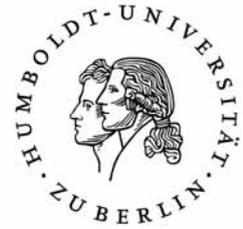


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Centre for Advanced Training in Rural Development (SLE)  
International Institute of Tropical Agriculture (IITA)  
on behalf of Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)

# **Promoting Regional Trade to Enhance Food Security**

## **A Case Study on the Border Region of Tanzania and Zambia**

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## Preface

The Centre for Advanced Training in Rural Development (Seminar für Ländliche Entwicklung, SLE) at the Humboldt University in Berlin has trained young professionals in the field of German and international development cooperation for more than 45 years.

Three-month consulting projects conducted on behalf of German and international cooperation organisations form part of the one-year postgraduate course. In multidisciplinary teams, young professionals carry out studies on innovative future-oriented topics, and act as consultants. Including diverse local actors in the process is of great importance here. The outputs of this “applied research” are an immediate contribution to the solving of development problems.

Throughout the years, SLE has carried out over a hundred consulting projects in more than 80 countries, and regularly published the results in this series.

In 2009, SLE teams completed studies in Bangladesh, Bolivia, Morocco and Tanzania.

The present study was commissioned by Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ).

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We dedicate this study to the farmers and traders in Southern Tanzania hoping that our research might contribute to the improvement of their livelihood.

## Executive Summary

Food security is an issue of high importance for Sub-Saharan African countries. With the on-going process of regional integration, the promotion of regional trade between neighbouring countries is one strategy in a set of measures to enhance food security. Regional trade can contribute to food availability, accessibility and stability.

To evaluate the potentials of regional trade to enhance food security a comprehensive tool is necessary which shall be transposable to different regional contexts. The study at hand introduces an Analytical Framework (AF) to meet this objective. Three constitutive working levels are defined: (1) A desk study to identify relevant countries or regions, (2) a fact-finding mission to collect in-depth data and (3) an assessment to evaluate the potentials. The analysis starts with the regional co-operation and continues on national level with identification of relevant policies and stakeholders. The AF then analyses on sub-national level demand, supply as well as trade and its influencing factors.

The AF is implemented in a case study on cross-border trade between Tanzania and Zambia. Both countries are member states of the Southern African Development Community (SADC) and are intensifying co-operation and liberalisation of trade.

Although being generally food secure, Tanzania still faces regional and seasonal food shortages. Via a National Food Reserve Agency, the Government pursues an interventionist policy by purchasing food staples in surplus areas to sell these at subsidised prices in deficit regions. This is combined with several barriers for cross-border trade, e.g. an export ban on food staples.

Zambia's food security policies are biased towards maize as major food staple. Like in Tanzania, the Government through a Food Reserve Agency intervenes on domestic markets and provides farmers with subsidised inputs. Zambia's Northern Province is generally food secure; however, most of the people are net-buyers of maize. Still, the Province like Zambia as a whole faces seasonal food shortages.

The Mbeya and Rukwa Regions in the South of Tanzania have favourable natural conditions. The productivity of the agricultural sector is generally above national level and the area produces surpluses of main food staples. Nevertheless, the farmers have to face several constraints to increase production and economic success, mainly with respect to marketing of produce and accessibility of extension services.

Zambia's demand is reflected in maize as the dominating produce for agricultural exports of Tanzania towards Zambia: Quantities are influenced by the imposed export ban. Besides formal trade, the importance of informal cross-border trade with maize has increased. Trade is hampered by a number of non-tariff barriers, ranging from cost-intensive and time-consuming customs procedures to road blocks. Most of the non-tariff barriers are relevant for both, formal and informal trade.

The assessment of the policy measures shows conflicts of interests between national food security on one side and agricultural trade liberalisation on the other side. Market interventions via food reserve agencies have negative effects on trade in general and on traders in particular. Additionally, the Tanzanian export ban creates disincentives for farmers and traders. However, the assessment also shows potentials for increasing the cross-border trade between both countries. The recommendations concentrate on the potentials to expand their involvement in trade. On policy level, the co-ordination and co-operation between Tanzania and Zambia within SADC should be strengthened.

## Zusammenfassung

Ernährungssicherung hat eine hohe Bedeutung für die Länder Afrikas südlich der Sahara. Im gegenwärtigen Prozess der regionalen Integration kann die Förderung des Regionalhandels innerhalb eines Spektrums von Maßnahmen eine mögliche Strategie sein, um Ernährungssicherung zu verbessern. Regionalhandel kann dabei zur Stabilisierung des Nahrungsmittelangebots, zur dauerhaften Verfügbarkeit und zur Preisstabilisierung beitragen.

Um die Potentiale des Regionalhandels zur Verbesserung der Ernährungssicherung erfassen zu können, ist ein methodischer Ansatz notwendig, der in verschiedenen regionalen Zusammenhängen angewendet werden kann. Im Rahmen dieser Studie wird ein Analyseraster eingeführt, um dieses Ziel zu erreichen. Die Vorgehensweise beinhaltet drei Arbeitsschritte: (1) Vorbereitung mit der Auswahl von geeigneten Ländern oder Gebieten, (2) eine Untersuchung im Feld mit der vertieften Datenerfassung und (3) eine Bewertung zur Erfassung der Potentiale. Die Analyse selbst beginnt mit der Zusammenarbeit auf regionaler Ebene. Auf nationaler Ebene werden schließlich die relevanten Politiken und Institutionen herausgearbeitet. Abschließend untersucht das Analyseraster die Entwicklung von Nachfrage, Angebot sowie den bilateralen Handel und die Faktoren, die diesen beeinflussen.

Das Analyseraster wird in einer Fallstudie zum grenzüberschreitenden Handel zwischen Tansania und Sambia angewandt. Beide Länder sind Mitglied der Southern African Development Community (SADC) und haben sich dazu verpflichtet, ihre Kooperation zu intensivieren und den Handel zu liberalisieren.

Obwohl Tansania insgesamt als ernährungssicher anzusehen ist, hat das Land mit regionalen und saisonalen Engpässen zu kämpfen. Mit Hilfe einer Nationalen Agentur zur Nahrungsmittelbevorratung verfolgt die Regierung eine interventionistische Politik auf dem Binnenmarkt durch Aufkäufe in Überschussgebieten und Verkäufen in Zuschussgebieten zu subventionierten Preisen. Diese Maßnahmen werden in Zusammenhang mit zahlreichen Maßnahmen der Handelspolitik implementiert, unter anderem einem Ausfuhrverbot für bestimmte Grundnahrungsmittel.

Die Ernährungssicherungspolitik in Sambia ist auf Mais als Hauptnahrungsmittel ausgerichtet. Ähnlich wie in Tansania interveniert die Regierung mit Hilfe einer Agentur für Nahrungsmittelbevorratung auf dem Binnenmarkt. Daneben versorgt die Regierung Kleinbauern mit subventionierten Produktionsmitteln. Die Nordprovinz Sambias ist im Allgemeinen ernährungssicher, die Mehrheit der Bevölkerung kauft jedoch Mais zu. Wie Sambia insgesamt hat auch diese Provinz mit saisonalen Engpässen zu kämpfen.

Die angrenzenden Regionen Mbeya und Rukwa im Süden Tansanias zeichnen sich durch günstige natürliche Produktionsbedingungen aus. Die Produktivität liegt oberhalb des nationalen Durchschnitts und die Regionen stellen Überschüsse der Hauptnahrungsmittel zur Verfügung. Die Landwirte der Region müssen allerdings mit Behinderungen bei der Ausweitung der Produktion und beim wirtschaftlichen Erfolg rechnen, insbesondere durch Einschränkungen beim Marktzugang und bei der Verfügbarkeit von Beratung und Marktinformationen.

Die Nachfrage aus Sambia spiegelt sich durch eine herausragende Stellung von Mais als Hauptagrarexportprodukt aus Tansania nach Sambia wider. Die Exportmengen werden durch das Ausfuhrverbot beeinflusst. Neben dem offiziellen Handel hat die Bedeutung des informellen Handels zugenommen, unter Umgehung der offiziellen Zollverfahren. Der Warenaustausch wird insgesamt durch eine Reihe von Nicht-tarifären Handelshemmnissen beeinträchtigt, die von kostenintensiven Zollformalitäten bis hin zu Straßenkontrollen reichen. Die meisten Hemmnisse sind auch für den informellen Handel relevant.

Die Bewertung der Politikmaßnahmen beider Länder zeigt einen Konflikt zwischen den nationalen Politiken zur Verbesserung der Ernährungssicherung und der beabsichtigten Handelsliberalisierung. Die Interventionen auf den Binnenmärkten durch die nationalen Agenturen zur Nahrungsmittelbevorratung haben negative Auswirkungen auf den Handel im Allgemeinen und auf die am Handel Beteiligten im Besonderen. Das tansanische Exportverbot für Nahrungsmittel verursacht eine Demotivation für Landwirte und Händler. Die Bewertung zeigt auch ein großes Potential für die Ausweitung des grenzüberschreitenden Handels zwischen beiden Ländern. Die Empfehlungen der Studie konzentrieren sich auf die Verbesserung der Potentiale zur Ausweitung des Handels. Auf der Politikebene ist eine Vertiefung der Koordination und der Zusammenarbeit zwischen Tansania und Sambia empfehlenswert.

## Muhtasari (Summary in Kiswahili)

Uhakika wa chakula ni suala lenye umuhimu wa kipekee kwa nchi za kiasia. Kwa hali ya sasa ambapo nchi nyingi zinajiunga kuwa na ushirika wa kikanda zaidi, uhamasishaji wa biashara kati ya nchi na nchi kwenye ukanda mmoja ni moja ya njia za kuimarisha upatikanaji na uwepo wa chakula kwa uhakika. Mfumo wa uchanganuzi ni kitumizi cha kutathmini kwa jinsi gani biashara baina ya mataifa jirani inaweza kuimarisha uhakika wa chakula. Na pia, kama mfumo huo unaweza kudurufiwa kwa mataifa mengine yenye hali zenye kufanana na ulipofanyikia utafiti huu. Mambo makuu matatu yanatakiwa kunyambulishwa wakati wa kutumia huu mfumo wa uchanganuzi: (1) Kazi ya ofisini ya kuzitambua nchi au maeneo yenye kushabihiana, (2) mpango mahususi wa kudodosa na kukusanya takwimu husika na (3) uchambuzi na udadisi wa fursa zilizopo kwa mfumo huu kutumika. Kwanza uchanganuzi unaanza na uhusiano wa kiushirika baina ya sehemu mbili husika. Pili, sera na wadau muhimu vinatambuliwa kitaifa. Kisha mfumo wa uchanganuzi unaendelea katika idara za chini kiserikali kwa kuangalia mahitaji, ugavi na pia biashara viashiria vingine muhimu.

Mfumo wa uchanganuzi huu unasaidia kufanya uchunguzi kifani juu ya biashara za mipakani kati ya Tanzania na Zambia. Hizi zote ni nchi wanachama wa jumuiya ya maendeleo kusini mwa Afrika na zinaazimia kuimarisha biashara huria. Ingawa katika ujumla wake, Tanzania ina uhakika wa chakula kutokana na mahitaji yake, bado kuna ukosefu wa chakula wa kimaeneo na kimisimu. Kupitia wakala wa serikali wa kuhifadhi chakula kwa taifa, serikali ina sera za kuingilia kati masoko ya chakula/nafaka kwa kununua chakula kutoka kwenye maeneo ya uzalishaji wa ziada na kusambaza kwenye upungufu kwa bei ya ruzuku. Mtindo huu pia unahusisha vikwazo vingine kwa biashara baina yake na nchi jirani, m.f. sheria ya kuzuia ya mauzo ya chakula nje ya nchi.

Sera ya uimarishaji wa uhakika wa chakula nchini Zambia zimeelemea kwenye mahindi kama zao kuu la chakula. Kama ilivyo kwa Tanzania, serikali ya Zambia kupitia wakala wake wa uhifadhi wa chakula, huingilia kati masoko ya chakula/nafaka na pia husambaza pembejeo zenye ruzuku kwa wakulima wadogo. Jimbo la kaskazini mwa Zambia kwa ujumla lina uhakika wa chakula, na wakazi wake wengi wao ni wanunuzi wa mahindi zaidi ya kuwa wazalishaji. Ila, jimbo hili kama ilivyo nchi nzima ya Zambia, hukabiliwa na upungufu wa chakula wa vipindi.

Mikoa ya Mbeya na Rukwa kusini mwa Tanzania ina hali nzuri ya hewa kiasili kwa uzalishaji wa mazao ya kilimo. Ufanisi wa uzalishaji wa chakula katika eneo hili uko juu zaidi kuliko hata wastani wa kitaifa. Hivyo eneo hili huzalisha ziada ya mazao ya chakula. Pamoja na uzalishaji wa juu kama unalinganisha na sehemu nyingine za

Tanzania, bado wakulima wa huku wanakabiliwa na vikwazo kadha wa kadha katika kuongeza uzalishaji na mafanikio ya kiuchumi, hasa kwenye masuala ya masoko na upatikanaji wa huduma za ugani.

Mahitaji ya nchi ya Zambia yanatawaliwa na mahindi ambayo ndio msingi wa biashara ya mpakani kutoka Tanzania kwenda Zambia. Kiasi kinachotoka Tanzania na kuingia Zambia kinategemea sana sheria ya biashara ya mazao ya chakula. Mbadala wa biashara rasmi baina ya nchi hizi mbili unakuwa ni biashara isiyo rasmi ya vichochozoni na haifuati tena taratibu za forodha. Biashara hii inakabiliwa na kadha ya vikwazo visivyokuwa ushuru, kuanzia milolongo mirefu yenye gharama za kifedha na wakati hadi vizuizi vya barabarani. Vingi kati ya vikwazo hivi vinakabili biashara ya mazao iwe rasmi au la.

Tathmini ya kisera inaonyesha mgongano wa maslahi kati ya mpango wa hifadhi ya chakula na biashara huria. Serikali kuingilia masoko kupitia wakala wa uhifadhi wa chakula wa taifa umekuwa ukiathiri biashara katika ujumla wake. Pia, udhibiti wa biashara za mazao kwenda nje ya nchi umekuwa ukiathiri wafanyabiashara na wakulima. Tathmini pia imeonyesha fursa ambazo zipo kwenye biashara baina ya nchi hizi mbili. Kwa hiyo inapendekezwa kuangalia zaidi fursa za kibiashara zilizopo. Kwa upande wa sera, ushirikiano katika uratibu wa masuala mbalimbali kati ya Tanzania na Zambia ambazo zote zipo kwenye jumuiya ya maendeleo ya nchi za kusini mwa afrika, unahitaji kuimarishwa.

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## Acronyms and Abbreviations

ACF	Agricultural Consultative Forum
AEC	African Economic Community
AF	Analytical Framework
AMIS	Agricultural Market Information System
ASDP	Agricultural Sector Development Programme
ASDS	Agricultural Sector Development Strategy
BEAF	Beratungsgruppe Entwicklungsorientierte Agrarforschung der GTZ
CAADP	Comprehensive Africa Agriculture Development Programme
CAP	Common Agricultural Policy
CFS	Crop Forecasting Survey
COMESA	Common Market for Eastern and Southern Africa
CRA	Country Rapid Assessment
CSO	Central Statistical Office, Zambia
CSO	Civil Society Organisation
DALDO	District Agricultural and Livestock Development Officer
DRC	Democratic Republic of the Congo
EAC	East African Community
ESRF	Economic and Social Research Foundation, Tanzania
FAO	Food and Agriculture Organization of the United Nations
FBS	Food Balance Sheet
FES	Friedrich Ebert Stiftung
FEWS NET	Famine Early Warning Systems Network
FGD	Focus Group Discussion
FNDP	Fifth National Development Programme
FRA	Food Reserve Agency, Zambia
FTA	Free Trade Area
FSP	Fertiliser Support Programme
FSP-PAM	Food Security Pack – Programme against Malnutrition
FSRP	Food Security Research Project
FTA	Free Trade Area
GTAZ	Grain Traders Association of Zambia
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IFPRI	International Food Policy Research Institute
IIASA	International Institute for Applied Systems Analysis
IITA	International Institute of Tropical Agriculture
IMF	International Monetary Fund
ITC	International Trade Centre
JICA	Japan International Co-operation Agency
LCMS	Living Conditions Monitoring Survey

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MACO	Ministry of Agriculture and Cooperatives, Zambia
MAFC	Ministry of Agriculture, Food Security, and Cooperatives, Tanzania
MAL	Malawi
MCTI	Ministry of Commerce, Trade, and Industries, Zambia
MSU	Michigan State University
NAP	National Agricultural Policy, Zambia
NBS	National Bureau of Statistics, Tanzania
NFRA	National Food Reserve Agency, Tanzania
NGO	Non-governmental Organisation
NTB	Non-tariff Barrier
PoT	SADC Protocol on Trade
RATES	Regional Agricultural Trade Expansion Support Program
RAA	Regional Agricultural Advisor
REWS	Regional Early Warning System
RIA	Regional Integration Arrangement
RSA	Republic of South Africa
RTO	Regional Trade Officer
SADC	Southern African Development Community
SGR	Strategic Grain Reserve
SHZ	Southern Highland Zone
SLE	Seminar für Ländliche Entwicklung
SSR	Self-sufficiency Rate
SWOT	Strengths, Weaknesses, Opportunities, Threats
TBS	Tanzanian Bureau of Standards
TCCIA	Tanzanian Chamber of Commerce, Industry and Agriculture
TNBC	Tanzanian National Business Council
TRA	Tanzanian Revenue Authority
TSh	Tanzanian Shilling
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
UNRIACSO	United Nations Regional Inter-Agency Coordination Support Office
UNU-CRIS	United Nations University – Comparative Regional Integration Studies
USAID	United States Agency for International Development
VRA	Vulnerability Rapid Assessment
WFP	World Food Programme
WTO	World Trade Organization
ZABS	Zambian Bureau of Standards
ZACCI	Zambian Chamber of Commerce and Industries
ZAM	Zambia
ZK	Zambian Kwacha
ZNFU	Zambian National Farmers Union
ZVAC	Zambia Vulnerability Assessment Committee



# 1 Introduction

While progress can be observed worldwide in fighting hunger or improving food security<sup>1</sup> Eastern and Southern African countries face an increasing gap between domestic production and demand, with adverse consequences for the poor and vulnerable people, mainly in the countryside, and for the economy in general, and with high expenditure on food imports.<sup>2</sup> The current food security situation in Tanzania and Zambia can be summarised with seasonal and regional food shortages in three to four months at the end of the main rainy season, before the new harvest starts.

