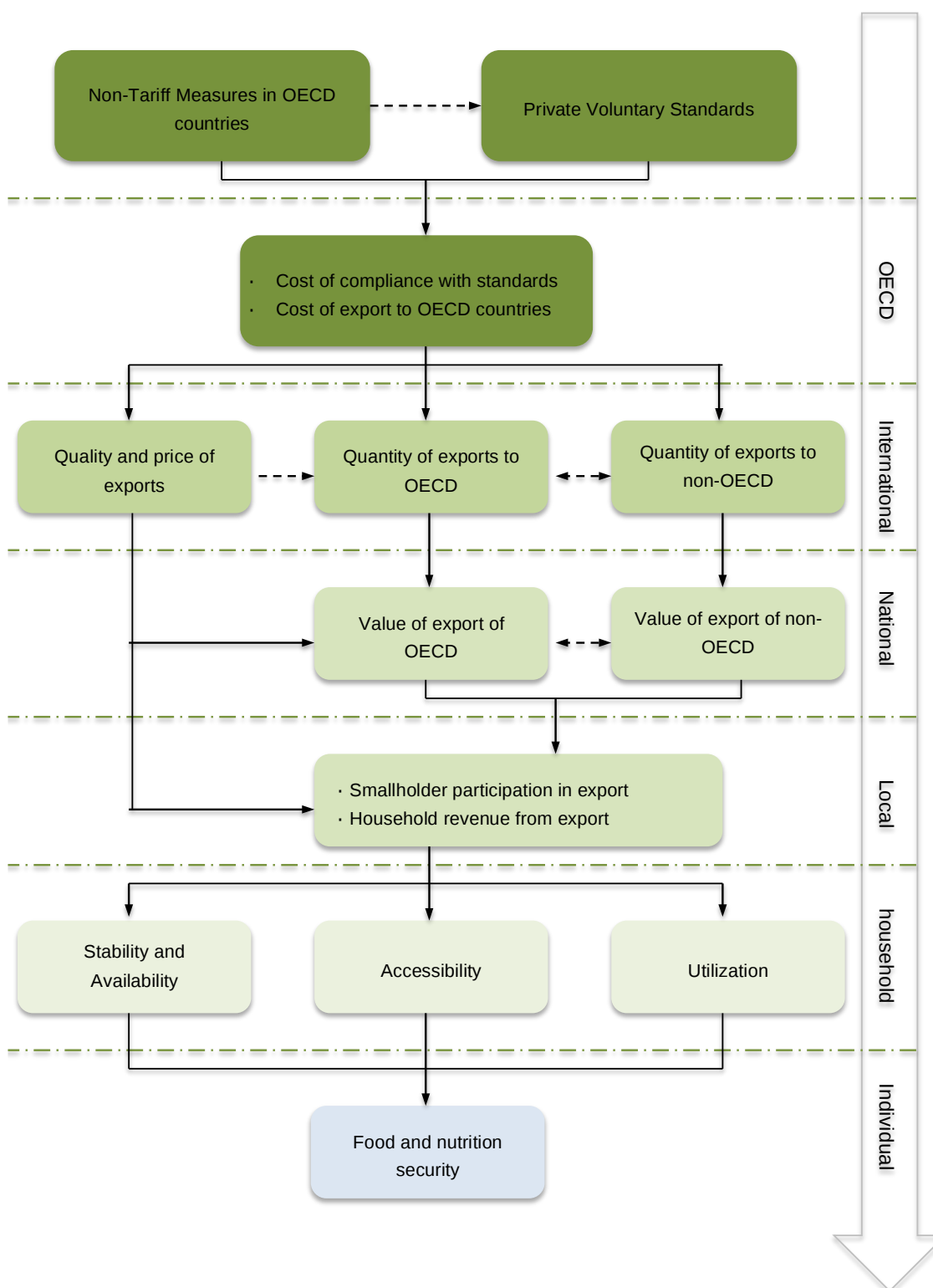
Source: UNCTAD (2010)

**5.3.6. Impact of standards on trade and food security: causal links and empirical evidence**

Based on a review of the literature, the causal links of the impact of standards on food security can be studied by analysing the following five points as illustrated in the diagram below.

The first point to analyse is the impact of products and process regulation on production and trade costs of producers, exporters and government in developing countries like Tanzania. This includes the understandings of the local institutional and infrastructural capacity of the Government of Tanzania and producers to apply effectively and efficiently the requirements of public and privates standards. The second question to ask is: what are the implications of standards (compliance or non-compliance) for market access, particularly the quality and the quantity Tanzania export of agricultural products to OECD countries and the rest of the world? This immediately calls the question of the net effect of standards in the aggregate value of exports. At the local level and for food security the key challenges of standards is their impact on participation of smallholder in export market given that they constitute the most important actor of Tanzanian agriculture. The question to analyse is to assess to what extent they are crowded out or not from export market to OECD countries and the resulting effect for the income. Finally, we derive and assess the consequence of standards for food security household and individual level through the four mains pillars. In the following sub-sections, we discuss theoretical each of these questions and review the empirical arguments supporting and refuting the evidence of positive or negative impacts. We factor into the analysis domestic policies and external shocks that are also indubitably very important in explaining the food security situation in Tanzania.

**Figure 31: Causal chain of the impact of public and private standards on food security**



Source: Authors elaboration

### **Effect of compliance with standards on production and trade cost**

Requirements embedded in NTMs and PVSs often lead substantial increase in production and trade costs (UNCTAD 2007). **These costs are mainly due to the differences in production environment, agro-climatic conditions, regulations frameworks, social systems and traditions between trading**

**partners** (Dee 2011). Three levels of compliance corresponding to each type of actor can be distinguished: compliance by public authorities, by private exporting firms and by individual producers or group of producers (UNCTAD 2005).

For governments in exporting countries, compliance with standards imposed by partner countries imply investment in quality control and inspection facilities. As such, **these authorities are primarily responsible of creating the conditions for firms and producers to comply with the regulations and standards set by destination countries**. The EU, for instance, requires the authorities in exporting countries to upgrade their conformity assessment procedures at a certain quality level (Stoler 2011). Such harmonization and upgrade require important costs heightened by the infrastructure gap between LDCs and the EU. FAO estimates that the cost for the public sector to fully comply with SPS-related measures can exceed total public budget in agriculture in many LDCs (FAO 2005).

#### **Box 2: Food and agricultural product regulation system in Tanzania**

As member of the WTO, Tanzania is signatory of the SPS and TBT agreements as well as numerous other international agencies involved in standards and regulations. An evaluation conducted by the World Bank in 2005, have also shown that Tanzania has the necessary basic legal framework for food, animal and plant safety which are implemented by several institutions.

As early as 1978, a National Food Control Commission (NFCC) was established to oversee food control activities and coordinate and audit food inspection activity. The Tanzania Bureau of Standards (TBS)<sup>21</sup> is the competent authority when it comes to setting standards and regulations in the food and agricultural sector. TBS is also responsible for certification and is the designated WTO–TBT/SPS National Enquiry Point. The Tanzania Food and Drug Administration (TFDA) created on 2003 has the primary mandate of regulating import of food and cosmetic products.

Several other agencies, with product-specific mandate, are also involved in food, animal and plant safety in Tanzania. These include the commodities boards (cotton, tea, tobacco, dairy, etc.). The Fisheries Department of the Ministry of Natural Resources and Tourism also carries testing and the certifications for fish and fish products. The National Plant Protection Advisory Committee and its sub-committees as well as the Plant Health Service (PHS) in the Ministry of Agriculture and the Tropical Pesticides Research Institute (TPRI) are involved in the regulations, inspection and certification of plants products. The Directorate of Veterinary Services (DVS) is the leading agency on animal health. In many other sectors, such as the horticultural sector, exporters request the services of private or external laboratories for certification when this is required their buyers.

Although Tanzania has the adequate legal framework, its food, animal and plant regulation system is weakened by a low management capacity and insufficient qualified personnel in the responsible agencies, poor infrastructures and a limited awareness of SPS and TBT requirements among producers and exporters. The World Bank evaluation observed that capacity-building effort is often a response to ‘crisis’ rather than a continuing long-term process.

Source: Based on Word Bank (2005) and field interviews

**Exporting firms also bear to a large extent the cost of compliance<sup>22</sup>.** The cost incurred by private firms to comply with standards can be fixed investment costs or variable input costs or both. Using the World Bank’s Technical Barriers to Trade surveys in 16 countries, Markus et al (2013) find that the fixed cost of

<sup>21</sup> <http://www.tbs.go.tz/>

<sup>22</sup> In most countries, the value chain of export products is dominated by a small number of firms which either produce and export directly or buy from small producers. These firms are directly responsible for demonstrating full compliance to standards by providing the proof that their downstream suppliers fully comply with standards.

compliance to meet foreign market standards averages 4.7% of firm's annual variable cost<sup>23</sup>. Nevertheless, it is important to mention that, **in the medium or long run, variable costs other than inspection, testing and certification costs might be reduced due to the GAP, efficient input use and good management** resulting from the adoption of the standards (Markus et al 2013).

Compliance with the requirements embedded in SPS and TBT measures introduce a shift in production practices and requires both technical and financial resources that small producers in countries like Tanzania clearly lack. For instance, Maximum Residual Limits for fertilizer and other contaminants in food products imposed by the EU and other developed countries require a careful application of specific fertilizer, the construction of storages and meticulous harvest procedures. These changes in production practices affect production cost. Although MRLs can decrease fertilizer and pesticide uses, they can also result in increases in labor cost to effectively manage pest and disease. Also, the prohibition of some products can increase input cost if the alternative substances allowed are more expensive and not readily available. In a COLEACP's survey of fruit and vegetable exporters from African countries, it was reported that some of the most effective pesticides for pineapple (eg. cypermethrin) previously used were banned by the EU making pest and disease control inefficient (COLEACP 2012).

The impact of NTMs and more general standards on trade cost is difficult to quantify. Number of attempt has been made deriving indexes of trade cost and trade restrictiveness. Kee et al. (2009) develop an econometrics approach to estimate Ad Valorem Equivalents (AVE)<sup>24</sup> for a large number of products and countries. Their show that the AVE are positively correlated with the GDP of the countries imposing an NTMs confirming that NTMs in place in developed countries tend to impose a large cost on exports from LDCs. AVE to export to the EU range between 27% and 64%, 0-42% for the US and 24-70% for the other OECD countries. Focusing on export of horticultural and fish products from Kenya, Tanzania, Uganda and Zambia to the EU over the period 1990-2008, Nimenya et al. (2009) estimate AVE that are on average higher than estimated by Kee et al. (2009).

In a study on the barrier to exports in 2011, the OECD estimates that the impact of NTMs on trade cost impact are more important than prevailing tariff rates. This is consistent with the findings reported by Carrère and Melo (2009) after surveying a number econometrics studies estimating AVE of NTMs and tariff that NTMs are more restrictive than tariffs and that in general developing countries face a greater restriction to access developed countries market.

#### **Box 2: Compliance with Private Voluntary Standards: Example of GlobalGap**

Obtaining a certification for a private standard scheme such as GlobalGap is voluntary but not costless. According to a review of GlobalGap certification requirements by ITC, the certification cost for GlobalGap can be decomposed in three parts: a fixed and one time payment registration fee, which varies between 2 to 1000 Euros depending on the size of the farm; a recurrent variable cost between 25 and 130 Euros to obtain and renew each year the certification; and annual inspection and verification cost paid to an accredited third party certification body.

Producers are responsible of paying all these costs, which for small-scale growers, represent a substantial share of their earnings. These costs, similarly to public standards, include labor and capital cost due to change in production practices. Growers also often need training to implement the protocols and invest in building structure such as pesticides store, toilets, office, etc. Even when producers are willing to make the necessary investment, the perceived

<sup>23</sup> In addition to the cost of compliance of foreign market standards, firms also face exports related NTMs at home. In the ITC's surveys, exporters report procedural obstacles in obtaining certifications and export licenses, export taxes and charges and frequent export bans as recurrent barriers they encounter in their home country (ITC 2013).

<sup>24</sup> An Ad Valorem Equivalents is interpreted as the tariff that would have the same effect on domestic price as the set of NTMs considered (Beghin and Bureau 2001).

profitability might be lower and further reduced by the short run adjustment cost of learning the new practices so that small producers might be discouraged, to pay the upfront compliance cost while not certain about the return.

GlobalGap offers the possibility for group and multi-site certification to small groups of producers (associations or cooperatives), which have their own internal control system and this is claimed to reduce the cost per producer through economy of scale. However, this option might still not being affordable to many producers as the certification cost adds usual production costs that the producers.

Source: Based on information from ITC Standardsmap Available at <http://www.standardsmap.org/>

### **Trade distorting effects of NTMs and PVSSs**

Non-Tariff Measures and Private Standards can affect trade **in through various channels**. In general, these trade effects are grouped into three inter-related categories: the effect on the quality and the price of products affected (Andriamananjara et al. 2004; Cadot and Gourdon 2014), the effect on the volume and value of export of product concerned (Disdier et al. 2008) and the effect on the structure of the domestic export value chain (Shepherd 2007).

There is no doubt that compliance with minimum safety and quality rules enhances the overall quality of product export. For example, excessive residual of chemical substances and contaminants in food products can cause severe health problems for consumers. As such, standards and certifications assure to consumers that the products are of certain quality and satisfy some sustainable and social norms (Korinek et al. 2008). However, the impact of standards on price paid by consumers and the price received by producers is less evident. In fact, the overall impact of standards on price in importing countries and the price received by the exporting firms is the resultant of two forces: supply-side effect in production cost and demand-side effects. On the one hand, producers and exporters have incurred the costs of compliance, which pushes prices up, if they have any market power. On the other hand, increase in the quality of the products can also push up the perceived valuation by consumers and increase their willingness-to-pay. The relative importance of these two effects will determine the net benefit for the exporting firms or the producers. Most importantly, to what extent any price premium offsets the compliance cost incurred by the exporters or the producers is determinant to the adoption of the standards.

The quality and price effects of standards can catalyse or restrict trade depending on the capacity of exporters and producers to make the necessary upfront compliance investments. Several studies have examined the effect of standards on trade volume and value using various quantitative and qualitative methods. The dominant strand of the literature supports the argument that standards restrict trade. In this line, Otsuki et al. (2001) analyse the ex-ante impact of EU regulations on exports of cereals, fruits and nuts and find that the implementation of the EU harmonized regulations on Aflatoxins will induce a 64% export loss for these countries. Still looking at the Aflatoxins regulations, Gebrehiwet et al. (2007) find that between 1995 and 1999 South Africa could have gained \$65 million annually in terms of export revenue, if the maximum limit for five of its main trade partners, all OECD countries (Germany, Ireland, Italy, Sweden and the United States) were harmonized to the international limits set by the Codex Alimentarius.

The impact of SPS and TBT measures on trade vary across countries. Disdier et al. (2008) find that SPS measures have a negative effect on the export of tropical and diversification products from African, Caribbean and Pacific (ACP), Latin American and Asian countries. However, the impact for ACP countries, group to which Tanzania belongs, is most important given their low development level. Pushing the analysis further, they observed that international trade in agricultural products among OECD countries is not significantly impacted by SPS and TBT measures.

While there is overwhelming evidence that standards restrict trade, there may be some cases when they actually enhance trade. Xiong and Beghin (2013) re-examine the ex-post impact of EU Aflatoxins regulation, 10 years after its implementation, on African exports of groundnuts and find no evidence of negative effects. They argue that enforcement of the regulation was less strict than enacted in the law and that supply side constraints in Africa play a far more important role in preventing sustained growth in export. Moenius (2004), amongst others, offers a nuanced conclusion. The author argues standards restrict trade of simple goods such as food and agricultural products but enhance the trade of sophisticated products such as manufactured products. Extending the previous analysis, Moenius (2006) explains that while country-specific standards increase trade cost, they also reduce search cost by providing the essential requirements of products demanded in importing countries.

To assess the impact of standards on trade we look specifically at the evolution of Tanzania's export to OECD countries and to the rest of the world over time. Between 1997 and 2013, Tanzania's total export of food and agricultural products has increased from \$510 million to more than \$1.4 billion. As shown in Module 2, OECD countries are the main destinations of Tanzania's exports. However, the data in Figure 32 reveals that although the value of Tanzania's exports to OECD markets remains high, it is growing only slowly and the share of export to OECD has been decreasing at least since 2006.

Given that Tanzania's agricultural production and exports have globally been increasing<sup>25</sup> and Tanzania benefits from tariff-free access to most OECD countries for its agricultural products<sup>26</sup>, **the decrease in the share of its exports of agricultural products to OECD countries could be partially due to stringent standards and regulations in OECD countries as well as the inability of the country to effectively comply with these standards.** In fact, over the period 1997-2013, according to WTO, the number of SPS and TBT measures notified by OECD countries have increased respectively from 520 to 5641 and from 229 to 3157. In particular, the EU has tightened its regulations on MRL<sup>27</sup> and contaminants in foodstuffs and feedstuffs<sup>28</sup> and introduces new regulations on traceability<sup>29</sup> and food hygiene<sup>30</sup> between 2002 and 2006 (Disdier et al 2008).

---

<sup>25</sup> See Module 2

<sup>26</sup> As a LDC Tanzania is beneficiary of EU 'EBA and most GSP of OECD countries (See Box 1)

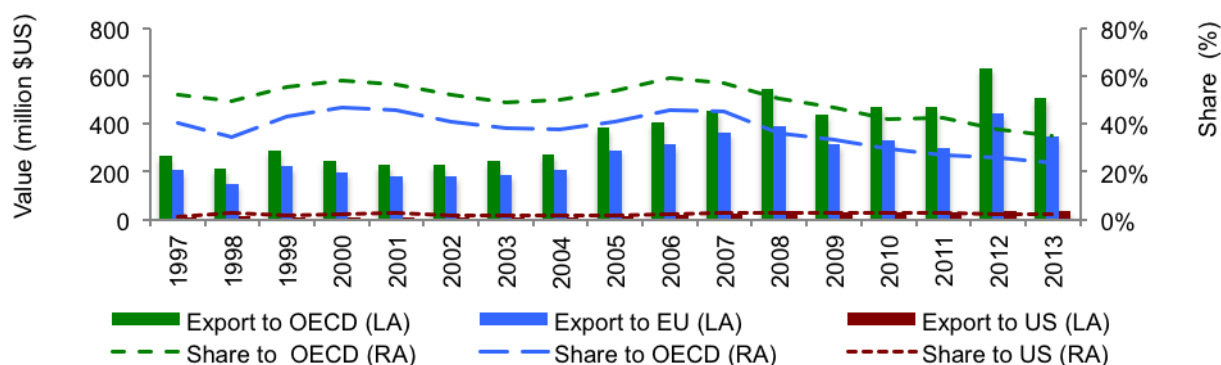
<sup>27</sup> The main Microbiological Criteria Regulation is the EU regulation (EC) 2073/2005 on microbiological criteria for foodstuffs that came into force in 2006.

<sup>28</sup> The regulation (EC) 1831/2003 came into force in replacement of regulation (EC) 466/2001 and sets maximum permitted levels for certain contaminants in foodstuffs.

<sup>29</sup> Regulation (EC) 178/2002 sets traceability requirements as the ability to trace and follow food, feed, and ingredients through all stages of production, processing and distribution.

<sup>30</sup> Three main regulations of hygiene were enacted in 2004 and went into force in 2006 in the EU. These are: regulation (EC) 853/2004 on the hygiene of foodstuffs, regulation (EC) 853/2004 setting out specific hygiene requirements for foods of animal origin and regulation (EC) 854/2004 setting out specific requirements for organising official controls on products of animal origin intended for human consumption.

**Figure 32: Total value and share of Tanzania food and agricultural products export to OECD and the RoW**



Note : RA=Righth Axis, LA = Left Axis

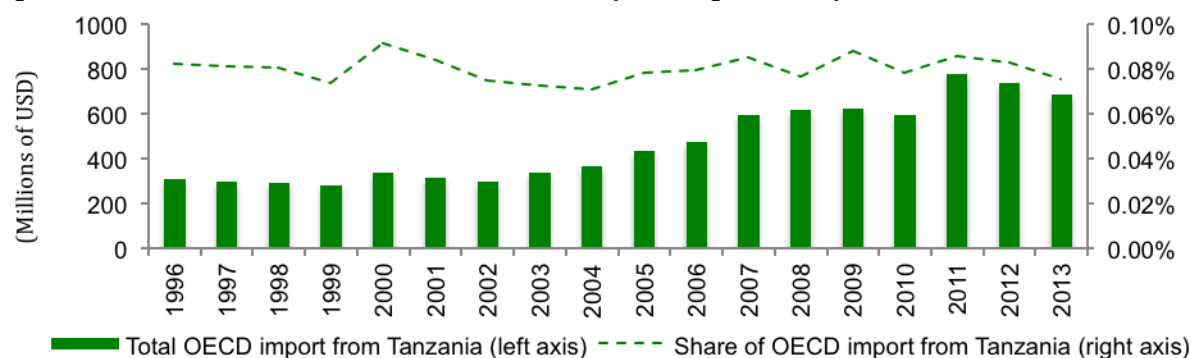
Source : UNCOMTRADE 2014

To examine, most systematically the aggregate impact OECD countries public standards on Tanzania export, we invoke an econometrics model in the spirit of gravity model. The model focuses on the relation between agricultural products exports and SPS and TBT measures in place in Tanzanian trade partner. The model seeks to determine to what extent Tanzania exports are correlated with the number of SPS and TBT measures in place in its partner countries and officially notified to the WTO after controlling for a number of additional factors such as the size of the economies and trade cost. A detail description of the model is given in the box 5.

The results of the estimation in Table 10 suggest that there is a negative correlation between Tanzania export and the number of technical measures, both SPS and TBT, in force in Tanzania's trade partners and affecting its exported products. In relative term, TBT measures are more trade restrictive than SPS measures. Restricting the analysis to OECD countries, the result still holds but the evidence of a negative impact of SPS measures is weaker. As mentioned in Disdier et al (2008), SPS measures are in general defined more narrowly to health protection measures while TBT measures are defined for a wide range of technical requirements. Thus, the results that TBT measures appears to be more trade restrictive than SPS for Tanzania is not too surprising.

Exports of agricultural products from Tanzania have been increasing since 1997. However, the econometric analysis suggests that increase in the number of standards imposed by its partners countries is associated to a lower export value compare to what it could have been if the regulations were less numerous (or tighter). This translates in the inability of Tanzania to maintain and expand its market share within OECD countries. The Figure 33 shows that despite an upward trend in the total value of OECD countries imports from Tanzania since 2002, Tanzania market share in OECD countries has been very low but fairly constant with minor fluctuations around 0.08%.

**Figure 33: Total value and share of OECD countries import of agricultural products from Tanzania**



S

source: UNCOMTRADE, 2014

**Table 10: Regression of Tanzania export value on the number of SPS and TBT in force in destination countries**

|                                     | (1)                   | (2)                  | (3)                   | (4)                  |
|-------------------------------------|-----------------------|----------------------|-----------------------|----------------------|
| <b>Panel A: All countries</b>       |                       |                      |                       |                      |
| Frequency of SPS at chapter level   | -0.0496**<br>(0.0249) |                      | -0.0499**<br>(0.0249) | -0.0472*<br>(0.0244) |
| Frequency of TBT at chapter level   |                       | -0.125*<br>(0.0755)  | -0.125*<br>(0.0755)   | -0.106*<br>(0.0547)  |
| Constant                            | 2.605***<br>(0.159)   | 2.601***<br>(0.160)  | 2.605***<br>(0.159)   | 83.32***<br>(17.09)  |
| Year fixed effect                   | Yes                   | Yes                  | Yes                   | Yes                  |
| Country fixed effect                | Yes                   | Yes                  | Yes                   | Yes                  |
| Control variables                   | Yes                   | Yes                  | Yes                   | Yes                  |
| Observations                        | 8,813                 | 8,813                | 8,813                 | 7,810                |
| R-squared                           | 0.202                 | 0.202                | 0.202                 | 0.191                |
| <b>Panel B: Only OECD countries</b> |                       |                      |                       |                      |
| Frequency of SPS at chapter level   | -0.0434<br>(0.0314)   |                      | -0.0430<br>(0.0312)   | -0.0279<br>(0.0304)  |
| Frequency of TBT at chapter level   |                       | -0.700***<br>(0.131) | -0.700***<br>(0.131)  | -0.685***<br>(0.124) |
| Constant                            | 4.287***<br>(0.336)   | 4.247***<br>(0.338)  | 4.252***<br>(0.336)   | -108.4<br>(126.3)    |
| Year fixed effect                   | Yes                   | Yes                  | Yes                   | Yes                  |
| Country fixed effect                | Yes                   | Yes                  | Yes                   | Yes                  |
| Control variables                   | Yes                   | Yes                  | Yes                   | Yes                  |
| Observations                        | 3,223                 | 3,223                | 3,223                 | 2,999                |
| R-squared                           | 0.110                 | 0.118                | 0.119                 | 0.124                |

Each observation is formed by the triple destination country X product chapter X year. The products considered are agricultural product from chapter 1 to 24 in the Harmonized System of classification (HS). The model is estimated using OLS. All regression include year and country fixed effect and addition control variable described in the text. The coefficients of these variables are not presented in the table. Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Box 3: Standards and Tanzania export: Data and methods of the quantitative analysis**

Establishing a causal impact of NTMs on trade is very difficult and complicated by the very nature of these measures. The main goal of the econometric analysis is to provide simple quantitative evidences on the correlation (conditional) between Tanzania's exports and the regulations in place in its trading partners. Following Disdier et al (2008), a gravity model in its simplest form is specified as follows.

$$\ln X_{kct} = \alpha + \beta NTM_{kct} + \gamma X_{ct} + \gamma W_t + \mu_c + \rho$$

The dependent variable () is the log of the value of Tanzania's exports of agricultural products in the chapter (or category)  $k$  in the Harmonised System of product classification to a country  $c$  during the year  $t$ . The main independent variable is  $NTM_{kct}$  and measures the number of SPS and TBT measures in force in the country  $c$  during the year  $t$  and affecting products in the chapter  $k$ .

The control variables in the model include Tanzania GDP and population as well the corresponding variables for the trade partners to capture the size of the countries, the distance between Dar es Salam and the main city of each partner countries as an implicit measure of transportation cost and dummies variables of whether there is a bilateral trade agreement between Tanzania and the destination country or whether they share the same language. All regressions control for country and year fixed effects to capture the intrinsic characteristics of each trade partners and account for any unobserved fixed factors.

For robustness check, we consider the cumulative number of regulations from 1995 to the year  $t$  as an alternative proxy. This variable implicitly captures both the dynamic in the regulation framework in term of change and extension of SPS and TBT measures. We also re-estimate the models using these two proxies but deflating the frequency of the SPS and TBT regulation by the number of product line (at H6 level) by chapter.

The model is estimated using export data at the 2-digit level of the Harmonised System of classification from UNCOMTRADE accessed through WITS. We restrict the analysis to food agricultural products corresponding to the chapter 1 to 24. The data on SPS and TBT notifications are from WTO notification systems. GDP and population data are from World Development Indicator and the other control variables are obtained from CEPII. All the data are annual and cover the period 1996-2013. The models are estimated for all countries and then restricted to OECD countries only using Ordinary Least square method and robust standards errors are reported to account for any potential heteroskedasticity.

Source: Authors

**Standards and participation of small producers in export**

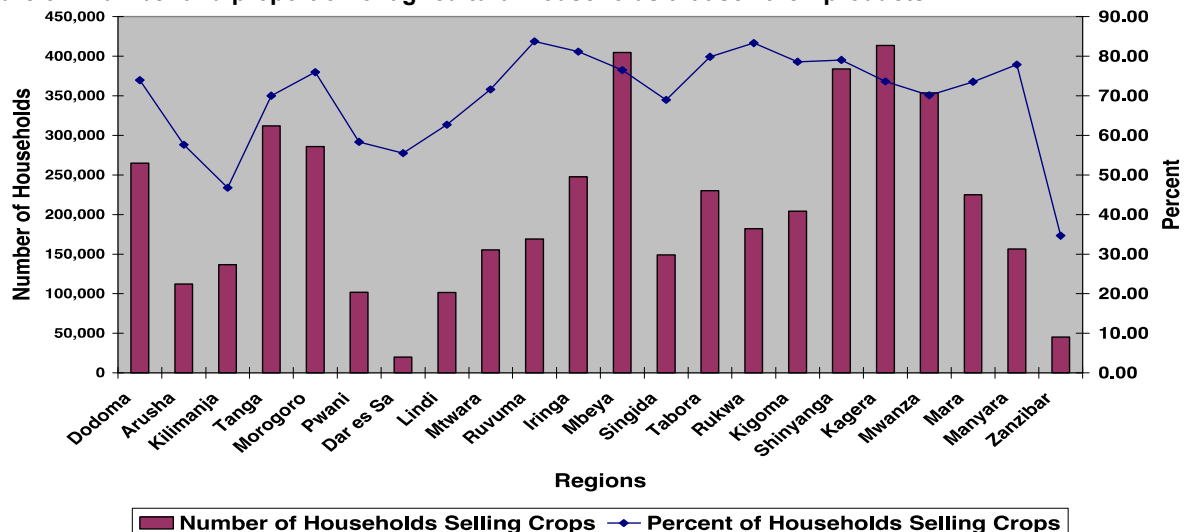
Standards can provide market opportunities for smallholders to access new high value markets. However, there are growing concerns that the high compliance costs associated to public regulations exacerbated by the growing importance of PVSs may lead, even in the short run, to the exclusion of small actors from export markets while reinforcing the relative competitiveness of large and productive firms. As consequence, standards could restrict smallholders' opportunities to diversify their source income making them dependent on food crops and vulnerable to food insecurity. In a survey of exporting firms working with small-scale outgrowers of horticultural products conducted by COLEACP in ACP countries, exporters report that they have support the producers in achieving compliance with PVSs. However, maintaining the certification annually is too costly and numbers of them do not see this as cost effective and have to drop the smallholders who are not able to renew the certification by themselves (COLEAP 2009). Graffham et al. (2007) has documented a similar smallholder exit from export market due to difficulty to maintain certification with GlobalGap. Similarly, Maertens and Swinnen (2009) observed that in Senegal, despite an

increase in vegetable export, there has been a shift in the profile of producers from small farmers to large-scale integrated estate production due to tightening food regulation in the EU markets and stringent PVSs.

### Linking the trade effect of standards to food security

The most direct link through which standards impact food security is household cash income. In fact, export crops as part of marketed production provide substantial cash income to households. As such they are integral part food security coping strategies and contribute to it a household, region and national levels. Most Tanzanian households produce mainly for domestic consumption, but an increasingly large proportion of them market part of or all their agricultural productions. According to the Tanzanian National Sample Census, of Agriculture (TNSCA), among the small famers, about 80% sold all or a large portion of their productions on the local or export markets. Figure 34 below shows that market participation rate ranges from 38% in Zanzibar to 84% in Ruvuma. Most of the producers are small-scale farmers with 92% of them holding less than 5 ha of land and only 1006 are large-scale farms (TNSCA 2008).

**Figure 34: Number and proportion of agricultural households that sell their products**



Source: TNSCA 2008

For many households, cash crops and food crops production for subsistence are complementary. Cash crops also provide employment opportunities for the rural economy. The income generated through the sale of cash crops and wages from employment in these sectors are often essential to improve and secure household access to diversified food products, health care, sanitation, and education. Cash crop can also have important spillover effects on other activities of households (Goveresh et al. 1999). Participation in commercialized crop production enables household's access to resources not available due to credit constraint and supports investment in equipment for agricultural activities, infrastructure and human capital. As such, cash crops may have a catalytic effect on the adoption of agricultural innovations and increase the productivity contributing to the availability of food (Achterbosch et al 2014).

At the national level, cash crop export can contribute to food security through the generation of foreign currency which are used to pay the food import bill and invested in improving the infrastructures, education system, health care system and the productivity of both cash and food crops (Achterbosch et al 2014). In Tanzania, cash crops exports constitute an important source of foreign currency. As shown in the module 2 of, while Tanzania has sufficient production of certain basic staple foods such as maize, rice, cassava, it is still a net importer of many commodities such as wheat, processed foods, manufactured goods and imports

almost all machineries necessary for production. As such, the revenues generated from exports crops are essential in covering the food import bill.

While traditional cash crops such as cotton, coffee, tea, cocoa and tobacco are still very important in household income and LDCs' export, high-value cash crops such as horticultural products and fisheries are rising in importance. As access to land is becoming more difficult in many developing countries due to urbanization, population increase and land acquisition, these crops contribute at the same time to export diversification and income for smallholders, particularly in urban and peri-urban areas. Thus, the implications public and private standards could have for the development of these emerging sectors is of high importance for food security at all levels.

## 6. Evidence on the effects of OECD countries' policies on selected agro-food sub-sectors

### 6.1. Cereals: transition from food to cash crop

The world cereals market is a highly concentrated market. The main four grain traders (commonly referred to as the ABCD traders) control between 75% and 90% of the world market. Major cereal exporting OECD countries are the USA for maize (58% of total exports) and rice (9%) and the EU for wheat (32% of export). Major OECD countries policies affecting the cereal sector are mostly the domestic income and production supporting policies. Policies on biofuels, both in the USA and EU, have had large impact on the world production and trade of cereal, making fuel and food prices interdependent, cereal prices higher and more volatile.

#### 6.1.1. Cereals in Tanzania, OECD countries and the rest of world

##### Maize

International trade accounts for 12% of world maize production, but one-third of total cereal trade. Global trade around 2006 was 80 million tonnes. It is estimated that in 2012, the total world production of maize was 875 million tonnes, with the United States, China, and Brazil harvesting 31%, 24%, and 8% of the total production of maize, respectively<sup>31</sup>.

EU became net exporter in recent years (from 2009 onwards), even though France has lost half its market share between 1998 and 2013 (from 15% to 8%). This is due to large maize producing member states joining the EU, like Hungary.

USA's share of export is declining, from 50% in 1998 to 20% in 2013. Brazil and Argentina have taken a large portion of the USA's market share, respectively 18% and 17%. Argentina was already a major maize exporting country, but Brazil made big leaps, especially between 2008 and 2013 where export share grew from 5% to 18%. Economic and environmental factors (economic crisis in 2000s and extremely harsh winters and extreme droughts) have played an important role in the loss of USA's market share.

---

<sup>31</sup> Ranum et al (2014) 'Global maize production, utilisation, and consumption' <http://onlinelibrary.wiley.com/store/10.1111/nyas.12396/asset/nyas12396.pdf;jsessionid=AF09FD887BEA5E537B096AC7CE7A1FCB.f02t04?v=1&t=i9jnuanx&s=bf7664e21dd912e32337a80cc860f80ad128c0a9>

The volumes of GMO maize produced and trades are increasing. The concentration of the sector and its ties with chemical and seed companies (Cargill with Monsanto, ADM with what is now Syngenta) make it likely that this trend continues. It also impacts trade flows and trade negotiations, for example the continuing EU laws restricting the import of certain GMO maize varieties vs its rapidly increasing market share in the US, Argentina and Brazil.

The yield gap between developed and developing countries is high. Average maize yields among the developing countries, as an aggregate, are about one-third of those of the major maize producers.

In Tanzania production of maize has steadily increased in the last two decades, from a bit more than 2 million tonnes in 1993 to more than 5 million tonnes in 2013. On average, Tanzania has switched between maize importer and exporter in the last two decades. Imports of maize mostly remain between zero and 100,000 tonnes with peaks in 1994, 1998, 2004 and 2006. Export of maize in the 90's was close to zero, to suddenly increase to more than 150,000 tonnes in 2002 and 2003. Export shrunk again to levels around 5,000 tonnes to suddenly peak again in 2012, to 175,000 tonnes.

According to the 2012 FAO analysis of maize production and trade in Tanzania, the country is considered to be a potential maize producer for the whole east African region. Maize is mostly produced by smallholder farmers (over 95% during the long raining season farming an estimated 2 million Ha in 2002 / 2003<sup>32</sup>, with an average land holding of 0.67 Ha). (SAGCOT Annex IV, p.33)

The main markets for Tanzanian maize are the internal markets (cities like Dar es Salaam, Moshi and Arusha and the Mtwara-Lindi region) and countries in the region like Kenya, Burundi, Malawi and Zambia and to a lesser extent Rwanda, Congo and South Africa. Surprisingly, between 2005 and 2010 exports to Argentina were 17% of total Tanzanian export, preceded only by Kenya. (UN COMTRADE in Barreiro-Hurle, J. 2012. Analysis of incentives and disincentives for maize in the United Republic of Tanzania. Technical notes series, MAFAP, FAO, Rome). Exports to Kenya are 100,000 tonnes annually. (SAGCOT, Appendix IV, p.37). Informal trade, especially with neighbouring countries like Kenya, is significant, especially in times of a trade ban and difficult to assess (Barreiro-Hurle, 2012). In 2014, Tanzania agreed to sell 24,000 tonnes to the World Food Programme and 50,000 tonnes to Kenya, which was facing maize shortages again<sup>32</sup>. Imports come from mainly from the USA, Mexico and Uganda (UN COMTRADE in Barreiro-Hurle, 2012).

On the Kenyan market, Tanzanian maize has to compete with maize from other COMESA countries like Uganda. When regional supply is not adequate, as it was in the Kenya maize crisis of 2008/2009, Kenya has relied mainly on South Africa, the USA and Italy<sup>33</sup> for imports. Other upcoming regional exporters are Malawi and Zambia (SAGCOT Appendix IV).

## Wheat

- More than 40% of world production from Asia. The largest producer is China, followed by India, the USA and the Russian Federation.
- Europe accounts for 34% of world production, Americas 19%
- Net exporting regions: Europe, Oceania and the Americas
- Net importing regions: Asia and Africa
- Largest exporters: EU (21% of production, 32% of export), US (10% of production and 24% of export)

---

<sup>32</sup> <http://agritrade.cta.int/Agriculture/Commodities/Cereals/Debate-intensifies-on-Kenyan-maize-imports>

<sup>33</sup> <http://www.foodsecurityportal.org/kenya?print>

- Largest importers: USSR, China.
- Prices have been highly volatile and will probably remain high due to increased demand for wheat for food, feed and biofuel<sup>34</sup>.

Wheat trade increased in the recent decade and reached 123,8 million tons in 2008/2009. Grain traders usually conclude contracts 6 to 9 months ahead of harvest, shipment or delivery time.

In Tanzania the production of wheat has fluctuated and has roughly doubled between 1992 and 2012. Imports of wheat have increased gradually, from 0 in 1992 to 1 million tonnes in 2012. Exports have fluctuated heavily between 0 and 50,000 tonnes in the same period (faostat). Despite the gradual increase, wheat production between 2000 and 2010 hasn't met more than 20% of domestic demand (Barreiro-Hurle, and Maro, 2012. Analysis of incentives and disincentives for wheat in Tanzania. Technical notes series, MAFAP, FAO, Rome). The relatively high prices for producers have not led to a significant increase in production or area. Consumers pay higher than international market prices.

### Rice

- Total rice production is around 430 million tonnes. Less than 10% of global rice production is traded.
- The top producing countries are China, India and Indonesia. Asia covers more than 90% of world production.
- In 2012 Indonesia, Philippines and Nigeria were the largest importers of rice.
- The three biggest rice exporters are Thailand, India and Vietnam, all non-OECD countries, accounting for a total of 61%. Fourth in exporting is the US with an export market share of 9 %.

The Government has in several instances given licenses to trading companies to import large quantities of rice and sugar duty free when domestic production went down and prices were increasing. In these situations, local out-growers and processors could not find a market outlet for their products and face financial difficulties.

In Tanzania rice production has steadily increased in the last two decades, from less than 1 million tonne in 1993 to more than 2 million tonnes in 2013. Between 2005 and 2010 Tanzania was a net importer of rice. Due to increased areas of land devoted to rice production, production rose and since 2010 Tanzania is a net rice exporting country.

### Barley

- More than 60% of world production from Europe. The largest producer is the Russian Federation, followed by Germany, Canada and France.
- Largest exporters: Australia and France around 5 million tonnes each. The EU as a whole exports 3,6 million tonnes. Argentina and the Russian Federation (number 4 and 5) export around 3,4 million tonnes.
- Saudi Arabia is by large the largest importer of barley, importing 8,3 million tonnes of barley in 2012. China lags behind, importing 2,5 million tonnes in 2012.

In Tanzania the production of barley has steadily increased from 5 tonnes in 1993 to a record of 20,590 tonnes in 2006. Since then production decreased again to reach a bit more than 10 tonnes in 2013. Imports and exports of barley are low, usually hovering around 0.

---

<sup>34</sup> FAO (2009) 'Agribusiness Handbook: Wheat Flour', FAO: Rome. <http://www.fao.org/docrep/012/al376e/al376e.pdf>

## US maize policies

The US is the biggest producer and exporter of maize. It has reached this dominant position because of consistent agricultural policies supporting domestic producers and building market export share. Every five years a comprehensive set of legislation known as the Farm Bill is passed through Congress.

The 1996 Farm Bill moved from coupled payments (target price deficiency payments) to more income support payments (7-year flexibility contract payments). In the 2002 Farm Bill this was stopped and a Direct & Counter-cyclical Payment Program was launched. Marketing loan benefits were also part of the traditional commodity programs. The payments of the direct Payment Program were tied to acreage bases and yields. They are said to have no incentive on production (Rausser). The counter-cyclical payments are made when effective prices are lower than target prices. The target prices are set for 28 commodities (all non-fruit or vegetables so mostly cereals and oil-seeds). 14 of these 28 target prices were increased for the 2008 Farm Bill.

The 2008 Farm Bill maintained the traditional commodity programs and added a state-level revenue-based counter-cyclical program called ACRE. The 2012 Farm Bill replaces the direct payments that have minimal impact on planting decisions with coupled safety net programs that possibly have large impact on planting decisions (ICSTD, 2012).

Through the years the tendency of the Farm Bills has been to move from policies that increase market prices (relieving excess supply through e.g. acreage reduction and increasing demand through e.g. foreign food aid and food stamps programmes) in the 80s and 90s to policies that stimulate production. This shift was made in the 2000s, due to high demand (from China and biofuel producers) and reduced productivity increase in the US.

Biofuel policies, starting with the Renewable Fuel Standard in 2005 lead to rising maize prices.

The tendency is also to move from a Farm Bill to a 'food bill'. *2/3 of this \$307 billion farm bill is devoted to nutrition and food assistance programs, with less than 15% allocated to farm program subsidies. (Snell, 2008)*

A Tufts University study estimated that U.S. corn subsidies cost Mexican corn producers an average of \$730 million annually after the signing of the NAFTA agreement,

### *Brazilian policies*

Brazilian policies such as below-market rates working capital, marketing credit, and investment credit for use in commercial agriculture have boosted Brazilian output and facilitated exports. Rural Insurance programmes protects farmers from big price shocks and harvest losses and thus stimulates production and stabilizes income.

The cereals market is a market of big volumes and low margins. Countries with lower currency have big advantages over countries with a more expensive currency. In 1998 Brazil dropped the fixed currency exchange rate that it had installed to curtail inflation in the nineties. Devaluation of the real led to (rising volumes of) Brazilian maize being cheaper on the world market than US corn.

For some states in the US it's cheaper to import cheaper Brazilian maize than it is to ship domestically produced maize across states.

### *Domestic policies related to maize in Tanzania*

In Tanzania, maize is a very politicised commodity. It is a priority food security crop and regularly subject to export bans and other trade measures (Barreiro-Hurle, J. 2012. Analysis of incentives and disincentives for maize in the United Republic of Tanzania. Technical notes series, MAFAP, FAO, Rome). Prices in Kenya are on average 20% higher and cross-border trade has regularly been restricted. (SAGCOT, 2012).

The Tanzanian government prefers to keep domestic prices low instead of trying to support better prices for farmers. Subsidized maize brought on the market by the government and the high marketing costs are disincentives to increase production and investments. Lack of storage makes it difficult for small farmers to sell at market price highs (Barreiro-Hurle, 2012).

Direct intervention on the domestic cereals market is done by the National Food Reserve Agency (NFRA), formerly the Strategic Grain Reserve (SGN). It can purchase surplus grains in certain regions (a maximum of 150,000 tonnes) and distribute it to households that are identified by local authorities as food insecure in times of shortages. In 2007 for example maize was sold at 50 Tzsh/kg instead of the market price of 187/kg. The NFRA does not have the mandate to import from foreign markets, only in exceptional years. The role of the stocks on overall maize markets remains limited, due to its small proportional size compared to total production. Prices do go up in production areas when the NFRA purchases cereals, but this effect is offset when the stocks are released (Barreiro-Hurle, 2012).

In 2009 Tanzania passed the **Cereals and Other Produce Act**. In this Act a new Board is created with significant powers to intervene in rice and maize markets. The Board falls under the supervision of the Crop Development Department at the Ministry of Agriculture, Food Security and Cooperatives (MAFSC). In 2012 the Board was not yet operational. The Board can facilitate a whole set of production and marketing supporting and also has a legal position to carry out commercial operations<sup>35</sup>. The Cereal and Other Produce Authority, also created by the 2009 Act, has an impressive set of powers, ranging from the setting of agronomical standards, to inspection, licensing and registering and collecting, refining and disseminating data. It is too early to evaluate the effects of the Cereals and Other Produce Act.

On trade policies, the membership of Tanzania in the East African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA) is most influential. For cereals a tariff of 0 percent stands for EAC member and of 50% for non-EAC members. Discussions on the tariffs on maize in the region are closely connected to food security concerns. Views on the effects of tariffs on food security and on the distribution of gains and losses differ greatly (Vitale, A. 2013). The export bans Tanzania put in place in the 2000's (2004, 2008, 2011) as the only country in East Africa were highly debated (Barreiro-Hurle, 2012).

### **EU Wheat policies**

- The Common Agricultural Policy (CAP) is the policy most influential in shaping EU wheat prices and market conditions.
- direct aid payments to cereals farmers with transition period phasing out wide variety of specific premiums previously applicable to beef sector (CTA Brief)
- additional coupled payments (being phased out): (CTA Brief)
  - crop area payments, outturn 2010: €1,434 million, budget 2011: €10 million

---

<sup>35</sup> The Board can take measures such as facilitate research, extension services, input services, information services, storage facilities and the formation of farmers' organisations. It can buy and sell, export and import cereals, process, grade and package them and provide warehouse services.

- supplementary aid durum wheat in traditional production zones, outturn 2010: €47 million, budget 2011: €1 million
- support durum wheat quality premium, outturn 2010: €80,7 million, budget 2011: €0,3 million
- support to private storage (seen as safety-net measure) (CTA Brief)
  - expenditure in 2010: €95,7 million, budget 2011: -€23 million
  - no allocation made for export refunds
- tariffs ('sophisticated tariff policy, allowing to respond to volatile international market conditions') (CTA Brief)
  - bound MFN tariffs on all cereals
  - applied rates differ (based on the difference between EU intervention price and a representative import price for cereals) allowing import duties to be set at zero when market conditions demand
  - TRQ preferences to major cereal trading partners. Rates applied can vary according to market conditions
- impact of proposed 2014 CAP reform on developing countries is limited due to high food prices and low level of trade-distorting support to EU agriculture. (LEI-CAP and EU trade and developing countries, 2013)

changes in GSP can have more effect on market access (LEI, 2013)

Import tariffs and expensive import procedures raise the prices Tanzanian consumers have to pay for wheat. From 2005 to 2010 the Common External Tariff of the EAF for wheat was 35%. In 2007 the GoT lowered the tariff to 10%, which lowered the prices immediately. After 2008 prices rose again and the difference between domestic prices and international prices started to grow again. Except in the implementation year, reducing the import tariff did not have a significant effect on lowering prices. The costly import procedures (high costs at the port of Dar es Salaam) and increasing importers' margins account for the growing gap. (Barreiro-Hurle, J. and Maro, F. 2012. Analysis of incentives and disincentives for wheat in the United Republic of Tanzania. Technical notes series, MAFAP, FAO, Rome).

There is a relatively high level of regional consensus between EAF-members on the low tariffs for wheat. High import dependency of all countries in the region explains this consensus. Also, doubts on the quality of regional production on the part of millers, make them advocate for lower tariffs (Vitale, 2013).

### **6.1.2. Other OECD countries policies affecting the cereals sector**

#### **Biofuel policies**

Environmental and energy policies have made biofuel and food grain prices interdependent. The inter-linkages between fuel prices and crop prices have made cereals markets even more prone to volatility.<sup>36</sup> Subsequent US biofuel policies have had major impact on corn prices and other grain prices. More detailed explanation about the how biofuel policies affect grain commodity prices through the corn-ethanol price transmission elasticity is available in Rausser and de Gorter (2013).

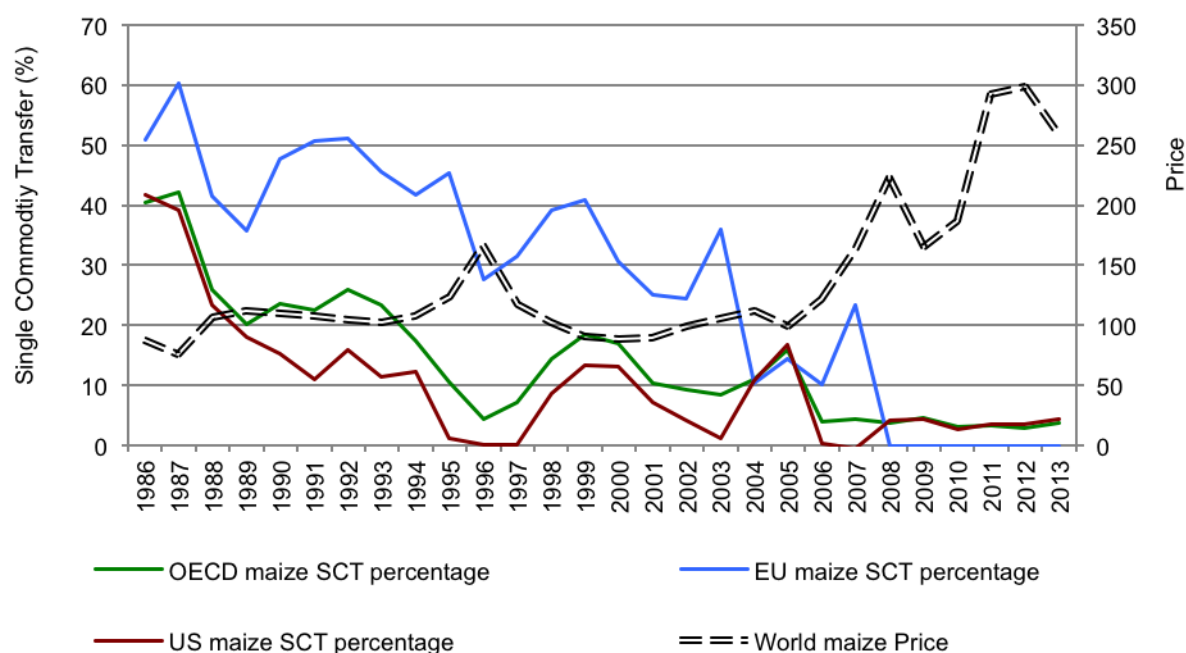
In the USA, the Renewable Fuel Standard (RFS) took effect in 2005, was revised in 2007 aims to reach 36 billion gallons of renewable fuel in 2022. The 2012 ethanol mandate (Rural Energy for America Program) has had a major impact on the world maize market. It sets the benchmark for fuel production at 13,2 billion gallon. The subsidies for ethanol were removed from the 2014 Farm Bill.

---

<sup>36</sup> Rausser and Gorter (2013) 'US policy contributions to agricultural commodity price fluctuations 2006-2012', WIDER Working Paper 2013/033

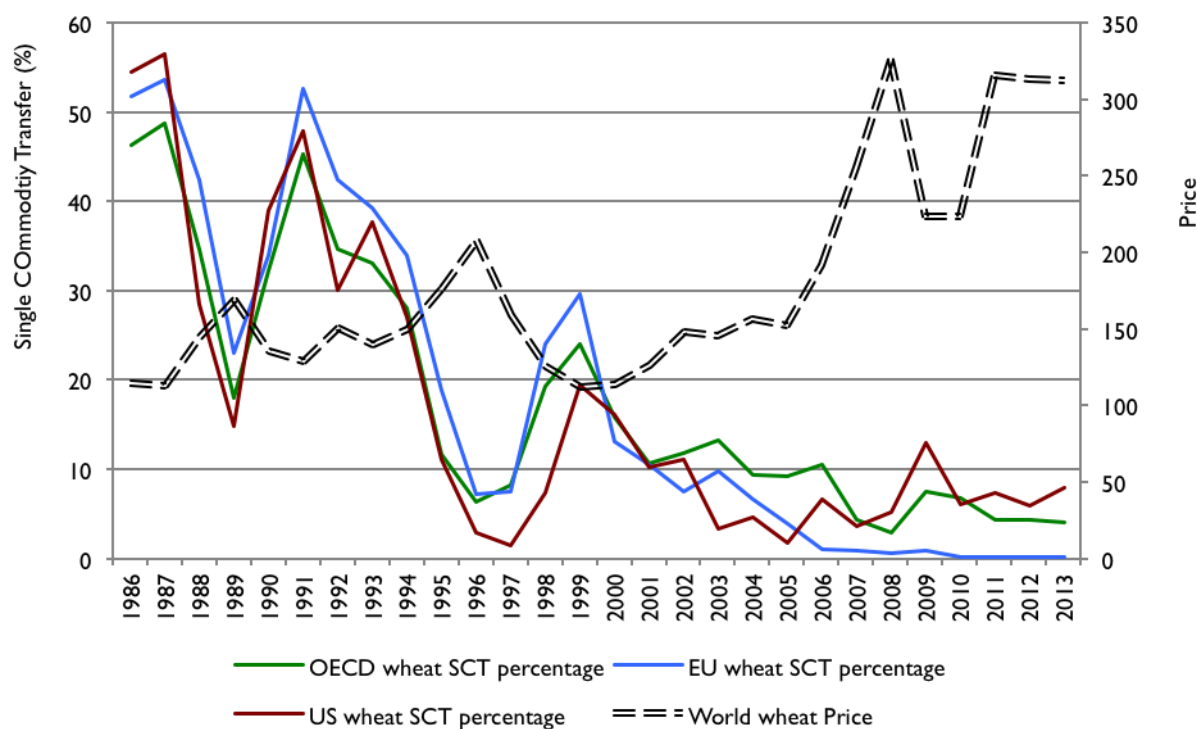
### 6.1.3. Market impact of OECD trade and agricultural policies for cereals and implications for Tanzania

Figure 35: Support to Maize in OECD and world prices of maize



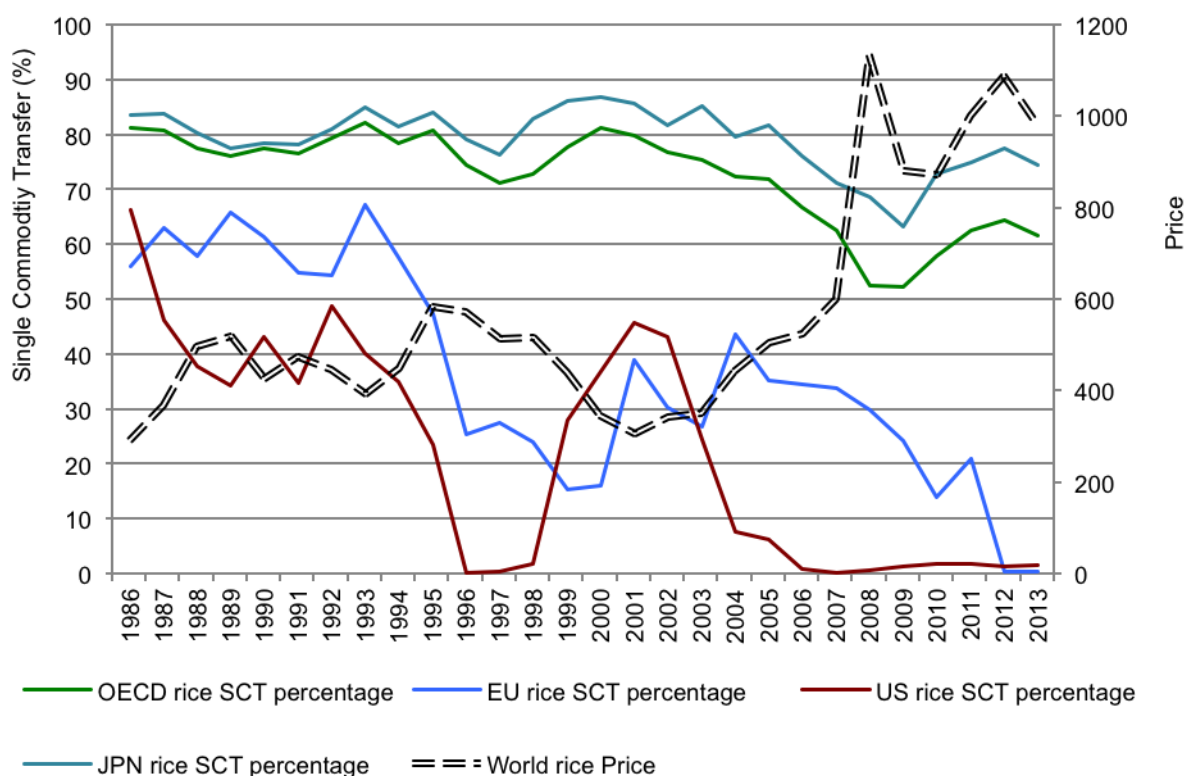
Source: FAO, 2014; World Bank, 2014, and own calculations

Figure 36: Support to Wheat in OECD and world prices of Wheat



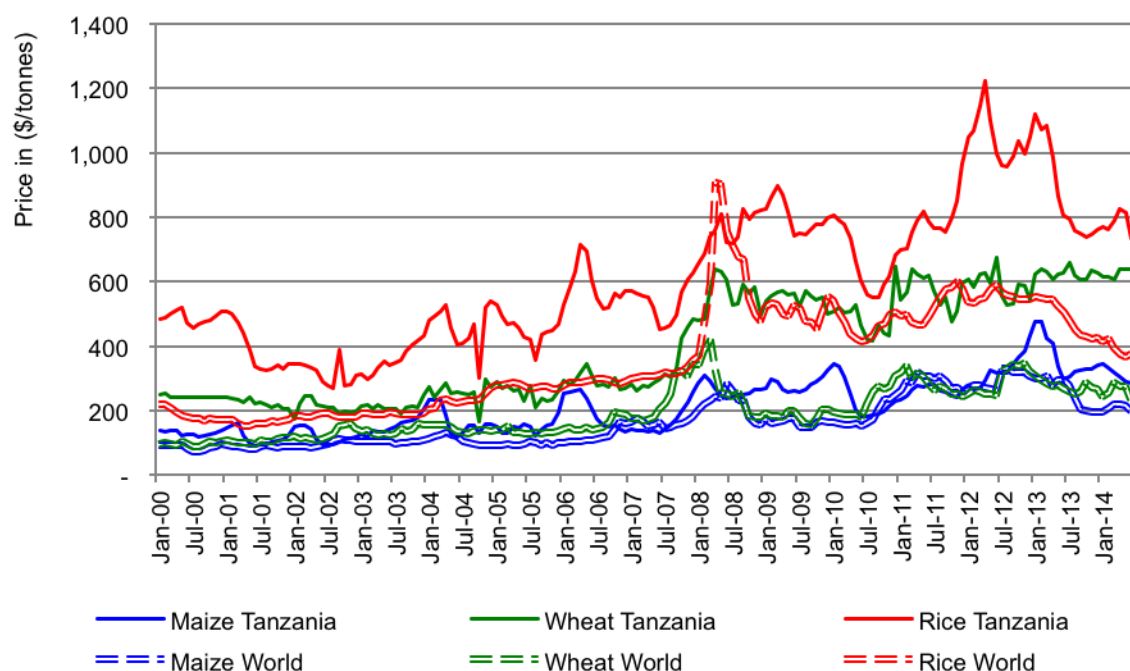
Source: FAO, 2014; World Bank, 2014, and own calculations

**Figure 37: Support to Rice in OECD and world prices of Rice**



Source: FAO, 2014; World Bank, 2014, and own calculations

**Figure 38: Transmission of international price to the domestic market in Tanzania**



Source: FAO, 2014; World Bank, 2014, and own calculations

- With the globalization and trade liberalization , Tanzania is increasingly integrated to world market
- Econometrics analysis suggest that change in international prices are transmitted to domestic markets although imperfectly.
- Domestic policies by GoT play an also important roles in domestic markets
- Export/Import bank
- Market intervention to set price or to purchase grain for sovereign stocks
- Infrastructures, low productivity, malfunctions of markets and other structural supply-side bottlenecks

#### **Impact of Grain and rice support on Tanzania food security**

- Smallholders dominates Tanzania agriculture
- Most farmers depends on Maize and rice production for their livelihoods
- And increasing number of them sell to the local and regional markets
- Support in OECD countries creates unfair competition on local, regional and international markets
- Reduce income for poor farmers though their increase in food supply for consumers (urban)
- Although they have been substantial reduction in support in OECD countries policies and the removal of distortive instrument, the lasting effect of historically high support are still persistent in Tanzania agriculture

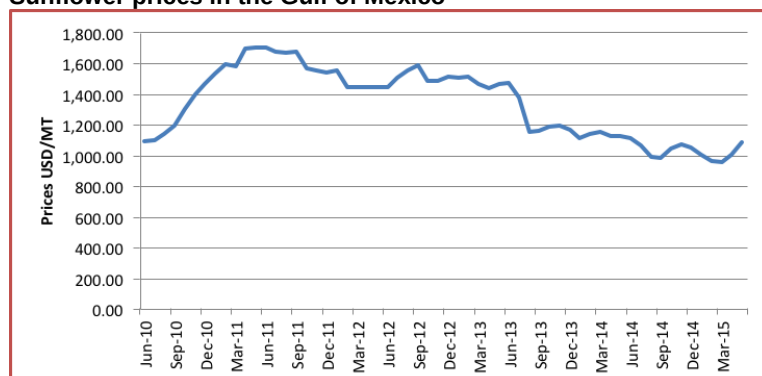
#### **Box 4: OECD countries' policies for sunflower and implications for Tanzania**

Sunflower oil seeds production is 36 per cent of Total oilseed production in Tanzania, second after groundnuts which is 40 per cent. Sunflower production in Tanzania is concentrated in along the Central corridor of Tanzania. Morogoro is among the high sunflower producing regions in Tanzania. Other regions are Iringa, Singida, Dodoma and Manyara. Sunflower seed production increased popularity in the country in the early 2000 due to increasing number of small scale seed crushers in the country, eventually turning sunflower seed as cash crop and reached the highest production peak of 1,125,000 tones in 2012. Local demand for sunflower oil is very high due to health concern over other types of oils outpacing local production capacity. The demand for edible oils in Tanzania is estimated to be about 350,000 tons a year and growing in line with population growth of 2.9% and increasing standards of living. About 60 per cent of local demand is met by importation which is duty free. Remaining 40 per cent is met by local production. The Ministry of Agriculture promotes production of sunflower as cash crop in regions with favourable agro climatic conditions for crop production.

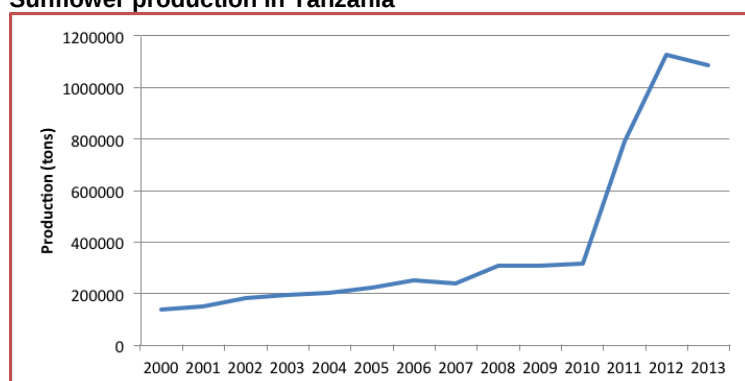
Large scale refinery plant investments emerged in 2003 with sophisticated technologies that integrate crushing, extracting and refinery e.g. Mt. MERU, BIDCO and MURZAH OIL. Sunflower oil exports slowly started to pick up from 11 tones in 2003 to 2762 tones in 2005. Some of the exports of sunflower oil reached Europe market after meeting the market standards. In 2010 sunflower oil exports was the highest reaching 16,476 tons but declined in 2012 to 13,532 tons (RLDC, 2008 and FAOSTAT).