Food security is an issue of great political, economical, social, and ethical importance. Governments are obliged to give it top priority on their agenda to ensure food security for all people at all times. Fighting food insecurity is a cross-cutting issue related to poverty alleviation, education and health policies, as well as economic development. All governmental bodies have to be involved to reach the proposed goal. In food emergencies governments often react with protectionist policies, for example, market interventions, buying on domestic markets and making subsidised distribution to the most vulnerable, combined with trade restrictions to keep own production in the country. These measures for emergency intervention are cost-intensive and normally remain imposed even when the situation has improved. Furthermore, there is the tendency that those measures are outside to the general principles of the national policies.

In recent years, governments have been trying to give the agricultural sector more attention, particularly via measures to increase production and the improvement of market infrastructure to increase the supply of food.<sup>3</sup> However, measures to fight hunger in emergencies or to improve food security on a long-term basis are mainly implemented on a national level. There is room for intensification of co-ordination or co-operation on regional level.

On the other hand, with the ongoing regional integration, issues of regional trade get more importance. Within the Southern African Development Community (SADC), for example, intra-regional trade is on the way to be liberalised to accelerate economic growth. Furthermore, SADC is also asked to enhance food security within its member countries, both to support national activities and to strengthen co-ordination and co-

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<sup>1</sup> For the definition of food security as used in this study see Box 1.

<sup>2</sup> For details of food crises and their causes see FAO (2009).

<sup>3</sup> For Tanzania, the main strategies are laid down in the “Kilimo Kwanza- Agricultural First” and the “Agricultural Sector Development Strategy”, for Zambia, it is the “Fifth National Development Plan”. For details see Chapters 3.2 and 3.3.

operation.

For policy makers and for the international community both goals could be combined, supporting regional trade and improving the food security situation at the same time. Results from economic research<sup>4</sup> show that regional trade might have the potential not only to support economic growth but also to enhance food security. Possible benefits include the fact that regional trade increases the availability of food for deficit regions. Furthermore, regional trade has a stabilising function for market prices. It also offers market incentives for surplus regions and consumer preferences may be met more easily compared with imports from international markets.

Altogether, promoting regional trade might be a long-term strategy in a set of measures to enhance food security in particular situations, under particular conditions, combining both requirements, enhancing food security and supporting economic growth. However, to adopt this strategy on a sustainable basis, it must be of benefit for both partners - for the exporting country to gain from trade with economic development and not decrease domestic food security to an extent that is politically unacceptable, as well as for the importing country to purchase food cheaper than from international markets.

So far, evidence of the possible positive inter-linkages between regional trade and food security are based on theoretical analyses. There are only a few publications based on empirical analyses and these are not comprehensive, targeting only selected aspects. In addition, a comprehensive methodological approach is missing to analyse regional trade to enhance food security with the aim of serving as an analytical tool, for example, for the setting up of projects, programmes, and policy measures.

First, this study tries to fill this gap by introducing an Analytical Framework (AF) to identify and assess the potentials for regional trade to enhance food security. Secondly, it tries to apply this approach to a case study in two countries where regional trade is already established and where the potential is seen for the promotion of regional trade in favour of regional food security.

### **Objectives, Terms of Reference, and Activities of the Project**

The main objective of this study is to contribute to the debate on the potentials of regional trade to enhance food security. In more detail, the purposes are two-fold: (1) to create awareness that regional trade might increase levels of food security in general, and (2) to increase knowledge on the current situation in Tanzania and Zambia with respect to their bilateral trade.

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<sup>4</sup> The discussion for African countries was opened with KOESTER (1986). More recent publications are MAASDORP (1998), ESRF (2003) and NIN-PRATT et al. (2009a).

The Terms of Reference for this research work can be summarized as follows.<sup>5</sup>

- To develop a general Analytical Framework to evaluate the potentials of regional trade with respect to food security that can be used for different regions or countries;
- To apply this Analytical Framework in a case study on the main food staples for the border region of Tanzania and Zambia and to identify the restrictions to and the potentials of trade relations between the two countries;
- To disseminate the results via publications, workshops, and presentations at national and international levels, in articles in the Press as well as in international journals.

The actual field-based activities comprised interviews with stakeholders in Lusaka and Dar es Salaam and the respective regional capitals in Tanzania.<sup>6</sup> Furthermore, two surveys were carried out with farmers and traders in the Mbeya and Rukwa Regions in Tanzania (supply-side).<sup>7</sup> The demand in the Northern Province of Zambia was analysed mainly via literature research. These three sub-national units form the border region between both countries.

Three partners are involved in the project: These are the International Institute of Tropical Agriculture (IITA) with its Regional Hub for Eastern Africa, based in Dar es Salaam, the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) with its Sector Programme on Agricultural Trade and its Advisory Service on Agricultural Research for Development (BEAF) as well as the Centre for Advanced Training in Rural Development (SLE) at the Humboldt University of Berlin. The actual research work was carried out by six young researchers from both IITA and SLE with the support of a team-leader from SLE and a supervisor from IITA.

## **Procedure of the Study**

Chapter 2 presents the Analytical Framework to evaluate the potentials of regional trade with the objectives of developing an approach that can also be used in other regional contexts and serves as the methodological approach for this study.

Based on the framework, Chapter 3 deals with regional and national policies in Tanzania and Zambia. Starting from an analysis of the role of SADC, three policy

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<sup>5</sup> For details see IITA and SLE (2009): Promoting Regional Trade to Enhance Food Security. A Case Study for Food Staples in the Border Region of Tanzania and Zambia. Inception Report. Berlin.

<sup>6</sup> Altogether, 56 semi-structured interviews were carried out, see Tables A20 and A21 in the annex.

<sup>7</sup> The traders' survey consists of interviews with 60 traders at Tunduma, the border point between Tanzania and Zambia, and Focus Group Discussions with traders and transporters. For the farmers survey altogether 200 farmers were questioned with 50 farmers at Mbozi District and Mbeya Rural District, respectively (both Mbeya Region) as well as 100 farmers at the Sumbawanga District (Rukwa Region). Furthermore, seven Focus Group Discussions were carried out with farmers. For details, see Annex A22 and Table A23.

areas are of main interest: food security policies, agricultural policies, and the related foreign trade measures.

Chapter 4 concentrates on the sub-national level by analysing the trade between Tanzania and Zambia. The Chapter starts with the demand in the Northern Province and continues by analysing the supply of food staples at the farm level in Mbeya and Rukwa Regions to combine both aspects with an analysis of the current trade relations between Tanzania and Zambia and the factors influencing them.

All aspects mentioned in Chapters 3 and 4 are summarised in Chapter 5 by using the two assessment tools proposed in the framework, namely, a policy matrix to compare the relevant policies of countries and a Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis to assess the results of the surveys. Based on these assessments, recommendations as well as conclusions are given in Chapters 5.3 and 5.4 with respect to the national trade and supply levels.

The study closes with a summary of results and findings in Chapter 6.

## 2 Analytical Framework – A Tool for Evaluation

The amount of literature is extensive on international trade and improved markets, as well as on how to enhance food security on a national or household level. However, there have been only a few publications on regional trade and the related effects on national or household food security. The considerations usually stop at the border of single countries so that the intersection of regional trade and food security is rarely investigated. In a first step, the linkages of regional agricultural trade liberalisation and its potentials for food security are explored. Therefore, in this chapter regional integration theory is combined with food security concepts.

### Box 1: Definition of Food Security

*“Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”*

Source: FAO (1996).

The effects of trade on food security are seldom direct. This poses a challenge to the measurement and evaluation of their interaction. In a second step the analytical framework (AF) is introduced. The AF proposes a broad range of tools and methods to assess the potential of regional trade for food security. The user may choose to select amongst the tools considered most appropriate to the specific context.

### 2.1 Food Security and Regional Trade with Food Staples

Amongst other approaches, regional trade with food staples is one very promising approach to enhancing food security. Intra-regional trade might take place formally and/or informally.<sup>8</sup> When compensation has to be made for domestic production shortfalls, the free movement of food commodities from a surplus to a deficit area can ensure that sufficient food is available.<sup>9</sup> In this way, regional trade contributes to availability. The supply of food via regional trade takes place either by ensuring ongoing trade flows or during limited periods in time when food is needed. The stability of food supplies can contribute to preventing food crises. The free movement of food within a region may reduce the volatility of food prices by absorbing external or internal price shocks, which mainly affect the poor (ANDERSON and ROUMASSET 1996).

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<sup>8</sup> Regional trade is defined as cross-border trade within a geographical sub-region. The term is used synonymously with intra-regional trade.

<sup>9</sup> A good example for a well functioning cross-border food trade is Malawi and Mozambique. Southern Malawi is poorly developed in terms of agricultural production and is a major food deficit area. Northern Mozambique is a low cost maize producing area and lies far from the country's major consumption area in the south. Open trade regulations enhance cross-border trade between both countries. For further information see BATA et al. (2005) and HAGGBLADE et al. (2008).

Consumers benefit from relative price stability in terms of purchasing power. The main contribution of regional trade to food security is to enhance the availability, accessibility, and stability of food to consumers. Therefore, the indication of the specific household entitlement defining a household's access to food is important for the food security situation of both, the producers and the consumers at the same time. Market access, methods, and costs of production have an impact not only on farmers' income but also on consumers' purchasing power. Especially in rural areas the marketing infrastructure for agricultural products is important. Otherwise farmers do not have incentives to produce more than is needed and to sell any surplus as an additional household economic activity (FAO 2003a, FAO 2003b).

### **Box 2: The Conceptual Framework of Food Security**

The holistic food security approach consists of four pillars. (1) Availability equals sufficient quantities or appropriate food, e.g., from own or domestic production, markets, or imports including food aid. (2) Accessibility means that sufficient resources are obtained to acquire appropriate food for a nutritious diet. The household's access to food depends on consumer prices, incomes, purchasing power, or consumption patterns that are often influenced by policy and decision-makers. (3) Utilisation deals with diversified diets and a healthy physical environment for nutritional well-being and for meeting individual physiological needs. (4) Stability handles the temporal dimension of food security. It is crucial for understanding the concept of vulnerability at the local level (chronic, seasonal, and transitory food insecurity).

Source: WEINGÄRTNER (2005).

With regard to national food security, countries pursue two broad policy goals, either food self-sufficiency or food self-reliance.<sup>10</sup> To attain their goal, countries rely on three trade-related instruments:

(1) Food self-sufficiency policies usually come along with **protectionist measures** such as imposing tariffs, import and/or export restrictions, and non-tariff barriers (NTBs) to protect domestic producers and consumers. Protectionist measures are passive in nature and impede trade by limiting or banning cross-border trade. Consequently, with import restrictions, consumers do not benefit from the comparative price advantages that might arise when goods are imported from an area producing more efficiently compared with local production.<sup>11</sup> A ban on the export of a food staple in turn forces traders either to sell to economically non-viable destinations within the country or to trade informally across the borders. Producers

<sup>10</sup> In reality Governments tend to use a wide range of policy instruments which can be ascribed to both options.

<sup>11</sup> The competitiveness arises in case of a comparative advantage in production. The country producing at a lower price could benefit from a regional market taking advantage of economies of scale (MAASDORP 1998).

and traders are losing benefits arising from access to foreign markets.<sup>12</sup> In the short run export bans can keep prices low. But protectionist policy instruments tend to be imposed by Governments on a discretionary and ad-hoc basis. This may lead to private sector disengagement due to intransparent and unpredictable markets, thus hampering long-term market development (WHITESIDE et al. 2003).<sup>13</sup>

(2) **Interventionist policies** aim at stabilising prices and ensuring the accessibility of food through a Government's intervention such as price subsidies or price controls. Time is a determinant factor with regard to the impact of interventionist policies. In the short and medium term, those measures can lead to a temporary relief from soaring food and input prices.<sup>14</sup> In the long run, a Government's interventions may have side-effects on markets. For example, they can serve as disincentives for farmers to increase food staple production leading to supply-side constraints. Furthermore, the private sector is sidelined by a Government's policy of buying food crops at relatively high prices and selling at prices below the market level. Consequently, private sector involvement is discouraged, thus limiting sustainable market development. To conclude, interventionist policies may accentuate food price volatility in the longer term due to a decrease in supply and market dysfunction (DOROSH et al. 2007a).

**Box 3: Strategies to ensure National Food Security**

Countries rely on two strategies to ensure food security. (1) **Self-sufficiency**: A country decides to meet a substantial part of consumption requirements through domestic production. (2) **Self-reliance**: A country receives food solely through trading. In reality, most countries follow a mixture of these two strategies. Consequently, governments have to establish an efficient agriculture sector and identify to which extent domestic production meets the required food needs. Source: FAO (2003a).

(3) **Trade liberalisation** to secure food self-reliance entails the removal of tariffs and NTBs on agricultural trade to allow the free movement of food staples across borders. A distinction can be drawn between intra-regional trade liberalisation within a geographical sub-region<sup>15</sup> and multilateral trade liberalisation within the World Trade Organization (WTO). Generally, net exporters or self-sufficient countries benefit from the economic gains arising from preferential access to markets; whereas

<sup>12</sup> Interview, HYDE HAANTUBA, ACF, Lusaka, 15/08/2009.

<sup>13</sup> Interview, JACOB MWALE/GEORGE LIACOPOULOS, GTAZ/ZDENAKIE Ltd., Lusaka, 15/09/2009; interview, CHANCE KABAGHE/ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009.

<sup>14</sup> The Malawian example shows that government subsidies for inputs may have beneficial effects on food production in the medium term.

<sup>15</sup> In the past decades Regional Trade Agreements have proliferated. They are now widely recognised as the building blocks for the architecture of the multilateral trading system. The legal provision for the conclusion of RTAs is set down in Article XXIV GATT (HILPOLD 2003).

food insecure countries may benefit from reduced domestic food price volatility by opening their borders for regional trade (DOROSH et al. 2007a).<sup>16</sup> However, agricultural trade liberalisation does not necessarily reflect an improved food security status for all households in a country. Free trade theory suggests that free trade enables citizens to buy food from the cheapest source based on comparative advantage (UNECA 2004).<sup>17</sup> Net food buyers, mainly the urban population but also a considerable share of the rural inhabitants, may benefit from cheaper food. In turn, cheap imports may crowd out local producers, posing a threat to the rural population who depend on agriculture for food and income generation. This group might gain from cheaper imported food. However, losses caused by decreasing market prices are more important for their overall economic situation. Problems arise with the redistribution of resources on different scales (national and regional) and amongst societies (FAO 2003a, WHITESIDE et al. 2003, DE HAAN et al. 1995).

The focus of this study is on intra-regional trade liberalisation. In general, it is assumed that competitive markets are needed to booster regional trade. To be better off, in cases where competitive markets do not exist, countries may consider an intervention by restricting free trade (FAO 2003a).<sup>18</sup> Theory on regional economic integration suggests that integrating regional markets leads to trade creation by increasing the volume of trade and generating welfare gains (HILPOLD 2003, UNECA 2004). Regional economic integration leads to benefits arising from economies of scale, stronger competition, and increased domestic and foreign investment (GTZ 2008). These again stimulate overall economic growth and food security in the region.<sup>19</sup> The assumption is that economic growth enhances the employment and income opportunities of the poor; as a consequence, access in terms of food affordability improves (FAO 2003a).<sup>20</sup> But the negative effects of trade integration may prevail at the beginning of an economic integration process, diverting trade in the short run (HILPOLD 2003). As the UNECA-Report on economic integration in Africa notes, “*regional integration arrangements generate overall welfare gains when trade creation is greater than trade diversion—an outcome that cannot be determined a priori*” (UNECA 2004:85). For intra-regional trade to contribute to food security in the

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<sup>16</sup> Net food importing countries may face unsteady costs due to their exposure to food price volatility on international agricultural markets.

<sup>17</sup> However, it has to be kept in mind that the most vulnerable need assistance and often depend on food aid.

<sup>18</sup> A good understanding of trade flows and markets is important to analyse the impact of trade on food security. Especially, when the private sector's ability to supply national food deficits is underestimated, the decision-making process may be strongly biased towards publicly funded food imports and/or food aid (WFP/FEWS NET 2005).

<sup>19</sup> Besides the economic benefits of regional integration for food security, political co-operation can contribute to enhance food security through the provision of regional public goods (FAO 2003).

<sup>20</sup> Food security and economic growth interact with each other in a mutually reinforcing process.

long term there has to be an assurance that the gains from regional trade in terms of economic growth trickle down to the poor. This straight-line development may conflict with the sensitiveness of food security for decision-makers. Governments are responsible and accountable for securing food for their citizens. In times of food shortage this may trigger ad-hoc policy reactions by decision-makers. Thus, it is difficult to advocate regional trade for food security solely on a basis of economic argumentation without respecting decision-making processes and political motivation (FAO 2003a, WHITESIDE et al. 2003, DE HAAN et al. 1995). A decisive factor behind food security policies is sustained political will. Identifying relevant actors and their interests driving decision-making is crucial for the understanding of a country's food security policy and objectives. In summary, regional trade can contribute to food security provided that it coincides with the political objectives pursued by the country concerned.

## **2.2 Assessing the Potential of Regional Trade for Food Security**

Based on the assumption that regional trade can enhance food security, the following chapter introduces the AF. It serves as a guideline to assess the potentials of regional trade for food security. The conditions for its application are presented; the setup of the framework is described; tools for the analysis and the assessment are developed.

### **2.2.1 Introducing the Analytical Framework**

The AF consists of user-oriented and easy-to-use tools and methods. It is designed to be applied by government institutions, regional and international organisations, development partners, as well as research institutes and civil society organisations (CSO) interested in a tool to assess the potentials of regional trade to enhance food security. The user is provided with a broad range of key figures, facts, and data to be collected for the analysis.<sup>21</sup> As a result the AF provides a situation analysis in the selected countries for a pre-defined period of time. The AF is designed as a multi-level approach applied in an iterative manner.<sup>22</sup> In every single case, it is conceived as a basic modus operandi that is transposable to other regional contexts.

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<sup>21</sup> The overall time frame for the application of the AF depends on the availability of data and on the quality and quantity of information available.

<sup>22</sup> The AF was applied in a case study, presented in Chapters 3 and 4. Lessons learned during the case study have been re-linked and adapted in the design of the AF.

The AF is applicable to countries and sub-national entities embedded in a Regional Integration Arrangement (RIA). These regional institutions set the regulatory framework for economic and regional co-operation, including rules for intra-regional trade as well as co-operation in agriculture and food security. By limiting the scope of analysis to countries that are members of a RIA the accuracy of the tool is enhanced as only cases with institutionalised co-operation on regional trade are taken into account.

To achieve food security through regional trade, there are three prerequisites that have to be fulfilled at the time of analysis:

- (1) A food surplus country/area and a food deficit country/area are required.<sup>23</sup>
- (2) Production and consumption of basic food staples match in both countries/areas.
- (3) Trade relations exist between the two countries/areas.

These prerequisites are based on the ongoing theoretical discussion and have been empirically verified and approved by experts.<sup>24</sup> The first refers to the necessity that, at a specific point in time, the demand and consumption of a specific food staple have to coincide to trigger cross-border trade. Furthermore, the produced and consumed food items have to correspond in the deficit and surplus areas. Otherwise production cannot meet the demand.<sup>25</sup> The third refers to established trade relations between the trading partners.<sup>26</sup>

In addition, factors such as geographical proximity<sup>27</sup>, differences in seasonality, and

**Box 4: Definition of Regional Integration Arrangement (RIA)**

*“A regional integration arrangement is a preferential (usually reciprocal) agreement among countries that reduces barriers to economic and noneconomic transactions.”* (UNECA 2004). Member states of a RIA belong to the same geographical sub-region. A minimum of three states participate in a RIA.

Source: UNU-CRIS (2008).

<sup>23</sup> Surpluses or deficits arise after meeting minimum overall human consumption requirements that are defined in National Food Balance Sheets (FBS). This prerequisite is underlying with the assumption that the producers are already food secure when intensifying production for regional agricultural trade.

<sup>24</sup> The Michigan State University with the support of USAID has done a lot of research on the inter-linkages between regional trade and food security with special focus on Southern Africa, especially Zambia see: <http://www.aec.msu.edu>.

<sup>25</sup> The country producing a surplus over time may decide to specialise in the production of a food staple to meet demand in a nearby country, although its own population does not consider it a food staple.

<sup>26</sup> Especially in sub-Sahara-Africa long-standing trade relations are often prior to the arbitrary delimitation of borders.

<sup>27</sup> Proximity tends to lower transportation costs. This is especially true for land-locked countries (KOESTER 1986: 9). Nevertheless, the marginal cost of imports within the region generally tends to be higher (YANG and GUPTA 2005). For further information on the spatial dimension of development see also: World Development Report 2009. Reshaping Economic Geography. Differences in seasonality may contribute to the availability of food in cases of shortages, by trading across-borders. With regard to production costs food surplus countries have to compete with other exporting countries and thus have to produce at competitive costs.

competitiveness have to be considered to enable regional agricultural trade to function in the long run.

### 2.2.2 Structure of the Analytical Framework

The AF consists of three constitutive parts: A desk study, a fact-finding mission, and the assessment.

The preliminary **desk study** enables the user to identify two specific countries or areas at a sub-national level, one producing a food surplus and the other suffering from a deficit. One of the selected countries or areas should produce enough food staples to allow it to trade a significant amount of them across borders. The second country depends on food imports to satisfy the requirements of domestic consumption. With this, basic conditions under which regional trade can contribute to food security are identified, including factors such as complementarities of production and consumption patterns in geographically close countries.<sup>28</sup> The desk study consists of a Country Rapid Assessment (CRA) Profile template (see Table A13 in the annex) which has to be filled with relevant country data. The CRA-Profiles consist of key economic indicators, data on food security, information on the agricultural sector, and on major formal trade patterns for each country. It has to be noted that official trade statistics often do not take informal cross-border trade flows into account, although the amount of informal trade may be significant. This is especially true for trade between countries with porous borders. By comparing the two CRA-Profiles, the user gets a first impression on the actual complementarities between the two countries. When the desk study indicates that both countries fulfil the prerequisites, the user is advised to conduct a fact-finding mission to the respective countries/areas.

The **fact-finding mission** aims at collecting in-depth data complementing the desk study and enabling the user to test the results against the situation on the ground. Collected statistics need to be triangulated with qualitative information from key informants representing a broad range of stakeholders to capture different opinions. Therefore, the fact-finding mission combines an analysis on three levels: on a regional level with regard to regional co-operation on trade and food security, on a country level by assessing sector policies and their implementation, and in the respective sub-national areas by collecting primary and secondary data and evaluating the production and consumption of food staples and the trade in them. At

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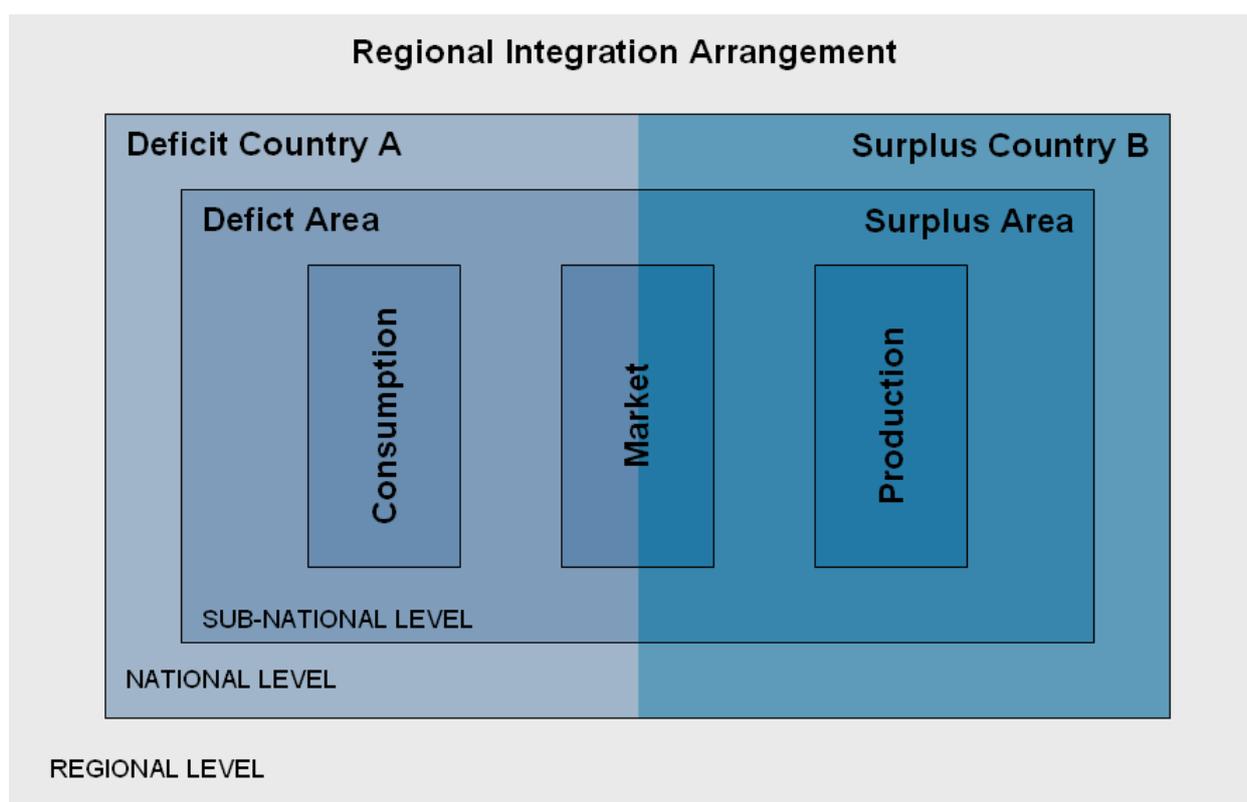
<sup>28</sup> Developing countries, which depend on a few commodities, are often affected by real exchange rate fluctuation and high inflation. These result from high dependence on world market prices coupled with a budget relying on commodity export earnings. The monetary instability has an impact on the purchasing power of consumers and food prices. Thus, currency fluctuations can have an impact on cross-border trade as it is triggered by price differentials.

a policy level, information on food security, agriculture, and trade policies is gained by conducting interviews with key informants in the two countries. At a sub-national level, field surveys are recommended with traders, transporters, farmers, and consumers in the identified regions as well as key informant interviews with officials from sub-national authorities.

For the **assessment** of the potentials for regional trade to enhance food security, the key informant interviews conducted have to be evaluated. The sector policies and the institutional environment are analysed with a policy matrix (see Figure 2) that provides the user with a simplified overview of the main policy goals, sector strategies, and their implementation. Furthermore, the quantitative data collected during the field survey are statistically evaluated and analysed accordingly. Finally, all information gathered is assessed using a SWOT Analysis (Strengths, Weaknesses, Opportunities and Threats).

### 2.2.3 Analysis

The figure below is an ideal model, which illustrates the interlinkages of governance levels and the market chain as conceptualised in the AF. It shows the different levels of analysis from the regional level down to the national level, including two countries A and B, and the sub-national level with respective surplus and deficit areas at a specific point in time. Thus, a surplus area might become a deficit area and vice-versa, depending on factors such as seasonality or consumption habits. Ideally, the AF can be used as a tool to analyse those dynamics. This, however, requires reliable and consistent data over time. At the centre, the figure shows three pillars describing the cross-border market chain that is to be followed in the analysis at a sub-national level. The market chain starts with the consumption side, which depicts the consumption of food in the deficit region A. The market pillar indicates the trade of food in the respective countries and across the border. Finally, the third pillar shows the production of food staples in the surplus region B.

**Figure 1: Levels of Regional Trade for Food Security**

Source: Own compilation (2009).

As the starting point for the analysis, the user can choose between two perspectives depending on the intended outcome:

- The regional option: Identifying surplus and deficit countries within an RIA (top-down).
- The national option: Identifying surplus or deficit areas in one given country and a complementary area in another country (bottom-up).

### Desk Study at Regional and National Levels

At the regional level the user is advised to analyse the implications of the respective RIA on regional trade and food security. As a first step, the objectives of regional co-operation as well as the institutional setup of the RIA have to be looked at. Furthermore, basic data on the extent and importance of intra-regional agricultural trade have to be analysed.<sup>29</sup> If available, a regional food balance sheet (FBS) that includes production and consumption data in the region might be taken into account. This information enables the user to evaluate the potential for regional food self-sufficiency and the importance of intra-regional agricultural trade. As a second step,

<sup>29</sup> Trade data based on official country statistics are available from the UN Comtrade Database. It has to be kept in mind that official data are often unreliable and do not take into account informal trade. As far as available other sources accounting for informal cross-border trade could be used.

the economic integration and trade liberalisation agenda has to be analysed, especially regulations agreed in the trade agreement and exceptions to it. The focus is on the implementation of rules and regulations having an impact on intra-regional agricultural trade, the barriers to trade, as well as harmonisation and co-ordination measures facilitating intra-regional trade such as:

- Economic Integration Agenda
- Existing tariffs and schedule for the elimination of tariffs<sup>30</sup>
- Existing NTBs
- Harmonisation of customs procedures
- Harmonisation of sanitary and phyto-sanitary measures
- Common rules of origin
- Quality standards

As a third step, the user is advised to analyse whether member states co-operate in agriculture and food security, identifying

regional policies and instruments. The user also should find whether intra-regional trade is considered a strategy to enhance food security within the integration scheme and if agricultural and food security are priority areas of co-operation. The instruments of co-operation may include:

- Common agricultural policy
- Strategies and declarations on agriculture and food security
- Early warning systems
- Regional food reserve facilities

As mentioned above, the desk study provides the user with CRA-Profiles indicating whether a potential might exist between the respective countries. These contain basic data to give an overview on the prevailing economic, agricultural, food security, and trade situation. The data ideally rely on a time series. With the data contained in the CRA-Profiles the user can evaluate whether the prerequisites (see above) are fulfilled. As shown in Table A13 in the annex, the profiles are compiled with the possible sources for data collection being indicated. With the CRA-Profiles the user has to keep in mind that countries considered food secure might feature pockets of potential food insecurity with respect to seasons, geographical areas, and social

#### **Box 5: Non-Tariff Barriers**

NTBs are defined as non-tariff measures specifically intended to restrict trade due to the limitation of import or export quantities as well as various domestic policies including for example technical and health or safety standards which lead to extra costs for foreign suppliers. Popular NTBs are import licensing, rules for the valuation of goods at customs, pre-shipment inspection, rules of origin, investment measures etc.

Source: KRUGMAN and OBSTFELD (2000), CAVES et al. (1999).

<sup>30</sup> Trade agreements may include provisions to implement safeguard mechanisms. Information on agricultural products considered sensitive is also relevant.

groups.<sup>31</sup>

### **Fact-Finding Mission at Regional, National, and Sub-National Levels**

To complement the CRA-Profiles a fact-finding mission is recommended. Concerning regional trade protocols and regulations, the fact-finding mission would investigate if measures are being adequately implemented on the ground and in good time. This may include the implementation of trade regulations such as the removal of tariffs and NTBs as well as the harmonisation of customs procedures. On the national level, relevant sector policies (agriculture, food security, and agricultural trade) and the institutional environment have to be analysed. This allows an opinion on the respective country's strategies and policy priorities, and whether the political will prevails amongst decision-makers for agricultural sector development, food security, and regional agricultural trade. To assess the importance given to the agricultural sector, information is needed on governmental expenditure on the sector as well as on applied research. In addition, it is essential to understand whether the country's policies are conducive to cross-border agricultural trade and the policies that hinder the free flow of food. Restrictions and potentials in the political and institutional environment have to be investigated and prioritised by identifying relevant actors, institutions, and their respective interests. On the governmental level, the strategic policy goals pursued, possible conflicts of interest, and the implementation of policies, laws, and regulations on the ground have to be analysed. It is equally important to scrutinise the views and interests of a broad range of stakeholders involved as well as their participation in the decision-making process, e.g., via consultation mechanisms.<sup>32</sup> The stakeholders relevant to the analysis include Government institutions and affiliated organisations, CSOs, farmers' unions and traders' associations, chambers of commerce, the research community, and development partners.<sup>33</sup> Information on common and/or conflicting interests as well as on the relations among stakeholders is important to identify political structures, the level of mutual trust, transparency, and the flow of information.

The fact-finding mission on the sub-national level follows the market chain (see Table A14 in the annex) in collecting qualitative and quantitative data. The user may find that relevant data and information for one of the market chain pillars are already available at desk study level. In this case, the analysis may be focused on the remaining pillars. Depending on the scope of the fact-finding mission, the user can

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<sup>31</sup> This information can be collected by interviewing key informants.

<sup>32</sup> A stakeholder analysis tool such as "Stakeholder Mapping" might be useful to identify relevant actors involved and their interests.

<sup>33</sup> Relevant information may also be collected from stakeholders at regional level including transnational agricultural federations and regional trade associations.

choose to investigate the market chain either of the entire food basket or of the major food staples, usually highlighted in the national FBS. Regarding consumption and production, the user may revert to national data as most countries conduct a regular agriculture census, Crop Harvest Surveys, Post-harvest Surveys, or Living Standard Surveys. However, it is advisable to triangulate the existing data with qualitative information derived from key informant interviews, focus group discussions, questionnaires etc.<sup>34</sup> To simplify matters, farmers are differentiated according to their main activities as net-sellers and net-buyers. The same is applied to traders who are differentiated into middlemen, retailers, and wholesalers. For a quantitative assessment of informal trade, a long-term monitoring at border posts is required.<sup>35</sup> For a short-term mission, the gathering of information on the direction of informal trade flows is recommended. This can be achieved by including questions on the following issues to the traders' questionnaire: buying and selling prices for food staples, the functioning of cross-border trade, the origin of customers, the provenance and destination of traded food, the importance of formal compared to informal trade, and transportation costs. However, it must be kept in mind that informal trade is often regarded as a sensitive issue that might result in unreliable data.

The data and information listed in Table A14 (see annex) are necessary for the linkages between the three pillars on the ground (consumption, market, production).<sup>36</sup> By collecting the proposed data the user is able to perform a situation analysis on consumption requirements and the functioning of cross-border trade as well as market information systems and the production pattern. For the compilation of data on the consumption pillar a livelihood analysis is most appropriate. Data for the market chain would be gathered via field surveys with farmers and traders, key informant interviews, focus group discussions, and the collection of secondary data. Finally, the user is able to draw up an assessment of the potential of cross-border trade for food security.

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<sup>34</sup> When deciding to collect empirical data on the ground, the seasonal time constraints of farmers and traders have to be considered. The same is true for the silent periods of government institutions.

<sup>35</sup> Data on informal trade with food staples might be acquired for instance from the USAID-financed Famine Early Warning Systems Network (FEWS NET) which records cross-border trade flows in southern and western Africa.