However, small scale crushers face stiff competition from duty free imports and in procuring sunflower seeds with larger scale refinery plants. They also lack of storage technology for raw materials supplies during bumper harvests. As a result they only operate for the period of 3 months in a year (FAO, 2012). Local production capacity is still very low for export markets as such there is no direct impact of the OECD trade policy on sunflower oil exports to OECD market. There is opportunity for import substitutions to improve horizontal and vertical linkages in the value chain. Rural Livelihood Development Cooperation (RLDC) in collaboration with Ministry of Industry and Trade (MIT) and Ministry of Agriculture Food Security and Cooperative (MAFC) developed sunflower sector market development strategy with funding from Sweden through Sida and other stakeholder's contributions. Since the program started in 2009, sunflower value chain is still not well developed to satisfy domestic demand of the refined sunflower oil (RLDC, 2008).

**Sunflower prices in the Gulf of Mexico**



**Sunflower production in Tanzania**



## 6.2. Sugar: difficult transition in EU sugar policies for Tanzania?

### 6.2.1. The international market context

In 2011, Brazil, India, the EU, China and Thailand were the five largest sugar producers, together representing 56 per cent of world sugar output (International Sugar Organization, 2012). The EU alone represented more than 10 per cent of world production of 171 m t of raw sugar<sup>37</sup> and was the world's largest producer of beet sugar. The four OECD countries in the top 10 producers (the EU, the US, Mexico and Australia) accounted for nearly 20 per cent of world output. Among the 10 largest producers also featured the US, Mexico, the Russian Federation, Pakistan and Australia.<sup>38</sup> In that year, Brazil was by far the largest exporter of sugar (in net terms). Thailand was the second exporter, followed by India, Australia and Guatemala. The largest (net) importer was the US, closely followed by the EU, China, Indonesia and the Russian Federation. The EU was the largest (net) importer of raw sugar and a small (net) exporter of refined sugar. The EU tends to import raw sugar from developing countries and emerging economies and re-export refined sugar. EU exports (in raw sugar equivalent) amounted to close to three per cent of world exports whereas EU imports represented almost 9 per cent of world imports. The EU is a significant player in the world sugar market, especially as an importer of raw sugar.

Generally, roughly a third of world sugar production is traded internationally. Most of international trade in sugar is carried out on the spot market, roughly four-fifths in recent years, while the rest takes place under

<sup>37</sup> Excluding sugar products used for ethanol production.

<sup>38</sup> This list includes both sugarcane and sugar beet producers.

trade agreements giving developing countries preferential access to developed countries' markets, notably the EU and the US. The international sugar market traditionally has been highly distorted due to a variety of government interventions in many countries. Those interventions include measures to support farm producers and protect domestic markets from sugar imports. The farm and trade policies of the EU, Japan and the US have been particularly trade distorting. Nonetheless, these OECD countries have provided preferential market access to developing countries, which have benefitted from prices above international market prices.

In addition to the fact that sugarcane is a perennial crop, the combination of a relatively thin international market and pervasive government intervention in domestic markets has made international sugar prices very volatile. Over the past 20 years, sugar prices fluctuated widely, generally declining in the 1990s, as Brazil was becoming a large exporter, rising rapidly between 2005 and 2011, and tumbling thereafter. As sugarcane and sugar beet constitute major feedstock for ethanol production, the sugar market has become increasingly linked to energy markets (especially oil markets). Policies encouraging the use and trade of bio-ethanol have had significant effects on the sugar market.

### **6.2.2. Reforms of the EU sugar sector policy**

As shown in Figure 40, between the 1980s and the mid-2000s, public support in the EU sugar sector (as measured by the PSCT) was relatively high and stable. In the post-War period, the EU, like the US, went from the status of large importer of sugar to small net importer or net exporter, depending on inter-annual fluctuations (the transition was noticeable in the 1970s).

In 2006, the EC began to implement a major reform of the sugar sector leading to a much lower level of public support.<sup>39</sup> Changes were made gradually between 2006 and 2010, a relatively short period in comparison to the reforms in other sectors that were launched with the 1992 MacSharry reform of the CAP. Since 1993, the EC had attempted to reform the sugar sector like the cereals sector, beginning with a reduction in market price support, but its repeated attempts at reforming the sector in 1994, 2000 and 2003 met strong opposition from the private sector, notably sugar beet farmers and processors.

The 2006 sugar sector reform was far-reaching. Producer subsidies linked to sugar beet output were cut down drastically. The guaranteed minimum price, or "reference price", for in-quota white sugar<sup>40</sup> was reduced by 36 per cent over a four-year period (2006/7 – 2009/10), beginning in the 2006/07 marketing year. The guaranteed minimum price for in-quota (raw) beet sugar was reduced commensurably. Nonetheless, sugar beet farmers were (partially) compensated for the decrease in market price support with a payment linked to production for a five-year period and another payment decoupled from production for a four-year period, in addition to the regular single farm payment. Public purchasing at the intervention price was abolished at the end of four-year transition period and was replaced by a floor price combined with incentives for private storage.

The 2006 reform also comprised measures to reduce production capacity and enhance industry productivity. The Commission set up a buyout scheme whereby farmers could receive a payment for giving up at least half of their production quota. The voluntary restructuring scheme used financial incentives for sugar beet processors to retire old and obsolete sugar mills while renouncing their quotas or to shift to other products, while providing assistance to affected farmers and equipment suppliers. It also provided

---

<sup>39</sup> This reform was enacted in 2005.

<sup>40</sup> There is also a reference price for raw sugar.

incentives for the use of sugar in non-food industries (chemicals, pharmaceuticals, biofuels and so forth).<sup>41</sup> Complementary incentives were provided to producers and MS to give up quotas. However, at the same time, high-productivity countries exporting sugar without subsidies were given the opportunity to increase their quota in exchange of a fee equal to value of the restructuring assistance per tonne in 2006/07, and the production quota for isoglucose (high-fructose corn syrup) was increased for existing producers.

The effectiveness of the restructuring scheme was limited. Private operators showed moderate interest in the quota buyout scheme. As a result, the EU sugar sector remained in a situation of structural surplus, which led the EC to further trim down the quota. In some member states, governments and sugar beet growers resisted the restructuring scheme, notably in the Czech Republic where quotas were being ceded by (foreign-owned) sugar processors.

In 2013, the EC enacted further reforms in the sugar sector with the aim to close the remaining gap between the internal market price and international prices. Following the 2013 reform of the CAP, farm payments were largely decoupled from production although, overall, farm support to the sugar sector remained sizeable.

### 6.2.3. EU trade policies in the sugar sector

Under the EU sugar sector's Common Market Organisation (1968-2006), the EU imposed high duties on sugar imports to protect its internal market. From 1968 to 1995, the EU used variable levies (depending on the international price level relative to the internal reference price). After the Uruguay Round AoA, starting in 1995, it replaced variable levies by tariff-rate quotas (TRQs) with in addition a special safeguard mechanism. As of 2006, raw and white sugar imports were subject to fixed duties of EUR 319 and EUR419 per tonne, respectively. In addition, it used a safeguard duty that is applied when international benchmark prices (plus freight and insurance costs) would fall below a trigger price of EUR531 per tonne, which was the guaranteed minimum price for preferential, duty-free imports. As import prices were much lower than the trigger price, the safeguard duty was applied throughout 1995-2006 and the total (Most Favoured Nation, MFN) import duty was generally more than EUR700 per tonne (OECD, 2007), which prevented non-preferential sugar imports. In the first half of the 2000s, for instance, the EU internal market price was roughly twice as high as international benchmark prices.

The EU gave some sugar exporters access to its market at reduced tariffs or duty free within quota limits (that is, TRQs) under several preferential trade regimes. **The main one was the Sugar Protocol of the ACP-EU Lomé Convention**, from 1975 to 1999, followed by its extension under **the ACP-EU Cotonou Partnership Agreement** over 2000-20. The Sugar Protocol, adopted in 1975 during a period of high international sugar prices, gave preferential access to the EU market to ACP countries and secured the supply to the EU at a stable price.<sup>42</sup> The policy of high prices in the EU led to a growth in production in the EU, which went from a large net importer to a large net exporter. This was followed by low prices in international markets, also with the expansion of production and exports from Brazil, and a price in the EU significantly above that price. ACP Countries participating in the Protocol enjoyed a price well above the international market price. Tanzania was among the countries of the Sugar Protocol. It had a quota of

---

<sup>41</sup> EU Producers are allowed to produce more sugar than their quotas provided that the excess output is destined to non-food industrial uses (pharmaceutical uses, bioethanol production, and so forth) or export markets (within the limits set by the EU's WTO commitments). For the out-of-quota sugar output, producers receive prices closely linked to international market prices.

<sup>42</sup> In 1975, the Sugar Protocol, on the basis of the CMO, integrated the commitments of the UK to duty-free imports from its former colonies (countries belonging to the ACP Group) under the British Commonwealth Sugar Agreement into EU commitments to ACP countries, following the UK's accession to the EC.

11,072 t of raw sugar equivalent, that is, less than 1% of the total quota (CTA Brief, see Goodison, 2007, p. 23 for exact reference).

The **Special Preferential Sugar** (SPS) arrangement consists of bilateral agreements between the EU and (some) ACP countries and India and include tariff-rate quotas for raw cane sugar. This scheme gave ACP sugar exporters duty-free export quotas following the enlargement of the EC to Portugal and Spain. The market access under this scheme has been residual, providing for supplies needed to fulfil the utilisation needs of EU sugar refineries after having used other sources of supplies (raw cane sugar from EU MS' overseas territories, raw sugar provided under the sugar protocol and under the EU MS' MFN commitments). Under this trade regime, Tanzania was granted a quota of 2,485.9 t of white sugar equivalent, that is, 1.2% of the total quota (CTA Brief, see Goodison, 2007, p. 23 for exact reference).

Market access under the EBA is the third source of preferential access for certain ACP sugar exporters (the LDCs in the ACP group). The EBA scheme was thus a source of preference erosion for ACP sugar exporters, although most of the LDCs are ACP countries. As an LDC, Tanzania has benefitted from the EBA. (Non-LDCs, such as Swaziland, on the contrary, have lost from this arrangement). From 1 October 2009, all products from all least developed countries could enter the EU market duty and quota free. Although the EBA scheme entered into force in 2001, there was a transition period for the sugar sector (for the banana and rice sectors too). LDCs could export rice to the EU market duty free but there was a quota, which was progressively expanded every year starting in 2001. In September 2009, the remaining quota was phased out.<sup>43</sup> The waving of duties on out-of-quota imports from LDCs was incremental over three years, between 2006 and 2009. The quotas for duty-free imports increased progressively, between 2001 and 2009. At the same, the SPS quota was decreased.

The remaining sugar surplus made the likelihood of bilateral or multilateral tariff cuts even less likely (including under EPA negotiations). This could also put pressure against the growth in imports from LDCs.

In 1995, the trade policy was changed following the *Uruguay Round Agreement on Agriculture (URAA)*, the EU reduced by 36% the value of sugar export refunds and by 21% the volume of subsidized sugar exports between 1995 and 2000. The subsidization of sugar exports was further constrained with the accession of Austria, Finland and Sweden to the EC. After the 2013 CAP reform Export refunds remained in place as an instrument but they would only be used in case of market crisis.

#### **6.2.4. Policy changes in other OECD countries**

After the Marrakesh Agreement, many developed countries reduced the most distorting forms of agricultural support, including subsidies function of the level of production as well as price support. While domestic prices in many developed countries were higher than world prices, for the OECD as a whole, the ratio between domestic and border (i.e., world) prices went down from 1.70 to 1.12 between 1986 and 2010. Part of the convergence between world and domestic prices observed in developed countries, was caused by a recovery of world markets at the end of the period.

This is particularly the case in the US and Canada, where support instruments remain closely linked to market conditions, and where they have recently been inactive due to high world prices. However, the narrowing between world and domestic prices also reflects less reliance on a system of guaranteed prices,

---

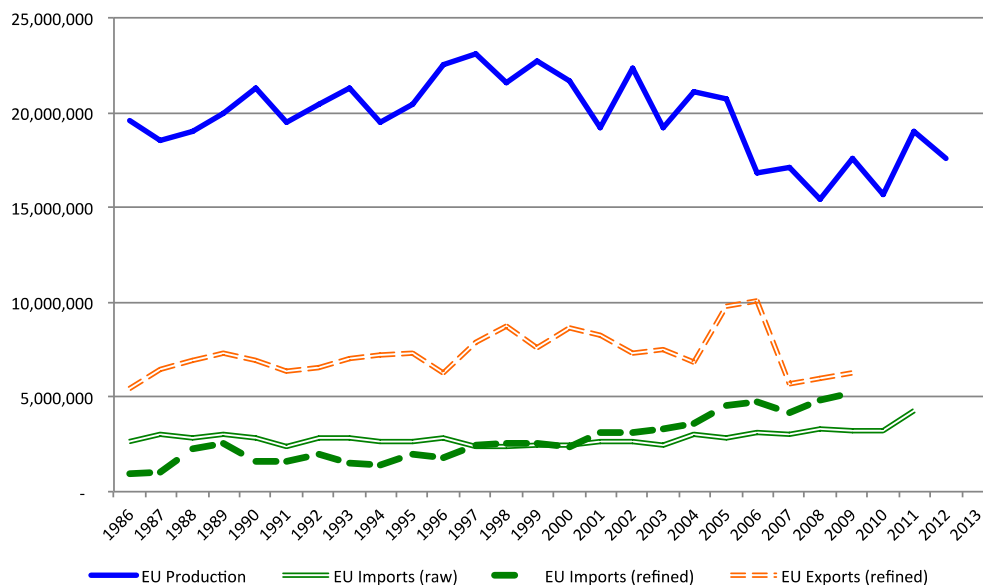
<sup>43</sup> 'The EU Heads of State and Government at their informal meeting of 17 September 2009 invited the G-20 to adopt the "Everything But Arms" initiative without delay in order to support people in developing countries suffering from the crisis.'

in particular in the EU, where systems to support prices were dismantled for all commodities except bread wheat and dairy, where support prices have been considerably lowered.

The EU is not the only jurisdiction with a managed sugar trade regime. The US has preferential trade and quota regimes with several producing countries (Puerto Rico, Philippines and other countries with whom the US has special trade relations—not for EA countries and excl. other low-cost producers). There are other international agreements for sugar, including bilateral agreements (e.g., Cuba-Russia Sugar Agreement). Lastly, sugar trade outside these agreements, the “residual spot market” is governed by the **WTO MFN regime**.

#### 6.2.5. EU sugar policies and implication for world price/impacts on markets

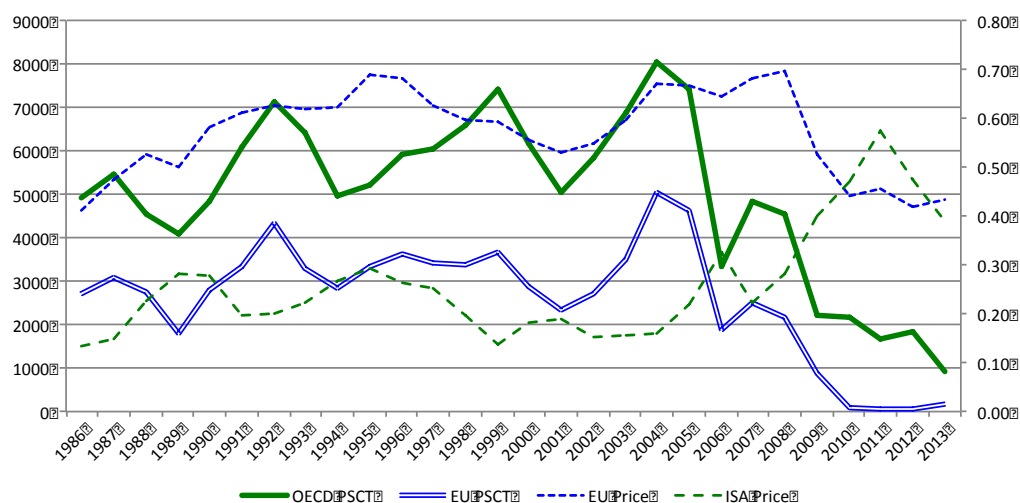
**Figure 39: EU Sugar production and trade**



Note: quantities in tonnes

As farm support in the sugar sector went down, production and prices decreased, imports increased and exports dropped between 2006 and 2007, following the EU sector policy reform. At the same time, over the period 2005-12, international sugar prices increased rapidly. There was also an increase in exports from other major exporters. As the price in the EU market has declined, the need for export refunds and tariff protection (to protect the internal market) has declined. A World Bank study estimated that EU subsidies caused a 17-percent decline in international prices for sugar.

**Figure 40: OECD and EU Producer Single Commodity Transfer and international sugar price**



Notes:

PSCT in nominal terms, in USD

Price of sugar in USD/kg

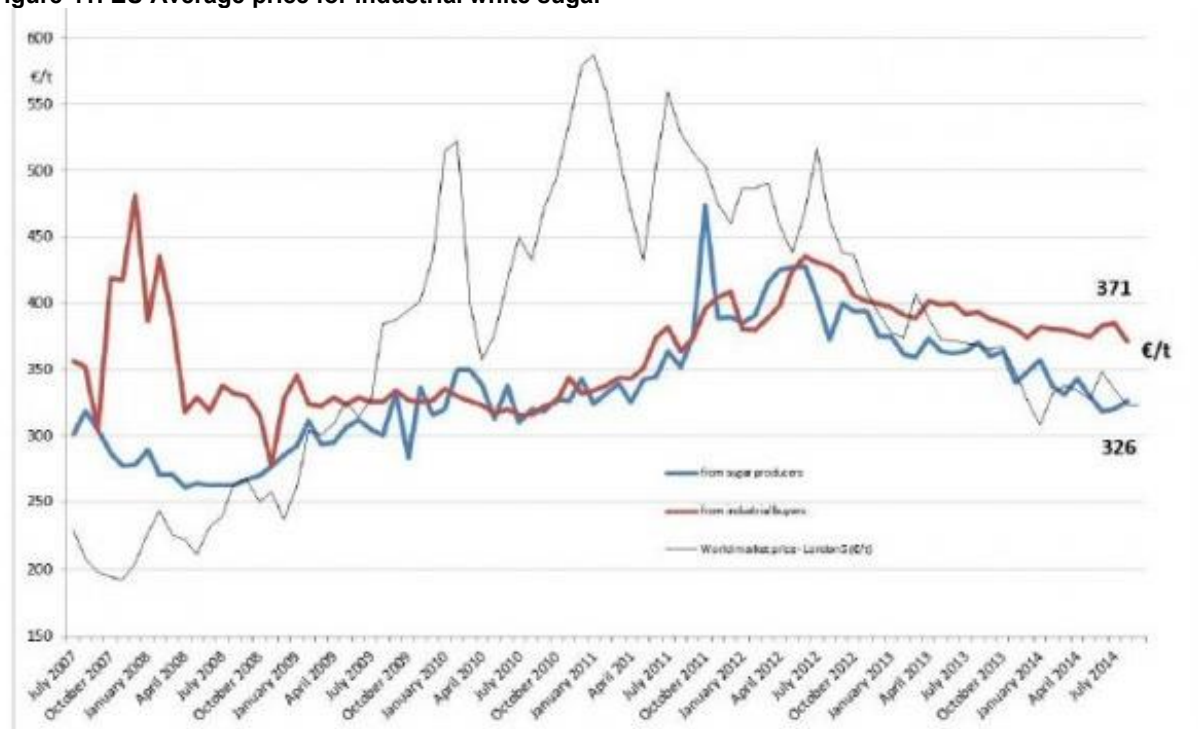
#### 6.2.6. EU sugar policies and implication for Tanzania sugar sector

In the late 1990s and early 2000s, large quantities of imported sugar frequently found their way into Tanzania. Reportedly, these import surges included sugar from EU exporters among other origins. At the time, allegations of dumping were made. The privatisation of the Tanzania sugar sector ended in 1998.

The Tanzanian sugar market is not completely integrated with the international market. Tanzania's trade policy for sugar includes import duties and quotas (importers need licenses to be able to import sugar). However, usually, large quantities of sugar are smuggled into the country. In recent years, Tanzanian sugar factories have had difficulty competing with cheap sugar imports, notably sugar from Latin America, Southern Africa, and some Asian exporters.

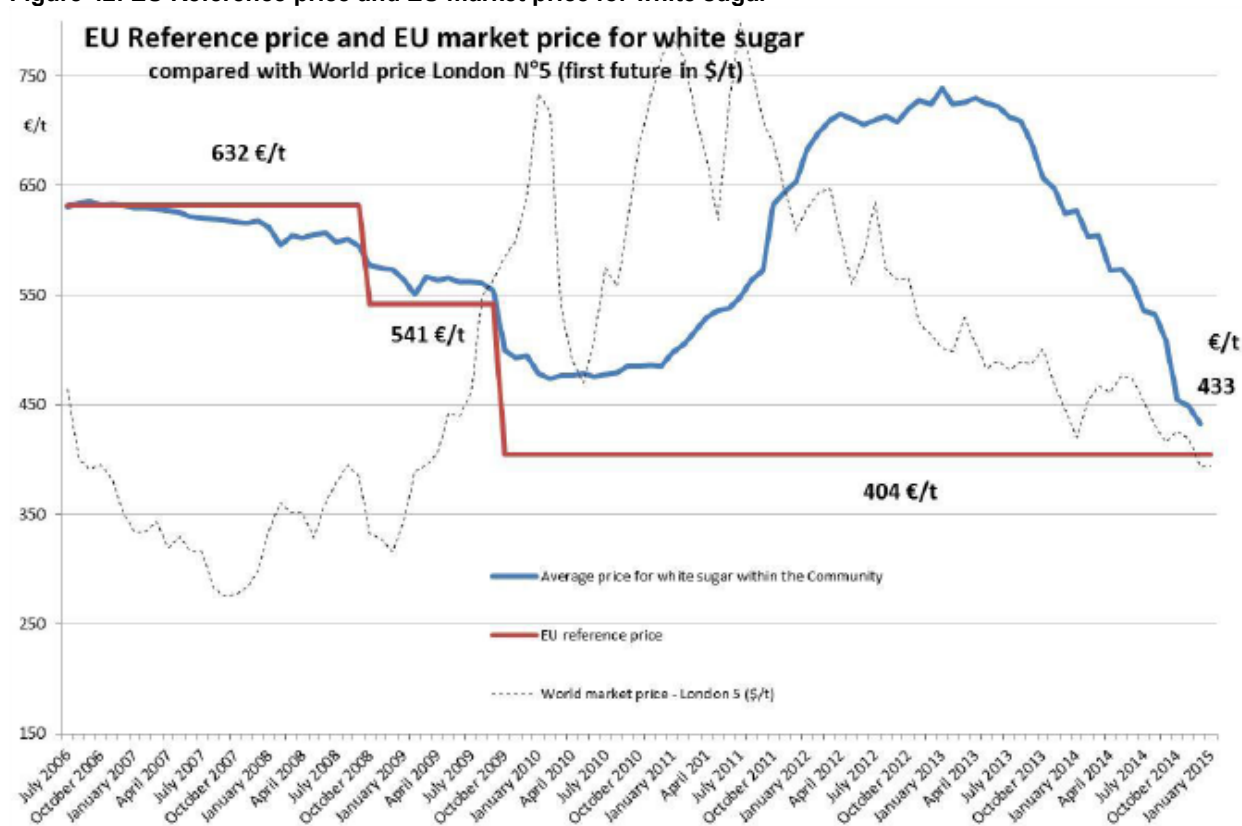
Sugar is an important agro-food sector in Tanzania, albeit not a major one. Raw sugar production represents 1.2% of agricultural GDP and 120,000 workers (households growing sugar cane, workers employed by sugar factories and other workers employed in the sugar value chain). Sugar is a secondary, yet significant component of the diet of Tanzania households. Tanzania is a net sugar importer. In Tanzania, four large sugar factories (including estate production systems) have been in activity for a long time. In recent years, new projects have been proposed and the implementation of some has begun.

Figure 41: EU Average price for Industrial white sugar



Source: EC, 2015.

Figure 42: EU Reference price and EU market price for white sugar



Source: EC, 2015.

Compared to other countries in Eastern and Southern Africa, Tanzania is not a high-productivity sugar producer. Sugarcane yields are low relatively to Southern African producers and other Eastern African producers, due to various factors, including a lack of irrigation, the use of low-performance varieties, low fertiliser use and other production and marketing factors. In the 1990s, measures of privatisation and other interventions were taken to rehabilitate the sugar sector, which led to improvements in productivity and production increases. Sugar importation in Tanzania is controlled by a cartel. Same as for rice. Large commodity traders and processors often benefit from tax exemptions (Therkildsen, 2012; Hoffman, 2013).

Following the EU sugar sector reforms, the price of raw sugar received by ACP exporters fell from 524 euros/tonne in the pre-reform regime (up to 2005/06) to 497 euros/t in 2006/07 and 2007/08, to 434 euros/t in 2008/09 and to 335 euros/t in 2009/10 (CTA, xx; see p. 34 of Goodison, 2007). The change in price from 2005/06 to 2009/10 is -36 per cent. The first price cut (in 2006/07 and 2007/08) is equivalent to the cut in aid previously provided by the EU from the EU budget to EU cane sugar refiners.

According to the CTA brief (2006), Tanzania was expected to loose 2.1 m euros/year from 2009/10 on, under the sugar protocol. For comparison, this is much less than for low-cost African producers (100.7 m euros annual loss for Mauritius, 24.1 m euros/year loss for Swaziland, 6.2 m euros annual loss for Zimbabwe, 4.3 m euros loss for Malawi); it is the same for Cote d'Ivoire and more than Kenya and Zambia (negligible losses).

Successive EU agricultural policy reforms, in the context of bilateral and multilateral trade liberalisation processes, have entailed an erosion of trade preferences for ACP countries. Whether this erosion of preferences has had significant impacts on Tanzania is an empirical question. The EU has made a policy response to these changes. The 2006 reform did not provide for substantial tariff liberalisation, except for the EBA;

Goodison's 2007 paper on preference erosion in the banana and sugar sectors shows that preference erosion was initially driven by the EU policy reform agenda and not by WTO negotiations and the WTO dispute settlement process. The timing of the different reforms in EU policy, in the ACP-EU relation, in the relations between the EU and other parties, and under the WTO, is a determining factor of the impacts on ACP countries. And the policy responses have to take this into account.

The basic idea is that in the early stages of preference erosion 'the granting of additional trade preferences in the affected sector can play an important role. However, as the process of preference erosion moves through the various stages, the paper explains that targeted "aid for trade" takes on greater significance'. The policy response should also be adjusted depending on the 'underlying constraints on competitiveness faced and the specific circumstances of the country concerned'. The remaining duration of tariff preferences should have allowed exporting ACP countries to improve their production and marketing efficiency.

Goodison (2007) assessed the impacts on Swaziland at the beginning of the reform. His analysis is based on 37 percent decline in the value of the euro with respect to the South African rand, which entails a loss of earning from sugar sales to the EU in the local currency of Swaziland. This income loss is about equivalent to the loss entailed by the reduction in revenue for the industry due to the reduction in the price paid by EU refiners for raw sugar coming from ACP countries.

Impacts on Swaziland:

- Decreased price on sugar received by farmers, because of relatively high dependence on the EU market; small-scale farmers that had recently invested in sugar production and had not yet recovered investment costs
- There was also pressure to cut costs in the sugar industry; this led to lay-offs of workers in the sugar industry and reduced demand for goods and services in this industry; decline in employment conditions; reduction in social expenditures by sugar companies in local economies (education, health, housing, social welfare) and in support to local public utilities;
- There were also negative indirect effects in the local economies, with less demand for goods and services across industries;
- Innovation in the private sector to cut operating costs (co-generation of electricity using cane sugar waste, improving logistical operations, and diversifying production (bio-fuels notably)
- Generation of more value added (with the effect of reducing vulnerability to international price falls for raw sugar): sugar refining, specialty sugars;
- Loss of government revenues from corporate taxes, industry-specific taxes and personal income taxes (at a time when the sugar industry provides less education and health services, social welfare, and utilities in sugar-producing areas)
- The banking sector, which had lent a large amount of money to the sugar sector, including new small-scale sugar farmers, incurred severe losses as farmers defaulted on both seasonal and capital loans/large number of non-performing loans; thus it is important to facilitate financial restructuring in such situations, which is a prerequisite for investments into value addition, diversification and other forms of innovation in response to a more competitive market environment following the erosion of long-held trade preferences;

Swaziland has lower production costs than Tanzania, so it is probable that the consequences of the EU sugar sector reform was more severe in Tanzania. But was it in fact?

Under the EU agricultural policy, ACP countries have benefited from high sugar prices on the EU market. This was possible because under that policy, the EU was imposing a high tariff protection on sugar imports. Trade liberalisation has entailed a reduction in the margin of tariff preferences that ACP countries had.

The decrease in the EU market price of sugar entailed losses for countries with preferential access/trade preferences to the EU market, including Tanzania, through a reduction in the value of the margin of tariff preference. CAP reform has been the major driver of trade preference erosion in ACP countries for commodities such as sugar (Goodison, 2007).

- Full liberalization of imports from LDCs in 2009 (increased market access in marketing year 2008/09 and then free access), duty-free and quota-free access (including the waiving of all special duties) to EU sugar market for 48 LDCs in 2009 under the EBA agreement signed in 2001; ACP sugar receives the minimum price in effect (or more);

Tanzania, as a LDC, has benefited from the EBA scheme. Until a few years, Tanzania used to export raw sugar mostly to the EU under the EBA regime (about 10,000 t per year). However, export licenses have been difficult to obtain, reportedly, as Tanzanian authorities have wanted to secure an adequate supply of sugar for the domestic market. (The high-price environment of the early 2010s may explain this policy). In comparison to Mauritius, Swaziland, and Zimbabwe, Tanzania has exported small quantities of sugar to the EU.

For sugar, as well as for banana and rice, implementation of the EBA was differed; it was sequenced with the implementation of reforms to internal market management regimes in these sectors. The EBA led to a period of rapid increase in sugar production in Southern Africa and in Eastern Africa. Investments in sugar production and processing increased rapidly from the late 1990s to the mid-2000s in Mozambique, Zambia, Malawi and Tanzania, with increased exports to the EU market (Goodison, 2007). 'In Tanzania, where Illovo and a combination of Mauritian and French investors are interested in developing production, it is envisaged that production will increase from 270,000 t in 2006 to 440,000 t in 2010 (following rapid growth after 1999, when production was only 108,000 t). While of this envisaged extra production could be absorbed internally to replace the 200,000 t of sugar currently imported, profit maximisation across what is increasingly a regional industry is likely to mean that a growing volume will be exported to the EU under the EBA'. The EBA has affected patterns of private investment in the ESA region, in favour of the LDCs and to the detriment of the ACP countries not LDCs. European firms have also responded to this new environment by investing more in LDCs in the sugar refining and specialty sugar production<sup>44</sup>) The EBA has entailed preference erosion for non-LDC ACP exporters, mainly due to competition from both ACP LDC countries and non-ACP LDCs.

The internal price decline has made it less profitable for many sugar producers to export sugar to the EU, notably among the least efficient producers (Trinidad & Tobago, St. Kitts & Nevis, Barbados, Madagascar, Kenya, Cote d'Ivoire). It was expected to imply losses in export earnings for several SP beneficiaries, who are heavily dependent on this revenue (Tanzania, Republic of Congo, Jamaica, Fiji, Belize, Mauritius, Guyana, Zambia, Swaziland). Only Zimbabwe, Malawi, and Mozambique were expected to remain comfortably able to supply the EU market at the reduced price. The EU Adjustment Assistance to be provided was €1.3 billion over 8 years.

How has Tanzania's tariff preference margin evolved over the period of the ACP-EU partnership; the reduction of EU tariffs in the context of bilateral and multilateral agreements makes worse the problem caused by the erosion of trade preferences (tariff-quota combination) due to the reform of the CAP; these reductions increase competition (at least in the short run) in a context where prices are falling;

Within the ACP group, the tariff preferences of some countries may have been eroded by tariff reductions under the EBA regime for LDCs and revisions to the GSP.