<sup>36</sup> The data includes the major information needed but is not meant to be exhaustive. It can be extended through other ways of data collection.

## Assessment

To assess the potentials of regional trade for food security two tools for analysis are proposed: the policy matrix and the SWOT Analysis.

The policy matrix is used to summarise and evaluate the main findings concerning the political and institutional environment in the respective country. By filling the policy matrix with information on policies for agriculture, food security, and agricultural trade the results of the fact-finding mission on a national level are structured. The matrix guides the user in evaluating sector policies, strategies, and institutions. By describing the policy goals and the respective measures implemented the user can analyse the actual effects on farmers, traders, and consumers. With this, the stated goals of the implemented measures can be compared with their effects on stakeholders. On this basis the user can assess whether the political and institutional environment is favourable for regional trade to enhance food security.

**Figure 2: Policy Matrix**

	<b>Policies/Strategies/ Institutions</b>	<b>Goals</b>	<b>Measures</b>	<b>Effects on Farmers</b>	<b>Effects on Traders</b>	<b>Effects on Consumers</b>
Country A/B	Food Security and Agricultural Policies					
	Agricultural Trade Policy					
	Implementing Institutions					

Source: Own compilation (2009).

The main results concerning producers and traders, which have been collected during the fact-finding mission, are summarised and evaluated using a SWOT Analysis. The SWOT differentiates between two dimensions, internal and external. The stakeholders can influence internal factors actively. In contrast, external factors have an impact on the stakeholders but cannot be influenced by them. Each dimension is further differentiated in favourable and limiting factors. These comprise strengths and weaknesses on the internal level and opportunities and threats on the external level. The main results relating to producers and traders are summarised and evaluated by being classified according to these categories.<sup>37</sup> Finally, the potentials of farmers to increase production and the potentials of traders to intensify cross-border trade are identified. Strengths and opportunities indicate the potentials

<sup>37</sup> Some results might be assigned to two categories. In that case the result should be weighted within the categories.

of the stakeholders. Weaknesses and threats describe factors that limit the ability of the respective stakeholders to further develop their potentials. Therefore, weaknesses need to be converted into strengths and threats into opportunities.

**Figure 3: SWOT Analysis**

I N T E R N A L	<b>Strengths</b>	<b>Weaknesses</b>
	Favourable factors that can be influenced by the stakeholders	Limiting factors that can be influenced by the stakeholders
E X T E R N A L	<b>Opportunities</b>	<b>Threats</b>
	Favourable factors that can not be influenced by the stakeholders	Limiting factors that can not be influenced by the stakeholders

Source: Own compilation (2009).

Before recommendations can be given it is necessary to cross-check if the realisation of the potentials of one stakeholder group may have a negative impact on other stakeholders.<sup>38</sup> If this is the case, the positive and negative effects need to be balanced.

Finally, recommendations for policy makers, traders, and producers are derived from the policy matrix and the SWOT Analysis. The recommendations are given on regional, national, and sub-national levels and are ideally differentiated according to short-, medium- and long-term actions. It is useful to start to give recommendations on the main level of investigation.

<sup>38</sup> When drafting recommendations in favour of food security, it is necessary to keep possible trade-offs in mind and to be conflict sensitive with regard to possible conflicts of interest, land conflicts due to unclear land tenure, unequal distribution of resources, long-term effects of climate change, as well as arising conflicts between winners and losers.

## 2.3 Strengths and Limitations of the Approach

The AF guides the user in assessing whether the prerequisites are met for regional trade to contribute to food security. It then compiles a broad range of factors considered relevant for a descriptive situation analysis. In consequence, the tool is not designed as a one-size-fits-all approach that provides absolute yes or no responses based on a fixed set of indicators, nor is it an economic model which shows the interconnection and relative impact of different factors over time.<sup>39</sup> The AF is instead to be applied in a flexible manner, adapted to the specific context. As far as data over a given time-period are available the AF may show the dynamics of consumption, production and the trade pattern. The proposed tools for assessment structure the information that is gathered. The assessment finally depends on the user's special purpose for doing the research and, correspondingly, the evaluation of the overall situation with regard to regional trade and food security. For instance, the assessment of sustained political will depends on the interpretation of qualitative information and observation gained while interviews are conducted.

The AF may be adapted to analyse the potential of regional trade for economic growth. In situations where both regions are found to be food secure, the potential of regional trade for economic growth and poverty alleviation might be an alternative field of investigation.

The user may choose to rely on data already available to analyse one of the market chain pillars, e.g., using data on household consumption indicated in Living Standard Surveys.<sup>40</sup> But, as far as availability and quality are concerned, the user may find an incomplete and poor data basis on the ground. Therefore, it may be necessary to collect quantitative data by conducting field surveys, although a major technical constraint might arise due to the limited time available. This is especially true for time consuming quantitative surveys with traders, farmers, transporters and consumers. Here, focus group discussions and key informant interviews may be sufficient for the collection of data on a short-term mission.

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<sup>39</sup> For an economic model that quantifies the impact of production shocks on domestic food prices and on consumer, farmer, and trader behaviour see DOROSH et al. (2007).

<sup>40</sup> Another possibility is to use data compiled by the agricultural census for a view on the production potential of a given area.

### **3 Agriculture, Food Security and Trade in Tanzania and Zambia**

Tanzania (1976) and Zambia (1984) have signed the United Nation's International Covenant on Economic, Social and Cultural Rights. With this, both countries have committed themselves to satisfy the Right to Food and to ensure national food security. The right to adequate food entails that food is available and accessible throughout the year, either from domestic production or imports.

In the following chapters the Analytical Framework (AF) is applied to the case of Tanzania and Zambia (see Chapters 3 to 5). This Chapter 3 analyses the political and institutional environment to understand the conditions for cross-border trade with food staples between the two countries. Opportunities and constraints to enhance regional trade and food security are identified on regional and national levels. As part of the desk study, key features of co-operation on agriculture, trade, and food security in the region of the Southern African Development Community (SADC) are analysed. In a second step, the results are investigated that were gained during the fact-finding mission at the national level in Dar es Salaam (Tanzania) and Lusaka (Zambia) are examined. These include the analysis of sector policies (agriculture, food security, and agricultural trade), different institutions, and stakeholders. Information was gathered by conducting interviews with government officials, private sector representatives, civil society organisations (CSO), researchers and development partners.

#### **3.1 Food without Borders: Regional Trade and Food Security in SADC**

SADC, established in 1992 at Windhoek (Namibia), is the major Regional Integration Arrangement (RIA) in Southern Africa. Tanzania and Zambia are member countries in SADC.<sup>41</sup> Both have multiple memberships in regional integration schemes.<sup>42</sup> For example, Tanzania also belongs to the East African Community (EAC), while Zambia is also a member of the Common Market for Eastern and Southern Africa

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<sup>41</sup> SADC comprises the following countries: Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.

<sup>42</sup> Multiple memberships have implications for the deepening of economic integration. A country cannot be member of more than one customs union due to a single Common External Tariff. It increases costs for co-ordination and may lead to the implementation of conflicting policies. In October 2008 COMESA, SADC, and EAC agreed to form a single free trade zone. The agreement is an important step towards achieving the African Economic Community (AEC) as endorsed by the African Union's Abuja Treaty (1991) (SADC / COMESA / EAC 2008).

(COMESA). The overriding objective of SADC is to alleviate poverty and to create conditions favourable to sustainable economic growth as well as the attainment of other economic and non-economic policy goals.

The SADC integration agenda has major effects on cross-border agricultural trade in the region. Overall, intra-SADC trade remains at comparatively low levels. Agricultural commodities are the major components of trade in the region (SADC 2009a). The agricultural imports of member states' are mainly from within the region. Pratt et al. found that intra-SADC trade accounts for 31% of domestic imports and amounts to a total value of US\$ 1,958,410 million (NIN-PRATT et al. 2009b: 19). In contrast, only 18% of SADC countries' agricultural exports, between 2000 and 2005, were traded within the region (IBID). The remaining 82% were exported to countries outside the region. The southern African region as a whole appears to have the potential to increase intra-regional agricultural trade by ensuring the free flow of food across borders. The region has the potential to be self-sufficient, especially in white maize and a wide range of other food crops (MAASDORP 1998).

### **Liberalising Regional Agricultural Trade in Southern Africa**

Agricultural trade within the region is governed by the SADC Protocol on Trade (PoT) (1996). It sets the rules and regulations for regional trade in agricultural commodities. The objective of trade integration within SADC is to liberalise intra-regional trade, thus creating mutual benefits arising from access to neighbouring markets by removing all barriers to trade. The trade liberalisation agenda is scheduled in the PoT, gradually phasing out tariffs and non-tariff barriers (NTBs).<sup>43</sup> In August 2008, the SADC Free Trade Area (FTA) came into effect, but the implementation of it remains poor. The creation is foreseen of a customs union by 2010 and a common market by 2015, leading to a monetary union in 2018. Since the FTA is in place, member states accord each other duty-free market access for 85% of all product lines.<sup>44</sup> Trade with the remaining 15%, considered sensitive products, is set to be liberalised by 2012.<sup>45</sup> Products designated as import-sensitive by member states are mainly those that have the potential for intra-regional trade, such as foodstuffs including maize (UNCTAD 2008). Despite the liberalisation agenda, policies on the ground fall short of the free trade ideal (ESRF 2003). As a general exception to the agreed removal of export restrictions, Article 9 (g) of the PoT allows the adoption or enforcement of measures "*necessary to prevent or relieve critical shortages of*

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<sup>43</sup> Measures for trade facilitation include the adoption of common rules of origin, the harmonisation of customs rules and procedures and the harmonisation of safety and quality standards.

<sup>44</sup> Goods originating in the SADC countries come in duty free on reciprocal basis or on 0, 5, 15 and 25% tariff rate (see Table A17 in the annex).

<sup>45</sup> For an assessment of the potential welfare impacts of an FTA on the agricultural sector of southern African countries see NIN-PRATT et al. (2009b).

*foodstuffs in any exporting Member State*" (SADC 1996). Most SADC countries make frequent use of export restrictions on food related agricultural products referring to food security concerns. Furthermore, member states' implementation of the PoT remains weak. This refers especially to harmonisation and the removal of NTBs, which remain widespread in SADC countries. So far, SADC members have not harmonised quality and food safety standards.<sup>46</sup>

### **Regional Co-operation on Agriculture and Food Security**

The prevalence of food insecurity remains a major concern in most SADC countries. For 2008/09, the regional cereal deficit is estimated at 1.61 million tonnes (SADC 2009b). The Republic of South Africa (RSA) is the only country in the region that generally meets its food requirements through domestic production (SADC 2003a).<sup>47</sup> Although the majority of SADC economies are predominantly based on agriculture, most countries are required to import food. Nearly 80% of the population depend on agriculture for food, income, and employment (SADC 2004). However, growth in the agricultural sector has remained at very low levels, i.e., the total cereal production within SADC has stagnated for over a decade (UNIRASCO 2003). It is widely acknowledged that the increase in agricultural productivity is the corner-stone for the food security, economic growth, and stability of the region (SADC 2004).<sup>48</sup> The whole SADC region has a huge area of arable land available, out of which less than 20% is under cultivation. Consequently, the region has an enormous potential to increase its agricultural productivity (SADC 2003a). The region comprises diverse agro-ecological zones and climatic conditions which assure good harvests in some parts of the region in any given season (IBID).

Food security is a top priority with regard to co-operation in SADC. The overall goal of regional co-operation in food security is *"to achieve sustainable access to safe and adequate food at all times by all people in SADC for an active and healthy life"* (SADC 2003b). In the aftermath of the 2002/03 food crisis, SADC leaders met in May 2004

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<sup>46</sup> Interview, PRISCA MULONDA SHAPOLE, Lusaka, 17/09/2009. The major challenges for harmonisation according to the ZAMBS are: (1) The difference of staple food in southern and eastern Africa. Different priorities, e.g. concerning the moisture content of maize, lead to long discussions in the SADC Standards Committee. (2) Procedures to find a common position on a specific standard on national level are slow – the lack of participation of stakeholders during consultation leads to problems of acceptance afterwards. (3) The lack of adequate financing.

<sup>47</sup> According to MAASDORP (1998) the primary food staple in the region is white maize whilst imports from world markets mainly consist of yellow maize. Thus, imports from world markets do not correspond with people's consumption preferences.

<sup>48</sup> Within the African Union's Declaration on Agriculture and Food Security signed in Maputo in July 2003, Governments committed themselves to allocate 10% of their total budget to the agricultural sector by 2015. Through the Comprehensive Africa Agricultural Development Programme (CAADP), the African Union provides a strategic framework aimed at boosting agricultural growth. CAADP pillar two addresses market access and pillar three focuses on the possibilities of regional trade to improve food supply (COMESA 2007).

to issue the so-called Dar es Salaam Declaration on Agriculture and Food Security. The Declaration mainly focuses on the supply side of agriculture and is complemented by a “Plan of Action on Agriculture and Food Security”, which is a long-term strategy to ensure food security. Although the document calls for governments to strengthen the implementation of the SADC trade protocol to facilitate agricultural trade, regional trade is currently not highlighted as a major strategy to enhance food security (SADC 2004). To facilitate the implementation of the Dar es Salaam Declaration, SADC is currently in the process of formulating a Common Agricultural Policy (CAP) to provide the necessary policy instruments to coordinate and harmonise member states’ food security and agricultural policies.<sup>49</sup>

Along with agricultural programmes, one of SADC’s major instruments to improve food security in the region is the Regional Early Warning System (REWS), which was formed in 1993. The REWS collects, analyses, and disseminates information on natural disasters as well as on predicted yields and likely food shortfalls in the region. It produces timely alerts and informs member states of impending food shortages and surpluses (SADC 2009b). SADC Ministers for Agriculture and Food Security also coordinate their efforts to increase the availability of agricultural inputs such as seed and fertiliser in the region (SADC 2009a).<sup>50</sup> Furthermore, the establishment of a Regional Food Reserve Facility is currently under consideration. It is aimed at strengthening disaster preparedness and at minimising disruptions to the longer-term agricultural growth and development of the region. The facility would include both a physical reserve and a financial aspect.<sup>51</sup>

### **3.2 No Food, no Politics: National Policies in Tanzania**

A snapshot of the actual food security situation in Tanzania is necessary for the intention of respective interventions by the Government and the role of implementing institutions to be understood. The Country Rapid Assessment Profile of Tanzania gives a first overview of the country’s current conditions and its differences in comparison to Zambia (see Table A15 in the annex). In the following, Tanzania’s food security situation is analysed in accordance with food availability and food accessibility (see Chapter 2) as well as in the context of national and agricultural policies and regulations.

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<sup>49</sup> A first consultation workshop for farmer’s organisations in SADC was held from September 2 to 4 2009, in Johannesburg, South Africa (ZNFU 2009). This indicates that discussions towards the establishment of the CAP are in progress.

<sup>50</sup> A harmonised seed regulatory system was approved in 2007.

<sup>51</sup> The REWS and the Regional Food Reserve Facility are two major components of the SADC Disaster Preparedness Strategy Framework.

## The Food Security Situation in Tanzania

Tanzania's major food crops are maize, cassava, sweet potato, paddy rice, and beans. National food security remains highly dependent on the people's preferences; i.e., 33% of the population prefer to consume maize, though the demand for rice has steadily increased throughout the country.<sup>52</sup> Tanzania's main food staples can be differentiated along Tanzania's seven agro-ecological zones: maize is predominantly consumed in the centre and the south, cassava in the west and south-east, rice in the river basins, and plantain in the north-west and north (FAO 2008a). Food security in Tanzania is a matter of spatial distribution. While the Southern Highlands (Iringa, Mbeya, and Rukwa Regions) generally produce food surpluses, the central and northern parts are historically deficit regions and chronically food insecure.<sup>53</sup>

**Food availability** in Tanzania is characterised by domestic production; i.e., 95% of the country's food requirements are normally met with local production.<sup>54</sup> A maize surplus is primarily produced in the so-called Big Six: Kigoma, Iringa, Mbeya, Morogoro, Rukwa, and Ruvuma Regions, from where food crops are transported to deficit regions in central and northern Tanzania or exported to neighbouring countries (MAFC 2006, FAO 2008a: 18, NBS 2009).<sup>55</sup> The agricultural sector is dominated by smallholder farmers who own less than 2ha and grow roughly 75% of the national food production (FAO 2008a, TNBC 2009). Although Tanzania is generally food secure, there are temporary pockets of food shortages in the country with roughly 20% of the districts experiencing acute food insecurity every year. The lean season usually occurs during February and April when inadequate storage facilities, unfavourable weather conditions, or lack of purchasing power lead to low availability of food at the household level. The situation is aggravated by low soil productivity, late delivery of fertilisers or severe pre- and post-harvest losses from pests and diseases, and climatic oscillation, accounting for 30% of all crop losses and 30 to 40% of post-harvest losses (MAFC 2006). During the agricultural season 2009/10, only 10% of the districts produced a surplus and roughly 50% of the districts currently face acute food insecurity after poor rains and bad harvests (MAFC 2009a). These areas are mainly located in northern Tanzania where the Government has already

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<sup>52</sup> Interview, WILMAN KAPENJAMA, FES, Dar es Salaam, 10/08/2009; interview, SHINJIRO AMAMEISHI, JICA, Dar es Salaam, 24/08/2009; interview, JOHN MNGODO, MAFC, Dar es Salaam, 25/08/2009.

<sup>53</sup> In these areas, the prevalence of malnutrition and undernourishment especially among children under five years is persistently high. According to the FAO, the Tanzania's prevalence of stunting for children under five years account for 38% and of underweight 22% (2004-05) (FAO 2008a: 4). In general, 35% of the population were undernourished during the period 2003-05. In the same period, 45% of the population were undernourished in Zambia (FAO 2008b: 48). For detailed information on nutritional anthropometry and other nutrition indicators in Tanzania, see FAO 2008a, FAO. 2008b.

<sup>54</sup> An overview of Tanzania's production and requirement data is found in Table A16 (see annex).

<sup>55</sup> The majority of the interviewees agreed that Tanzania has a clear potential to increase production and ensure regional food security.

started to compensate for the deficit through the National Food Reserve Agency (NFRA) and support of the World Food Programme (WFP).<sup>56</sup>

**Food accessibility** in terms of food affordability is a crucial issue for Tanzania's population. About 80% of the population live in rural areas and generate their income from agricultural activities. Alternative opportunities to raise income are rare and many farmers sell their crops immediately after harvest to balance their non-food household expenditure such as for school fees and health care (UNITED REPUBLIC OF TANZANIA 2001a, UNITED REPUBLIC OF TANZANIA 2001b). According to NFRA, these sales create transitory food insecurity at the household level for which NFRA has to compensate later in the year.<sup>57</sup> The Ministry of Agriculture, Food Security and Cooperatives (MAFC) and WFP estimate that 66% of Tanzanian farmers are generally net-buyers, relying on local markets to meet their annual consumption requirements.<sup>58</sup> Net-buyers as well as net-sellers are affected likewise by limited market access due to inadequate infrastructure, e.g., bad roads or poor market systems. This in turn results in increased prices from high transportation and distribution costs (MAFC 2006).

### **National Food Security Policy and Institutions**

At present, Tanzania has no cross-sector food security policy; the food security strategy is in the process of finalisation and the Food Security Act (1991) is under revision.<sup>59</sup> Food security is enshrined in the recently published Kilimo Kwanza - Agriculture First Strategy (2009)<sup>60</sup> and the Agricultural Sector Development Strategy (ASDS) (2001). Both strategies stress the need to ensure food security at the national and household levels. To achieve adequate food security, the country seeks to meet at least 125% of its required food production to stock food (TNBC 2009: 10).<sup>61</sup> During the last five years, Tanzania's Self-Sufficiency Rate (SSR)<sup>62</sup> has varied

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<sup>56</sup> Interview, JUVENAL KISANGA, WFP, Dar es Salaam, 13/07/2009; Interview, JOHN MNGODO, MAFC, Dar es Salaam, 25/07/2009.

<sup>57</sup> Interview, EDWIN MUKWENDA, NFRA, Dar es Salaam, 19/08/2009.

<sup>58</sup> Interview, JUVENAL KISANGA, WFP, Dar es Salaam, 13/07/2009; interview, JOHN MNGODO, MAFC, Dar es Salaam, 25/07/2009.

<sup>59</sup> Interview, JOHN MNGODO, MAFC, Dar es Salaam, 25/08/2009.

<sup>60</sup> The Kilimo Kwanza has been developed in line with other strategies like Tanzania's National Strategy for Growth and Reduction of Poverty (Mkukuta) or Tanzania's Development Vision (Vision 2025). The Kilimo Kwanza is a sector-wide strategy to initiate a green revolution of the agricultural sector in Tanzania. The strategy received is strongly support by the President himself, who chairs the Tanzania National Business Council (TNBC) which initiated the strategy. The overall implementation and its success will highly depend on future institutional and political commitment.

<sup>61</sup> During the interview, the Director of the Food Security Department at MAFC stated that a production level of 120% is required before export has no effect on national food security (interview, JOHN MNGODO, MAFC, Dar es Salaam, 25/07/2009).

<sup>62</sup> The SSR is based on the annual Food Balance Sheets. The SSR refers to the deficit or surplus produced, and the quantity required for domestic consumption.

between 103 and 116% (MAFC 2009b).<sup>63</sup> For the annual Food Balance Sheet (FBS), the Ministry collects data in three stages: (1) the Crop Forecasting Survey (CFS) for predicting food shortages at regional and district level, (2) the in-depth Vulnerability Rapid Assessment (VRA) for assessing the situation of the most vulnerable districts as, and (3) the Post-harvest Survey (PHS).<sup>64</sup> In 2009/10, MAFC identified 61 districts (out of 120) as vulnerable (MAFC 2009a: 2).

In general, the Ministry of Agriculture is in charge of agricultural production and marketing issues.<sup>65</sup> In 2000, a Food Security Information Team has been established to advise the Government on food security questions. The team is composed of Government departments, international agencies, and NGOs, and co-ordinated by the Disaster Management Department at the Prime Minister's Office as well as the National Food Security Division at MAFC. During times of food shortage, the Disaster Risk Committee consisting of all relevant Ministries and the Disaster Management Department gives recommendations on further actions to be implemented by the Prime Minister. The Prime Minister then announces the quantity to be purchased, released to the most vulnerable, and redistributed by NFRA. The former Strategic Grain Reserve (SGR) was affiliated to the Food Security Department at MAFC aiming at the procurement and management of "*grain reserves for food relief purposes resulting from drought, floods, earthquakes, etc.*" (MAFC 2007:56). In 2008, the SGR became independent and renamed NFRA, after donors had advised the Government to operate the agency on a profitable basis. The mandate of NFRA is still to purchase and to stock up maize that is redistributed during a food shortage. The recipients are identified by local authorities (village executive officers) who decide if a household is able to pay or should receive free food.<sup>66</sup> By August 2009, 780,000 people had benefited from the Government's distribution (THE AFRICAN 2009).<sup>67</sup> To stabilise the

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<sup>63</sup> For further information on Tanzania's production data from 2004/05 to 2009/10, see Table A16 in the annex.

<sup>64</sup> District Commissioners as well as District Agricultural and Livestock Development Officers (DALDOs) are obliged to ensure food security in the district and may modify the data depending on their own interest. Interviewees mentioned that officials have been sacked due to food insecurity in their district. Another statement referred to villages which were rather food secure, and had been indicated as food insecure to receive government support. Thus, valid data remain a challenge (interview, WILMAN KAPENJAMA, FES, Dar es Salaam, 10/08/2009; interview, WILFRIED KAYOMBO, Mbeya, 04/09/2009).

<sup>65</sup> Another important governmental institution is the Ministry of Health and Social Welfare that deals with aspects on national nutritional security.

<sup>66</sup> Interview, EDWIN MUKWENDA, NFRA, Dar es Salaam, 19/08/2009.

<sup>67</sup> Interview, EDWIN MUKWENDA, NFRA, 19/08/2009, Interview, JOHN MNGODO, MAFC, Dar es Salaam 25/08/2009.

The NFRA operates strategic grain reserves with the capacity of roughly 250,000t. Additionally, the Government introduced a warehouse receipt system to support self-organisation of farmers. Small farmers shall be assured of markets, inputs, credits and prices that are negotiated before the planting period and are relatively stable (MUKWENDA 2005). The warehouse receipt system is used by NFRA and WFP to purchase maize.

fluctuation of market prices, NFRA fixes annual so-called floor prices which are roughly 10% above the market price. NFRA operates around 90 to 120 buying centres where maize is directly purchased from farmers or warehouses. These buying centres are located mainly in the surplus areas of the Southern Highlands and should create incentives for farmers to increase production due to guaranteed purchases based on fixed floor prices.<sup>68</sup> However, the location of the centres changes annually, depending on the quality and quantity of maize. In addition, actual market interventions normally fall below NFRA's plans due to financial constraints and limited warehouse facilities. In cases where domestic production is not sufficient to ensure national food security, the Government commissions private companies via tenders to import maize. NFRA itself has no mandate to import from foreign markets.

### **National Agricultural Policy**

As already mentioned, the current agricultural policy is based on the Kilimo Kwanza and the ASDS.<sup>69</sup> Because agriculture is regarded as the backbone for Tanzania's economic growth, the Government's objectives are to strengthen agricultural growth, improve farm incomes, and reduce rural poverty: *"[...] by the year 2025 [the agricultural sector] is modernized, commercial, highly productive and profitable, utilizes natural resources in an overall sustainable manner and acts as an effective basis for inter-sectoral linkages"* (MAFC 2009c: 10). In 2008, agricultural growth rate was 3.5%.<sup>70</sup> To secure and to increase production, the Government supports agricultural extension services throughout the country. The Government funds local authorities who employ the officers to carry out extension services. By training the farmers in advanced cropping systems or agro-business, the officers should facilitate farmers to increase agricultural production and productivity to improve their socio-economic situation (IBID: 21).<sup>71</sup> In 2009, MAFC compensated for the lack of extension officers by deploying an additional 1,736 students of extension services across the country (MGWABATI 2009). Due to low agricultural input utilisation on the household level, the Government also subsidises fertilisers, especially for small-scale farmers. The importation and distribution of agricultural inputs should be handled by the private sector which often lacks inadequate capital to operate efficiently (TNBC 2009: 6). In general, farmers often do not know how to apply the fertilisers efficiently since

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<sup>68</sup> In 2009, NFRA plans to buy 160,000t because 80,000t of maize are still stocked. In comparison, in 2007/08, SGR's total stocks were 143,746t and 74,770t were sold to the Disaster Management Department (interview, EDWIN MUKWENDA, NFRA, Dar es Salaam, 19/08/2009; MAFC 2008: 66).

<sup>69</sup> According to the Director of Policy and Planning at MAFC, Tanzania has no extra budget to fulfil the objectives set by CAADP. CAADP is implemented through the ASDS (interview, EMMANUEL ACHAYO, MAFC, Dar es Salaam, 21/08/2009).

<sup>70</sup> Interview, SHINJIRO AMAMEISHI, JICA, Dar es Salaam, 24/08/2009.

<sup>71</sup> Interview, WILFRIED KAYOMBO, RAA, Mbeya, 04/09/2009.

they lack contact with extension officers.<sup>72</sup> During the fiscal year 2009/10, the Ministry plans to provide 118bn TSh (US\$ 89 million)<sup>73</sup> for input subsidies; 60bn TSh (US\$ 45 million) of this come from the food security project funded by a World Bank loan and 58bn TSh (US\$ 44 million) from the recurrent budget (WA SIMBEYE 2009). Generally, the development of the agricultural sector has been hampered by the decrease in Government expenditure during the 1990s. Between 2001/02 and 2009, the national budget on agriculture increased again from 2.9 to 7%.<sup>74</sup> When the Government starts initiating the green revolution, expenditure on agriculture may increase once more (SANTORUM et al. 1992, WORLD BANK et al. 2000, TNBC 2009).

### **Agricultural Trade Policy**

Tanzania's agricultural trade liberalisation started during the 1980s, when the country moved from a system of agricultural marketing by crop authorities and co-operatives to a more liberalised domestic market with competition among traders and co-operatives. Maize marketing was gradually opened to private sector traders who were increasingly allowed to buy all food crops directly from farmers. Based on economic adjustments and structural reform programmes, Tanzania's aim was then for agriculture to turn from a command to a market-oriented production system.

In 2003, a revised trade policy was introduced as Tanzania's first comprehensive market-oriented trade policy (UNITED REPUBLIC OF TANZANIA 2003a: xxi-xxiii).<sup>75</sup> The overall goal of the present trade policy is to increase efficiency in domestic production and to create a diversified and competitive export sector to improve income generation and to attain higher growth rates. There are three specific objectives: (1) to intensify competition within the domestic market, (2) to encourage value-adding activities on primary exports, and (3) to stimulate investments in export-oriented sectors in which Tanzania has comparative advantages (UNITED REPUBLIC OF TANZANIA 2003b). Thereby, the Government states that "*most of the production, processing and marketing functions have been assigned to the private sector while the Government has retained regulatory and public support functions*" (MAFC 2009c: 10). Since there is no particular agricultural trade policy in place, the national trade

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<sup>72</sup> National fertiliser use lies around 9kg/ha of arable land; in comparison, fertiliser use in SADC is 16kg/ha (TNBC 2009). Farmers who receive subsidised fertiliser are selected by the Village Inputs Committee of the Village Assembly (ACF 2009: 10f; interview, MWANO HAMZA, DALDO, Sumbawanga, 08/09/2009). In 2008/09, 1.5 million farming households benefited from Government's fertiliser distribution (JOHN MNGODO MAFC during the final Workshop, Dar es Salaam, 08/10/2009).

<sup>73</sup> The exchange rate being used was 1US\$ = 1,329 Tanzanian Shilling (TSh) (23/09/2009).

<sup>74</sup> Interview, SHINJIRO AMAMEISHI, JICA, Dar es Salaam, 24/08/2009.

<sup>75</sup> The Ministry of Industry and Trade is responsible for the implementation of the trade policy, including import regulations or export promotion. The Ministry is supported by the Tanzanian Revenue Authority (TRA), which collects taxes and import duties on behalf of the Ministry of Finance (WTO 2000). MAFC is the implementing institution for agricultural trade policy and thus regulates trade with food staples.

policy includes external trade with agricultural products.<sup>76</sup>

In compliance with the SADC Trade Protocol and WTO agreements, Tanzania's liberalisation process has to be further pushed towards the reduction of tariffs and NTBs. With the publication of the Kilimo Kwanza, Tanzania has set an ambitious goal to transform its agricultural sector and strengthen its liberalisation process. On the other hand, Tanzania seeks to ensure national food security by imposing export restrictions on major food staples consumed domestically. This contradiction between formulated and implemented agricultural trade policy weakens the transformation process of the agricultural sector as well as of other achievements defined in the national trade policy (TNBC 2009).

### **Laws and Regulations with an Impact on Agricultural Trade**

The imposition of NTBs on trade with major food staples started in 1950 with the introduction of the first Export Control Act. The Act assigned to the President the mandate to declare any commodity an export-controlled good. In this case, no one is allowed to export the particular good without an export licence (FAO 2008a). In 1996, the Agricultural Products Act (Control of Movement Act), which seeks to control the availability of agricultural products at the district level, was implemented. During times of deficits, the MAFC has the mandate, after consultation with the regional administration, to restrict or prohibit domestic and foreign movement of agricultural products. In 2004, the Tanzanian Government passed the Anti-Dumping and Countervailing Measures Act, which aims to protect domestic industry from disadvantages caused by dumped imports; i.e., the importing of goods at below the market price in the country of origin is prohibited. This is particularly important for food crop imports from industrialised countries. In May 2008, a revised Export Control Act was passed to control and restrict the export of major food staples such as cassava, beans, pulses, Irish potatoes, and maize (UNITED REPUBLIC OF TANZANIA, 2008). Based on the CFS, the Food Security Department of MAFC determines the levels of food imports and exports, and advises the Government whether to allow or to ban the export of certain food staples which have to be stocked domestically (MAFC 2007). The ban aims at supplying domestic food requirements and keeping down high prices, especially for food insecure households.<sup>77</sup> The Government is obliged to provide food to deficit areas; e.g., the Director of Policy and Planning at MAFC referred to other countries where a ban was imposed, such as China, and

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<sup>76</sup> In accordance to WTO requirements for Least Developed Countries, Tanzania reviews its trade policy every five years. In the process of writing this study, Tanzania's National Trade Policy was still under review. Thus, a document assessing the implementation process of policy goals was not available.

<sup>77</sup> Interview, JOHN MNGODO, MAFC, Dar es Salaam, 25/08/2009.

summarised the situation as: “*No food, no politics*”.<sup>78</sup> This indicates that the Government argues more from a political than from a technical point of view. Although the export ban is normally imposed on a temporary basis, in Tanzania, the ban has been in place for more than a year and, thus, cannot be regarded as a short-term measure. Still, Government officials stressed the temporary intention of the imposition; in contrast, officials of the Regional Authority in Mbeya Region stated that the ban is imposed only during harvest time.<sup>79</sup> As another measure, the Ministry issues waivers and export permits to traders or organisations such as WFP. The export certificate is available only at MAFC and, consequently, hardly accessible for small traders in remote areas.

As mentioned above, Tanzania further introduced different trade barriers to control trade flows. In accordance with the National Trade Policy these instruments are distinguished into three groups: (1) tariff-based instruments, (2) NTBs, and (3) trade defence mechanisms. In the case of (1) tariff-based instruments, which are calculated as ad valorem in SADC, Tanzania follows a four-band tariff structure with steps at 25%, 15%, 10% and 0% (UNITED REPUBLIC OF TANZANIA 2003b: 37f).<sup>80</sup> (2) The Export Control Act is characterised as a NTB that aims at regulating export trade. Unlike tariffs and a number of other NTBs (e.g. sanitary and phyto-sanitary certificates) this seeks to regulate agricultural imports. With regard to food imports, the Tanzanian Government tends to waive import duties to attract food imports during times of food shortages. Furthermore, import certificates issued by MAFC are needed. To receive such certificates, a number of quality standards have to be satisfied by the trader, e.g., sanitary and phyto-sanitary standards. Concerning maize, beans, and rice, a minimum quality is defined through the colour of the crops, the percentage of moisture, and the absence of injurious contaminants. In addition, standards on packing, marking, and labelling have to be met (TBS 1989; TBS 2004; TBS 2006). Several documents are further required with the import batch certificate.<sup>81</sup> The inspection is undertaken by the laboratories of the Tanzanian Bureau of Standards (TBS) which takes on average between three and five working days with fees of 2% of cost and freight value. When standards are met, the Tanzanian

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<sup>78</sup> Interview, EMMANUAL ACHAYO, MAFC, Dar es Salaam, 21/08/2009; interview, JOHN MNGODO, MAFC, Dar es Salaam, 25/08/2009.

<sup>79</sup> Interview, TIMOTHY KIRWAY, MAFC, Dar es Salaam, 12/08/2009; interview, EMMANUAL ACHAYO, MAFC, Dar es Salaam, 21/08/2009; interview, JOHN MNGODO, MAFC, Dar es Salaam, 25/08/2009; interview, MRS. MZIRAY, Regional Authority, Mbeya, 01/09/2009; interview, WILFRIED KAYOMBO, RAA, Mbeya, 04/09/2009.

<sup>80</sup> Table A17 (see annex) presents Tanzania's current import tariffs on major food crops as agreed in the SADC Trade Protocol.