All non-LDC ACP countries were granted duty-free and quota-free access to the EU market (including for agricultural products) in 2008 under the EU Market Access Regulation if they had initialled an EPA or signed an interim EPA (there was a transition period for rice and sugar). All non-LDC ACP countries that had initialled an interim EPA were granted duty-free access to the EU market.

Bilateral trade agreements between the EU and non-ACP countries have also eroded the margin of tariff preference of ACP countries. Tariff reductions through multilateral agreements have also eroded the margins of preference of ACP countries. The WTO dispute settlement mechanism has also eroded the margin of preference of ACP countries.

Between the inception of the EBA and the EPAs, the plan of the EC was to have a transitional arrangements with non-LDC ACP countries between 2008 and October 2015, date by which they would have duty-free, quota-free access to the EU market, subject to a safeguard mechanism (similar to those

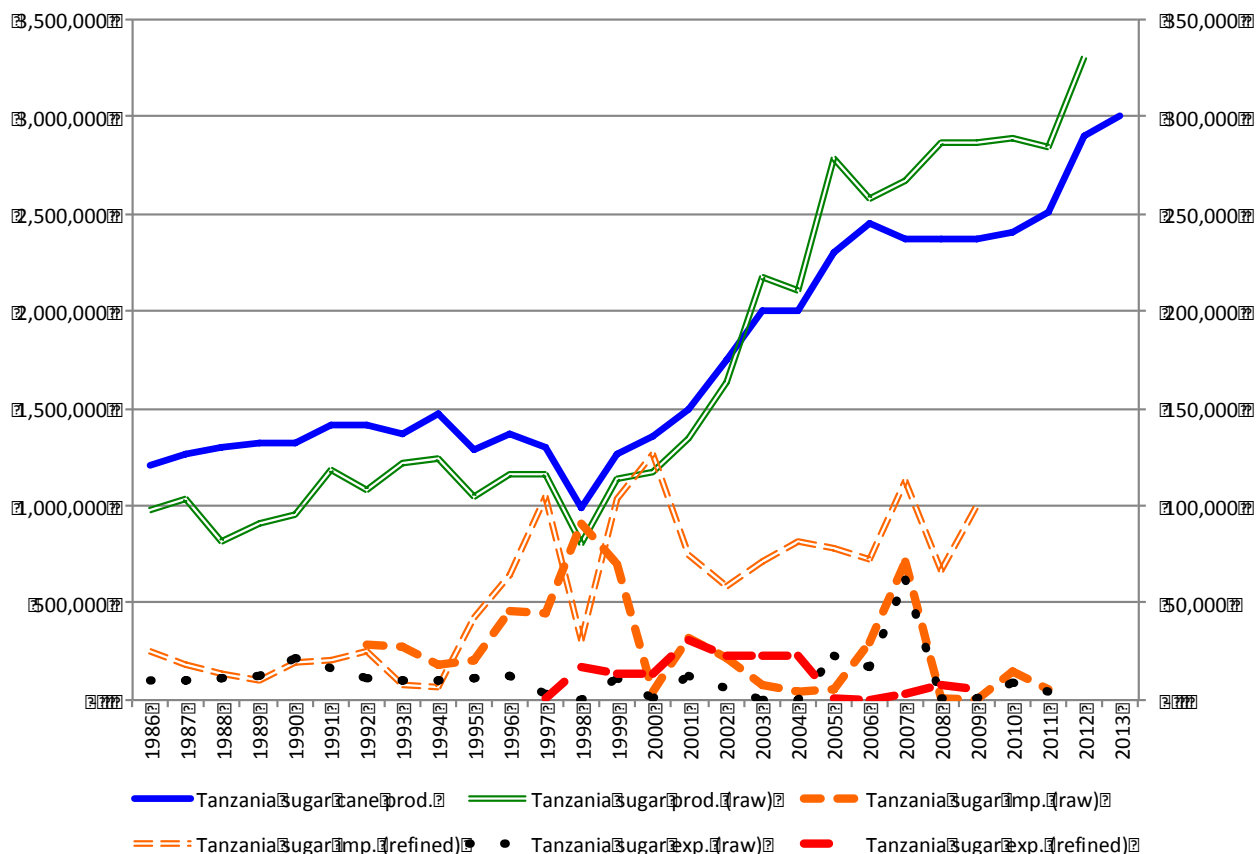
---

<sup>44</sup> For instance, Associated British Foods (ABF, which own British Sugar) has taken a majority equity stake in Illovo, and this has provided Illovo with an enhanced market in the EU for refined and specialty sugar exported by Malawi, Mozambique, Zambia and Tanzania under the EBA (Goodison, 2007).

mechanism under the EPA). As the EBA scheme was phased in in the marketing year 2008/09, non-LDC ACP countries benefitted from additional quota.

The sugar sector is generally a concentrated sector. In the EU, a few multi-national companies import sugar.

**Figure 43: Tanzania sugar production and trade**



Notes:

Left axis, sugar cane production in tonnes

Right axis, sugar production and trade in tonnes

### 6.2.7. Sugar and Biofuels

The EU has had a deficit in bio-ethanol given its non-binding targets in terms of consumption of transport fuels (2 per cent in 2005 and 5.75 per cent in 2010 (EC, 2006h in Goodison 2007); and binding target of 10 percent of transport fuels by 2020). It has also sought to secure supplies from overseas suppliers to maintain to ensure the supply matches demand in the internal market.

### 6.2.8. Development cooperation in the sugar sector

As the EU was reforming its sugar sector policy in 2005-06, the EC started to plan assistance measures in ACP countries to support adjustment to the change in market conditions induced by the EU sugar sector reform (cf. 2005 EC “Action plan on accompanying measures for sugar protocol countries affected by the reform of the EU sugar regime”. The EU implemented two types of measures: in the area of trade; financial assistance.

On the basis of trends in international prices and the cost structure of local sugar industries in ACP countries, the EU determined that in countries where ‘directing assistance towards maintaining the sugar industry would not be sustainable in the long term, and would correspond to an inefficient use of financial resources, the EU favours supporting diversification or broader adjustment measures’ Economic viability was a key issue. National adjustment strategies would be determinant in the decision process of the EU, paying due attention to what the prospects for the sugar sector were and how this sector would fit in the general domestic and external contexts. A market-demand-driven, sectoral, value chain approach was promoted in upgrading and diversifying the sector, taking into account the diversity of stakeholders and the complementary roles of the public and private sectors. Risk management in pursuing diversification opportunities was also emphasized. The development assistance component of the EU’s response was three-fold:<sup>45</sup>

- Competitiveness enhancement
- Promotion of diversification (emphasis was placed on a pro-poor approach)
- Support to broad economic adjustment and mitigation of negative social impacts of adverse adjustments in the sugar industry, including through targeted safety nets

This three-fold response relied on a classification of countries (depending on their level of competitiveness in the sugar sector). As Goodison (2007) says, the EC may have neglected the fact that all sugar-producing ACP countries may have needed all three types of assistance, albeit in different proportions (for example, more competitiveness enhancement support would be needed in more competitive ACP producers). The reality is that in all countries, there is some degree of heterogeneity in the productivity of sugar producers, in addition to difference in competitiveness across countries.

- **Sugar Protocol Accompanying Measures** introduced as part of the 2006 reform; assistance package for ACP countries; 40m euros
- **ACP Sugar Research and Innovation Programme**, to fund research to enhance sugar productivity, diversify uses of sugar cane (biofuels, bio-fertilisers, bio-polymers, etc.) and generally ensure that the sugar industry remains viable; about 20m US\$, mostly from EU, also from Australia, US and ACP countries

Multi-Annual Indicative Programme for the Accompanying Measures for Sugar Protocol Countries, to support adjustment to changes in the EU sector induced by changes in EU policies; in Tanzania, the Tanzanian Sugar Board has been involved; however, in the sugar sector, it seems that more could have been done to engage key stakeholders like the Tanzanian Sugar Board in setting priorities and strategies, designing and implementing programmes (incl. development assistance), etc., to deal with production and trade adjustment (ECDPM DP 111).

#### **Box 6: EU Dairy sector policy and implications for Tanzania**

The Tanzanian dairy sector is relatively small compared to Kenya and Uganda, although Tanzania has Africa’s third largest herd with 18 m livestock heads. Tanzania is endowed with extensive rangelands and possesses large feed resources. The livestock and dairy sectors are underdeveloped and productivity in these sectors is low. Livestock products (including meat, milk and eggs) make up about 30% of agricultural GDP (SACGOT, 2011). The Government has been actively promoting investments in the livestock sector, including through Kilimo Kwanza and investments overseen by the Tanzanian Investment Centre. Under the SACGOT initiative, nearly 900,000 ha have been allocated to livestock production. Many rural households rely on milk production and sales. The vast majority of milk producers are smallholder farmers who own one or a few cows. Less than 10 per cent of the cattle herd are improved dairy cattle.

<sup>45</sup> The development assistance component of the EC’s response included various measures to improve sugarcane productivity (improved technology, farm management, research and extension), intra-industry production asset reallocation and changes in coordination among operators, development of new products based on sugarcane, improving corporate practices in the sector, improving environmental impact, improving the policy and institutional environment, developing services around the sugar value chain, improving access to finance,

For those farmers, milk sales represent a small but significant source of income.

Population growth, at 3.3% annually, urbanisation, at 5% annually and rising household incomes due to rapid economic growth (about 4% per year in recent years) are driving a growth in demand for dairy products. The milk supply has hardly kept pace with the growth in demand. Immediately after the liberalisation of the economy, in the early 1990s, growth in the dairy sector stalled as government support for the milk marketing and livestock services declined. The private sector has been unable to fill that void. Even in the most productive regions, despite the involvement of various actors, including small-scale traders, entrepreneurs, producers groups and NGOs, and innovative approaches to the development of vertical and horizontal linkages in the value chains. Milk productivity is the lowest in the region hovering from 3 to 24 litres per cow for improved breeds and 0.5 to 2 litres for indigenous breeds. Only 5 per cent of the milk produced is processed. Most dairy plants are very small by industry standards and the few large ones operate well under their capacity. The gap between consumer demand and supply is filled by large quantities of imported dairy products, especially powdered milk.

There are few examples of successful dairy sector development programmes in Tanzania. One of them is the Tanga smallholder dairy development programme that resulted in the establishment of strong horizontal and vertical linkages with livestock keepers and Tanga Fresh processing plant. Other programmes include the USAID dairy development programme through Land O'Lakes and SNV's projects (funded by the Dutch government) to support dairy markets and value chain development. Currently the Bill and Melinda Gates Foundation is supporting dairy development in Tanzania through the East Africa Dairy Development (EADD) Project, but also there have been other parallel activities in dairy genetics development. The EADD project establishes dairy hubs to improve the provision and access to various services to dairy value chain actors.

Dairy products traded internationally include butter, butterfat, concentrated milk, whole milk powder, nonfat dry milk, cheese, casein and whey. The EU is the world's second largest exporter of whole milk powder (the first is New Zealand) and the largest exporter nonfat dry milk (Foreign Agricultural Service, Official USDA Estimates, 2015). The EU accounts for about one third of world exports of dairy products. The EU is a high-cost milk producer compared to New Zealand, Argentina and India, which are large producers and exporters. Following the 2008 food price crisis, dairy prices have been relatively high and milk prices in the EU have been only slightly higher than prices in New Zealand. The EU exports dairy products mainly to Russia, North Africa, the Middle East and Sub-Saharan Africa. Milk production is growing rapidly in many emerging and developing countries and domestic demand too. Only a few emerging and developing countries, mainly in Latin America (Argentina and Brazil) are expected to become significant exporters of dairy products in the future.

The EU dairy market is protected by high tariffs (except for preferential trade arrangements/agreements). Non-tariff measures also protect the internal market. In addition, the EU dairy sector has been supported through administered prices, public purchases and export subsidies. EU administered prices for dairy products were reduced following the Agenda 2000 CAP reform adopted in 1999. Under the current regime, the EU dairy sector is less subsidized than before. Dairy farmers receive direct payments ("decoupled" from output). Public purchases have been limited. The high international prices have allowed the EU to curtail export subsidies. The EU, however, can still use export subsidies, as it did in 2009 when milk prices were very low. The EU, in combination with the exports of other major dairy exporters that support their dairy sectors, has probably contributed to depress international prices, particularly for milk powder, favoured imports of low-price milk powder into developing countries, and discouraged investments in dairy production and the development of local dairy value chains.

On the other hand, exports of milk and other dairy products from the EU may have benefited poor urban consumers, who have had access to products that local producers cannot supply, especially high-value added products. The argument can also be made that milk processing plants established to reconstitute milk from imported milk powder over

time can source an increasing share of locally produced milk and encourage the development of the local dairy sector.

The EU milk production quota system is to be removed in 2015, which might lead to an increase in production in the coming years. The protection of the common market, with relatively high tariffs, however, will probably remain in place until the Doha Development Round is concluded. An ex ante evaluation of the elimination of quotas showed that it will bring about an increase in production of about 5% and a fall in internal market prices of about 10% (JRC-IPTS, 2009). However, as production quotas have not been filled in many member states in recent years, and with a slow growth in EU consumer demand, the EU milk supply might not increase very much. The milk supply should increase moderately and that will lead to a decrease in dairy product imports into the EU and an increase in dairy product exports, which will put downward pressure on international prices.

Dairy products are on the list of sensitive products in Tanzania, like in other EAC countries. The dairy sector is protected by a 68% tariff. However, large quantities of dairy products, notably milk powder and UHT milk, are smuggled into mainland Tanzania. These products reportedly come from various origins, including Kenya, South Africa, Middle Eastern countries, Denmark, France, Germany, Italy, the Netherlands, Switzerland, the UK, Australia and New Zealand. Interviews with dairy sector stakeholders in Tanzania revealed that they are aware of OECD countries' dairy sector policies and their trade-distorting impacts. Interviewees also reported that the domestic policy environment is inadequate to support the development of the Tanzania dairy sector and productivity growth, which would make local dairy products more competitive with respect to imported products, although on paper policies are deemed good. The policy environment does not give sufficient importance to the role of the private sector.

#### **6.2.9. Outlook**

Sugar quotas will be eliminated as of 2017 and end of EU beet sugar reference price. The reform of the sector is continuing with the elimination of production quotas after 2015. This reform is expected to cause an increase in production (but that will depend on the international price and the internal cost structure) and a decline in internal market prices. Sugar production quotas (including quotas on isoglucose) were then extended until the end of the 2016/17 marketing year (they will be effectively abolished from October 2017 on). However, the EC is not proposing to change the import regime for sugar, and intends to maintain the contractual obligation between beet farmers and sugar producers. Private storage support will also be maintained as a safety-net measure, in case prices drop below €404/tonne.

The EU's Joint Research Centre (JRC) Institute for Prospective Technological Studies assessed the impacts on the sugar market of the removal of sugar quotas. With the elimination of the sugar quota, the food and non-food markets will be integrated. The price for white food sugar will decrease and the price for industrial sugar will go up, and they will eventually converge. As the JRC report suggests, overall, the removal of the quota will cause an increase in production, despite the lower price of sugar (regions now producing out-of-quota sugar are expected to expand production more than regions producing at or below quotas). There will also be a reallocation in sugar utilisation away from industrial production and exports and to the food sugar market. Overall, the availability and utilisation of EU white sugar will increase. The extent of the increase in sugar use, which is not expected to be large, will depend on the degree of substitution with glucose-fructose syrup in industrial uses. (The current sweetener market share of isoglucose in the EU is about 5%, which is due to the fact there is a production quota for this product (produced from maize and wheat) of 5% of the sugar quota. A 2013 DG AGRI market outlook puts at 10% approximately the share of the sweetener market in the years following the removal of the quota.

Under these circumstances, especially with the increased availability of domestic sugar, sugar imports will most likely fall, and high-cost EBA/EPA countries are expected to take the brunt of this contracting in the EU import market. This includes Tanzania. The key question is how preferential suppliers will respond to

the new supply and demand conditions in the EU, and the new price. Their response will also determine the price for white sugar in the EU market.

**Box 5: OECD policies for cotton and implications for Tanzania**

Cotton is Tanzania's leading export crop after coffee. It contributes about 24 per cent of total agricultural exports and 4 per cent of total exports as well as employment to about 500,000 direct employments to rural households (RLDC, 2008). About 60 per cent of cotton produced in Tanzania comes from Shinyanga region but yields in Tanzania are the lowest worldwide with an average of approx 270 kg per acre or 215 kg of lint/ha; against 280 of neighboring Zambia or Zimbabwe. However yields in West Africa vary around 440kg per acre. Cotton sub sector is heavily taxed and mainly exports cotton lint, and to a lesser extent cotton seed. About 80 per cent of cotton exports is going to Asia main destination is India. EU countries imports less than 20 per cent of the Tanzanian cotton. These countries are Portugal, Italy, United Kingdom, Germany, Spain, and Turkey (RLDC, 2008). The ginning sector environment is fairly competitive but the ginning ratio is low compared to other countries due inefficient technologies. Farmers sales raw cotton and receive a high share of the cotton lint price to export price. But the ginneries derived more profits from remaining cotton seed by producing seed cake and cotton oil.

Textile, garment and apparel value chain in Tanzania is underdeveloped with much of the activities concentrated in fiber production or ginning. Before liberalization, textiles industries were largest sub sector and main source of government revenue and employment. After liberalization, private sector investment to revamp the sector has been lagging behind considerably. There are limited investments in yarning, textiles or fabrics and apparel or garment processing. In 2008 Rural Livelihood Development Company with funding from Sida developed cotton market development strategy for central Tanzania with other stakeholder to improve quality and export of cotton. Tanzania Gatsby Trust from UK in the same year started implementing Cotton and Textile Sector Programme with co-funding from DFID in order to improve yields, training to farmers and skilled workers in textile industries, insurance to farmers to take loans and development of textile sector ([www.tanzaniagatsby.or.tz](http://www.tanzaniagatsby.or.tz)).

Promotion of textile manufacturing through Export Processing Zones and Incentives under the Tanzania Investment Center to make use of preferential market access under the African Growth and Opportunity Act (AGOA). Tanzania exports under AGOA have rebounded in recent years after stagnation from 2002 to 2007 levelling off at USD 2 million and majority of products being apparel. Most of the products were produced by Sunflag which in 2009 the company was hit hard by the bankruptcy of major client Steve & Barry's, along with the global financial crisis, Chinese competition, and the local power crisis. In 2010 exports rebounded after the investment of MAZAVA's company in Tanzania. MAZAVA is currently exporting 80 per cent of Tanzania apparel under the AGOA. The company took advantage of the cheap labor, port access, and AGOA's third country fabric provision which allows Tanzanian apparel firms to use fabric from non-AGOA countries, such as China, and still qualify for duty-free access to the U.S. market as well as the EAC interim Economic Partnership Agreement (EPA) in place with the European Union (EU). This guarantees tariff-free access to EU markets for the textiles products from Tanzania. In addition, East African Community Custom Union and Common Market offer a lucrative market of 120 million people for the garments and apparel investments in the country in order to add more value to the cotton produced (<http://www.aweptanzania.com/2012/06/agoa-background.html>).

Source: Authors

### 6.3. Horticulture: challenges and opportunities of OECD countries non-tariffs measure and privates standards for an emerging sector

Horticulture is an emerging sector that presents opportunities for strong export growth in Tanzania. However, the horticultural sector is also a sector where product and process regulations and standards are the most stringent in developed countries (Gourdon and Nicita, 2012). Tanzania's horticultural products not only face competition from OECD products but also barriers to access to OECD markets. This section looks at the challenges and opportunities of standards for Tanzania horticultural products in assessing OECD markets and assesses the implications for trade and food security.

#### 6.3.1. Horticulture OECD countries and the rest of world

With increasing urbanization and high incomes combined with greater awareness of health issues related to food, consumers in both developed and developing demand more and more high quality and safe foods. They are also shifting their diet toward non-staple food and over the past decades this trend has triggered a growing demand for horticultural products. On the supply side, improvements in production methods, availability of efficient storage facilities and development of transportation infrastructures have favored the increase in the production of fruits, vegetables and spices in various forms (fresh, dried and prepared) and also flowers. FAO production data<sup>46</sup> indicate that between 1990 and 2013 world production of vegetables, treenuts, and fruits have respectively increased by 143%, 221% and 92% (FAOSTAT, 2015). The production and demand of non-edible horticultural products such as ornamental flowers and seeds also recorded increases of similar magnitudes.

In general world production and export of horticultural products are mostly dominated by developing and emerging countries while developed countries dominated imports and consumption. The world top producers of vegetables and fruits include China, India, Vietnam, Philippine and Nigeria. Among African countries, Kenya, Ethiopia, South Africa and also Tanzania are also major players in the production and trade of horticultural products. In particular, Tanzania consistently ranked among the top 20 biggest producers of horticulture crops in the world. Developed countries or group of countries such the European Union (EU), the United State (US), Australia and Canada are also major producers and exporters of high value horticultural products. However, the rapid increase in demand in these countries combined with slow growth in production have lead to widening trade deficits and growing import from developing countries. As illustrated in Figure 44, the share of vegetables and fruits import in the total supply of these products in the EU has risen considerably during the past two decades. The EU has become the largest importer of horticultural products, mainly from developing countries although within the EU some countries like the Netherlands, Germany, France and Belgium are among the world largest producers and exporters. The US also consistently records a growing trade deficit in horticultural products filled by imports from both developed and developing countries.

For developing countries like Tanzania, the horticultural sector represents an opportunity to diversify exports away from traditional cash crops. In an assessment of world market for horticulture, Diop and Jaffee (2005) argue that fruits and vegetables exports from developing countries are now more than three times their exports of grains, three times exports of livestock products, five times exports of sugar, and seven times exports of textile fibers. Tanzania is experiencing a similar change and its horticultural sector is fast growing although it is facing a number of challenges that limit the transformation of the sector toward a strong export-oriented sector.

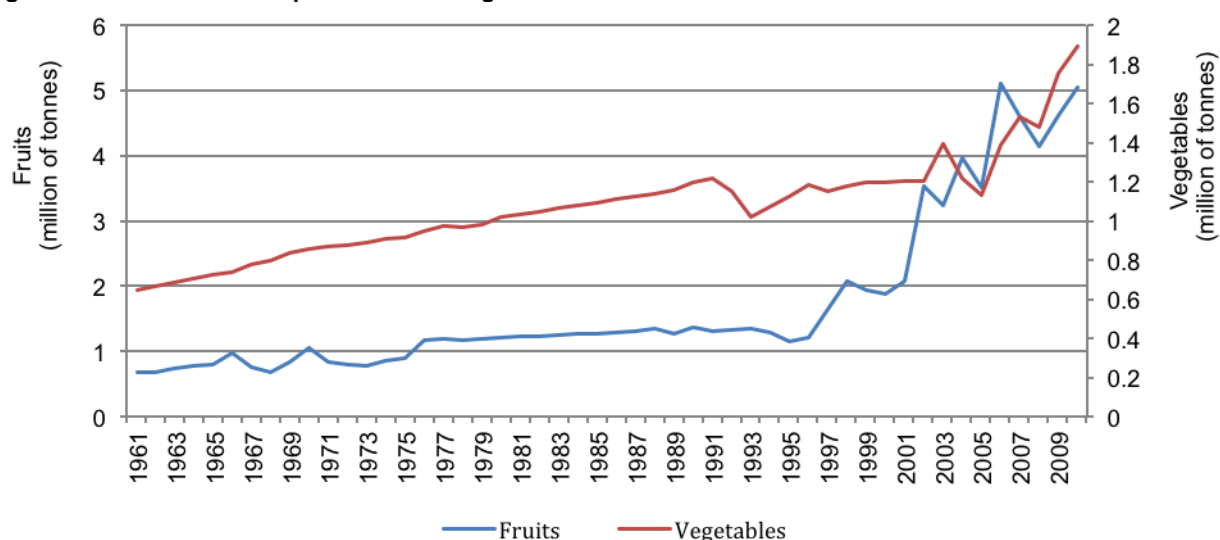
---

<sup>46</sup> <http://faostat3.fao.org/download/FB/BC/E>

### 6.3.2. Horticulture in Tanzania: a fast growing sector with considerable potential

With its diversified agro-climatic conditions and abundant land and labor, Tanzania is well endowed to produce a wide variety of vegetables, fruits and nuts, spices, and flowers to serve its domestic market as well as the regional and international markets. The country has a long tradition of producing horticultural products along with other traditional food and cash crop. For decades, Tanzania consistently ranks among world top producers of horticultural products and over the past 20 years production continues to expand both in term of quantity and variety. This increase is so far mostly driven by land expansion with little productivity improvement but the pattern is gradually changing with the introduction of improved seed and adoption of improve agricultural practices. Demands for Tanzanian's products both in domestic urban, regional and international markets continue to stimulate the expansion in horticultural production. Figure 45 illustrates this sharp increase since the mid-1990s for fruits and vegetables.

**Figure 44: Evolution of the production of vegetables and fruits in Tanzania**



FOASTAT, 2014

Not only Tanzanian horticultural sector is booming in term of production, it is also transforming rapidly toward an export-oriented sector although the country still lags behind some of its neighbours like Kenya, Ethiopia and South Africa. While export of horticultural product from Tanzania dates back to the 1950s, it has been sustained only since the 1970s starting with export of a few number of high value crops mainly green beans and Asian vegetables to the United Kingdom (TAHA, 2012). In the late 1980s, the sector has started diversifying with the export of flowers and other vegetables to the Netherlands, Germany and other European countries. In the past decades, the transformation of Tanzania horticulture was even more rapid with the emergence of number agro-processing firms that are able to successful secure access to Europeans markets and increasingly to selected Asian countries. The range of products exported and destinations served has also widened.

This transformation clearly translates into the recent export performance of the sector. Between 2002 and 2013, the total export of horticultural products from Tanzania increased from US\$35.3 million to US\$233.8 million in 2012 before falling to US\$167.8 millions in 2013. Vegetables (fresh and dried) are the most important sub-products exported with more than 57% of the value of horticulture exports in 2012, followed by spices (16%), flowers (14%) and fruits and nuts (12%). The leading export destinations of horticulture exports are EU countries for flowers and India, the United Arab Emirates, Kenya and EU countries for edible vegetables, spices and fruits.

The horticultural sector in Tanzania is fast growing and still has plenty of potential to become a major export-oriented sector and contributes to poverty reduction and food security. While there have been a rapid increase in export, the bulk of the production edible horticultural products (fruits, vegetables and spices) are still consumed domestically in rural areas or sold on urban markets in Tanzania (World Bank, 2005). Exports abroad account for about 10-20% of total production. Compared to Kenya and Ethiopia which are two countries of comparable size, the horticultural sector in Tanzania perform far below its potential for export and there is still clearly a large room for the expansion of the sector, both in term of production and export if the main bottlenecks are timely identified and removed.

### **6.3.3. Drivers and constraints to the Tanzania horticulture**

#### **Drivers**

The rapid development of the embryonic horticultural sector in Tanzania is driven by number of domestic and external factors. Among the domestic factors stimulating the development of the Tanzania horticultural sector are the availability and suitability of cheap and plentiful good land as well as a favorable climate that ensures a year-round production of a wide variety of products particularly during the European winter when demand for import is high. In addition to that, Tanzania has a good political stability that could enable the development of a vibrant private sector in the horticultural sector. The Tanzania Investment Center (TIC) is pursuing active policies to attract foreign investors in the agricultural sector in general and the horticultural sub-sector in particular. In fact the first companies that ventured in the horticultural sector in Tanzania were foreign-owned firm, some European companies and latter foreign-owned companies already operating in Kenya and seeking to expand their activities in Tanzania. There is also an increase in the investment by local Tanzanian investors who see opportunities in the horticultural sector.

In addition to the domestic factors above-mentioned, there is also number of external factors that explain the recent performance of Tanzania horticultural sector. First, and most importantly, demand-side factors in developed countries account for a large part in the explanation. Though the horticultural sector in the EU is a well-established industry, the domestic production is unable to keep pace with the strong increase in demand by consumers increasingly looking for fresh, tropical and exotic products. In 2010, the share import in the total domestic supply of horticultural products in the EU has reached 42% for vegetables and 68% for fruits and continues to increase. It is forecasted that the EU will increasingly source vegetables and fruits from abroad to satisfy its growing demand. The same trends have been observed for flowers and other horticultural products. This means plenty of markets opportunities for Tanzania although it also implies that it has to compete with other exporters both developing and developed countries to secure and expand its market share.

Additionally, unlike other sector such as the cereals, sugar, dairy and cotton, there is little to no support to horticultural producers in the OECD countries. In 1986, the producer estimates as percentage of farmers gross receipts are respectively 15% for tomato producers and 8% for flowers producers. In 2013, these supports have substantially decreased to only 3% for tomatoes and 2% for flowers. This means that, other than the transportation cost, Tanzania products can be as competitive as product produced domestically in OECD countries or imported from other developed countries. The preferential access Tanzania has to the European market is a factor that boosts its exports.

There has been also an increased demand for horticultural products in regional markets where there are chronic shortages of key products such onions, tomatoes and orange. More recently, Middle East and Asian countries also represent a growing market opportunities for Tanzania horticultural products.

## **Constraints to the transformation of Tanzania's horticultural sector**

Despite a steady growth in production and export, the horticultural sector in Tanzania faces number of challenges that prevent its durable positioning on high-value markets, particularly in OECD countries (HODECT, 2010). Although the country is a large producer of horticultural products, it does not figure among the top 20 biggest exporters and even performs worst than some of its neighbors like Kenya, Ethiopia and South Africa when it comes to exporting to OECD countries. Consultations with the main stakeholders reveal that various domestic factors and external factors explain the poor to modest performance of Tanzania horticulture and its slow transformation and expansion toward a strong export-oriented and competitive sector.

The main domestic factor often identified by the main actors of the value chain include the unfavorable enabling environment including to some extent the climatic condition and the lack of a strong policy support to the sector (ESRF, 2013). The lack of adequate infrastructure and the poor condition of the existing ones are among the most important domestic constraints to the expansion of Tanzania horticulture toward a strong export-oriented industry (Nguni, 2013). The perishable nature of horticultural products means that export success depends largely on the quality of infrastructures that connect production zones to processing plants and points of export. In Tanzania, poor conditions of transportation systems (road, rails, and airfreight), low power supply, lack of adequate storage and cooling facilities, and tiresome administrative formalities are number of factors that cause lengthy delays in the flow of horticultural products from farms to points of export and result in substantial post-harvest and quality losses. For instance, Homeveg a leading Tanzanian firm in horticultural sector reports a lost of 20%-40% of production from producers' farm gate to its pack house (Dominic et al., 2014). In order to address these issues, the fresh products handling facilities at Kilimanjaro International Airport (KIA) have been upgraded with the support of development partners and are now up to international standards for export products like flowers, cuttings and fresh vegetables. But its capacity is still far below the demand for exports through this airport.

The availability and cost of airfreight is also an important bottleneck to the horticultural export. In general Tanzania is among the less competitive countries when it come to export. The country ranks 139 out of 189 countries in the criteria of 'ability to trade across borders' (World Bank, 2013). Costs of landing, handling and aviation fuel are higher at Kilimanjaro International Airport than at Jomokenyatta International Airport (JKIA). In fact, this also explains why horticultural sector is more developed in the Northern regions, which are geographically close and institutionally well connected to Kenya with easier access to JKIA. As consequence a large proportion of Tanzanian's export of vegetable and flowers has to transit through JKIA.

Although Tanzania is endowed with good climatic conditions and suitable land for horticulture production, its geographical position near the equator is also a disadvantage. In fact, the average temperature in Tanzania from January though March are relatively high degrading substantially the quality of its flowers (but not of other horticultural products) compared to competitors from Southern African countries (South Africa and Zimbabwe), North Africa and South America. In order to address this challenge, production need to be in controlled environment like in a greenhouse. So far, the bulk of the production is done in rain-fed environment and this also significantly limits the farm productivity and degrades the quality of the output.

Another major constraint for the Tanzanian horticultural sector often raised by the private actors is the passive government support to the value chain. For years, agricultural policy in Tanzania like in many other LDCs has been strongly associated with food security with a focus on food availability and traditional export non-food crops. As consequence, the horticultural sector has generally received little-to-no support from government despite its potential to contribute to employment and food security in number of its dimensions.

In Tanzania, the horticultural sector is mentioned in number of strategic policy document as key priority sector. The National Export Strategy and the Kilimo Kwanza Resolution all identified the horticultural sector as one the priority sector with the potential to contribute to poverty alleviation and food security (HODECT, 2010). Yet, in practice there is no concrete action to support the sector and the millions of smallholders that depends on it. Private companies involved in horticultural export often complaints about the being taxed, not exempted from paying import duties for input and not being able to recover on time value added tax (VAT) collected by the government. The consequence of this low policy support is the absence of a strong and dynamic enabling environment that would have naturally favoured the development and expansion of the horticultural sector. It only in the past five to ten years that, the Tanzania government with the support of development partners has started actively promoting the development of non-traditional export including horticulture with the objective to encourage employment generation and income diversification.

Tanzania exports are further constrained by external factors among which non-tariff measures and private standards are fundamental. During the past decades, successive rounds of international negotiations under the World Trade Organization (WTO) and multiple bilateral and multilateral Free Trade Agreements (FTA) lead to **substantial reductions in tariffs and other quantitative barriers to trade** (WTO, 2012). However, as tariffs have decreased and quantitative barriers such as import quotas progressively phased out, other forms trade policies instruments, Non-Tariff Measures (NTM), acquire a growing importance (OECD, 2013). In addition to these regulations, the food system is also increasingly governed by a number of Private Voluntary Standards (PVS) set by private firms, mostly large multinational retailers and Non-Governmental Organizations (van Tongeren et al., 2010).

#### **6.3.4. Non-Tariff Measures and standards in international trade: the case of horticulture**

##### **Non-Tariff Measures and standards in horticulture and challenges in exporting to OECD countries**

OECD countries and most importantly EU countries as the main trading partners of Tanzania and major destinations of its export of horticultural products has several mandatory and also voluntary requirements for products entering in their markets. Imports to the EU are governed by a set of general requirements listed in General Product Safety Directives (GPSD) and requirements from specific regulations for certain products or sectors. As such imports of food or feedstuffs to the EU must comply with general and specific rules at all stages of food and feed production and distribution. The general rules includes requirements on hygiene, products traceability which require the identification of suppliers and producers in third countries. The specific rules concern residues limits for specific substances such as pesticides (including the use of only approved substances), veterinary medicines and contaminants.

Similar to the EU, the US and the other OECD countries have some equally stringent requirements for imported products including pesticide and contaminant limits as well as specific rules on traceability, hygiene, labelling and hygiene. In addition to these product requirements, horticultural products must also comply with specific market standards related to quality, freshness, maturity, form, color, size, odor, etc. Labelling of all products must provide clear information on product contents, composition, and special precautions and the package must also satisfy environment and health requirements.

**Table 11: Illustrative standards and technical requirements by the EU affecting horticultural products**

| Products or groups of products         | Food safety                                                                                                                                                                                                         | Animal/Plant health                                                                                                                                                                         | Quality or Technical Attributes                                                                                                                                       |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flowers, cuttings and ornamental trees | <ul style="list-style-type: none"> <li>• Microbiological standards</li> <li>• Pesticide residue limits</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>• Plant material quarantine</li> <li>• Phytosanitary certification</li> <li>• Pest risk analysis needs</li> <li>• Fumigation requirements</li> </ul> | <ul style="list-style-type: none"> <li>• Quality attributes</li> <li>• Marketing standards</li> <li>• Packaging standards</li> </ul>                                  |
| Fruits and nuts                        | <ul style="list-style-type: none"> <li>• Microbiological standards</li> <li>• Pesticide residue limits</li> <li>• Mycotoxins limits</li> <li>• Traceability requirements</li> <li>• Hygiene requirements</li> </ul> | <ul style="list-style-type: none"> <li>• Quarantine requirements</li> <li>• Fumigation requirements</li> </ul>                                                                              | <ul style="list-style-type: none"> <li>• Quality attributes</li> <li>• Marketing standards</li> <li>• Labeling requirements</li> <li>• Packaging standards</li> </ul> |
| Vegetables and spices                  | <ul style="list-style-type: none"> <li>• Pesticide residue limits</li> <li>• Microbiological standards</li> <li>• Traceability requirements</li> <li>• Hygiene requirements</li> </ul>                              | <ul style="list-style-type: none"> <li>• Plant material quarantine</li> <li>• Pest risk analysis needs</li> <li>• Fumigation requirements</li> </ul>                                        | <ul style="list-style-type: none"> <li>• Quality attributes</li> <li>• Marketing standards</li> <li>• Labeling requirements</li> <li>• Packaging standards</li> </ul> |

Source: Author elaboration based on information from EU Export Helpdesk website

<http://exporthelp.europa.eu/thdapp/index.htm>

The food and feed safety regulations in the OECD countries have evolved over time in response to new threats to consumer's health but in general the regulations have become more and more strict. Despite the existence of international guidelines for standards setting such as the Codex Alimentarius, country national standards are heterogeneous and often diverge from international standards. For instance, Li and Beghin (2014) using an aggregate index of the MRL requirements for a large number of pesticides, products and countries, find that not only national regulations are not harmonized with the international standards, but also are often stricter constituting protectionism measures. Their analysis reveals that OECD countries, in particular the EU, Canada and Australia, rank among the most protectionist markets.

### Rising role of Private Voluntary Standards in horticulture

In addition to the standards set by public authorities, the Tanzanian horticultural sector also faces a number of barriers posed by private voluntary standards. While there is no formal definition for PVS, a working definition proposed by New Zealand and China and under discussions at the WTO considers as PVS ***“a written requirement or a set of written requirements of a non-governmental entity which are related to food safety, animal or plant life or health and for common and repeated use”***<sup>47</sup>. Unlike public standards, PVSs cover a wide range of product and process aspects such as soil management, input use, food safety, product quality, employment and management practices, and environment and sustainability aspects. Despite their voluntary nature, PVSs are ‘de facto’ mandatory for producers and exporters to access developed countries markets (Henson and Northen, 1998). In an OECD's survey, major Europeans retailers reported that their products from LDCs are only from privately certified producers (Fulponi 2006).

There is no exhaustive list of PVSs. UNCTAD estimated the number distinct PVSs in 2007 at 400. PVS comprising individual firm schemes (eg. “Engagement Qualité” Carrefour by the French retailer Carrefour), collective national schemes (eg. British Retail Consortium Global Standard – Food) and collective international schemes (eg. GlobalGap). A more recent inventory by the European Commission in 2010 identified 441 schemes only for agricultural and food products marketed within the EU. The ITC surveys at least 30 PVSs operating in the horticultural sector in Tanzania with GlobalGap and the British Retail Consortium Global Standards being the dominant schemes in term of certification (World Bank 2005).

<sup>47</sup> [http://www.wto.org/english/news\\_e/news14\\_e/sps\\_25mar14\\_e.htm#private](http://www.wto.org/english/news_e/news14_e/sps_25mar14_e.htm#private)

Though these PVS are intended to help comply with the public standards, they are often more stringent and mandatory to export (UNCTAD 2007; Henson and Humphrey 2009).

### 6.3.5. Challenges and opportunities of standards in exporting to OECD countries

OECD countries, in particular the EU, are the main export destination of Tanzania horticultural products. Although Tanzania benefit from the EBA scheme which tariff-free and quota-free access of horticultural products and beyond to the EU countries, securing and expanding access to these high values markets is still subject to the compliance to a number of requirements embedded in the EU regulations as well as private standards imposed by retailers. Although standards, unlike many other forms of NTMs, are not per se a barrier to export, in the context of Tanzania they pose a number of challenges that restrict horticulture exports.

The main challenges of standard to Tanzanian horticultural export are the high complying and certification costs exporters and producers have to incur (UNCTAD, 2007). The cost of compliance is particularly high **mainly because of the differences in production environment, agro-climatic conditions, regulations frameworks, social systems and traditions between Tanzania and its trading partners** (Dee 2011). Three levels of compliance corresponding to each type of actor can be distinguished: compliance by public authorities, by private exporting firms and by individual producers or group of producers (UNCTAD 2005).

#### Compliance by government and public authorities

With the WTO SPS and TBT agreements and in order to lower administrative cost associated with testing, verification and enforcement of food and agricultural regulations, most countries recognize third countries procedures as long as the food regulation procedures and institutions in this country respect certain norms and quality standards. The EU, for instance, requires that the authorities in exporting countries upgrade their conformity assessment procedures at a certain quality level (Stoler 2011). Such harmonization and system upgrade require important costs which are further higher in the context of Tanzania as the infrastructure with gap the EU is large. FAO estimates that the cost for the public sector to fully comply with SPS-related measures imposed by developed countries can exceed the total public budget in agriculture in many LDCs (FAO 2005).

Tanzania has a well-structured regulations system in place backed by the necessary basic legal framework. But it functioning is hampered by number of structural problem like a low management capacity and insufficient qualified personnel in the different agencies, poor infrastructures and a limited awareness of SPS and TBT requirements among producers and exporters, etc. An evaluation the World Bank in 2005 noted that capacity-building effort and important investment were required to improve Tanzania food regulatory system upgrading it to internally accepted standards. However, this investment has not really followed sufficiently and in general only temporary actions are taken in response to a 'crisis' like when 1999/2001 the EU imposed two bans on Tanzania export of fish from the lake Victoria.

#### Compliance by exporters

In most countries including Tanzania, the horticultural value chain of export products is dominated by a small number of firms that either produce and or buy from small producers to export. These firms are directly responsible for demonstrating full compliance to standards by providing the proof that their downstream suppliers fully comply with standards. As such, **they also bear a large cost of compliance to public and private standards**<sup>48</sup>. This cost usually comprised a fixed investment costs related to **inspection, testing and certification of the processing plants and storage facilities** and a variable

---

48

input adjustment costs. Using the World Bank's Technical Barriers to Trade surveys in 16 countries, Markus et al (2013) find that the fixed cost of compliance to meet foreign market standards averages 4.7% of firm's annual variable cost<sup>49</sup>. In the long run however, there is often an efficiency gain due to the adoption of good practices that subsequently reduce variables cost of production (Markus et al. 2013).

### **Compliance by small producers**

As the primary producers and supplier of horticultural crops, farmers are directly affected by standards since the requirements embedded in the standard, both public and private, in most cases require a shift in production practices. This shift often requires both technical and financial resources that small producers in countries like Tanzania clearly lack. For instance, MRL for fertilizer and other contaminants in food products imposed by the EU and other developed countries require a careful application of specific fertilizer, the construction of storage units and meticulous harvest procedures to guarantee that the products could be sold. These changes in production practices in general, or at least before the farmer fully adjusts himself, substantially raise production cost. In the example of MRLs set by the EU, a decrease in fertilizer and pesticide uses, they can also result in increases in labor cost to effectively manage pest and disease. Also, the prohibition of some products can increase input cost if the alternative substances allowed are more expensive and not readily available. In a COLEACP's survey of fruit and vegetable exporters from selected African countries, it was reported that some of the most effective and cheapest pesticides previously used were banned by the EU making pest and disease control inefficient because the approved pesticides are not readily available or are more expensive (COLEACP 2012).

### **Standards as opportunities for a competitive and strong horticultural sector**

While standards may constitute a barrier to access OECD countries' markets, there are clearly many benefits associated with compliance to standards. Exporters with in-house capacity on sanitary and phytosanitary standards and who invest in certifying their outgrowers/producers are indeed able to ensure that their produce fulfils the requirements of the importing country and the private importers. Compliance to standards also reduces transaction and information costs along the fruit and vegetables chain, and is a means to add value by guaranteeing to consumers that the products are of certain quality and satisfy some environmental and social norms (Korinek et al. 2008). This gives them a competitive advantage compared to those with lower capacity and increases their market share. Certification also adds differentiation to products and increases their quality, which commands higher prices than otherwise (Andriamananjara et al., 2004; Cadot and Gourdon, 2014). Several studies have found that (affluent) consumers are often willing to pay a significant premium for goods that are fresh-produced, certified and branded. Compliance with advanced countries' regulations and international private standards can also generate health benefits, to the extent that the safety of consumer products is enhanced, and social and environmental benefits, including sustainability, for instance by reducing the use of toxic agro-chemicals.

#### **6.3.6. Market impacts of Non-Tariffs Measures and standards for Tanzanian horticulture**

The market impacts of NTMs and more specifically standards are complex and difficult to identify and quantify. In general, compliance with standards affects trade costs that are then reflected in trade quantities and trade values. In a comprehensive evaluation of trade effects of NTMs, Kee et al. (2009) estimated product- and country-specific Ad Valorem Equivalents (AVE). They found that NTMs in place in developed countries tend to impose large costs on exports from LDCs. On average, exporters to the EU incur a trade cost between 27% and 64% of the value of their export; the corresponding figure for the US is 42% and 24-

---

<sup>49</sup> In addition to the cost of compliance of foreign market standards, firms also face exports related NTMs at home. In the ITC's surveys, exporters report procedural obstacles in obtaining certifications and export licenses, export taxes and charges and frequent export bans as recurrent barriers they encounter in their home country (ITC 2013).

70% for the OECD as a group. Nimenya et al. (2009) restrict the analysis to horticultural and fish from Kenya, Tanzania, Uganda and Zambia and find that over the period 1990-2008 the AVE are even much higher than estimated by Kee et al. (2009).

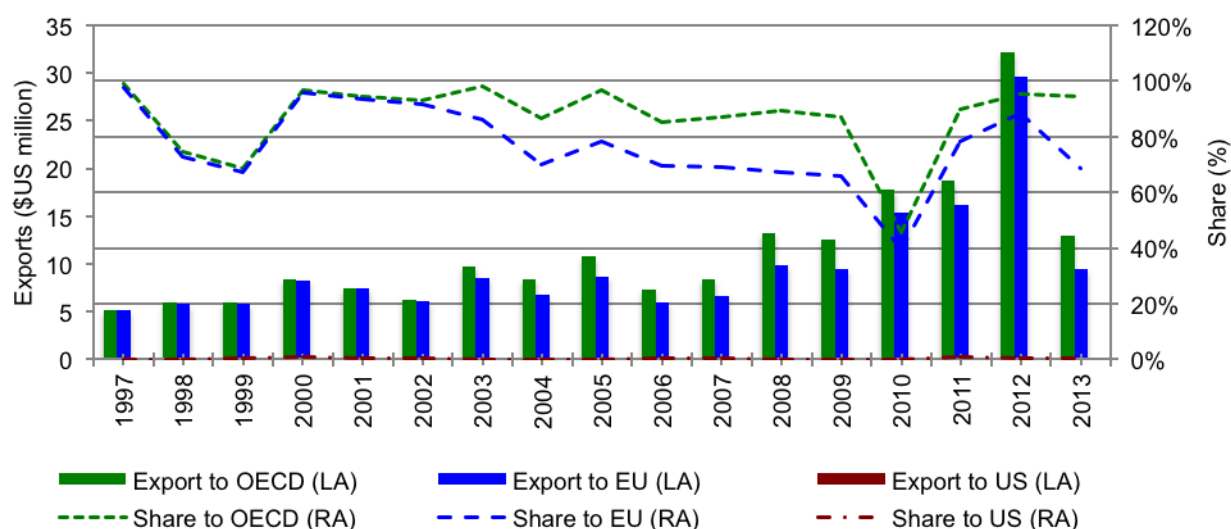
By raising trade cost, standards also substantially affect trade both in term of volume and value (Disdier et al. 2008). The direction and magnitude of the impact of standards on trade vary largely across countries. Disdier et al. (2008) analyse the trade impact of SPS measures in OECD countries and find that they have a negative effect on the export of tropical and diversification products from African, Caribbean and Pacific (ACP), Latin American and Asian countries. However, the impact for ACP countries, group to which Tanzania belongs, is most important pronounced while trade among OECD countries is not significantly impacted.

A contextual analysis suggests that the production of horticultural products in Tanzania has been increasing over the past two decades. Also, as an LDCs and as an ACP country Tanzania along with other countries has a preferential access to EU market as well to most other OECD countries markets and consequently does not face tariff barriers in exporting horticultural products to OECD countries. Thus, the impact of standards on the horticultural sector in Tanzania can be directly examined by analyzing how policy changes in OECD countries, mainly the EU, are reflected in export flows taking into account, as much as possible, the effect of other factors that could also explain observed trade flows (Ferrantino, 2006; Gebrehiwet et al., 2007).

### The case of flowers

**Floriculture is the most vibrant subsector of Tanzania horticulture** and is expanding rapidly both in quantity and value. Between 1997 and 2013, the value of flowers and other ornamental trees exports to OECD, mainly the EU, increases from \$5.2 million to \$32.2 million but falls to \$13 million in 2013. Kenya is a major export route of Tanzania products as most of the production regions (Arusha and Kilimanjaro regions) are close to Kenya airport where freight costs are much lower than transport cost through Jomo Kenyatta International Airport are much lower than for Kilimanjaro International Airport in Arusha or Julius Nyerere International Airport in Dar-es-Salaam (ESRF 2013). The dip observed in the graph in 2010 corresponds to a surge in exports to Kenya before the re-exportation to Europe. Also Tanzania flowers' production is mainly by large private companies often subsidiaries of Kenya-based firms or companies from OECD countries and most exporters use Kenyan airports and ports to ship cargos (Sutton and Olomi 2012).

**Figure 45: Total value and share of Tanzania export of flowers and ornamental trees to OECD countries**



Note: RA=Right Axis, LA = Left Axis Source: UNCOMTRADE 2014

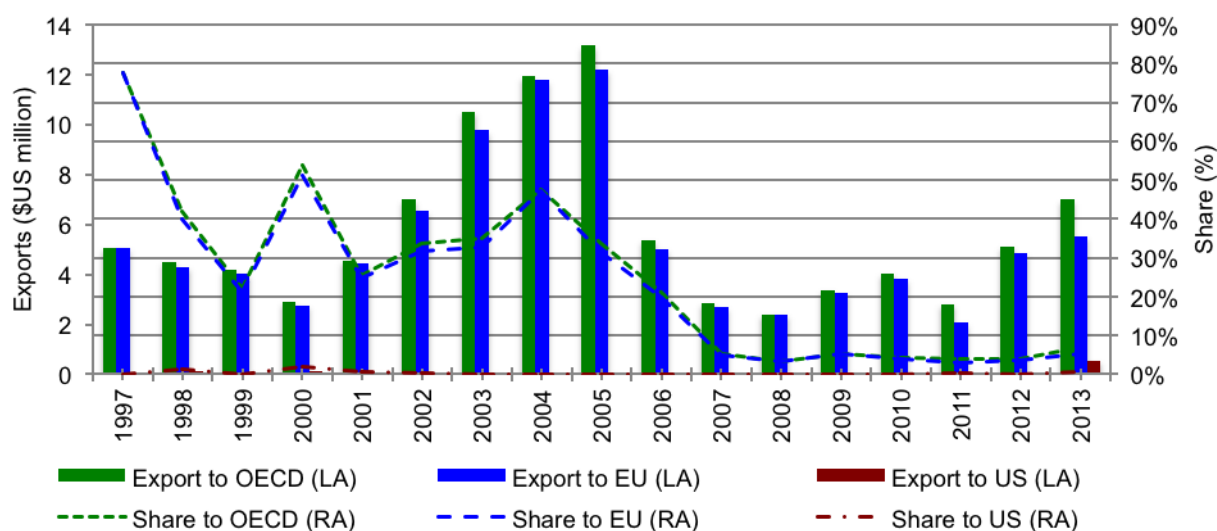
Standards requirements have a minor or negligible effect on Tanzanian flower exports. In fact, unlike the other sub-sectors of the horticultural industry, the floriculture industry is essentially dominated by private commercial farms that fully aware of the standards and requirements of OECD markets. Most of these farms are also foreign-owned and have strong markets linkages with retailers in European markets. Even though these firms faced some difficulties in complying with the requirements set by European authorities and in obtaining private certifications, in general their access to European markets is not restricted. However, it is common that domestic constraints related to climate, infrastructures, transportation, etc. negatively affect the quality of flowers and consequently limit the export performance of the Tanzanian floriculture industry.

### The case of edible vegetables and spices

Edible vegetables and spices are also major components of Tanzanian horticulture. Vegetables are the most commonly produced horticultural products with huge (untapped) potential for export. Between 1997 and 2013, Tanzania exports of edible vegetables increases from \$6.6 million to \$105 million. Though vegetable export is increasing rapidly, it is still a small portion of total production (5% in 2013 up from 1% 2000<sup>50</sup>). Exports to OECD countries, essentially the EU, has increased from \$5 million in 1997 to \$13 million in 2005 before falling back to \$6 million in 2012 and 2013, representing less than 8% of total exports. In 2006, Gomba Estate the major vegetable exporter ceased its activities due to financial constraints and series of land and water conflicts with the local community (SCF 2008, Komakech et al 2012). This explains to a large extent the decline, both in value and share, in exports to OECD countries.

Fresh and dried spices export is also increasing rapidly although it remains negligible. Much of the production is consumed domestically or sold in the region. Total exports to OECD countries during the past 14 years is about \$1 million annually compared to 14 millions of value exported to non-OECD countries.

**Figure 46: Total value and share of Tanzanian exports of edible vegetables to OECD**



Note: RA=Right Axis, LA = Left Axis Source: UNCOMTRADE 2014

Tanzania vegetable and spice sub-sectors have a huge untapped potential. The production and export especially to high value markets in OECD countries are expanding rapidly. In addition to traditional bottlenecks such as low productivity, poor enabling environment, lack of infrastructures and weak policy support, standards constitute a serious treat to the expansion and long-term development of the sector.

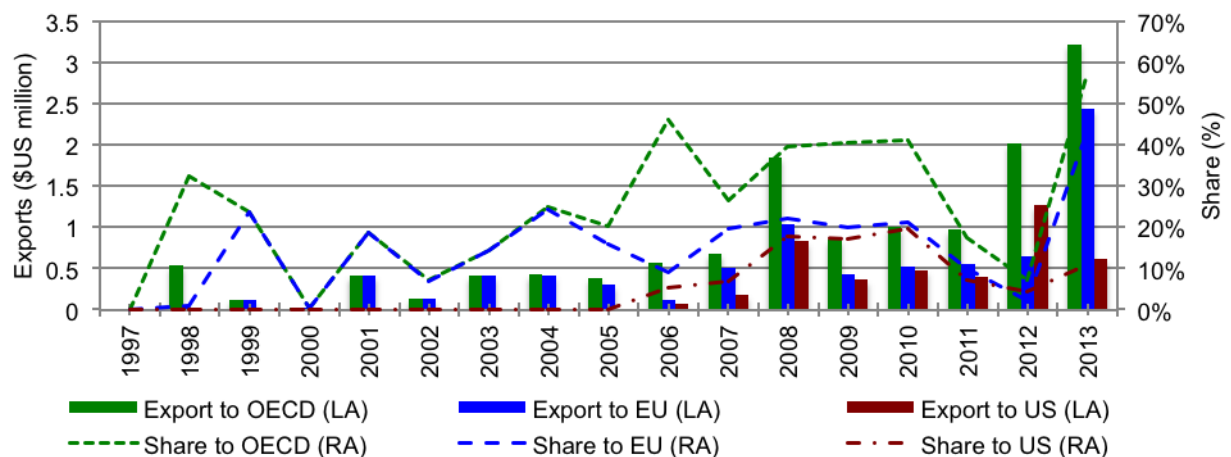
<sup>50</sup> FAOSTAT data available at <http://faostat3.fao.org/download/FB/BC/E>

According to a value chain study conducted by USAID in Tanzania, only few exporting firms connected with a limited pool of outgrowers are able to comply with the increasingly stringent public and private standards and export to European markets (USAID, 2005). The million of unorganized small producers in remote rural areas are completely out the export markets. However, it should be mentioned that the domestic markets, both in urban and rural areas, is also huge and remained largely unmet.

### The case of fruits and nuts

Despite strong domestic production, **exports of fresh fruits, dried fruits and nuts (excluding cashew nuts) from Tanzania are still very low both in term of quantity and values.** In 2013, the total value of exports is \$5.6 million. This represents a big decrease compared to the previous years. Exports to OECD countries, although marginal, are increasing. Between 1997 and 2013, total exports of these products increase from \$0.5 million to \$3.2 million (Figure 47). This suggests that the tightening of EU standards on aflatoxins in dried fruits, MRL, hygiene and traceability do not seem to have restricted Tanzania exports. However, they may have slow its expansion and combined with supply-side constraints results in the low penetration of Tanzania fruits and nuts into EU markets.

**Figure 47: Total value and share of Tanzanian exports of fruits and nuts (except cashew) to OECD**



Note: RA=Right Axis, LA = Left Axis Source: UNCOMTRADE 2014

### 6.3.7. Implications of Non-Tariff Measures and standards in horticulture for food security

Food security depends a lot on the availability and price of food, and in the context of Tanzania, on staple foods such as maize, rice, cassava, and beans. However, food security is not simply a supply issue and also depends on food accessibility. The horticulture sub-sector has been identified as a key component in the diversification of the agricultural sector and in reducing the dependence of producers on traditional primary agricultural products. The sub-sector has a potential to become one of the main sources of foreign exchange earnings and a significant driver of economic growth in Tanzania. Beside providing diversified foods for domestic consumption, horticulture constitutes also an important source of export earnings and has a great potential for employment generation, both in rural and urban areas, along the entire value chain from input supply and production activities to transportation, processing, packaging and marketing.

**Table 12: Selected indicators of the relative importance of Tanzanian non-traditional exports**

| Commodity                            | Main products<br>exported to OECD<br>countries | Number of<br>small farmers | % in Agricultural export<br>(% Total export) | % in food import<br>(% Total import) |
|--------------------------------------|------------------------------------------------|----------------------------|----------------------------------------------|--------------------------------------|
| Cut flowers and<br>ornamental trees  | Fresh flowers<br>Rose                          | 300 000                    | 1,4%                                         | 0,2%                                 |
| Fresh and<br>processed<br>vegetables | Chickpeas, Green<br>beans, Peas<br>Baby corn   |                            | 8,6%                                         | 1,5%                                 |
| Fruits and Nuts                      | Coconut, Pineapple,<br>Avocado                 |                            | 0,4%                                         | 0,1%                                 |
|                                      |                                                |                            |                                              |                                      |

Source: Authors compilation from FAOSTAT, World Development Indicator and TNSCA (2012)

By obstructing the prospects for the development and the expansion of the Tanzania horticultural sector, products regulations and private standards constitute a threat to food security, especially for smallholders who depend on these products. The enforcement of standards beyond the OECD countries borders denies the access to export opportunity to the small farmers unable to afford the cost of compliance and the production cost induced by the requirements set in the standards. This in turn restraints their opportunity to earn a decent income and contemplate the possibility to escape poverty (Maertens and Swinnen, 2009).

The effect of standards extends also to beyond small producers of horticultural products as million of person depends on employment in the sector along the entire value chain. Also, government revenue and its capacity to deliver some basic services to the populations and support to agricultural sectors are substantially weakened by the slow growth or reduction in export earning due to non-compliance with standards. In overall, strict public and private standards without the necessary support to smallholders hinder the contribution of the horticulture sector to food security in Tanzania.

#### **Box 6: Impact of OECD countries NTMs and standards for fisheries on Tanzania**

Tanzania has about 200 nautical miles of Exclusive Economic Zone (EEZ) and coastline, which runs about 800 kms of fisheries potentials in the Indian Ocean remain to be fully utilized some 64,000 sq km of marine water and boast's some 58,000 sq km of mostly fresh water basins of which include the African major lakes, Victoria, second largest in the world, Tanganyika, the world's longest and second deepest freshwater lake and Lake Nyasa, the 3rd largest in Africa (8th in the World).

However the Fisheries industry is built by a relatively small number of entrepreneurs, supported by national fishing and export development agencies, local banks and a range of trading partners and international development agencies. The industry is still relatively young and, though there remain many opportunities yet to be exploited, there also remain substantial risks to the current scale of business operations due to deployment of inefficient technologies in harvesting the fisheries stock.

Tanzania fisheries exports concentrate in Lake Victoria. It is estimated that the Lake Victoria has a catchment area of about 194 200 km<sup>2</sup>. The lake provides all the basic resources for the population in the area such as food and water as well as means for trade and transport linking Kenya, Uganda and Tanzania. Exports of Nile perch from Lake Victoria to EAC countries and EU market dominate the Tanzania fish export industry. Nile Perch processing plants are located near Lake Victoria. EU is also a larger market for Shrimps Industry and range of frozen marine products (octopus, squid, cuttlefish and lobster), though this is as often supplied through intermediary processors and packers in the Middle East.

Dagaa is another important fisheries product from Lake Tanganyika. Dagaa or sardines are usually shipped across and around Lake Tanganyika to markets in neighboring central African countries, much of this trade occurring on an informal basis. Exports of freshwater and marine aquarium fish is a specialized, though international, trade. Exports are generally made to importers in Europe .

Source: Authors

### 6.3.8. Mitigating the effect of standards in horticulture: harmonization and development cooperation

#### International harmonization in standards setting

Most WTO's agreements recognize that the LDCs may encounter some difficulties in meeting the rules set out and provide Special and Differential Treatment (SDT) to LDCs. These provisions take the form of longer transitional periods or permanent exemptions as long as the country remains a LDC. The SPS agreement mentions, ***“members shall take account of the special needs of developing country Members, and in particular of the least-developed country Members”*** (Article 10.1<sup>51</sup>). Also, TBT agreements<sup>52</sup> clearly recognizes that LDCs are not able to fully implement the Agreement because of their level of special development and trade needs, as well as their stage of technological development.

These provisions offer the possibility for LDCs facing difficulties in implementing an SPS or TBT measure imposed by a third country, to request (i) a revision of the measure; (ii) provisions of technical assistance; or (iii) provisions of special and differential treatment. In a survey on International Support Measures specific to the LDCs related to WTO Provisions and Preferential Market Access, the United Nations Department of Economic and Social Affairs (DESA) observes that as of 2012, no LDCs has used this procedure (DESA 2012).

The SPS and TBT agreements also encourage the participation of all countries, including LDCs like Tanzania, in standards settings through the relevant international organizations. Both agreements also call for a greater harmonization in standard setting to facilitate the conformity of LDCs to a limited set of technical standards (Shepherd, 2007). However, while developed countries increasing set personalized standards (Li and Beghin, 2014), LDCs do not actively participate in international standards settings committees. In the case of horticultural products, most developed countries such as the EU and the USA set their requirements and limits unilaterally and often more stricter than the international rules.

A trust fund established in 2013 by the FAO/WHO and similar funds set up by the IPPC and OIE supports the participation of LDCs representatives in international standard-setting bodies meetings and activities<sup>53</sup>. A survey conducted by the Department of Economics and Social Affaire of the United Nations shows that Tanzania has regularly participate actively in several meetings of the SPS and TBT committees thanks to technical and/or financial assistance is received<sup>54</sup>.

<sup>51</sup> SPS Agreement available at [https://www.wto.org/english/tratop\\_e/sps\\_e/spsagr\\_e.htm](https://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm)

<sup>52</sup> TBT Agreement available at [https://www.wto.org/english/res\\_e/booksp\\_e/analytic\\_index\\_e/tbt\\_02\\_e.htm](https://www.wto.org/english/res_e/booksp_e/analytic_index_e/tbt_02_e.htm)

<sup>53</sup> <http://www.codexalimentarius.org/faowho-trust-fund/>

<sup>54</sup> In 1998, Tanzania raised a Specific Trade Concern (STC) at the SPS committee meeting on the fish export ban imposed to Lake Victoria Nile Perch due to cholera outbreak in the region and another STC in 2010 over Canada Bill C-32 amendment to Tobacco Act which bans certain additive from Virginia flue cured tobacco leaf which is predominant in Tanzania export. Tanzania fear that the bans will decrease the demand of Virginia flue cured tobacco leaf, which will reduce its export and constrains the long-term tobacco development prospects. <http://www.smoke-free.ca/trade-and-tobacco/Canada.htm>

## Role of development cooperation and donor support

The inclusion of smallholder farmers in horticultural exports so far is mainly done through contract farming and outgrower schemes. A good number of producers have been able to engage in the production of vegetables, flowers and fresh fruits that are purchased and exported by the private agribusinesses operating in the sector. This inclusion is often supported by initial funding from development partners to the firm to provide training and assistance in obtaining certifications for private standards such as GlobalGap, BRC, etc. However, with the increasing stringency and variety of standards, a number of exporting companies prefer to keep a considerable percentage (above 50% depending on the crop) of their production and export order) of the production under their direct management. It is clear that growing number of these small producers will be locked out of the market opportunities offered by exports to OECD countries as they are unable to support the recurrent and increasing cost of compliances (Graffham, 2007). This undermined their prospect to increase substantial income and escape poverty and compromise their access to food.