<sup>81</sup> These documents are: packing list, invoice, bill of lading, and TRA single bill of entry, report of findings from exporting country authority (voluntary), test certificate from country of origin, conformity certificate.

Revenue Authority (TRA) on behalf of TBS controls the cargo and the papers directly at the border.<sup>82</sup> Because standards are not yet harmonized within SADC, there are different standards which have to be approved. Thus, trade with food staples becomes more complicated. As (3) trade defence instruments, Tanzania uses subsidies and rules of origin. Rules of origin are used to determine the country of origin of goods, especially to decide on tariff preference purposes, which is particularly important in the case of SADC (UNITED REPUBLIC OF TANZANIA 2003b).

### **Tanzania's Commitment to SADC**

The Tanzanian Government supports SADC to establish and institutionalise a future Regional Food Reserve Facility. MAFC, NFRA, and WFP agree that the maintenance of one food reserve facility for the whole SADC region would be too expensive for its member states. A decentralised form of management, including the exchange with other food reserve agencies during deficit years, would be more advisable.<sup>83</sup> So far, NFRA has not been co-operating with neighbouring food reserve agencies; instead the Government has compensated for food deficits in neighbouring countries by making donations. The Tanzanian Government directly donated food on the basis of emergency "requests" and without direct consultation with NFRA; for example, in 2005, Tanzania donated maize to compensate for Zambia's maize shortages.<sup>84</sup>

### **3.3 Maize Counts: National Policies in Zambia**

Since Zambia's first President Kenneth Kaunda had pushed maize production, the country has been depending on maize as its major food staple. Maize is perceived to be very important for national food security and has been highly politicised by various Governments. Consequently, the production of other traditional food staples such as cassava or sorghum has been neglected. Food insecurity remains a structural problem in Zambia, meaning that the majority of the rural population suffers from low productivity and lack of income opportunities (ACF 2008).<sup>85</sup> Still, many of those interviewed agreed<sup>86</sup> that Zambia's maize production could be solely self-sufficient in future, depending on the political will to overcome long-standing perceptions about relying on maize (CHIZUNI 1994, RATES 2003, ACF 2008).

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<sup>82</sup> Interview, MRS MISANGA, TBS, Dar es Salaam, 25/08/09.

<sup>83</sup> Interview, JUVENAL KISANGA, WFP, Dar es Salaam, 13/08/2009, interview, EDWIN MUKWENDA, NFRA, Dar es Salaam, 19/08/2009; interview, JOHN MNGODO, MAFC, Dar es Salaam.

<sup>84</sup> Interview, EDWIN MUKWENDA, NFRA, Dar es Salaam, 19/08/2009; interview, EMMANUEL ACHAYO, MAFC, Dar es Salaam, 21/08/2009.

<sup>85</sup> In 2004, Zambia's population accounted for 10.9 million people, of which 61% lived in rural areas and 39% in urban centres (GOVERNMENT OF ZAMBIA 2004: 13).

<sup>86</sup> Interview, RUDY VAN GENT, GTZ, Lusaka, 15/09/2009; interview, RAINER DROSTE, EDF/XAVIER ROUILLARD, GFA, Lusaka, 16/09/2009; interview, BWENDO KABANDA, Oxfam, Lusaka, 17/09/2009; interview, CHANCE KABAGHE/ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009.

In Zambia, **food availability** or food insecurity is equivalent to maize shortage.<sup>87</sup> Maize accounts for 60% of the national caloric consumption and is mainly produced in central, southern, and eastern Zambia. According to the Crop Forecasting Survey 2008/09, the main maize producing areas were Eastern Province (401,343t of production) followed by the Central (399,719t) and Southern (365,226t) Provinces as well as Northern Province (258,226t) (MACO 1996-2009a).<sup>88</sup> But maize cropping systems are highly dependent on rainfall patterns. Generally, there are regions that are prone to droughts (North-Western and Western Provinces) but also regions subject to floods (Southern Provinces). The main lean season occurs between January and May before harvesting starts.

Other areas grow predominantly cassava (Luapula and North-Western Provinces) or apply a dual strategy, growing cassava and maize at the same time (Western and Northern Provinces). Cassava is harvested mainly during times of maize shortage. According to the Vulnerability Assessment Report 2008, the number of districts being food insecure decreased from 40 districts (out of 72) in 2006 to 14 in 2007 and increased again to 39 in 2008 (GOVERNMENT OF ZAMBIA 2008: 32). Thereby, Zambia's agriculture is dominated by small-scale farmers working on less than 1ha. Main challenges for smallholder production are low average yields per hectare due to high post-harvest losses (up to 30% of the production), missing irrigation schemes, or poorly functioning and funded extension services (USAID/FEWS NET et al. 2004), ACF 2008).<sup>89</sup>

For 67% of the population, agriculture remains the main income generating activity. After harvest, 30% of the household production is usually sold at the market.<sup>90</sup> Sparse income generating activities, weak market structures, or poor road networks make **food accessibility** difficult for many people. It is further important to note that the Zambian Kwacha (ZK) depends on copper exports and the copper price on world markets.<sup>91</sup> Higher inflation rates, in turn, lead to high price volatility for all

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<sup>87</sup> Interview, RUDY VAN GENT, GTZ, Lusaka, 15/09/2009; interview, JACOB MWALE, GTAZ / GEORGE LIACOPOLOUS, ZDENAKIE Ltd., Lusaka, 15/09/2009; interview, BWENDO KABANDA, Oxfam, Lusaka, 17/09/2009.

<sup>88</sup> In comparison, the preliminary food crop production forecast 2009/10 states that Tanzania's Big Six produced: 629,994t in Iringa Region, 502,250t in Rukwa Region, 446,356t in Mbeya Region, 393,713t in Ruvuma Region, 147,735t in Morogoro Region and 120,841t in Kilimanjaro Region (MAFC 2009a).

<sup>89</sup> Interview, COSMO MWANGA, MACO, Lusaka, 16/09/2009; interview, RAINER DROSTE, EDF / XAVIER ROUILLARD, GFA, Lusaka, 16/09/2009.

<sup>90</sup> Interview, CHANCE KABAGHE/ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009.

<sup>91</sup> Interview, SCOTT SIMONS, MATEP, Lusaka, 15/09/2009.

Copper accounts for 70% of Zambia's exports. During the economic crisis in 2008, the Zambian copper price fell from US\$ 9,000/t (July 2008) to US\$ 2,900/t (December 2008). Consequently, 5,000 out of 30,000 formal jobs in the mining sector were lost. It directly affected the food security situation of the people working in the mines and indirectly their families due to reduced remittances (Green 2009: 2ff; interview, MUYAMBANGO NKWEMU, MCTI, Lusaka, 14/09/2009; Interview, PURNIMA KASHYAP, WFP, Lusaka, 19/09/2009).

commodities. Consumer prices for staple food items increase from January to May when crops are sold to the market. Because the majority of the Zambian households are net-buyers of maize, they are negatively affected by rising maize prices. In 2008, the annual inflation rate for food was 9.8% with price increases, on average, of 15.6% for mealie meal, 14.2% for cassava, and 29.9% for beans (ACF 2008).

### **National Food Security and Agricultural Policies**

In Zambia, food security is addressed in the Fifth National Development Plan (FNDP) (2006) and the National Agricultural Policy (NAP) (2004) envisioning the “[...] *development of an efficient, competitive and sustainable agricultural sector, which assures food security and increased income*” (MACO 2004). All sectors highlight the linkages and contributions to assure national and household food security, with at least 90% of the population being food secure by 2010.<sup>92</sup> In comparison with Tanzania, there is no defined SSR in Zambia. The Ministry of Agriculture and Cooperatives (MACO)<sup>93</sup> collects data for the FBS which indicates the national production level and requirements. The information gathered in the FBS is only a rough estimation and cannot fully cover the situation on the ground. Consequently, a number of villages are not adequately targeted; e.g., in 2008, the Government imported maize while in some areas people were actually exporting it.<sup>94</sup>

To diversify consumption patterns, a Cassava Task Force was introduced, promoting cassava production and the mixing of cassava flour into mealie meal.<sup>95</sup> Nevertheless, cassava was never persistently pushed by the Government.<sup>96</sup> The delivery of so-called Food Security Packs (FSP-PAM) refers to another food security intervention. FSP-PAM is co-ordinated by the Ministry of Community Development and Social Services and for 10bn ZK (US\$ 2.11 million)<sup>97</sup> annually distributed by the parastatal Programme against Malnutrition (PAM) (GOVERNMENT OF ZAMBIA 2008: 100). The

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<sup>92</sup> According to the Ministry of Agriculture and Cooperatives (MACO), the goal is monitored by using production data and matching total household production to household size. For households who have to purchase food, a living condition dataset is conducted; the last Living Condition Monitoring Survey (LCMS) was conducted in 2004 (interview, DINGI BANDA, MACO, Lusaka, 16/09/2009).

<sup>93</sup> In comparison to MACO which has no direct mandate to push food security sector-wide, the Ministry of Health has comparably stronger political influence through focusing impacts of nutrition security (Interview, RAINER DROSTE, EDF/XAVIER ROUILLARD, GFA, Lusaka, 16/09/2009; ACF 2008).

<sup>94</sup> See Table A18 in the annex. Interviewees pointed out to use national data carefully. The Government may only collect data from commercial farmers and neglect smallholder farmers who are not affected by maize shortage as a result of diversified consumption patterns. Due to lack of exchange and in-depth assessment of the local farm level, Zambian data are often likely to be biased in favour of receiving donor support (Interview, RAINER DROSTE, EDF / XAVIER ROUILLARD, GFA, Lusaka, 16/09/2009, Interview, BWENDO KABANDA, Oxfam, Lusaka, 17/09/2009).

<sup>95</sup> Interview, EMMA MALAWO, MACO, Lusaka, 15/09/2009.

<sup>96</sup> Interview, RUDY VAN GENT, GTZ, Lusaka, 15/09/2009; interview, BWENDO KABANDA, Oxfam, Lusaka, 17/09/2009.

<sup>97</sup> The exchange rate being used was 1US\$ = 4,733 Zambian Kwacha (ZK) (23/09/2009).

FSP-PAM consists of inputs (8 bags of fertiliser, 10kg of maize seeds) to plant 1ha and aims at “*empowering communities to secure alternative livelihoods to cushion them from harsh socio-economic condition*” (IBID: 102). However, to receive the FSP-PAM, farmers have to fulfil a number of criteria, such as the cultivation of a defined amount of land. Also, the variety of maize seeds distributed by the Government is not adapted to specific agro-ecological and climatic conditions (RATES 2003b).<sup>98</sup> Zambia’s Fertilizer Support Programme (FSP) aims to stimulate maize production among smallholder farmers and to operate on refund schemes. Farmers have to pay 25% to the co-operatives which should then pay to the Government (ACF 2008: 14). In 2008, the FSP continued to administer subsidised inputs with a total of 80,000t of fertilisers and 4,000t of certified seeds being provided to 200,000 small-scale farmers (GOVERNMENT OF ZAMBIA 2008: 31). The management and distribution of subsidised fertilisers are co-ordinated by MACO. In the 2008/09 farming season, the Government increased subsidies for the FSP from 60 to 75%. The fertilisers are delivered to the Provincial Secretary’s Office and in turn to the District Community Office which works closely with MACO to select the co-operatives receiving fertilisers.<sup>99</sup> The programme is mainly meant to support vulnerable farmers but medium- and large-scale farmers organised in co-operatives are actually the main beneficiaries. There are distribution lists which have to be filled in by the co-operatives but which are often filled in according to political bias. Additionally, many farmers sell the fertilisers to the market because the variety is inappropriate to the specific conditions. Those farmers without access or with limited access to fertilisers and seeds revert to conservation farming as well as traditional farming methods. However, the FSP has been regularly exploited by decision-makers to gain votes in rural areas where corruption levels gradually increased. Thus, the budget for implementing the FSP was increased although Government had announced plans to liberalise the fertiliser market and create incentives for private sector engagement.<sup>100</sup> Many of those interviewed blamed the FSP for being unsustainable, too expensive for the country, and prone to being used as a political instrument.

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<sup>98</sup> The Zambian agro-ecological zones differ with regard to rainfall patterns: there is low rainfall in the south (Zone 1), medium rainfall in the centre and in the west (Zone 2), and high rainfall in the north (Zone 3). The Zambian maize belt is found in Zones 2 and 3 (interview, BWENDO KABANDE, Oxfam, Lusaka, 17/09/2009; interview, CHANCE KABAGHE/ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009).

<sup>99</sup> In 2005, the fertilisers were subsidised up to 75%; in 2006, the subsidies were supposed to be reduced to 50% and in 2007, to 25%. After the death of Zambia’s last President, preterm elections were organised in 2006 with the result that subsidies never reduced but stayed rather high (interview, BWENDO KABANDA, Oxfam, Lusaka, 17/09/2009).

<sup>100</sup> Interview, BWENDO KABANDE, Oxfam, Lusaka, 17/09/2009.

The Agriculture Consultative Forum (ACF) and the Food Security Research Project (FSRP) advocate to push the resources to the needy by introducing a voucher system for the distribution of fertilisers (interview, HYDE HAANTUBA, ACF, Lusaka, 15/09/2009; Interview, CHANCE KABAGHE / ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009). For further information see also ACF (2009): Report on Proposed Reforms for the Zambian Fertilizer Support Programme.

Overall, agriculture is regarded as Zambia's backbone for food security, economic growth, and poverty reduction.<sup>101</sup> It should increase annually by 7 to 10%; the contribution of agriculture to GDP should rise from 20 to 30% by 2015 (MACO 2004, GOVERNMENT OF ZAMBIA 2006).<sup>102</sup> In 2009, the share of the national budget for agriculture accounts for roughly 7% (GOVERNMENT OF ZAMBIA 2008). MACO's expenditure focuses on FSP and the Zambian Food reserve Agency (FRA) (61% of expenditures), personal emoluments (15%), core programmes (16%), and non-core programmes (6%) (IBID).

### **Zambia's Food Reserve Agency**

Zambia's FRA implements national food security objectives. The goal of FRA is "*to significantly contribute to the stabilization of National Food Security and market prices of designated crops through the establishment and sustenance of a sizeable and diverse National Strategic Food Reserve in Zambia by 2010*" (FRA 2006). The Zambian Government purchases and redistributes maize through FRA but, unlike in Tanzania, FRA only supplies maize and does not redistribute maize to deficit regions in the country.<sup>103</sup> The mandate of FRA is to purchase maize in very remote areas where farmers have no access to the market; the agency then sells the maize to milling companies, mainly located in Lusaka.<sup>104</sup> The Government subsidises the purchases by FRA and also the sales to millers. At the beginning of 2009, the Government planned to discontinue subsidies to millers because it did not reduce consumer mealie meal prices (TEMBO et al. 2009). Generally, the redistribution is co-ordinated and implemented by the Disaster Management and Mitigation Unit in the Prime Minister's Office that is in charge of short-term interventions. According to the FNDP's Annual Progress Report, FRA purchased 73,876t of maize in 2008; this reflects roughly 7.5% of the total maize production (GOVERNMENT OF ZAMBIA 2008).<sup>105</sup> FRA operates 469 buying points across the country and storage facilities for 2,000,000t of maize, of which 1,000,000t are for food reserves and 1,000,000t for private business.<sup>106</sup> Still, FRA predominantly depends on Government funds

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<sup>101</sup> Interview, RUDY VAN GENT, GTZ, Lusaka, 15/09/2009; interview, HYDE HAANTUBA, ACF, Lusaka, 15/09/2009; interview, BWENDO KABANDA, Oxfam, Lusaka, 17/09/2009; interview, CHANCE KABAGHE / ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009.

<sup>102</sup> In the frame of CAADP, a study has recently been published stating that Zambia's agricultural sector performs poorly due to low agricultural growth and productivity rates. Zambia's draft CAADP compact is currently being reviewed. Initially, it was supposed to be signed in May 2008, but because of the death of the former President and preterm elections, the CAADP process has been retarded. The compact was planned to be signed on November 12<sup>th</sup> 2009, while writing this study (interview, MR MUYUNDA, COMESA, Lusaka, 15/08/2009).

<sup>103</sup> Interview, ANTHONY MWANAUMO, FRA, Lusaka, 16/09/2009.

<sup>104</sup> Interview, SCOTT SIMONS, MATEP, Lusaka, 15/09/2009.

<sup>105</sup> For further information see Table A19 in the annex.

<sup>106</sup> Interview, ANTHONY MWANAUMO, FRA, Lusaka, 16/09/2009.

(90%).<sup>107</sup> But FRA regularly fails to purchase the quantity previously announced due to missing funds. During the marketing season 2009/10, the Government announced that there is “*no money to purchase all the maize from small-scale farmers throughout the country [...] and the FRA had been mandated to borrow money from the banks*” (CHANGALA / SINYANGWE 2009). To stabilise price levels, the agency fixes annually changing floor prices for maize that lie above the market price. In 2009, the floor price of FRA is higher than the price of NFRA and therefore attracts maize imports from Tanzania (see Chapter 4.3). FRA’s market interventions generally create disincentives for private sector involvement and contribute to price volatility. When the private sector and FRA apply for WFP tendering, FRA purchases at higher market prices and finally sells below market prices.<sup>108</sup> On the one hand, FRA is known for generating no profit and providing bad quality and, on the other hand, for its inadequate and poorly managed storage facilities in which approximately 80,000t per year usually rot. Grain traders’ representatives insisted that they actually perform much better in operating their storage facilities.<sup>109</sup>

### **Agricultural Trade Policy**

At the beginning of the 1990s, the Government initiated macro-economic and structural reforms to simplify the national trade regime, to stimulate economic diversification, and to promote export-led growth (INTEGRATED FRAMEWORK 2005). Despite the reform agenda, trade policy in Zambia has remained substantially unchanged (GOVERNMENT OF ZAMBIA 2006, WTO 2009).