At the international level, some provisions of the SPS and TBT agreements include technical assistance to LDCs unable to implement the agreements and most importantly comply with the standards set by developed countries. Such assistance, include technical advices, training, the establishment of national regulatory bodies and can be extending to financial grants or donations. In this line and following the 2001 Doha Ministerial meeting, the Standards and Trade Development Facility (STDF) was established to assist developing countries to enhance their expertise and capacity to analyze and implement international SPS and TBT standards. Under the SDTF, Tanzania has received in 2009 a support for the harmonization of its legal, regulatory and institutional framework for SPS control management system. The grant was managed by the Natural Resources Institute (NRI) of University of Greenwich (United Kingdom) and aimed strengthening SPS-related legislation and improving the institutional management system in Tanzania. Still, under STDF, The Tanzania Horticulture Association in collaboration with the International Trade Center (ITC) received a grant to establish the Horticulture Development Council of Tanzania (HODECT) and assists the country in addressing SPS issues in the horticultural sector. More recently, Tanzania, together with seven other African countries<sup>55</sup> is implementing a SDTF funded program on strengthening regional capacity to meet pesticides export requirements in Africa<sup>56</sup>

Through development cooperation, OECD countries also assist directly<sup>57</sup> both governments, exporting firms and farmers in LDCs in complying effectively with their regulations and also private standards. These assistance include multilateral programs designed to assist collectively ACP countries and bilateral country program between a particular OECD countries and Tanzania. A particularly notable OECD countries' bilateral program supporting ACP countries in complying with standards is the EU funded' Pesticide Initiative Program (PIP)<sup>58</sup> launched in 2001 at the request of ACP countries forced to adjust to new EU regulation on pesticide (MRL). The objectives of the PIP, managed by COLEACP an inter-professional network aiming at strengthening the partnership between exporters from ACP and European importers, is to ensure that export from ACP countries are increased or at least maintained even under the challenges posed by the standard. The PIP focuses on the horticulture industry and provides training crop protocols and good practices to producers and exporters in 30 ACP countries representing 90% of horticulture exports from ACP to the EU. In Tanzania, PIP organised 28 training sessions supporting 26 projects and

---

<sup>55</sup> These countries are Benin, Cameroon, Ghana, Kenya, Mali, Senegal, Uganda and Zambia

<sup>56</sup> <http://www.standardsfacility.org/strengthening-regional-capacity-meet-pesticides-export-requirements-africa>

<sup>57</sup> By funding the international standards setting organizations, OECD countries already assist indirectly LDCs in complying with standards

<sup>58</sup> More detail on the PIP is accessible on the program website at <http://pip.coleacp.org/>

11 producing/exporting companies/farmers associations since 2001. The value chains supported are beans, peas, avocado and passion fruits<sup>59</sup>.

The PIP helps ACP producers and exporters of fresh fruits and vegetables overcome the difficulties they face in accessing European markets and to ensure that EU regulations and standards do not create trade barriers to their exports. After a first phase that ended in 2008 the program was extended to a second phase with the mandate to cover private voluntary standards. Interviews conducted during this assessment with the managers of the program provide the overall impression that the PIP was successful. The mid-term evaluation of the second phase of PIP conducted in 2013 was positive on the overall impact of PIP in 'contributing to maintain the level of horticultural exports from ACP countries to the EU and helping to professionalize agro-industry in the countries concerned' (COLEACP 2012). Beyond trade impacts, the program has had positive impacts on local employment (capacities of local producers and communities were improved through training activities), on gender (training to women producers) and on the environment (good agricultural practices), and so forth.

## 6.4. Foreign investment, land acquisition and biofuels

### 6.4.1. Increasing international investment in Tanzania agriculture

Tanzania government has taken deliberate steps to encourage private sector both local and foreign investment in agriculture sector over the past decade. The government had created a favourable investment climate by implementing a number of policies and strategies targeting to increase agriculture investments such as Kilimo Kwanza Initiative, Public Private Partnership Act, and establishment of Southern Agricultural Growth Corridor of Tanzania (SAGCoT), Agricultural Investment Window at Tanzania Investment Bank (TIB) and Agricultural Land Bank at Tanzania Investment Center (TIC).

In the early 2000 FDI targeting primary agricultural production increased in Tanzania. The driving factors for investor's appetite for agricultural land are many but largely is improved investment climate as well as other short and long term values. These includes rise in commodity prices in 2007/2008, anticipation of future land value, net food importer countries decision to invest in production than depending on commodity markets, increasing demand for biofuel and livestock feeds. Other long term drivers are population growth, environmental protection through reduction of greenhouse emission by switching to cleaner biofuels as well as carbon market and raw materials.

### 6.4.2. Land in Tanzania: need for better regulation and policy for the transformation of the agricultural sector

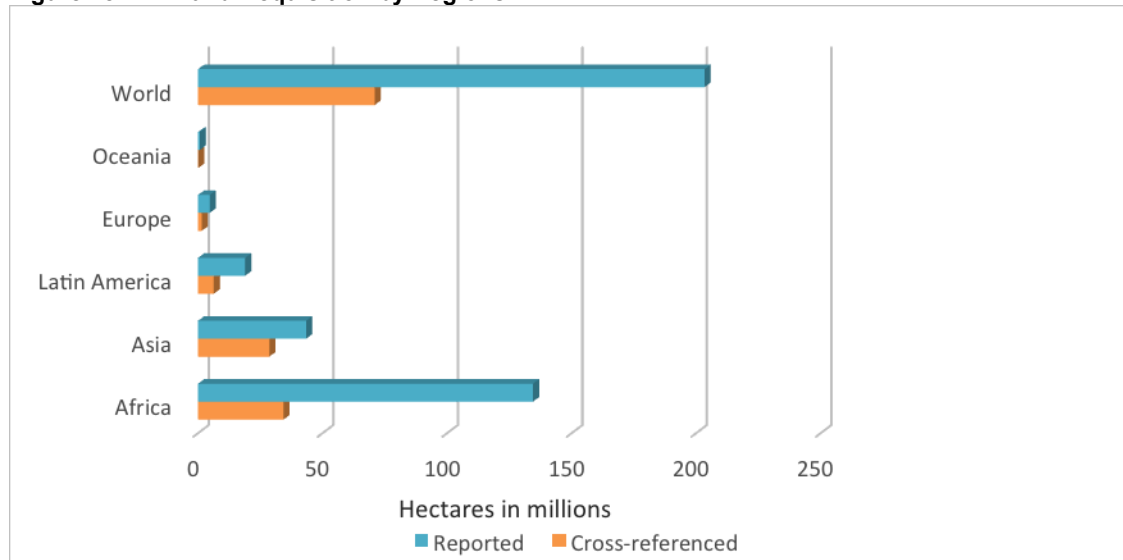
The extent of FDI investment in agriculture through large land acquisition in developing countries is challenging to establish with certainty. Data availability and reliability to establish trend over time differ from country to country. However there is ample evidence pointing toward increasing FDI in agriculture sector in many developing countries. Different institutions have used different methods to capture FDI investments involving large area acquisitions. Deininger et al. 2011 reported that between 2000 and 2010, cumulatively as indicated in fig 4 investors have expressed interest of investing in 55 millions of hectares of land worldwide. About 29 millions of hectares are in Sub Saharan Africa. However only 19.2 have been confirmed with investment.

---

<sup>59</sup> <http://pip.coleacp.org/files/documents/image/pip/Tanzania.pdf>

There is evidence that FDI investors are more interested in Africa than other part of the continent. Friis and Reenberg (2010) revealed that in period 2008-2010, African land deals alone amounted to somewhere between 51 and 63 million ha. Similarly fig 5 indicates analysis of FDI land acquisitions reported in the media and cross referenced, it showed Africa land acquisition for FDI reported is 134.5 million of hectares (66 percent) while 34 million hectares (48 percent) were cross-referenced.

**Figure 48: FDI Land Acquisition by Regions**



Source: farmgrab, 2011.

There have been conflicts between local farming communities and pastoralists in different parts of the country due to lack of detailed land planning use. In deed land grabbing has been in existence in Tanzania since the first government under the leadership of President Mwl. Julius K. Nyerere. During this era the governance regime embraced socialism and large land ownership was discouraged. However there was evidence that the government provided about 379,000 ha of land along eastern side of Tarangire National park to private farmer displacing local communities from their habitat (Shivji, 1998).

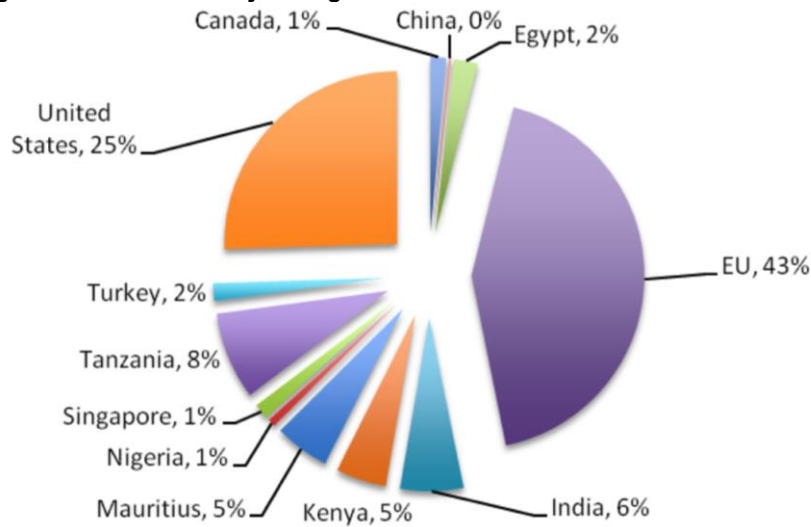
Currently the Government is in transition to market economy where the state mainly regulates the economy including land. There is increasing influence of the private inventors and political elite over the control, use and ownership of land (Kelsall, 2002; Cooksey and Kelsall, 2011). Leadership ethics changed toward encouraging ownership of assets and wealth, instruments for encouraging private ownership of land were strengthened including promotion of foreign investments. In the second and third government leadership under President Mwinyi and Benjamin Mkapa it was apparent that public officials and private investors become more connected in the development of both private elite accumulation and patronage politics (chachage and Mbunda, 2009; Kelsall, 2002).

Without a doubt, the study realised that the official records in Tanzania are unclear and information is not always available on the exact amounts of land which have been allocated and leased to different investors, which makes it very difficult to quantify the total amount of land that has been acquired by investors and to understand the extent of land deals currently taking place. With this respect, the study had to rely on international databases such as the LandMatrix and other literatures to get the necessary information.

LandMatrix data shows that about 31 large scale land acquisition transactions under FDI in Tanzania, which make 300,000 ha of land, originate from OECD countries' firms. From this, the top investing

countries are notably the USA, Netherlands, UK, Finland, and Sweden as indicated in Figure 49: Firm's country of origin invested in Tanzania

**Figure 49: Firm's country of origin invested in Tanzania**

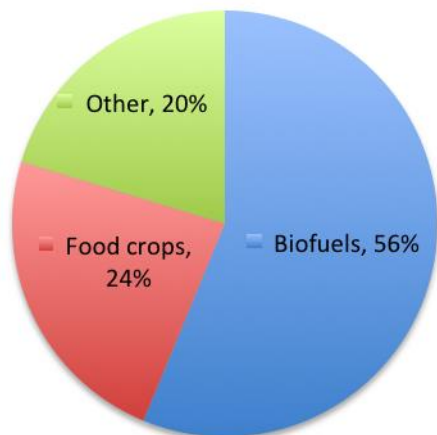


Source: land matrix.

The data also portrays different information as that provided by TIC which shows that from the large scale land acquired for agriculture investment, biofuels are the leading invested agriculture commodities with 56 percent share, with 24 percent and 20 percent for food crops and other crops respectively (see Figure 50: Type of crops produced under large land acquisition).

This pattern highlights the role of local policies in determining priority for agricultural FDI. However agricultural land in Tanzania is about 43 million hectares and land with potential for irrigation is 29 millions. However total land under production is currently low and still is underutilized due to low level of mechanization and technology applications. Irrigation farming is less the 1.5 million. There is still ample land for food crop production.

**Figure 50: Type of crops produced under large land acquisition**



Source: Land matrix

It has been argued that of recent land grabbing has returned to central prominence in social and political spheres. In 2005 to 2008 there has been interest in establishing large scale biofuel plantations. Up to 4 million hectares of land were requested for biofuel, mostly driven by European companies for jatropha as well as some large sugarcane schemes in river basin although much smaller area around 640,000 ha. (Sulle and Nelson, 2009; Catuna and Vermeulen, 2008).

#### **Box 7: Cases of Land grab in Tanzania**

Land Rights Research and Resources Institute reported that of the 1,825 general land disputes reported in 2011, 1,095 involved powerful investor's often displacing small-scale farmers and local communities. Tanzania has an estimated population of 44 million people and 12,000 villages, but only 0.02% of its citizens have traditional land ownership titles. Northern Loliondo district, which is known for its wildlife, much of the land has been leased out to international hunting concessions, which has resulted in the large-scale eviction of the local population. A major US company, AgriSol Energy, has also been accused of engaging in land grabs in Tanzania that would displace more than 160,000 Burundian refugees (Oakland Institute). The report states that AgriSol is benefiting from the forcible eviction of the refugees, many of whom are subsistence farmers, and leasing the land – as much as 800,000 acres – from the Tanzanian government for 25 cents per acre.

Source: The Guardian

However, it goes by not saying that the government of Tanzania has been reported to work vigilantly in solving land conflicts between investors and communities in different regions. In 2012, it stopped registering new land offers to investor in order to make detailed analysis of the existing offers and title deeds due to claims that investors are grabbing land through local government offices instead of TIC. The Permanent Secretary to the Prime Minister's Officer was quoted confirming that "the government would limit the amount of land leased to investors in this east African nation. Previously, there were no limits. For a large-scale investor who wants to invest in sugar, the ceiling has been put at 10,000 hectares [24,710 acres]. [The limit for] rice is 5,000 hectares. The ceiling for sugar is significantly higher due to the fact that it may also produce electric power". (Kiishweko, 2012).

## **7. Effects of OECD countries' policies on food security: The case of Morogoro region**

### **7.1. Profile of Morogoro region—Tanzania's food basket**

#### **7.1.1. Geographic characteristics of Morogoro region**

Morogoro is the third largest region of Tanzania, with a land area of 72.939 square kilometres, which represents approximately 8% of the area of Tanzania mainland, and a population of 2.218.492 people (NBS, 2013)<sup>60</sup>. The arable land area is 58.858 square kilometres. Currently, less than a fifth of this area is under cultivation. Morogoro region presents a large potential for agricultural production growth. In this region, which lies between the latitudes 5°58" and 10°0" south of the equator, climatic conditions fluctuate widely, with an average (intra-year) temperature range of 19°C to 31°C (NBS, 2012) and annual rainfall ranging from 500 to 1800 mm (Daninga, 2011). It is bordered to the North by Manyara and Tanga regions, to the east by the Coast Region and Lindi, to the south by the Ruvuma and to the west by Iringa and Dodoma Region.

---

<sup>60</sup> Tanzania in Figures 2012.

According to TANROADS (2012), Morogoro is 192km away from Dar es Salaam by road, which is the largest business market in Tanzania endowed with the country's largest sea port harbouring landlocked countries such as Zambia, Malawi, Democratic Republic of Congo (DRC), Burundi, Rwanda and Uganda. In addition, the region is advantageously located along a corridor that links Dar es Salaam and Dodoma, and other connections to Iringa, Mbeya and ultimately central African countries of Zambia and Malawi. This puts the region in a good position to produce and trade with these markets.

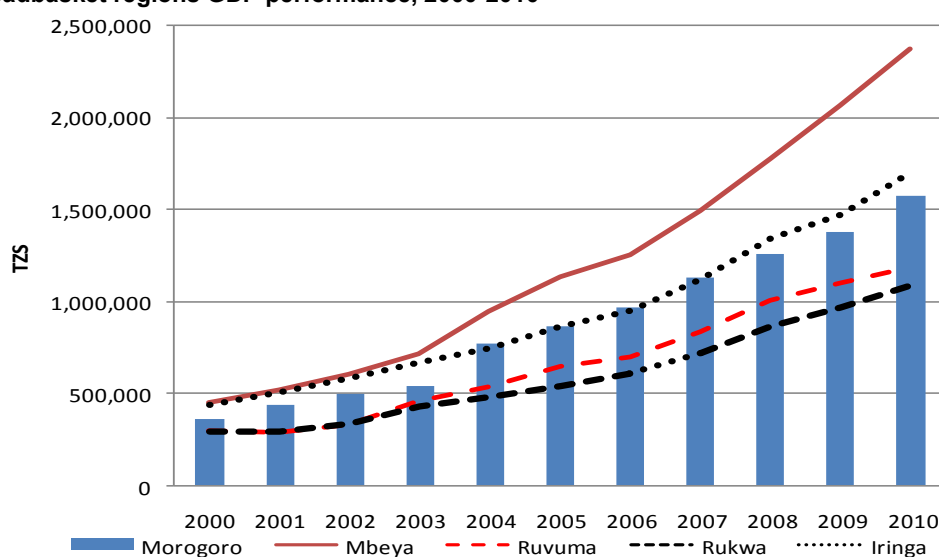
Generally, Morogoro has three agro-ecological zones; the Highland zone and the Plateau zone which both feature a diverse range of crops, and the Lowland zone which is dominated by paddy production.

### 7.1.2. Economic profile

Morogoro is said to be a breadbasket of Tanzania. When compared to other breadbasket regions in Tanzania<sup>61</sup>, Morogoro is ranked third in the country in terms of per capita GDP, which has increased at an annual rate of 15% over the past decade, driven primarily by the agricultural sector. Only Mbeya and Iringa rank higher than Morogoro in terms of GDP performance.

The main food crops and cash crops grown in Mvomero district and Morogoro region as a whole include banana, rainfed upland rice, fruits, coffee, beans, spices, vegetables, maize, cassava, sorghum, simsim. The lowland areas have fertile soil deposited from highlands by floods during heavy rainfall and the area is suitable for rice production. Other land uses include livestock keeping, including pigs, goat, cattle, ducks and chicken and fishing; wildlife conservation and forest reserves.

**Figure 51: Breadbasket regions GDP performance, 2000-2010**



Source: National Bureau of Statistics, 2011, National Account of Tanzania Mainland 2000-2010.

In Morogoro, the agricultural sector employs the largest proportion of the total population with 85% of this population involved in agriculture, indicating that any interventions that increase productivity will have significant impact on both income levels and food security.

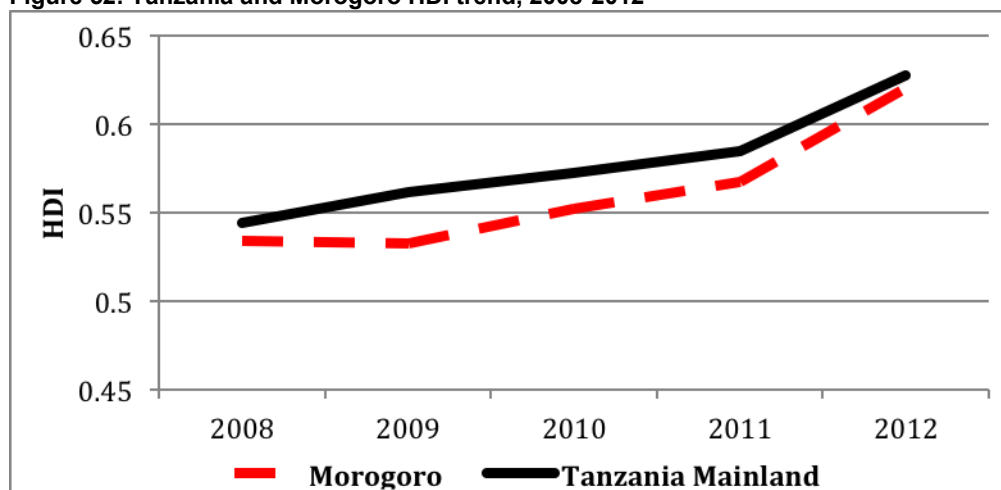
### 7.1.3. Poverty and food security situation

Tanzania Human Development Report (2014) highlights that Morogoro region had a Human Development Index (HDI) of 0.620 in 2012, which is an increase from 0.534 in 2008, though lower than the national

<sup>61</sup> Tanzania's breadbasket regions are Mbeya, Ruvuma, Rukwa, Iringa and Morogoro.

average of 0.627. However, considering the non-income HDI, the region performs better with an index of 0.639, which is slightly higher than national average of 0.634. The report also shows that based on the Multi-Dimensional Poverty Index (MPI) Morogoro had an index of 0.311 in 2010 with 30.8 percent of the population being in a vulnerable situation due to poverty.

**Figure 52: Tanzania and Morogoro HDI trend, 2008-2012**



Source: THDR, 2014.

Generally, Morogoro is usually considered as a food secure region, being one of the five largest food producing regions in the country. However, MAFSC (2013) shows that when a food situation analysis is done at regional and district levels, there are occurrences of food vulnerabilities in some districts in Morogoro. The table below clearly shows that in 2013/14, up to four districts in Morogoro were considered vulnerable to food security; although overall the region was considered food secure.

**Table 13: Morogoro food security situation, 2008/09 – 2013/14**

| REGION   | 2008/09             |                                 | 2009/10             |                                 | 2010/11             |                                 | 2011/12             |                                 | 2012/13             |                                 | 2013/14 |                                           |
|----------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------|-------------------------------------------|
|          | Deficit regions (*) | Districts with vulnerable areas | Deficit regions (*) | Districts with vulnerable areas | Deficit regions (*) | Districts with vulnerable areas | Deficit regions (*) | Districts with vulnerable areas | Deficit regions (*) | Districts with vulnerable areas | SSR (%) | Districts with vulnerable areas           |
| Morogoro |                     | 2: Morogoro R, Mvomero          |                     | 3: Ulanga, Morogoro R, Kilosa   |                     | 2: Mvomero, Morogoro R          |                     |                                 |                     | 2: Morogoro R, Mvomero          | 130     | 4: Mvomero, Morogoro R, Kilombero, Kilosa |

Source: MAFC, 2013.

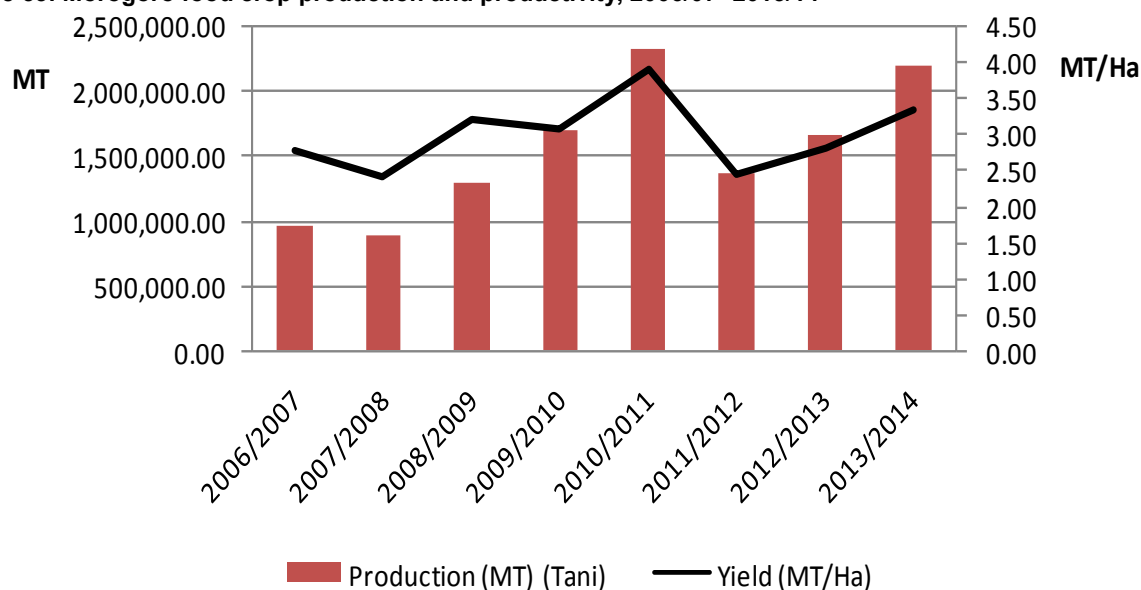
#### 7.1.4. Agricultural productivity

The main food crops and cash crops grown in Morogoro region as a whole include banana, rain-fed upland rice, fruits, coffee, beans, spices, vegetables, maize, cassava, sorghum, simsim and sugar. The lowland areas have fertile soil deposited from highlands by floods during heavy rainfall and the area is suitable for rice production. Other land uses include livestock keeping, including pigs, goats, cattle, ducks and chicken and fishing. Part of Morogoro's territory is for wildlife conservation and forest reserves.

The region has been experiencing a general increase in agriculture production and productivity as depicted in Figure 53. With the exception of 2011/12, the rest of the years show steady performance growth over the years. It should be recalled that, the performance of Vuli rains in 2011 was mixed, fairing well in few areas

but mainly poor in many places where temporal and spatial distribution was abnormal, which led to crop failures and a lack of water and pastures (FSNA, 2012).

**Figure 53: Morogoro food crop production and productivity, 2006/07- 2013/14**



Source: Morogoro Municipal Agriculture Department Statistics, 2015.

Morogoro region was among the beneficiaries of the National Input Vouchers System (NAIVS) programme that the Government of Tanzania (GoT) has been implementing through the support of the World Bank. With maize, rice and sunflower being among the targeted crops for this programme, it is safe to say that the agriculture performance in the region is partly due to such interventions.

Moreover, due to the high potential that lies in this region, there have been a number of projects implemented by development partners in this region, for examples, the NAFKA project funded by the USAID and the Rural Livelihood Development Programme (RLDC) project funded by the Swiss Development Cooperation. The table in Annex 4 illustrates these selected development initiatives that have been implemented or are currently being implemented in the region.

Kilombero Plantations Limited (KPL), a Tanzanian subsidiary operating the 5,818 ha Mngeta farm owned by Agrica Limited, a company based in Guernsey, is one notable investment that has contributed to improving rice production in Morogoro. Located 450 km from Dar es Salaam, Mngeta farm is situated in the fertile Kilombero Valley, one of best agro-ecological zones for rice farming in Eastern Africa.

The project started operating in 2008, Capricorn being the primary investor to Agrica, with the Norwegian Fund (NorFund) also investing USD 10 million in 2010, with an agreement to support the growth of the Systems of Rice Intensification (SRI) concept, and an additional four SRI grants were paid to Agrica Tanzania between 2010 and 2012, totalling \$435, 348 (NORAD, 2013).

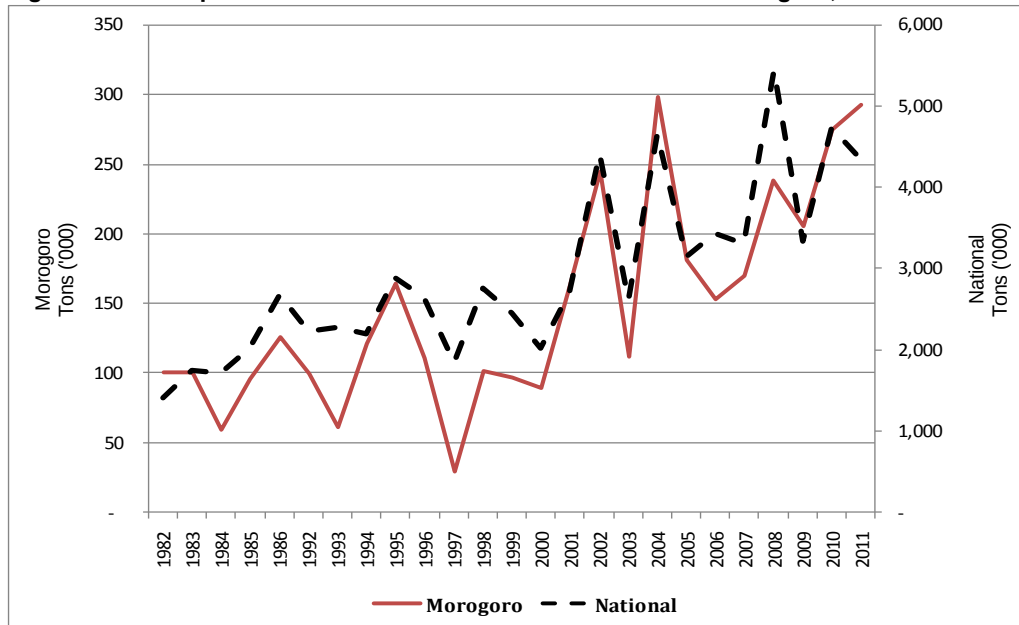
## 7.2. Agro-food value chain impacts of OECD policies in Morogoro region

### 7.2.1. Cereals

Over the past two decades, Morogoro's maize and paddy has experienced a modest increase in production quantity from 100,000MT and 50,000MT in 1980s respectively to 300,000MT and above 450,000MT in

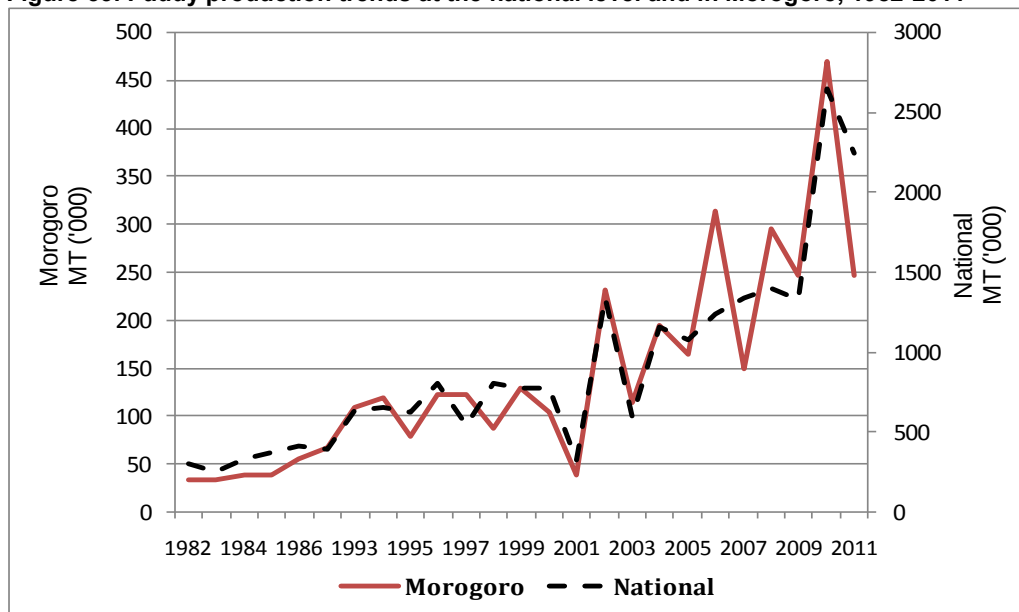
2010 respectively. This increase reflects the positive increase of these crops at national level, a factor that demonstrates the extent to which efforts towards increasing production in the region are aligned to the national agriculture policy.

**Figure 54: Maize production trends at the national level and in Morogoro, 1982-2011**



Source: MAFC

**Figure 55: Paddy production trends at the national level and in Morogoro, 1982-2011**

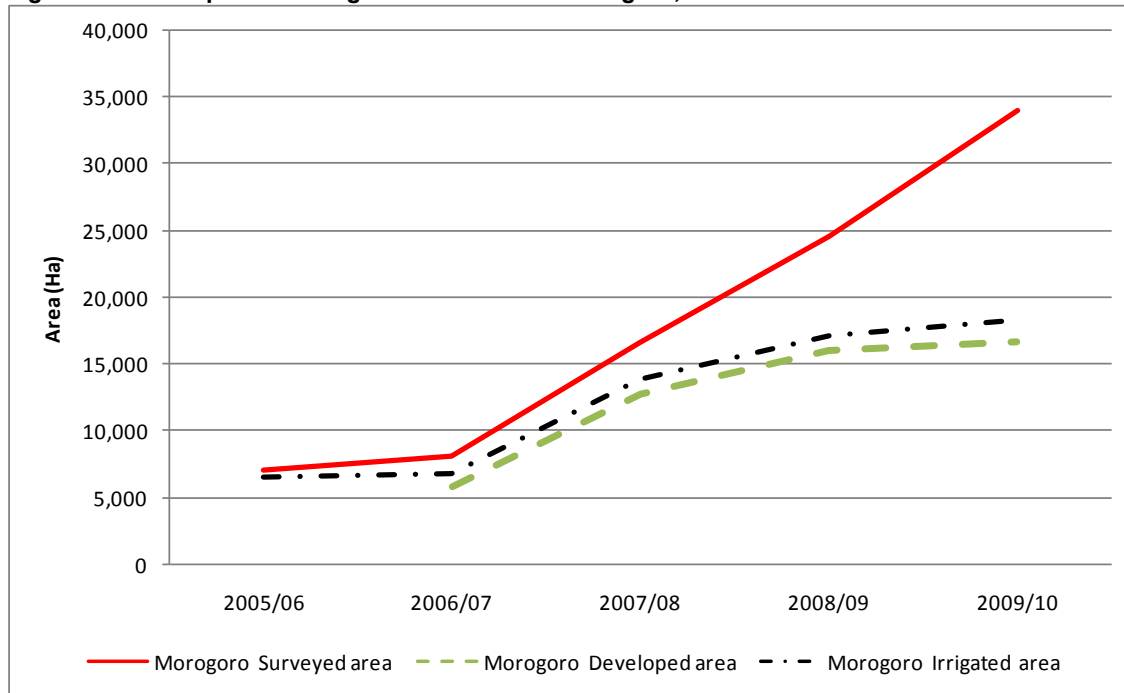


Source: MAFC

From the field interviews, most of the respondents reported that several government and development partners' interventions in the agriculture sector has substantially contributed to increase in agriculture production and productivity in the region. A notable intervention in the region were the investments in the irrigation schemes, of which according to report on the assessment of irrigation schemes in Tanzania (URT, 2011), Morogoro was among the leading regions with substantial irrigated area. From Figure 56 we clearly see that there have been efforts driven by the government through the ASDP in increasing not only

coverage of surveyed area, but also ensuring that irrigation schemes are developed and start operating. However, there is concern on the nature of the schemes with the report indicating that almost all developed schemes were not fully developed, with most of them essentially found to have dual features of being semi-developed and traditional.

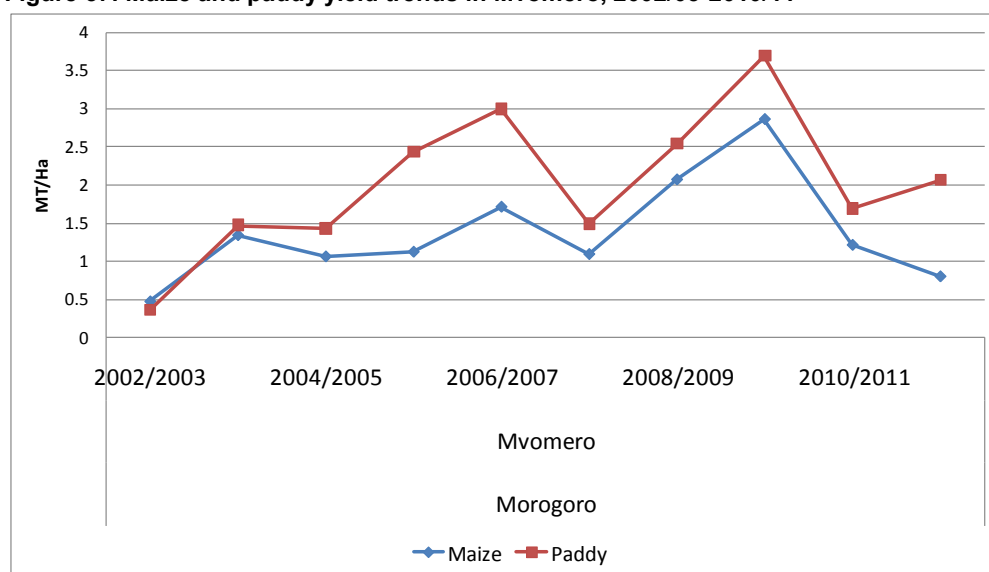
**Figure 56: Development of irrigation schemes in Morogoro, 2005/06- 2009/10**



Source: MAFC, 2011

In Mvomero district, maize and paddy productivity performance demonstrates a positive, though fluctuating, upward trend over the last decade. This may be attributed to investments in irrigation schemes as demonstrated above. Furthermore, increasing development partners' support to the agriculture sector, and especially in Morogoro region can be associated with the gains made in the agriculture sector in the region. For instance, maize farmers from Makuyu ward in Mvomero district explained that they have been beneficiaries of programs/ rojects such as the NAFAKA project. In this project, farmers stated to have benefited from improved seeds and knowledge on good farming practices which have greatly contributed to increase in maize productivity in their ward.

**Figure 57: Maize and paddy yield trends in Mvomero, 2002/03-2010/11**



Source: MAFC.

### 7.2.2. Sugar

Morogoro is well known for sugar production in Tanzania, having 2 sugar factories namely Kilombero Sugar Company Ltd (KSC) found in Kilombero district<sup>62</sup>, and Mtibwa Sugar Estate Ltd (MSEL)<sup>63</sup> found in Mvomero district. KSC is the largest sugar-processing company in Tanzania which processes two types of sugar at two factories; Msolwa (Kilombero 1, or K1) and Ruhembe factory (Kilombero 2, or K2) which started in 1962 and 1977 respectively. On the other hand, MSEL occupies an area of more than 6000 ha of land in Turiani ward found in Mvomero district.

Kilombero Sugar Company is the largest sugar producer in Tanzania. KSC follows a dual business model, an estate system combined with an out-grower scheme. It has two plants. As the potential for expansion of its estate is limited, it has been developing its out-grower scheme. KSC procured sugarcane from 8,000 out-growers in 2013, up from 2,000 in 1998 (at the beginning of the privatisation period). This expansion of the out-grower scheme was relatively rapid. More than two-fifths of the sugarcane it processes is from out-growers. KSC's sugarcane out-grower scheme was described as 'a relatively inclusive scheme'<sup>64</sup>, with little barrier to entry (even for smallholder farmers) (FAC, 2014). This was facilitated by land tenure arrangements making it relatively easy to rent land. Over time, an increasing number of households have benefitted from this scheme and earnings from sugar sales.

Sugar production volumes for these two companies combined make up more than 50 percent of the total national sugar production in the country, signifying their importance in the sugar sector in Tanzania. However, these two companies use two different pricing mechanisms to their out-growers; whereby KSCL fix the prices at a 9% level of sucrose hence contracts sugarcane delivery while MSEL offers prices according to the sucrose level measured in the laboratory hence contracts sugar content in the cane

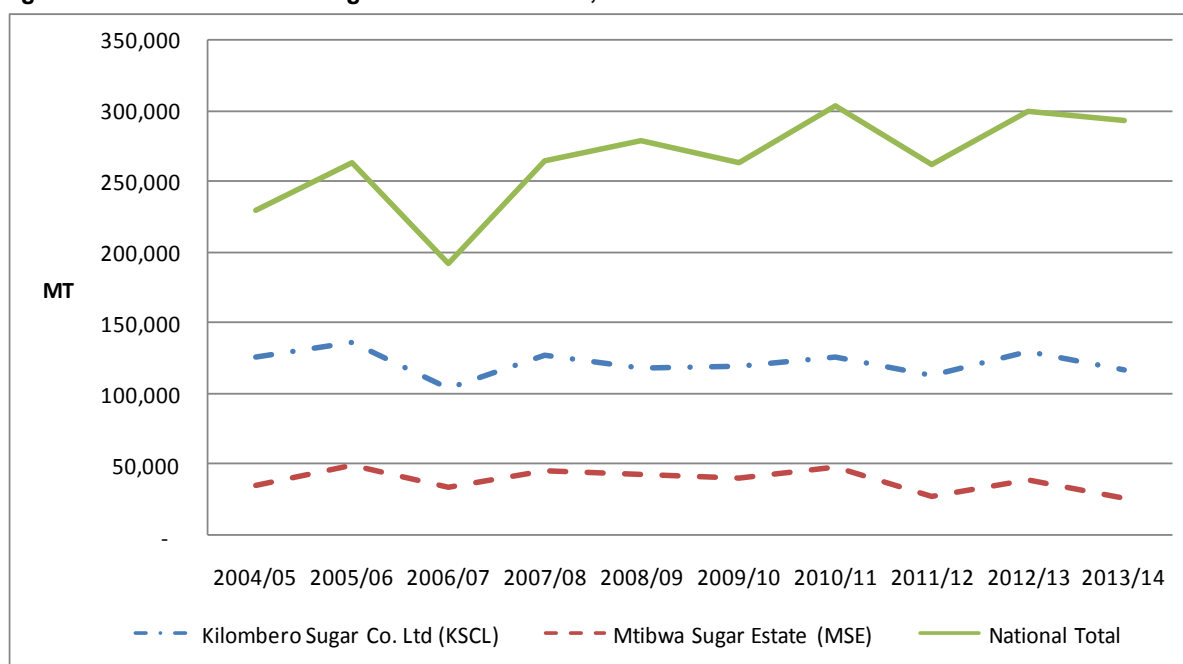
<sup>62</sup> KSCL is a property of ILLOVO Sugar Limited (ISL), a South African company, which owns 55% of the shares. The Government of Tanzania still owns 25% of KSCL and ED&F Man Holding Limited, a company based in the United Kingdom owns 20% of KSCL.

<sup>63</sup> MSEL is a property of Tanzania Sugar Industries Limited (TSIL), which is owned by a consortium of Tanzanian businesspersons from Turiani

<sup>64</sup> Under these out-grower schemes farmers must belong to a growers association and have a collective Cane Supply Agreement with the sugar company, which defines among other things how payments to growers should be made. One issue is that reported contracts with KSC were not available in Swahili and do not deal adequately with various kinds of risk.

delivered by the out-growers. In both companies, the pricing is agreed upon every year, based on the current world market sugar prices.

**Figure 58: KSCL and MSEL Sugar Production Trend, 2004/05-2013/14**



Source: Sugar Board of Tanzania

The interviews conducted in Turiani ward revealed that the incentive strategy devised and implemented by MSEL has not yet realised its full potential. There was a general complacency from farmers that they put a lot of efforts in their farms but when it comes to payment, they receive prices, which are not what they bargain for due to sampling and measuring problems. Due to this, most farmers usually decide to postpone selling their sugarcane in the rainy season expecting to sell in the dry seasons when the sucrose levels in the stems are high in order to increase the chances of getting high prices.

A field visit to Turiani district, where Mtibwa Sugar Estates is located, suggests that the sugar industry is a strong engine of the local economy and has benefits spilling over to the local community, as that is well described in the literature. Sugarcane farmers' households have been able to invest in their houses, other crops and schooling for children. The largest out-growers have invested in non-farm businesses. The largest farms have benefitted the local economies through backward and forward linkages (purchasing inputs, equipment and services, users of by-products). Improvements in infrastructure have benefitted local economies. Farm workers have benefitted too.

The availability of land in Kilombero district is becoming a binding constraint, in part because sugarcane is competing with other non-sugar crops and farmers.

Smalley, Sulle and Malale (2014) explain that there are issues associated with sugar out-grower schemes of Tanzanian sugar company. At Kilombero, the issues are: unsustainable expansion; the reallocation of land to sugarcane production, away from food crops, and the volatility of farm income due to delays in payments for sugarcane has increased vulnerability (Smalley, Sulle and Malale, 2014).

There is a problem of efficiency and transparency. In the past few years, sugarcane prices have fell, sucrose content has deteriorated, and some sugarcane has not been harvested. Out-growers have lost revenue and their level of debt has increased. The situation has led to dissensions among sugarcane growers associations. The deterioration of sucrose content is an issue both in Kilombero district and Mwomero district, among out-growers (the prevalence of cases where the sucrose content is below 10 per cent has increased in recent years). This has negatively affected their revenues from sugarcane sales and then their debt situation. Pests and diseases (notably the smut disease) have affected the quality of cane.

The sucrose content deficiency is also the consequence of deficient farm practices, including crop management and harvesting. Extension services appear to be insufficient. Access might be particularly a problem among small-scale growers. Farmers who are unable to participate in sugar out-grower scheme, other crops may not offer good returns, especially given the lack of government support to other sub-sectors.

Poor performance of post-harvest operations have also caused the deteriorated quality. Sugarcane is sometimes harvested too late or not at all due to capacity constraints at KSC factories, and delays are made worse by rains (sugarcane is usually harvested during the short rainy season) and fires. Especially delays in getting the cane to the crushing stage. There are allegations among growers of malpractice by sugar factories in the measurement of sucrose and the weighing of delivered cane output, which would lead to the misevaluation of cane and farmers' payments. As a response, block farms with a more collective management were established to support small out-growers, but this has not worked well for participating farmers.<sup>65</sup> Competition among multiple out-growers associations for deliveries to KSC has hindered cooperation for the organisation of harvest and haulage operations and infrastructure improvement. There is a problem of transparency.

The price received by sugarcane growers is based the weight of cane and the value of the sucrose content (which depends on sugar and molasses prices), taking into account all the costs (harvesting, transportation, processing, marketing and distribution). According to FAC and PLAAS (2014), on the basis of fieldwork done in 2013 – 14 in Kilombero district, out-growers receive 57 per cent of net sugar sales revenue (taking into account harvesting and post-harvest costs). To control the supply, growers associations of out-grower schemes are subject to production quotas.

In recent years imports of sugar have put pressure on the local sugar industry, in particular at KSC. It was reported that payments to farmers were delayed in 2013 due to a shortfall in revenue due to competition with (cheap) imports in the domestic market. KSC has also paid lower prices to out-growers.

The sugar sector faces a governance problem. The lack of implementation and effectiveness of sugar sector policies and regulations, and the inadequate performance of public services (notably district extension services) should be addressed through better accountability of the public sector. There is a need for the strengthening of extension services. The weakness of the regulatory framework should be addressed to ensure that contracts are implemented and enforced, notably an accurate measurement of the weight and sucrose content of sugarcane output delivered, so as to provide growers a fair payment, dealing with risks across the value chain, and providing rural infrastructure. There is apparently little information publicly available about the productivity of sugar factories. This would be important to pursue a dialogue on what measures can improve the performance of harvest, post-harvest and processing

---

<sup>65</sup> A block farm is a grouping of small parcels in a given geographic area belonging to different farmers so as to agglomerate production of sugarcane and facilitate the delivery of technical assistance, common use of infrastructure, etc., (external) economies of scale

operations, and devise incentives that could improve this performance. The harvesting process must also be effective so sugarcane is harvested in a timely fashion and indiscriminately among growers.

This requires a better multi-stakeholder dialogue and negotiations between growers, millers, public authorities and other stakeholders. There is a need to improve linkages among those actors and have more efficient, robust principal-agent relationships or business models. To increase the performance of the sector, more public and private investment is needed in infrastructure (roads, irrigation and drainage).

### 7.3. Development cooperation in Morogoro region and beyond

The EU and the World Bank have funded multiple interventions to improve the “business environment” for the sugar sector. These include feeder roads and other infrastructure and capacity building activities for sugarcane out-growers (and their associations). The FAC and PLAAS brief notes that donors and in particular the EU should more effectively monitor the implementation of the projects (feeder roads, block farms and capacity building activities).

The question is to what extent the sugar industry is viable. In some areas of the country, for instance in Kilombero district in Morogoro province, it appears that the availability of land for an expansion in sugarcane cultivated area is limited.

Diversification, driven by various factors, including market access, appears crucial for farm income growth, poverty reduction and food security improvements. This is especially important as not all farmers can be part of out-grower schemes for large-scale agro-business operations such as sugar. Often, the smallest farmers and those too far from processing factories. For those, it is important to provide opportunities outside sectors that have low-competitiveness and that can allow them to diversify.

### 7.4. Foreign direct investment and land issues in Morogoro region

Morogoro is strategic region in Tanzania for FDI due to its local and favourable agro climatic conditions. Its climate is moderate with slight variations, particularly in temperature, based on altitude. Whilst the average annual rainfall ranges from 600mm–1,800mm. About 81 per cent of the land is arable land and 3 per cent of the land is covered by water. The region is connected to all regions through a network of tarmacked roads.

Regional distribution of FDI in Tanzania is highly influenced with natural endowments as well as social and economic infrastructures. Morogoro receives 5.5 per cent of the total FDI in Tanzania (Msuya, 2007). However several donor funded intervention targeting agricultural development have been implemented in region because it's being considered as food basket region in Tanzania.

FDI presence in the region is concentrated in tobacco processing, sugarcane and rice production. Kilombero Sugar Company and Mtibwa Sugar Company are among the largest sugarcane processing plant in the country with joint milling capacity of 395 tones. Sugar sector is a major employer in the country's agricultural sector and accounts for approximately 2 % of national GDP and 7.7 % of agricultural gross domestic product (GDP). There are more than 30,000 outgrowers working directly with the two companies by supplying sugarcane. Since Tanzania is sugar deficit country it needs annual production of raw sugar

about 220,000 tonnes to add on to the current production 300,000 tonnes to meet local demand of processed sugar. There are still opportunities for Morogoro region to attract more FDI in sugar sector.

### 7.5. Livelihoods impacts of OECD policies in Morogoro region

Livelihoods have evolved over the past 20 years in and around Morogoro province. This evolution has been marked by fairly rapid urbanisation and growth in the urban and rural population employed in non-farm sectors. Urbanisation was driven by growth in the already urban population and more importantly rural-urban migration. In rural areas, the development of local economies and increasing tight links with urban areas entailed a diversification into non-farm sectors, notably services.

Within the agricultural sector, production has diversified, although farm households already produced a quite diverse mix of crops and livestock products initially in this region where agro-climatic conditions are favourable. New field crops have become mainstream, for example sunflower. The processing of sunflower seeds into edible oil and other food and feed products is an emerging sector in this part of Tanzania and has growth potential at the national level. Horticulture has also become a much more important sub-sector. Low-income farm households have had access to income from more diversified sources, which has contributed to reduce poverty. The liberalisation of food markets following the structural adjustment period has allowed farmers and other value chain actors to better allocate their resources depending on market opportunities. However, the government was still granting monopolies to some cooperatives for the marketing of a range of crops in the 2000s and early 2010s. With the Cooperative Societies Bill enacted in 2013, the monopoly of cooperatives acting as marketing boards was abolished. These cooperatives were unable to achieve consistent productivity gains.

Two important agricultural sub-sectors seem to have remained under-developed however. The horticultural sector has been growing but most of the production takes place at a small scale. Horticultural farms that have reached a certain size, are market-oriented and take part into value chains serving large urban markets (Dar es Salaam) or export markets are still rare in Morogoro province. Regulations and private standards in OECD countries that Tanzanian horticultural producers and exporters face are most likely a hindrance to the growth of an export-oriented horticultural sector in Morogoro province and to broad-based participation of smallholder farmers this sector.

The dairy sector also appears underdeveloped considering the favourable agro-climatic conditions and the market opportunities available. Compared to other Eastern African countries, the dairy market is small in Tanzania, owing to supply-side constraints and also to the fact that Tanzanian people are not big consumers of dairy products. This sector has developed well in the neighbouring region of Tanga. In this case, it is plausible that the large supply of imported milk powder in Tanzania, through Zanzibar and other ports of entry in mainland Tanzania, has been and will continue to be an obstacle to the development of the dairy sector in Morogoro region.

Given the lack of dynamism in the sugar sector in Morogoro province and the rising competition for land among various sectors (field crops, pastoralism, industrial uses and urban development), diversification in the agricultural sector, especially into high-value added agro-food products seems a necessity to continue improving livelihoods.

## 7.6. Implication of OECD policies for food and nutrition security in Morogoro region

The impressive positive performance in the agriculture sector in Morogoro, particularly in maize and rice has considerably resulted to improved socio-economic levels of most of the farmers in this region. Through the field survey conducted in Mvomero district and Morogoro urban, the study learned that there is an appreciation from most of the farmers and other stakeholders in the region including processors, that the donor funded projects and to an extent government supported projects has played a key role in transforming agriculture in the region.

When talking with paddy producers at Turiani ward in Mvomero, it was made clear that these programmes have contributed to enabling most of these farmers to increase acreage, production and yield. The reason being that many farmers have acquired a lot of knowledge on good farming techniques, and even learned on how best to undertake irrigation farming. With these soft skills acquired, it was reported that at the moment at least half an acre produce 18 bags of 120kg bags and farmers are now able to harvest rice twice a year. This is a significant improvement when compared to the situation in the 90's.

In assessing whether the farmers perceive themselves as being food secure, it was observed that most of them felt food secure with reservations that in years with bad rains such as floods or draughts then the situation changes. However, as a region, due to increased production the effect tends to be minimal.

Reflecting on the development partners' programmes in the region, farmers expressed their appreciation to the development partners but were concerned on the sustainability of such programmes once they phase out. With this regard, a call was made for development partners to consider shifting from providing soft skills such as trainings and move towards up to date technology such as machines, milling machines, irrigation schemes which would eventually enable farmers not only to increase production but also add value to their agriculture produce. With the region falling under the SAGCOT initiative, farmers also wanted investors to support the establishment of processing factories/mills near the farms that would help them process their produce, grade and pack them. In doing so, it is believed that more income would be generated as farmers would be able to sell even to the same investors a value added product.

## 8. Recommendations and conclusion

Over the last 20 years or so, the structures of OECD and global agro-food markets have changed significantly. OECD farm policies have changed with the result that they now cause much less distortion in the world markets than they used to. Yet, in some agro-food sectors their impacts may still be significant and lagged effects on developing countries may still be considerable. In other policy areas, trade in particular, OECD countries have also had impacts on agro-food markets in developing countries. This is the case of the EU, which has used preferential trade arrangements with developing countries to effectively promote the development of their agro-food sectors.

The rise of emerging economies has been consequential for world agro-food markets. Their market shares have increased rapidly in most major sub-sectors. Given that they have had farm policies similar to those of OECD countries, they have also caused distortions in international markets, with possible knock-on negative effects on developing countries' markets.

In the case of OECD countries, there is evidence of remaining incoherencies with food security objectives in a country like Tanzania. In the horticultural sector, non-tariff measures in OECD countries, namely market regulations and private standards, constitute barriers to trade and to the entry of new participants in export markets. This is the case for the EU market in particular. Although an export-oriented horticultural sector is emerging in Tanzania, in the northern regions, based on trade networks in Kenya, the growth of this sector in other regions such as Morogoro is likely to face obstacles posed by those barriers to market access, especially for smallholder farmers. Those regulations and standards also present benefits. To enable Tanzanian operators to exploit those opportunities and improve the coherence of their policies with respect to rural development and food security in Tanzania, development partners have to continue to provide assistance to local producers and value chain operators to upgrade their farm and marketing practices so to be able to comply with regulations and standards in OECD markets.

The sugar sector in Tanzania is an important source of income in rural communities and a factor of rural development and poverty reduction. However, many operators in this sector are struggling in a very competitive international market. OECD countries still provide much support to their sugar industries, even though their markets have been liberalised and that support is much less coupled to production than in the past. The recent move by the EU towards the phasing out of production quotas is likely to cause an increase in the supply of sugar on the world market, which would further put pressure on low-productivity ACP producers such as Tanzania.

Tanzania's dairy sector is also exposed to competition from OECD exporters. In this case, some OECD producers, notably the EU, are large exporters of dairy products, including milk powder, a product that is imported in Tanzania in large quantities. As in the case of the sugar sector, the dairy industry is still supported by the Common Agricultural Policy of the EU. Furthermore, the removal of production quotas in 2015 is likely to cause an increase in the EU export supply and put downward pressure on international prices. This pressure on prices would most likely be transmitted to the domestic market in Tanzania and make it more difficult for Tanzanian dairy farmers and processors of locally produced milk to be profitable. This would hinder the development of this sector, which can contribute greatly to diversification and value addition.

In the cereals sector, the impacts of OECD policies is mixed. In the case of maize, Tanzania is relatively competitive compared with the international market and exporters. Whereas the international market may not affect the Tanzanian market directly, it may negatively affect Tanzanian exporters' opportunities in neighbouring maize-deficit countries such as Kenya. There too, domestic policy is also part of the problem as the Tanzanian government traditionally has restricted exports of maize. In the case of wheat and other grains like barley, OECD farm support in this sector may contribute to create unfair market conditions for producers in Tanzania, which currently is not as competitive as OECD producers and imports significant quantities of wheat flour and barley. The Tanzanian rice sector is more exposed to competition from Asian producers and OECD countries' non-development cooperation policies have little impact on that sector in Tanzania.

Biofuel policies in OECD countries have had mixed impacts. On the one hand, they have put upward pressure on grain and oilseed prices in international markets, which has raised food prices (and so the cost of living) for urban consumers between the mid-2000s and the 2010s. The transmission of these price increases to Tanzanian markets has also provided incentives to producers and there are indications that producers have responded to these incentives by increasing grain and oilseed production.

At the same time, there has been increased interest in biofuel production in Tanzania. But so far there has been little implementation on the ground and this has not led to large-scale land transactions detrimental to local farmers and rural communities. Biofuel projects in Tanzania are based jatropha oil (the major energy crop in Tanzania), sugarcane, palm oil and sorghum. Existing sugar companies are finding opportunities for diversification in the production of bio-ethanol.

There has been increased interest of OECD-based investors to implement agro-food business development projects in Tanzania following the rise in agricultural commodity prices in the 2000s and the growth of local and regional markets in Eastern African (for example, barley for beer brewing). OECD donor governments have supported some of those projects through financial and technical support instruments. However, governance issues in Tanzania have often deterred foreign investors from pursuing projects past business plans and feasibility studies.

OECD Development cooperation has been very active in the agricultural sector following the 2008 food price crisis, after a period of disinterest in the agricultural sector. Development partners support rural infrastructure investments, agro-food trade facilitation interventions, capacity building activities for local actors, including for OECD market access, and local and regional value chain development programmes. One major issue remains the general policy environment that is not conducive to sustainable agricultural and rural development, innovation and private sector development. Donors have supported initiatives to improve the policy environment, notably the implementation of CAADP in Tanzania, but results have been meagre. As a consequence, agricultural and rural development programmes remain very much dependent on donor support.

In Tanzania, as in other countries, individuals among the ruling 'elite and their families have individual interests in commercial agriculture, seeking to profit from PPPs and JVs with foreign investors'. The problem is that the capacity of public institutions ensure fair competition in the domestic market remains weak. In addition, there is little effectiveness in ensuring the coherence of different policies due to pressures from powerful traders and other vested interests on government institutions through informal channels. What is important is that PPPs do not reinforce these forces that go against fair market competition and enforcement of regulations (eg, import tariffs), especially when they don't create jobs. Difficulty is opposing visions of agricultural development. Some wanting to go to large-scale, mechanised farming. Other opposed to large-scale farms, only betting on smallholder agriculture, with role for extension, local/rural innovation, access to land, credit, and input-output markets. This ambivalence makes it difficult to implement a coherent set of policies.

Need to regulate divvvy up and trade practices? Not necessarily about these international guidelines; but making sure it does not undermine coordination efforts and adequate support is provided to strengthen democratic, transparent and accountable institutions, especially in sectors that are crucial for poverty reduction and inclusive, sustainable growth.

What must be achieved: structuring of the market (coordination) and fair competition... The ambivalence of the policy framework and discourse will make it difficult to achieve that in Tanzania. The outcomes of the shift induced in factors and relationships affecting policymaking and markets is difficult to predict. Transparency, monitoring and regular evaluation will be necessary.

The inadequate policy environment in Tanzania is an obstacle to adjusting to the changes taking place in the global market environment. Tanzanian producers have to compete in international markets and their own domestic markets with imports from increasingly competitive emerging economies and with OECD

producers. They also have to compete with non-LDC ACP countries, non-ACP LDCs and emerging economies, in price and more and more in terms of quality, in OECD markets for traditional tropical exports and high-value horticultural products. In their own regional market, competitiveness and quality requirements to secure market shares are increasing as well. In all these markets, Tanzanian producers and value chain operators will need a much improved business environment. OECD policies, to be coherent with agricultural development and food security objectives, will have to better take into account this imperative.

## Bibliography

- Achterbosch, T., van Berkum, S. and Meijerink, G. 2014. Cash crops and food security: Contributions to income, livelihood risk and agricultural innovation. LEI Wageningen UR. [http://www.wageningenur.nl/upload\\_mm/7/b/b/a16b98bc-948d-41f0-8e58-6e1bd8070297\\_2014-015%20Achterbosch\\_WEB.pdf](http://www.wageningenur.nl/upload_mm/7/b/b/a16b98bc-948d-41f0-8e58-6e1bd8070297_2014-015%20Achterbosch_WEB.pdf).
- African Development Bank, Organisation for Economic Cooperation and Development, and United Nations Development Programme. 2014. *African Economic Outlook 2014*.
- Anderson, K. 2010. Krueger/Schiff/Valdés *Revisited: Agricultural Price and Trade Policy Reform in Developing Countries since 1960*. World Bank. Policy Research Working Paper 5165.
- Andriamananjara, S., Dean, J. M., Feinberg, R., Ferrantino, M. J., Ludema, R. and Tsigas, M. 2004. *The effects of non-tariff measures on prices, trade and welfare: CGE implementation of policy-based price comparisons*. Office of Economics working paper No. 2004-04.A. U.S International Trade Commission. [http://www.usitc.gov/publications/332/working\\_papers/EC200404A.pdf](http://www.usitc.gov/publications/332/working_papers/EC200404A.pdf)
- Bacchetta, M., Richter, J. and Santana, R. 2012. *How much light do WTO notifications shed on NTMs?* In: Cadot, O. and Malouche, M., eds. *Non-Tariff Measures: A Fresh Look at Trade Policy's New Frontier*. Centre for Economic Policy Research/World Bank. London/Washington DC. [http://siteresources.worldbank.org/TRADE/Resources/NTMs\\_A\\_Fresh\\_Look\\_Complete.pdf](http://siteresources.worldbank.org/TRADE/Resources/NTMs_A_Fresh_Look_Complete.pdf)
- Berensmann, K., A. Berger, and C. Brandi. 2015. *Post 2015: The Need for an Enabling Global Economic Governance Framework*. Briefing Paper 15. Deutsches Institut für Entwicklungspolitik (DIE).
- BOT (2011) *Annual Report*, Directorate of Banking Supervision, Dar es Salaam, Bank of Tanzania.
- BOT (2013) *Annual Report*, Directorate of Banking Supervision, Dar es Salaam, Bank of Tanzania.
- Cadot, O. and Gourdon, J. 2014. *Assessing the Price-Raising Effect of Non-Tariff Measures in Africa*. Journal of African Economies 23(4): 425-463. <http://jae.oxfordjournals.org/content/23/4/425.abstract>
- Chachage, C. & Mbunda, R. 2009. *The state of the then NAFCO, NARCO and absentee landlords' farms/ranches in Tanzania*. Unpublished report. Dar es Salaam: Land Rights Research and Resource Institute (LARRI/HAKIARDHI).
- COLEACP 2012. *PIP survey*. Brussels, Belgium. [http://pip.coleacp.org/en/system/files/SURVEY\\_V2c\\_1.pdf](http://pip.coleacp.org/en/system/files/SURVEY_V2c_1.pdf)
- Cooksey, N & Kelsall, T. 2011. *The political economy of the investment climate in Tanzania*. London: Africa Power and politics Programme.
- Cooksey, B. 2012. *Politics, patronage and projects: The political economy of agricultural policy in Tanzania*. Future Agricultures Consortium. Working Paper 40.
- Cotula, L., Dyer, N., and Vermeulen, S. 2008. *Fueling Exclusion? The Biofuel Boom and Poor People's Access to Land*. FAO/IIED, Rome and London.
- CTA (2006). *"Sugar: Executive brief"*. Agritrade. Obtained at: <http://agritrade.cta.int>
- Deininger, K., Byerlee, D., Lindsay, J., Norton, A., Selod, H., and Stickler, M. 2011. *Rising Global Interest in Farmland CAN IT YIELD SUSTAINABLE AND EQUITABLE BENEFITS?*. The World Bank, Washington, D.C.
- Deininger, K., Byerlee, D., Lindsay, J., Norton, A., Selod, H. & Stickler, M. (2011). *Rising global interest in farmland: Can it yield sustainable and equitable benefits?* Washington, D.C: World Bank
- Díaz-Bonilla, E., and J. Harris. 2014. *Export subsidies and export credit*. In: *Tackling Agriculture in the Post-Bali Context—A Collection of Short Essays*. ICTSD.
- Díaz-Bonilla, E., and L. Rea. 2000. *"Trade and Agroindustrialization in Developing Countries: Trends and Policy Impacts."* Agricultural Economics 23 (3): 219–29.