In 1994, the Commercial, Trade and Industrial Policy was introduced as a long-term vision for the industrial sector, domestic trade activities, and Zambia’s contribution to international trade arrangements. During the following years, the country experienced modest economic growth rates interlinked with increasing poverty rates that did not allow the country to meet its projected targets. In 2005, the revision process of the Commercial, Trade and Industrial Policy was initiated and finalised in 2009. Today, Zambia’s domestic trade policy aims at increasing competitiveness, value-addition,

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<sup>107</sup> Interview, RUDY VAN GENT, GTZ, Lusaka, 15/09/2009; interview, COSMO MWANGA, MACO, Lusaka, 16/09/2009.

<sup>108</sup> Interview, JACOB MWALE, GTAZ / GEORGE LIACOPOLOUS, ZDENAKIE Ltd., Lusaka, 15/09/2009; interview, HYDE HAANTUBA, ACF, Lusaka, 15/09/2009; interview, BWENDO KABANDE, Oxfam, Lusaka, 17/09/2009; interview, CHANCE KABAGHE / ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009.

A good example for market distortion could be observed during the food shortages in 2008. FRA’s higher floor prices led to higher consumer prices for mealie meal that in turn, caused unrest in the population. The Government then subsidised millers to bring the prices down and consequently, sidelined the private sector with regard to market mechanisms and low price levels (interview, RUDY VAN GENT, GTZ, Lusaka, 15/09/2009; interview, BWENDO KABANDE, Oxfam, Lusaka, 17/09/2009).

<sup>109</sup> Interview, JACOB MWALE, GTAZ / GEORGE LIACOPOLOUS, ZDENAKIE Ltd., Lusaka, 15/09/2009; interview, RUDY VAN GENT, GTZ, Lusaka, 15/09/2009.

and the creation of incentives.<sup>110</sup> The vision is “to become an export-driven and competitive middle-income economy by 2015, and to formalize, monitor, and regulate domestic trade activities with a view to promoting a vibrant domestic trading sector” (MCTI 2009). The priority areas of Zambia’s trade policy are: (1) agriculture, (2) tourism, (3) mining, and (4) manufacturing. In the past, agriculture was traditionally viewed as a sector of secondary importance for the Zambian economy (INTEGRATED FRAMEWORK 2005). In recent years, agricultural exports registered the strongest growth amongst non-mineral exports and, consequently, agriculture was increasingly prioritised by the Government (WTO 2009). In addition, Zambia’s small domestic market and the limited purchasing power of the people are the basis for the Government’s policy of export-led-growth.<sup>111</sup> However, the Government still faces low productivity and pressure to achieve food self-sufficiency before a surplus is allowed to be exported.

Under private sector involvement, the export strategy is currently being revised. Volumes of agricultural exports with high potential products to new markets should be increased in the frame of the new export strategy.<sup>112</sup> At present, the manufacture of processed agricultural produce, such as wheat flour and mealie meal, is the largest industry in the country; currently accounting for 60% of the total manufacturing GDP. Therefore, the Government aims at improving agro-processing to strengthen regional and international competition (MCTI 2009). So far, the liberalisation of agricultural trade has not been fully completed because agricultural products remain a sensitive product with high tariffs. Thereby, “Zambia has one of the most open trade regimes in Africa” (INTEGRATED FRAMEWORK 2005). Non-tariff measures include quantitative restrictions and administrative requirements, as well as standards and quality requirements. Export and import permits are issued by MACO to control national trade flows.<sup>113</sup> During times of food shortages, Zambia prohibits the export of grain to assure national food security. At the moment, the Government has banned the importation of wheat flour to protect national production.<sup>114</sup> To review available grain stocks in the country and advise the Government on imports and exports, the Government has installed a Stock Monitoring Committee, consisting of the Zambian National Farmers Union, Millers Association of Zambia, Grain Traders Association of Zambia (GTAZ), FRA, and MACO, that meets on a monthly basis.

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<sup>110</sup> Interview, MUYAMBANGO NKWEMU, Lusaka, 14/09/2009.

<sup>111</sup> Interview, COSMO MWANGA, MACO, Lusaka, 16/09/2009.

<sup>112</sup> Interview, JUSTIN CHISULU, Lusaka, 19/09/2009.

<sup>113</sup> For example, Zambia charges an import duty on maize flour due to cheap flour flowing in from South Africa (interview, JACOB MWALE, GTAZ/GEORGE LIACOPOULOS, ZDENAKIE Ltd., Lusaka, 15/09/2009).

<sup>114</sup> Interview, MUYAMBANGO NKWEMU, MCTI, Lusaka, 14/09/2009; interview, EMMANUEL NGULUBE, USAID, Lusaka, 15/09/2009; interview, JUSTIN CHISULU, ZACCI, Lusaka, 19/09/2009.

According to the GTAZ et al., the Committee has contributed to an improved consultation with major stakeholders involved in agricultural trade but a more consistent agricultural policy is still needed to give confidence to the private sector.<sup>115</sup> However, in contrast to Tanzania, there is no legal instrument allowing the control of exports or imports.<sup>116</sup> Decision-making processes are still intransparent and unpredictable for traders and create market distortion. Thus, a bulk of food staples is either traded informally between Zambia and its neighbouring countries or is transferred on the basis of government-to-government donations but without little private sector involvement<sup>117</sup>. When deficits occur and the Government asks the private sector to import, traders call for permission to re-export the quantities that are not absorbed by the domestic market. According to GTAZ et al., market development in Zambia is prone to fail because the Government tries to protect consumers and farmers at the same time. Furthermore, import and export restrictions, as well as sanitary and phyto-sanitary measures appear to be major challenges for Zambian traders.<sup>118</sup> Other challenges include road construction, market access, and high transportation costs due to a lack of competitiveness in the transport sector and in price stability as an incentive for farmers.<sup>119</sup>

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<sup>115</sup> Two years ago, the World Bank had funded a successful workshop in which the Prime Minister, different ministries, the private sector and various donors participated. Each stakeholder had to switch into the different role of the disputant to raise awareness and mutual trust. However, the cooperation is easily interfered with frequently changing personnel in the ministries (interview, JACOB MWALE, GTAZ / GEORGE LIACOPOULOS, ZDENAKIE Ltd., Lusaka, 15/09/2009).

<sup>116</sup> Interview, CHANCE KABAGHE / ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009.

<sup>117</sup> Interview, MUYAMBANGO NKWEMU, MCTI, Lusaka, 14/09/2009; interview, EMMANUEL NGULUBE, USAID, Lusaka, 15/09/2009. Zambia mainly imports maize from RSA, Malawi and in the past Zimbabwe. It is important to note, that South Africa's increased production of GMO maize has been conflicting with Zambia's non-GMO maize policy making other maize producing countries more attractive for imports (interview, ANTHONY MWANAUMO, FRA, Lusaka, 16/09/2009). Zambia is currently negotiating bilateral trade agreements with different neighbouring countries, i.e. Tanzania (MCTI 2009: 19). Detailed information on the conditions was not available.

<sup>118</sup> Interview, JACOB MWALE / GEORGE LIACOPOULOS, ZDENAKIE Ltd., Lusaka, 15/09/2009.

<sup>119</sup> Interview, MUYAMBANGO NKWEMU, MCTI, Lusaka, 14/09/2009; interview, SCOTT SIMONS, MATEP, Lusaka, 15/09/2009; interview, CHANCE KABAGHE / ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009.

## 4 The Border Region of Tanzania and Zambia

The analysis of the political environment in Tanzania and Zambia has shown the limitations of the political will to foster cross-border trade. Chapter 4 describes the situation on the sub-national level based on the three pillars of the Analytical Framework (AF) (see Chapter 2.2.3). Thereby, the Northern Province of Zambia is regarded as a food deficit region (consumption, market side) (see Chapter 4.1) and Mbeya and Rukwa Regions of Tanzania as food surplus regions (production, market side). The main focus of the analysis is placed on production patterns in Mbeya and Rukwa Regions (see Chapter 4.2) and trade flows from Tanzania's border town, Tunduma, to Zambia's border town, Nakonde (see Chapter 4.3). Thus, there has been no in-depth analysis from a Zambian perspective of consumption patterns in the Northern Province.<sup>120</sup>

### 4.1 Consumption and Production Patterns in the Northern Province, Zambia

According to the Zambian Living Condition Monitoring Survey (LCMS) in 2004, 1.4 million people live in the Northern Province, representing 13% of Zambia's total population (GOVERNMENT OF ZAMBIA 2004).<sup>121</sup> In the Northern Province, cassava and white maize play an important role in the people's diet. The crops are grown based on a dual cropping strategy; 70% of the households grow cassava because its cultivation is less labour intensive than that of maize. Cassava is stored in the ground and harvested when the need arises, especially during times of maize shortage.<sup>122</sup> According to Zambia's Crop Forecasting Survey (CFS) 2007/08, the area under cassava was around 111,957ha, accounting for 28% of the area nationwide under this crop (MACO 2008).<sup>123</sup> In comparison, 69% of the households grow maize, compared to 86% on the national scale (GOVERNMENT OF ZAMBIA 2004). For the harvesting season 2007/08, the CFS stated that the area planted with maize was around 80,081ha, accounting for approximately 9% of the national area under maize. Maize production in the province was 171,232t with expected sales of 89,970t,

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<sup>120</sup> The information of Chapter 4.1 is predominantly based on primary and secondary data, as well as key informant interviews conducted during a fact-finding mission to Zambia's capital Lusaka. Chapters 4.2 and 4.3 are based on farmers' and traders' field surveys in Mbeya and Rukwa Regions. For further information on the methodology and interviewed stakeholders see Tables A20 to A23 in the annex.

<sup>121</sup> In 2004, Zambia's total population accounted for 11 million people (GOVERNMENT OF ZAMBIA 2004).

<sup>122</sup> Interview, BWENDO KABANDA, Oxfam, Lusaka, 17/09/2009.

<sup>123</sup> Although the Zambian Government has introduced a Cassava Task Force (see Chapter 3.3), there is no data on cassava production available for the 2008/09 agricultural season and no detailed data for the last few years (MACO 1996-2009b).

roughly 53% of the production.<sup>124</sup> People living close to the border with the DRC produce maize mainly for export. Owing to the proximity of the DRC and the high demand, farmers benefit from selling their maize yields to the DRC and become net-buyers of maize themselves. People purchase at local markets where grain is supplied from nearby regions like Zambia's Southern Province or Tanzania's Southern Highlands.<sup>125</sup> But the dependency on rain-fed agriculture and low productivity remain major challenges to maize production in the province, especially for small-scale farmers (ZVAC 2004).<sup>126</sup> As well as cassava and maize, beans are important for the people's diet. Because the productivity is low, most people are net-buyers of beans making the availability of maize and beans essential for the diversified diet of the people, especially during times of shortage (IBID 2004).<sup>127</sup>

To be able to purchase maize and beans, food accessibility in terms of affordability is crucial. For 87% of the population, income generation depends on agricultural production, principally through small-scale farming. Although people in Zambia's rural areas are predominantly employed in the agricultural sector, there are a number of people who obtain their income from communication (3%) and trade business (2%) (GOVERNMENT OF ZAMBIA 2004). In addition, interviewees stated that a huge number of people receive remittances from relatives working in the copper mines in Northern Zambia.<sup>128</sup> In addition, many people diversify their income through cross-border business that is based on long-standing family and ethnic connections across the border. This has led to a dynamic cross-border trade with food and non-food items on which many people currently depend for their income generation. Despite Tanzania's export control on food staples, the Zambian people continue to rely on food commodities informally crossing the border from Tanzania (see Chapter 4.3).<sup>129</sup>

To sum up, there is a continuous demand for maize and beans in the Northern Province. The demand is expected to rise, in particular after bad harvests, because

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<sup>124</sup> According to the CFS 2008/09, Northern Province produced 258,226t of maize and thus, belonged to one of the main maize producing areas in Zambia; together with Eastern Province (401,343t) followed by Central (399,719t) and Southern (365,226t) Provinces (MACO 1996-2009a). For further information see Chapter 3.3.

<sup>125</sup> Interview, BWENDO KABANDA, Oxfam, Lusaka, 17/09/2009; interview, Chance KABAGHE/ANTONY CHAPOTO, FSRP, Lusaka, 19/09/2009; interview, PURNIMA KASHYAP, WFP, Lusaka, 19/09/2009.

<sup>126</sup> During the harvesting season 2008/09, maize production rose to 258,236t with expected sales of 127,849t, roughly half of the production (MACO 2008).

<sup>127</sup> Interview, EMMANUEL NGULUBE, USAID, Lusaka, 15/09/2009; interview, BWENDO KABANDA, Oxfam, Lusaka, 17/09/2009.

<sup>128</sup> Interview, BWENDO KABANDA, OXFAM, Lusaka, 17/09/2009; Interview, PURNIMA KASHYAP, WFP, Lusaka, 19/09/2009.

In 2008, these households have been seriously affected by declining remittances as a result of the dismissals during the international economic crisis (see also Chapter 3.3) (GREEN 2009).

<sup>129</sup> Interview, WILMAN KAPENJAMA, FES, Dar es Salaam, 10/08/2009; interview, STEPHEN KIRAMA, University of Dar es Salaam, Dar es Salaam, 11/08/2009; interview, WILFRIED KAYOMBO, RAA, Mbeya, 04/09/2009.

in the Zambian context the Northern Province is a surplus producing region where the Food Reserve Agency (FRA) purchases maize (see Chapter 3.3) and the maize outflow to the DRC is high. Generally, the detailed consumption and demand patterns in the Northern Province cannot be derived from the information available for this study. Despite the fact that this sub-chapter focuses solely on the Northern Province, Zambia as a whole has suffered from poor weather conditions and inefficient policies resulting in deficit maize production in the past. Consequently, Zambia regularly demands huge quantities of maize. At the moment, imports from the Republic of South Africa (RSA) mainly compensate for the deficit. But the RSA increasingly produces GM maize which conflicts with Zambia's strong policy on non-GM maize and, thus, makes imports from other nearby countries more attractive.<sup>130</sup>

## **4.2 Production and Marketing of Food Staples in Mbeya and Rukwa Regions**

Compared with the Northern Province of Zambia with import needs in times of shortages, Mbeya and Rukwa Regions in Tanzania are able to produce quantities of food staples. These are sufficient not only to meet the needs of the local population but also to supply surpluses constantly for food staples to be reliably available on the Tanzanian side of the border region.

### **4.2.1 Conditions and Patterns of Production**

Mbeya and Rukwa Regions are situated in the Southern Highlands Zone (SHZ) belonging to one of Tanzania's eight agro-ecological zones (UNITED REPUBLIC OF TANZANIA 2009b). The SHZ is geophysically characterised by plains dissected by hills and mountains. The plains are located at 1,200 to 1,400m a.s.l., with elevations up to 2,300m a.s.l. Parts in the north of Mbeya Region at lower altitudes (600 to 800m a.s.l.) have a warm and arid climate with an annual mean temperature of 25°C. The higher altitudes form the largest part of the SHZ and have a cool and sub-humid climate with an annual mean temperature of 16°C. The upper parts are characterised by reliable rainfall, mostly with a unimodal pattern. The average annual rainfall in Rukwa Region is between 800 and 1,300mm; in Mbeya Region between 650 and 2,600mm (UNITED REPUBLIC OF TANZANIA 2007a, UNITED REPUBLIC OF TANZANIA 2007b). The long rainy season from December to April is of especially high importance for crop production. Locally, a short rainy season (October to November) is also used for production, making two harvests possible per year.

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<sup>130</sup> Interview, EMMA MALAWO, MACO, Lusaka, 15/09/2009; interview, ANTHONY MWANAUMO, FRA, Lusaka, 16/09/2009; interview, CHANCE KABAGHE/ANTONY CHAPOTO, FSRP, Lusaka, 19/09.2009.

Soil conditions differ within the SHZ. There are moderately fertile clay soils and very fertile volcanic soils in Mbeya and Eastern Rukwa and sandy soils of low fertility in Western Rukwa (NATIONAL SOIL SERVICE 2001). Most parts of the two regions have a high to very high land use density with the exception of those areas with lower fertility in Rukwa Region, indicating that the expansion of land for agricultural production is limited. Agro-ecological and climatic conditions as well as soils in most areas are especially suitable for maize production with some constraints, e.g., reduced radiation and low temperature occurring locally (IBID).

There are at least five different farming systems in the SHZ. The predominant system is maize/legume. Farmers within this system mainly produce maize and beans supplemented by finger millet and groundnut. Other locally occurring farming systems are coffee/banana systems (in Mbeya Region); horticulture-based systems mainly with Irish potatoes and cabbage (in Mbeya Region); wet-rice systems (in Southern Mbeya and the area around Lake Rukwa) and an agro-pastoralist system (in Northern Mbeya).

In Mbeya and Rukwa Regions, the area of annual crops under irrigation is 87,000ha, representing 10% of the total area planted. Facilities for water harvesting are used by 11% of all farm households in Rukwa and 17% in Mbeya Region (UNITED REPUBLIC OF TANZANIA 2007a, UNITED REPUBLIC OF TANZANIA 2007b). According to (MAFC 2009c), there is an irrigation potential of at least 300,000ha in both regions due to the existence of water resources such as lakes, rivers, and groundwater. Irrigation enables farmers to cultivate their fields twice per year leading to increased annual production.

The main agricultural crops produced and consumed in the research area are maize and beans.<sup>131</sup> Maize was cultivated by all interviewed farm households and mainly harvested in June and July. Additionally, beans were grown by 72% of all interviewed farmers and mostly harvested in March and June. Rice was produced by 22% and finger millet by 19% of the households. Cassava is not important at all, as it was mentioned by only 2% of the interviewed households. Furthermore, cash crops are produced in the two regions.<sup>132</sup>

Mbeya and Rukwa Regions are usually surplus regions for the production of food staples such as maize and beans. The average yield of maize in the two regions is normally above the national level.<sup>133</sup> The same is true for self-sufficiency rates with

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<sup>131</sup> During the Focus Group Discussions (FGDs), farmers stated that maize and beans are the most important crops in their area.