- Diop, N. and Jaffee, S.F., 2005. *Fruits and vegetables: global trade and competition in fresh and processed product markets*. In: Aksoy, M.A. and Beghin, J.C. eds. *Global agricultural trade and developing countries*. World Bank, Washington, 237-257. Trade and Development Series. <http://siteresources.worldbank.org/INTGAT/Resources/GATfulltext.pdf>.
- Draper, P. 2014. *Situating Economic Partnership Agreements in sub-Saharan Africa's evolving trade landscape*. GREAT insights, Vol. 3 (9).
- Economics and Social Research Foundation. 2013. *Taping export opportunities for horticulture products in Tanzania: do we have supporting policies and institutional frameworks?* Draft Report for the Investment Climate and Business Environment (ICBE) research fund for 2011.
- Elobeid, A. 2010. *How would a trade deal on sugar affect exporting and importing countries?* Trade Negotiations Insights. Vol. 1, Issue 1, February 2010.
- European Commission, Joint Research Centre, Institute for Prospective Technological Studies. 2009. *Modelling and Analysis of the European Milk and Dairy Market*.
- European Court of Auditors (2012) *a report on Effectiveness of European Union Development Aid for Food Security in Sub-Saharan Africa*, Luxembourg, Curia Rationum.
- FAO. 2013. *Trends and impacts of foreign investment in developing country agriculture Evidence from case studies*. Food and Agriculture Organization of the United Nations Rome, 2013
- Ferrantino, M. 2006. *Quantifying the trade and economic effects of non-tariff measures*. OECD Trade Policy Working Paper No. 28. OECD Publishing. [http://www.oecd-ilibrary.org/trade/quantifying-the-trade-and-economic-effects-of-non-tariff-measures\\_837654407568](http://www.oecd-ilibrary.org/trade/quantifying-the-trade-and-economic-effects-of-non-tariff-measures_837654407568)
- Gebrehiwet, Y., Ngqangweni, S. and Kirsten, J. F. 2007. *Quantifying the trade effect of sanitary and phytosanitary regulations of OECD countries on South African food exports*. *Agrekon*, vol. 46(1): 23–39. <http://ageconsearch.umn.edu/bitstream/10127/1/46010023.pdf>
- Goodison. 2007. *The ACP experience of preference erosion in the banana and sugar sectors: Possible policy responses to assist in adjusting to trade changes*. ICTSD, Issue Paper no. 7.
- Gourdon, J. and Nicita, A. 2012. *NTMs: Interpreting the New Data* In: Cadot, O. and Malouche, M., eds. *Non-Tariff Measures: A Fresh Look at Trade Policy's New Frontier*. Centre for Economic Policy Research/World Bank. London/Washington, DC. [http://siteresources.worldbank.org/TRADE/Resources/NTMs\\_A\\_Fresh\\_Look\\_Complete.pdf](http://siteresources.worldbank.org/TRADE/Resources/NTMs_A_Fresh_Look_Complete.pdf)
- Graffham, A., Karehu, E. and Macgregor, J. 2007. *Impact of EurepGAP on Small-Scale Vegetable Growers in Kenya*, Fresh Insights 6, London: International Institute for Environment and Development. [http://r4d.dfid.gov.uk/pdf/outputs/ecodev/60506fresh\\_insights\\_6\\_eurepgapkenya.pdf](http://r4d.dfid.gov.uk/pdf/outputs/ecodev/60506fresh_insights_6_eurepgapkenya.pdf).
- HLPE. 2011. *Price volatility and food security*. A report by the High-Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. Rome.
- HODECT 2010. *Tanzania horticultural development strategy 2011-2021*. Arusha, Tanzania. <http://hodect.org/pdf/National%20Horticulture%20Development%20Strategy.pdf>
- IFAD (2014) *Country Program Evaluation*, Rome, Independent Office of Evaluation.
- International Sugar Organization. 2012. *Sugar Year Book 2012*. London, UK.
- Kiishweko, Orton. 2012. *Tanzania takes a major steps toward curbing land grab* [site visited in 21st. Report by IPS as part of Guardian development network
- Komakech, H.C., Condon, M. and van der Zaag, P. 2012. *The role of statutory and local rules in allocating water between large- and small-scale irrigators in an African river catchment*. *Water SA* v.38 n.1 Pretoria ene. 2012. [http://www.scielo.org.za/scielo.php?script=sci\\_arttext&pid=S1816-79502012000100014&lng=es&nrm=iso&tlng=es](http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S1816-79502012000100014&lng=es&nrm=iso&tlng=es)

- Krueger, A.O., M. Schiff and A. Valdés. 1991. *The Political Economy of Agricultural Pricing Policy*. Volume 1: Latin America; Volume 2: Asia; and Volume 3: Africa and the Mediterranean. Baltimore: Johns Hopkins University Press for the World Bank.
- Laborde, D. 2014. *Implications of the Draft Market Access Modalities on Bound and Applied Tariffs*. In *Tackling Agriculture in the Post-Bali Context: A Collection of Short Essays*.
- Li, Y. and Beghin, J. C. 2014. *Protectionism indices for non-tariff measures: An application to maximum residue levels*. Food Policy, Elsevier, vol. 45(C), pages 57-68. <http://www.sciencedirect.com/science/article/pii/S0306919213001838>
- Lunogelo, B (2015) *Financing and Other of Implementation in Post 2015 context: Tanzania Country Illustration*, Dar es Salaam, Economic and Social Research Foundation.
- MAFAP. 2013. *Review of food and agricultural policies in the United Republic of Tanzania*. MAFAP Country Report Series, FAO, Rome.
- Maertens, M. and Swinnen, J. F. M. 2009. *Trade, Standards, and Poverty: Evidence from Senegal*. World Development, Elsevier, vol. 37(1), pages 161-178. <http://www.sciencedirect.com/science/article/pii/S0305750X08001204>
- MNRT (2014) *Tourism Sector and Natural Resources Conservation in Tanzania*, Dar es Salaam.
- Nelson, F. 2012. *Natural conservationists? Evaluating the impact of [astoralist land use practices on Tanzania's wildlife economy*. Pastoralism: Research, Policy and Practice 2:15
- Nelson, F., Sulle, E., and Lekaita, E. 2012. *Land grabbing and political transformation in Tanzania*. Paper presented at the International Conference on Global Land Grabbing II, October 17-19, 2012. Organized by Land deals Politic Initiative and hosted by Department of Development Sociology at Cornell University, N.Y
- Nguni, W. 2013. *Supply chain challenges constraining horticultural enterprises in Tanzania to achieve international market reliability*. African Journal of Business and Management, Vol. 3, 2013. [http://aibumaorg.uonbi.ac.ke/archive/journal/vol\\_three/PAPER%204.pdf](http://aibumaorg.uonbi.ac.ke/archive/journal/vol_three/PAPER%204.pdf)
- Odén, B., and L. Wohlgemuth. 2015. *European aid and development policies in a changing world: Some personal reflections*. ECDPM Briefing Note 76.
- OECD. 2007. *Sugar Policy Reform in the European Union and in World Sugar Markets*.
- SAGCOT (2011). *Investment blue print*. Dar es Salaam, Tanzania.
- Shepherd, B. 2007. *Product standards, harmonization, and trade : evidence from the extensive margin*. Policy Research Working Paper Series 4390, The World Bank.
- Sutton, J. and Olomi, D. 2012. *An enterprise map of Tanzania*. International Growth Center, London Publishing Partnership. [http://personal.lse.ac.uk/sutton/tanzania\\_final.pdf](http://personal.lse.ac.uk/sutton/tanzania_final.pdf).
- Shivji, I.G 1998. *Not yet democracy: Reforming land tenure in Tanzania*. Dar es Salaam and London: IIED/HAKIARDHI/Facult of Law, University of Dar es Salaam.
- Sulle, E. and F. Nelson, 2012. *Biofuels Investment and Community Land Tenure in Tanzania: The Case of Bioshape*, Kilwa District. Arusha: Tanzania Natural Resource Forum.
- Sulle, E. & Nelso, F. 2009. *Biofuels, land tenure and rural livelihoods in Tanzania*. London: International Institute for Environment and Development.
- Tanzania Investment Report. 2012. *Foreign Private Investment and Investors Perception*. NBS, BoT and ZIPA.
- THDR (2014) *Population Growth, Structure and Momentum in Tanzania*, Dar es Salaam, Economic and Social Research Foundation.

- Therkildsen, O. 2012. *Democratisation in Tanzania. No taxation without exemptions*. Selected paper for the 2012 annual meeting of the American Political Science Association.
- TTSS (2012) 2010 *International Visitors Exit Survey Report, Dar es Salaam*, National Bureau of Statistics and the Bank of Tanzania.
- TTSS (2013) 2012 *International Visitors Exit Survey Report, Dar es Salaam*, National Bureau of Statistics and the Bank of Tanzania.
- UNCTAD 2005. *Costs of Agri-food Safety and SPS Compliance, United Republic of Tanzania, Mozambique and Guinea*. Unpublished Paper (Geneva, UNCTAD).
- UNCTAD 2007. *Private-sector-set Standards and Developing Countries' Exports of Fresh Fruit and Vegetables: Synthesis of Country-case Studies in Africa (Ghana, Kenya, Uganda), Asia (Malaysia, Thailand, Vietnam), and Latin America (Argentina, Brazil, Costa Rica)*. [http://r0.unctad.org/trade\\_env/test1/meetings/nairobi2/UNCTAD%20background%20note.pdf](http://r0.unctad.org/trade_env/test1/meetings/nairobi2/UNCTAD%20background%20note.pdf)
- United Republic of Tanzania – Ministry of Agriculture Food Security and Cooperative (2013). *Preliminary Food Crop Production Forecast for 2013/2014 Food Security*. Agricultural Statistics for Food Security Vol 1.
- UNCTAD. FDI Data. <http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx>.
- Vitale, A. 2013. *The East African Community Common External Tariff on Cereals: an Analysis of Stakeholder Perceptions*. Research Working Paper no.36, FAO Commodity and Trade Policy, Rome).
- Wolter, D. 2008. *Tanzania: The challenge of moving from subsistence to profit*. OECD—DAC and Development Centre.
- World Development Indicator: <http://data.worldbank.org/data-catalog/world-development-indicators>.
- World Investment Report. 2014. *Investing in Sustainable Development Goals: An action plan*. United Nations Conference on Trade And Development, New York and Geneva.
- World Bank 2005. *Tanzania – Diagnostic Trade Integration Study*. Volume 1. Integrated Framework for Trade Related Technical Assistance to Least Developed Countries: Tanzania.

## Annex 1: Financial and technical partners in Tanzania

**Table 14: Current members of the donors Agriculture Working Group (AWG) in Tanzania**

| S/No. | AWG Member                      | Participation Status |
|-------|---------------------------------|----------------------|
| 1.    | African Development Bank        | Active               |
| 2.    | AGRA                            | Active               |
| 3.    | Belgium                         | Active               |
| 4.    | Bill & Melinda Gates Foundation | Active               |
| 5.    | Brazil                          | Active               |
| 6.    | Canada                          | Active               |
| 7.    | DFID                            | Active               |
| 8.    | European Union                  | Active               |
| 9.    | FAO                             | Co-lead              |
| 10.   | Finland                         | Active               |
| 11.   | France                          | Active               |
| 12.   | GIZ                             | Active               |
| 13.   | IFAD                            | Active               |
| 14.   | ILO                             | Active               |
| 15.   | Irish Aid                       | Active               |
| 16.   | JICA                            | Lead                 |
| 17.   | Netherlands                     | Active               |
| 18.   | Sweden                          | Active               |
| 19.   | UNDP                            | Active               |
| 20.   | UNIDO                           | Active               |
| 21.   | World Bank                      | Active               |
| 22.   | World Food Program              | Active               |

Source: Tanzania AWG (2015).

## Annex 2: Donor-sponsored agricultural development and food security programmes and projects in Tanzania

**Table 15: Selected agricultural programs and projects in Tanzania by priority area**

| Priority area                                                     | Project name                                                                                                   | Funder                | Budget and timeframe              |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------|
| Irrigation development, sustainable water and land use management | Small Scale Irrigation Development Project                                                                     | JICA                  | USD 34million<br>3-4 years.       |
|                                                                   | Engineering consulting.                                                                                        | USAID                 | TZS 26,806,500,000<br>2011-2016   |
| Agricultural productivity and rural commercialization             | The Southern Agricultural Corridor in Tanzania (SAGCOT) Project                                                | URT, and Partners     | USD 3.4 billion<br>2011-2031      |
|                                                                   | Livelihood Enhancement through Agricultural Development (LEAD)                                                 | BRAC Tanzania.        | GBP 8.7 million<br>2013-2017      |
|                                                                   | TASP                                                                                                           | RF & AGRA             | TZS 11,516,489,600<br>2010 –2015. |
|                                                                   | District Agricultural Sector Investment Project (DASIP)                                                        | AFDB                  | 2006 – 2013                       |
|                                                                   | Accompanying Measures for Sugar Protocol Countries                                                             | European Union        | Euro 13 Million<br>2007-2017.     |
|                                                                   | EU Support to Southern Agriculture Growth Corridor Initiative                                                  | European Union        | Euro 36.5 Million<br>2014 -2017   |
|                                                                   | Tanzania Agricultural Food Security Investment Plan (TAFSIP/CAADP)                                             | DPs, private sector.. | USD 5.3 billion<br>2011 – 2015.   |
|                                                                   | Agriculture Service Support Programme (ASSP) and Agriculture Sector Development Programme -Livestock (ASDP-L). | IFAD                  | TZS 16,000,000,000<br>2007 - 2015 |
|                                                                   | (TAPP) Tanzania Agriculture Productivity Program.                                                              | USAID                 | TZS 57,155,000,000<br>2009-2014   |
| Rural infrastructure, market access and trade                     | Marketing Infrastructure, Value Addition and Rural Finance Support Programme (MIVARF):                         | URT, IFAD, AFDB       | USD 150 million<br>2012-2018.     |
|                                                                   | Rural Livelihood Development Programme (RLDP)                                                                  | SDC                   | USD 10 million<br>2012-2016       |
|                                                                   | Quality Cocoa & Market Access Programme Phase II                                                               | Irish Aid             | TZS 1,100,000,000<br>2011-2015    |
|                                                                   | Research for development dairy value chain project                                                             | Irish Aid             | Euro 1.4 million<br>2013 -2014    |
|                                                                   | Trade and Agriculture Support Programme – Phase I                                                              | European Union        | Euro 9.5 Million<br>2010-2013     |
|                                                                   | Improving the Livelihoods of smallholder cassava farmers through better access to growth markets               | European Union        | Euro 2.9 Million<br>2012-2016     |
|                                                                   | Trade and Agriculture Support Programme – Phase II                                                             | European Union        | Euro 15 Million<br>2013-2017      |
|                                                                   | Capacity building of smallholder farmers and the organization                                                  | Irish Aid             | TZS 4,400,000,000<br>2011-2015    |
| Private sector development                                        | Food System development in Tanzania                                                                            | FAO                   | USD 2,499,523 2009 – 2013         |
|                                                                   | Social venture/equity fund.                                                                                    | USAID                 | TZS 20,125,000,000<br>2013-2017   |
| Food and nutrition security                                       | The Mwanzo Bora Nutrition Project                                                                              | USAID                 | USD 300 million<br>2011 – 2015.   |
|                                                                   | Promoting Bean, Maize, Rice and Cassava                                                                        | RF & AGRA             | USD 1,215,000<br>2011 - 2015.     |

| Priority area                                                        | Project name                                                                                                                                                            | Funder                               | Budget and timeframe                |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------|
|                                                                      | Grain Postharvest Loss Prevention Project (PHLP)                                                                                                                        | SDC                                  | USD 11.5 Million<br>2013 - 2022     |
|                                                                      | More milk by and for the poor                                                                                                                                           | Irish Aid                            | TZS 5,280,000,000<br>2013- 2016     |
|                                                                      | NAFAKA- Food grain value chain.                                                                                                                                         | USAID                                | TZS 48,300,000,000<br>2011-2016     |
| Disaster management,<br>climate change,<br>mitigation and adaptation | Transforming Tanzania Charcoal Sector (TTCS)                                                                                                                            | SDC                                  | USD 7.5 Million<br>2012- 2018       |
|                                                                      | UN-REDD National Programme Tanzania                                                                                                                                     | FAO                                  | USD 4.28 million<br>2009-2013       |
|                                                                      | Adaptation and dissemination of the push-pull technology (ADAPT) to climate change.                                                                                     | EU through<br>ICIPE                  | TZS 60,248,000<br>2010/11 – 2013/14 |
|                                                                      | Biotechnology Application to Combat Cassava Brown Streak Disease                                                                                                        | Bill &Melinda<br>Gates<br>Foundation | TZS759,694,400<br>2009 - 2013       |
|                                                                      | Adaptation and dissemination of the push-pull technology (ADAPT) to climate change.                                                                                     | EU through<br>ICIPE                  | TZS 60,248,000<br>2010/11 – 2013/14 |
|                                                                      | Biotechnology Application to Combat Cassava Brown Streak Disease                                                                                                        | Bill &Melinda<br>Gates<br>Foundation | TZS759,694,400<br>2009 - 2013       |
| Policy and institutional<br>reforms and support                      | Involving small scale farmers in policy and monitoring for improved Food security in EAC                                                                                | European<br>Union                    | Euro 1.5 Million =<br>2012-2016,    |
|                                                                      | Policy support on rural employment and decent work for the promotion of equitable and sustainable livelihoods under conditions of climate change in Malawi and Tanzania | FAO, ILO                             | TZS2,939,798,001.00<br>2011 - 2013  |
|                                                                      | Pro-poor and Conducive Agriculture Policies.                                                                                                                            | Irish Aid                            | TZS 440,000,000<br>2011 - 2013      |
|                                                                      | FTF Monitoring & Evaluation.                                                                                                                                            | USAID                                | TZS8,855,000,000<br>2011-2016       |
|                                                                      |                                                                                                                                                                         |                                      |                                     |
|                                                                      |                                                                                                                                                                         |                                      |                                     |

Source: ESRF, 2014.

## Annex 3: Commodity production and trade matrix

**Table 16: Matrix of production, consumption, employment and trade of commodities in Tanzania**

| Commodity                          | Output <sup>[1]</sup> | GDP in million \$<br>(Share in Agricultural GDP) <sup>[2]</sup> | Labor (million hh) <sup>[3]</sup> | Consumption (kcal/capita/day) <sup>[1]</sup> | Imports of Tanzania <sup>[4]</sup> |                                                     |                                                 | Exports of Tanzania <sup>[4]</sup> |                                                   |                                               | Net trade balance in million \$ <sup>[4]</sup> | Imports of OECD <sup>[4]</sup> | Exports of OECD <sup>[4]</sup> |
|------------------------------------|-----------------------|-----------------------------------------------------------------|-----------------------------------|----------------------------------------------|------------------------------------|-----------------------------------------------------|-------------------------------------------------|------------------------------------|---------------------------------------------------|-----------------------------------------------|------------------------------------------------|--------------------------------|--------------------------------|
|                                    |                       |                                                                 |                                   |                                              | Total (million \$)                 | From EAC+SADC in million \$ (share in total import) | From OECD in million \$ (share in total import) | Total (million \$)                 | To EAC+SADC in million \$ (share in total import) | To OECD in million \$ (share in total import) |                                                | Total (million \$)             | Total (million \$)             |
| Maize                              | 4.04 million t        | 1191.7 (6.5%)                                                   | 3.5 (60%)                         | 538                                          | 1.2                                | 0.34 (28%)                                          | 0.0002 (0%)                                     | 0.6                                | 0.3 (50%)                                         | 0.05 (8%)                                     | -0.6                                           | 114.1                          | 110.8                          |
| Other coarse grains <sup>[5]</sup> | 0.2 million t         | 440 (2.4%)                                                      | 1.0 <sup>[6]</sup>                | 23 <sup>[7]</sup>                            | 219.3                              | 16.4 (7%)                                           | 85 (39%)                                        | 18.4                               | 15.2 (83%)                                        | 0.11 (1%)                                     | -200.9                                         | 29118.6                        | 38962.7                        |
| Wheat <sup>[8]</sup>               | 0.08 million t        | 36.7 (0.2%)                                                     | 0.07                              | 108 <sup>[9]</sup>                           | 8.9                                | 5.4 (61%)                                           | 0.6 (7%)                                        | 23.5                               | 23 (98%)                                          | 0.02 (0%)                                     | 14.6                                           | 2409.6                         | 4464.4                         |
| Rice (Milled)                      | 0.92 million t        | 953.3 (5.2%)                                                    | 1.2                               | 204                                          | 17.5                               | 5.8 (33%)                                           | 0.6 (3%)                                        | 4.3                                | 3.8 (88%)                                         | 0.005 (0%)                                    | -13.2                                          | 4220.2                         | 3241.7                         |
| Cassava                            | 5.13 million of t     | 1503.3 (8.2%)                                                   | 1.4                               | 189                                          | 0.0006                             | 0 (0%)                                              | 0 (0%)                                          | 0.1                                | 0.08 (80%)                                        | 0 (0%)                                        | 0.0994                                         | 265.4                          | 35.6                           |
| Irish potato                       | 0.92 million t        |                                                                 | 0.1                               | 28                                           | 0.21                               | 0.17 (81%)                                          | 0.02 (10%)                                      | 0.004                              | 0.004 (100%)                                      | 0 (0%)                                        | -0.206                                         | 1170.2                         | 1533.4                         |
| Sweet potato                       | 1.77 million t        |                                                                 | 0.5                               | 116                                          | 0.001                              | 0.0005 (50%)                                        | 0.0002 (20%)                                    | 0.002                              | 0.002 (100%)                                      | 0 (0%)                                        | 0.001                                          | 118.7                          | 78.1                           |
| Banana                             | 3.35 million t        | 2328.3 (12.7%)                                                  | 0.8                               | 73                                           | 0.001                              | 0.0005 (50%)                                        | 0.0002 (20%)                                    | 0.02                               | 0.02 (100%)                                       | 0.004 (20%)                                   | 0.019                                          | 8673.2                         | 2285.4                         |
| Beans, dry                         | 0.43 million t        |                                                                 | 1.2                               | 119                                          | 0.14                               | 0.01 (7%)                                           | 0.04 (29%)                                      | 0.1                                | 0.04 (40%)                                        | 0.07 (70%)                                    | -0.04                                          | 573.4                          | 485.6                          |
| Sugar <sup>[10]</sup>              | 0.27 million t        | 220 (1.2%)                                                      | 0.12 <sup>[11]</sup>              | 94                                           | 7.0                                | 1.5 (21%)                                           | 0.31 (4%)                                       | 4.7                                | 0.002 (0%)                                        | 5.6 (119%)                                    | -2.3                                           | 4902.8                         | 1092.0                         |

|                                 |                                     |               |                           |                    |      |             |            |       |            |              |       |         |         |
|---------------------------------|-------------------------------------|---------------|---------------------------|--------------------|------|-------------|------------|-------|------------|--------------|-------|---------|---------|
| Fruits and nuts <sup>[12]</sup> | 5.2 million t                       |               |                           | 117                | 8.1  | 4.6 (57%)   | 1.15 (14%) | 8.9   | 4.5 (51%)  | 1.8 (20%)    | 0.8   | 64981.2 | 54387.5 |
| Vegetables <sup>[13]</sup>      | 1,61 million t                      | 0 (%)         | 0.4                       | 21                 | 5.4  | 1.01 (19%)  | 2.8 (52%)  | 79.4  | 6.2 (8%)   | 7.2 (9%)     | 74    | 48830.7 | 45379.5 |
| Flowers                         |                                     | 0 (%)         |                           |                    | 0.7  | 0.23 (33%)  | 0.5 (71%)  | 13.9  | 0.03 (0%)  | 13.8 (99%)   | 13.2  | 1948.8  | 2092.6  |
| Livestock—                      | 18.95 million heads <sup>[14]</sup> | 2200 (12%)    | 2.3 for livestock keepers | 49 <sup>[15]</sup> | 5.1  | 3.9 (76%)   | 0.6 (12%)  | 6.6   | 0.6 (9%)   | 4.2 (64%)    | 1.5   | 76671.9 | 84565.9 |
| Milk <sup>[16]</sup>            | 790.7 million l                     | 1338.3 (7.3%) | 2                         | 39                 | 6.3  | 4.3 (68%)   | 0.8 (13%)  | 0.4   | 0.24 (60%) | 0.04 (10%)   | -5.9  | 34652.6 | 46721.5 |
| Fisheries                       |                                     |               | 0.2 <sup>[17]</sup>       | 15                 | 6.3  | 0.17 (3%)   | 1 (16%)    | 143.7 | 20.3 (14%) | 99.1 (69%)   | 137.4 | 72695   | 44690.2 |
| Coffee                          | 0.06 million t                      | 146.7 (0.8%)  | 0.5                       | 1                  | 2.4  | 0.07 (3%)   | 0.02 (1%)  | 104.3 | 2.4 (2%)   | 97.1 (93%)   | 101.9 | 17570   | 6484.8  |
| Tea                             | 0.03 million t                      | 91.7 (0.5%)   | 0.02                      |                    | 0.07 | 0.04 (57%)  | 0.02 (29%) | 41.5  | 23 (55%)   | 13.2 (32%)   | 41.43 | 1954.1  | 869.8   |
| Cotton <sup>[18]</sup>          | 0.26 million t                      | 531.7 (2.9%)  | 0.5                       |                    | 0.23 | 0.25 (109%) | 0.06 (26%) | 67.0  | 1.8 (3%)   | 7 (10%)      | 66.77 | 3075.9  | 6669    |
| Tobacco <sup>[19]</sup>         | 0.06 million t                      | 238.3 (1.3%)  | 0.06                      |                    | 6.2  | 3.3 (53%)   | 2.44 (39%) | 113.0 | 5.5 (5%)   | 99.3 (88%)   | 106.8 | 5602.1  | 3441.7  |
| Cashew nuts                     |                                     | 220 (1.2%)    | 0.3                       |                    | 0.04 | 0.02 (50%)  | 0.02 (50%) | 80.8  | 1.8 (2%)   | 13.4 (0.17%) | 80.76 | 1456.3  | 197.5   |

Source: FAOSTAT, UN COMTRADE, MAFAP 2013a and TASCA 2008

<sup>[1]</sup> Average production over the period 2003-2012 using data from FAOSTAT, 2014; Data on consumption are also from FAOSTAT, 2014. <sup>[2]</sup> The total value of production are obtained by multiplying the average share of the production value in agricultural GDP over the period 2005-2010 from MAFAP, 2013a with the average agricultural GDP over the same period from WDI, 2014. <sup>[3]</sup> Data on number farmers are from the Tanzania Agricultural Census Survey for the year 2008. <sup>[4]</sup> Imports and exports in value are average over the period 2003-2012 using data from UNCOMTRADE, 2014. <sup>[5]</sup> This category includes Millet, Barley, Sorghum, Buckwheat, Rye, Oats, etc. <sup>[6]</sup> Data on labor only includes farmers producing millet or sorghum. <sup>[7]</sup> Consumption data only include millet and sorghum and related product. <sup>[8]</sup> Import and export of wheat include both wheat grain and wheat flour. <sup>[9]</sup> Consumption of wheat also include all wheat-based products <sup>[10]</sup> Production and trade data refer to processed (raw) sugar; the corresponding sugar cane equivalent for the period is 2.37 million mt. <sup>[11]</sup> Employment includes household growing sugar canes as well as workers in sugar factories and along the sugar value chain. <sup>[12]</sup> Include all fruits and all tree nuts except cashew nuts. <sup>[13]</sup> Include spices, fresh and dry vegetable as well as frozen and prepared vegetables. <sup>[14]</sup> Production data include only cattle; production for other livestock are 11.75 million of heads of sheep and goat and 3.28 million of head of various other livestock including poultry birds. <sup>[15]</sup> Consumption data include all type of meat from various origins. <sup>[16]</sup> Production Include fresh milk from sheep and cow. <sup>[17]</sup> Only fishermen; There is an estimated 2 million of people working along the fish value chain from the fishing to processing and exports. <sup>[18]</sup> Only include cotton seed cotton and not cotton byproducts such as cottonseed, cotton seed oil, etc. <sup>[19]</sup> Only unmanufactured tobacco leave. Tanzania also produces and export cigarette

## Annex 4: Donor-sponsored agricultural development and food security programmes in Morogoro region

**Table 17: Selected agricultural programs and projects in Morogoro region**

| Initiative                                      | NAFAKA: ACDI-VOCA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                                            | Location                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Implementers                                                                                      | Time      | Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                    | Outreach                                                                                                                                                                                                                                                                        |
| <b>Maize &amp; Rice</b>                         | SAGCOT Corridor: Maize: Kiteto & Kongwa districts; Rice: Kilombero & Mvomero districts + Zanzibar                                                                                                                                                                                                                                                                                                                                                                                                                                 | NAFAKA: ACDI-VOCA (implementing agency), USAID (funder), Ministry of Agriculture, DALDOs          | 2010-2014 | To improve availability and access of staple foods and improve nutrition by enhancing the competitiveness of SH farmers                                                                                                                                                                                                                                                                                                                       | 5000 SH farmers (rice)                                                                                                                                                                                                                                                          |
| <b>Activities</b>                               | Linking producers with input, credit, technical and advisory service providers                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                 |
| <b>Potential and actual benefits + linkages</b> | <ul style="list-style-type: none"> <li>Improved productivity, through a strong program of public and private extension services</li> <li>Increased incomes of vulnerable farmers, including women and young people, by building robust marketing groups</li> <li>Improve competitiveness and trade</li> </ul>                                                                                                                                                                                                                     |                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                 |
| Initiative                                      | Rural Livelihood Development Company (RLDC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                 |
| Type                                            | Location                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Implementers                                                                                      | Time      | Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                    | Outreach                                                                                                                                                                                                                                                                        |
| Rice                                            | Districts of Babati (Manyara region), Mvomero (Morogoro), Igunga and Nzega (Tabora), Manyoni (Singida), Shinyanga rural and Bukombe (Shinyanga)                                                                                                                                                                                                                                                                                                                                                                                   | RLDC, MVIWATA, Agricultural Seed Agency (ASA), ROKO Investment & GAKI Investment- Private Millers | 2010-2014 | <ul style="list-style-type: none"> <li>- To raise rice productivity of farmers</li> <li>- Enable formation of strong farmer groups</li> <li>- Raise farmers awareness and usage of improved rice seeds</li> <li>- Enable access to extension service/train and input supply</li> <li>- Strengthen improved seeds distribution system/chain</li> <li>- Assure markets for farmers' produce</li> <li>- Improve postharvest practices</li> </ul> | <ul style="list-style-type: none"> <li>- At least 4000 HH rice farmers</li> <li>- Extension officers and farmer promoters (lead farmers)</li> <li>- Traders and millers in districts</li> <li>- Agro-dealers (input suppliers)</li> <li>- Village Extension officers</li> </ul> |
| <b>Activities</b>                               | <ul style="list-style-type: none"> <li>Training of farmers in group formation, leadership, marketing, entrepreneurship, seeds, contract farming, post harvest practices</li> <li>Establishment of FFS in villages for practical learning</li> <li>Farmers exchange visits</li> <li>Workshop/forum for agro dealers</li> <li>Linking rice farmers with private sector buyers/millers</li> <li>Provision of extension services</li> <li>Linking to suppliers of improved seeds, post harvesting equipment and pesticides</li> </ul> |                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                 |
| <b>Potential and actual benefits + linkages</b> | <ul style="list-style-type: none"> <li>Improved GAP</li> <li>Increased rice productivity by at least 30%</li> <li>Emerging strong rice farmer groups</li> <li>At least 4000 rice farmers have access to private extension service and inputs</li> <li>Strengthened business linkages between rice farmers and millers</li> <li>Increased sales of improved seeds by ASA from 200 Tons to more than 700 Tons per year.</li> </ul>                                                                                                  |                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                 |

Source: Match Maker Associates, 2012