<sup>132</sup> Coffee and sunflower are cultivated by 21% of the farmers in both Mbeya and Rukwa Regions. Coffee is mainly a key cash crop in Mbeya Region grown by 39% of all interviewed households.

<sup>133</sup> In 2002 a drought had adverse impacts on production in the Mbeya and Rukwa Regions.

**Table 1: Self-sufficiency Rates in Tanzania, Mbeya and Rukwa Regions\***

	2004	2005	2006	2007	2008	2009**
Tanzania	103	102	112	106	105	103
Mbeya	150	153	148	131	131	134
Rukwa	154	148	149	121	132	156

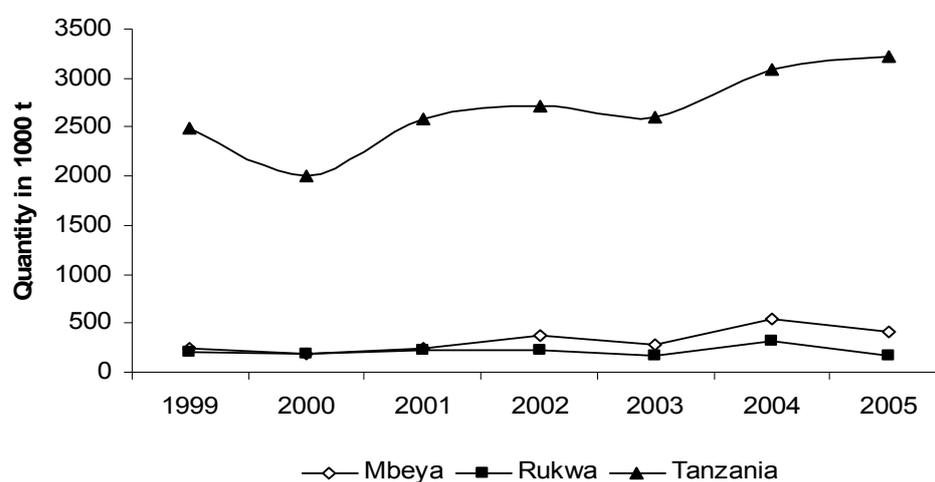
\* Cereals and non-cereals as percentage of required total consumption.

\*\* Based on the 2008/09 Preliminary Food Crop Production Forecasts.

Source: MAFC (2009a)

cereal and non-cereal agricultural products, as indicated in Table 1. Mbeya and Rukwa Regions are constantly above the average rate for the whole country and are supposed to produce food crops for three other regions in Tanzania.<sup>134</sup>

The total production of maize in Mbeya and Rukwa Regions in 2005 was slightly above 600,000t. This is almost one-fifth of the total national production in 2005, indicating the important role that farmers in both regions play in the national and regional food supply (UNITED REPUBLIC OF TANZANIA 2007a, UNITED REPUBLIC OF TANZANIA 2007b).

**Figure 4: Total Maize Production in Mbeya, Rukwa, and Tanzania (1999 to 2005)**

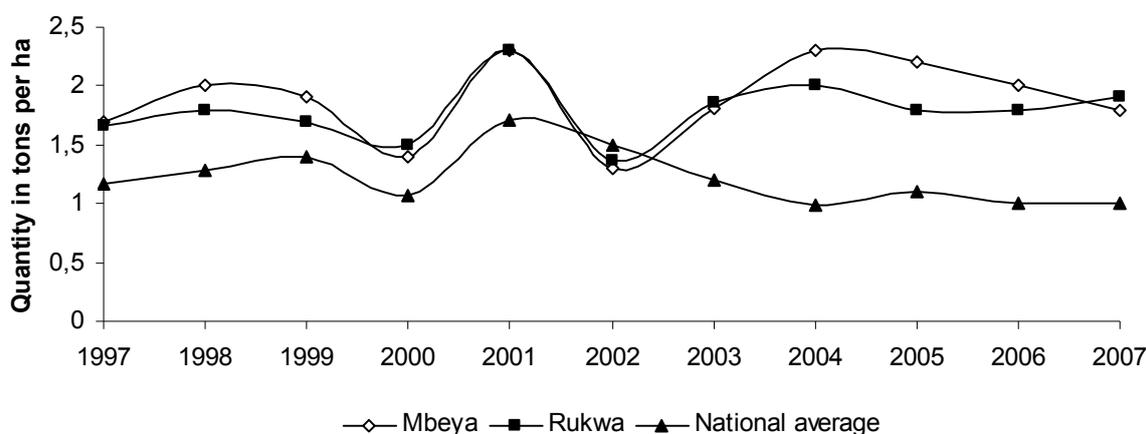
\* In 1,000 tons.

Source: UNITED REPUBLIC OF TANZANIA (2007a), UNITED REPUBLIC OF TANZANIA (2007b)

<sup>134</sup> Interview, WILFRIED KAYOMBO, Regional Agricultural Advisor, Mbeya, 04/09/2009.

The yield per ha in both regions is above the national average which is currently 1 t per ha. In recent years it was almost twice the national average yield (see Figure 5). The field survey results show that, on average, each farm household in Mbeya cultivated maize on 0.9ha and in Rukwa on 1.5ha. That means that the share of cultivated land under maize per household in Rukwa is bigger than in Mbeya Region. The yield per ha in Rukwa (1.4t) is less than in Mbeya Region (2.2t) which may be due to the generally poorer soil conditions in Rukwa compared to Mbeya.

**Figure 5: Average Yields of Maize in Mbeya, Rukwa and Tanzania\***



\*In tons per hectare.

Source: MAFC (2009a), POST HARVEST LOSSES INFORMATION SYSTEM (2009).

On average, each farm household cultivates 2ha of arable land in Mbeya and 3.1ha in Rukwa Regions. The national mean is estimated at 2ha per household (UNITED REPUBLIC OF TANZANIA 2007a, UNITED REPUBLIC OF TANZANIA 2007b). As mentioned, the land use density is high and therefore, the possibility of expansion in land use is limited. However, there is the potential to increase the total production of food staples through intensification. The potential maize yield under tropical conditions similar to the conditions in Mbeya and Rukwa Regions is from 3.5 to 10t per ha (IIASA 2000).

Agricultural land in the research area is predominantly cultivated with hand hoes and draught animals. The hand hoe is used much more often in Mbeya Region - by 81% of all interviewed farmers - and by only 37% of farmers in Rukwa Region. Whereas the majority of the interviewed farmers in Rukwa Region (85%) use the plough pulled by oxen, just 43% in Mbeya Region use draught animals (see Table 2). This shows that the degree of mechanisation in agriculture remains low.

**Table 2: Means of Cultivation in Mbeya and Rukwa\***

Region	Hand hoe	Draught animal
Mbeya	81	43
Rukwa	37	85

\* In percentage of all respondents, multiple answers, N=200.

Source: FARMERS FIELD SURVEY (2009).

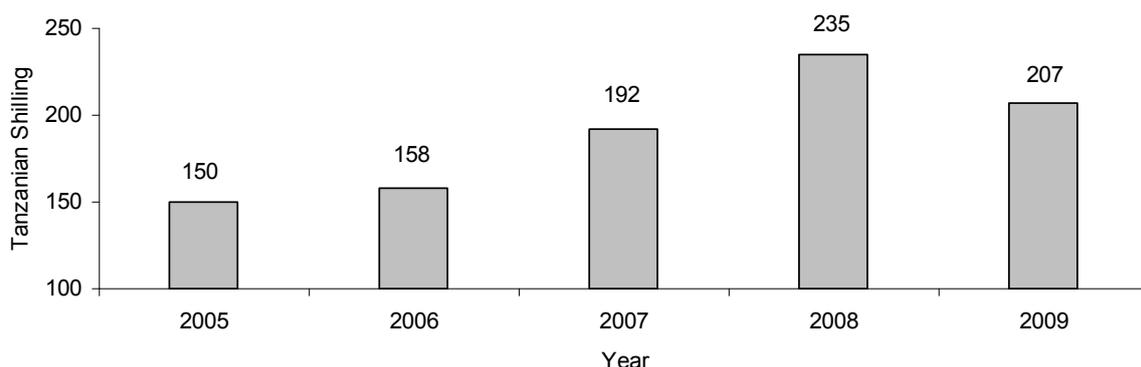
Tanzania supports its farmers by subsidising the transportation of fertiliser to remote areas. At the beginning of 2008, the voucher-based subsidy programme was being scaled up to reach 1.5 million farmers receiving 100kg of fertiliser each (IFPRI 2009). But still only 50% of the interviewed farm households use fertiliser. The majority of them (61%) apply mineral fertiliser; 22% use organic material and 16% apply both organic and inorganic fertiliser. During the Focus Group Discussions (FGDs) the farmers stated that the untimely delivery of subsidised fertiliser is an important constraint for production. At the same time, in 5 out of 7 FGD, farmers criticised the prices for inputs such as fertiliser as being too high and having a negative impact on production as well. According to the farmers, prices for fertiliser have risen from 616TSh (US\$ 0.46) per kg in 2006 to 1,186TSh (US\$ 0.89) per kg in 2009.<sup>135</sup>

A majority of interviewed households (82%) have, in general, the facility to store at least parts of their harvest and 77% of them stated that the storage facilities are large enough to store the whole of the produce.

#### **4.2.2 Marketing of Food Staples**

The marketing of produced crops is important for the income generation of the majority of rural households. In Mbeya and in Rukwa Regions 80% and 82%, respectively, of all crop-growing households sell at least parts of their harvest to the market (UNITED REPUBLIC OF TANZANIA 2007a, UNITED REPUBLIC OF TANZANIA 2007b). In 2009, the farmers received an average annual market price of 207TSh (US\$ 0.16) per kg of maize (see Figure 6). This is the price including delivery up to the warehouses of retailers or wholesalers. In comparison with 2008, prices have dropped even though the price in 2009 is still above the average price for the last 5 years which was 188TSh (US\$ 0.14) per kg of maize.

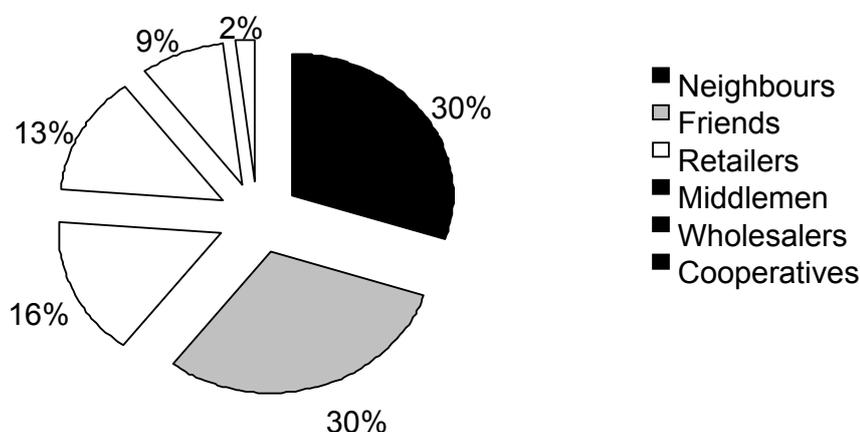
<sup>135</sup> The exchange rate used is 1,329 TSh to 1US\$ (23/09/2009).

**Figure 6: Nominal Farm-Gate Prices for Maize in Mbeya and Rukwa Regions\***

\* 2005 to 2009, in Tanzanian Shilling per kg. N=200.

Source: FARMERS FIELD SURVEY (2009).

During the FGDs, farmers were concerned about the low and unstable prices. Another important problem was that the farmers are highly dependent on a relatively small number of buyers. Normally, these buyers come directly to the villages to purchase immediately after harvest when prices are lower compared with the off-season.

**Figure 7: Information Sources on Agricultural Market Prices \***

\*In percentage of all respondents, N=200.

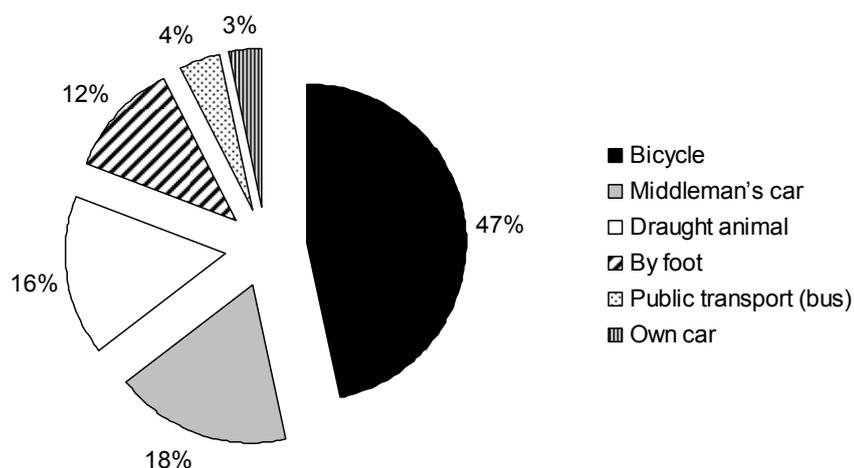
Source: FARMERS FIELD SURVEY (2009).

A functioning market price information system is an important precondition for farmers in Mbeya and Rukwa Regions to decide what quantity of the crops should be sold and at what point in time. 30% of the respondents stated that they got information on current market prices from neighbours and friends. Others, such as retailers, middlemen, and wholesalers, are the source of information for 38% of the

farmers (see Figure 7). The poor access to market price information was also mentioned during the FGD as a main problem for marketing.

The dominant means of transport from the farm-gate to the market are bicycles used by 47% of all households. Other important means are the vehicles of middlemen (18%), draught animals (16%), and transport on foot (12%). Public means of transport, e.g., buses, are of minor importance.

**Figure 8: Means of Transportation from Farm-Gate to Market\***



\*In percentage of all respondents selling their produce, N=107.

Source: FARMERS FIELD SURVEY (2009).

During the FGDs, the farmers stated that the lack of efficient transport was the most important problem for marketing their produce. Even if markets are not far away, the transportation costs are high and amount to 64 TSh (US\$ 0.05) per kg of maize, roughly 30% of the gross turnover.

About 32% of the farm households in Mbeya Region are organised in co-operatives. But in Rukwa Region, only a few farmers (3%) are members of co-operatives. The main reason for the higher degree of organization in co-operatives in Mbeya Region is that almost all of the organised households are coffee producers (UNITED REPUBLIC OF TANZANIA 2007a). The establishment of marketing co-operatives for traditional cash crops such as coffee was very much supported by the Tanzanian Government in the past (TFC 2006). Since the implementation of the National Poverty Reduction Strategy, the Government encourages people to form co-operatives (also for food crops or non-traditional cash crops such as maize) to improve their economic prospects (IBID).

On the one hand, 52% of the interviewed farmers are net-sellers. On the other hand, even though Mbeya and Rukwa Regions are producing surpluses, the results of the

field survey revealed that 43% of the interviewed households did not meet their individual food requirements throughout the year (net-buyers). Their own production was not sufficient for an average of 3 months.

Most of the participants during the FGD stated that they were aware of the Export Control Act (see Chapter 3.2). According to the farmers, the Export Control Act leads to lower market prices and is therefore, a disincentive for the net-sellers to produce more but is favourable to net-buyers who benefit from lower prices. The farmers know that there is a high demand on the other side of the border and pleaded for the border to be opened. The farmers did not appreciate the governmental policy of supporting agricultural production on the one hand and stopping exports of food on the other.

### 4.2.3 Access to Services in Rural Areas

The majority of the farmers do not have the opportunity to take out a loan to purchase production inputs. Only 13% of the households have access to credits. In general in Tanzania, the availability of agricultural credit for production is limited (AMANI 2005). The lack of capital was mentioned as one major problem during the FGD. It is important to mention that, currently, access to credits is significantly linked to membership in co-operatives. Furthermore, members of coffee marketing co-operatives use the borrowed money for investment in other branches of their business.

In 11 out of the 20 villages in which interviews were conducted, all residents were provided with agricultural extension services by the local Village Extension Officer. In the remaining nine villages, all interviewed respondents had no access to extension services at all because there no extension officers were domiciled in these villages.

**Table 3: Benefits provided from Extension Services\***

Benefits	Percentage
Increased crop production	83
Improved crop production	56
Increased income	49
Improved livestock production	42
Increased livestock production	41

\*In percentage of all respondents with access to extension, multiple answers, N=98.

Source: FARMERS FIELD SURVEY (2009).

The most important benefit the farmers derived from the extension services was an increase in production (see Table 3). A majority (83% of interviewees) stated that with extension the harvest was increasing. But only 49% declared that their income had increased at the same time. This indicates that agricultural extension in Tanzania focuses more on production aspects and less on adequate marketing systems.

During the FGDs, farmers in those villages without an extension officer stated that providing them with extension services would give them opportunities for better production.

### **4.3 Trade with Food Staples between Tanzania and Zambia**

After having analysed the production patterns and marketing conditions, this Chapter concentrates on the market-pillar of the AF. Market conditions and the peculiarities of cross-border trade from Tanzania to Zambia are analysed. First, the trade relations between Tanzania and Zambia are described and main trading partners within the SADC region are identified. Following this, under the assumption that any food staple crossing the border contributes to food availability in Zambia (see Chapter 4.3.1), formal and informal cross-border trade will be analysed. The analysis of the cross-border trade focuses mainly on maize because it plays an important role for the people's diet in Zambia's Northern Province and is predominately produced in Mbeya and Rukwa Regions. Afterwards, market channels with its corresponding actors on the Tanzanian and Zambian side are described and an overview of relevant actors, their purchasing and selling prices are given (see Chapter 4.3.2). In the end, main hindrances for cross-border trade are identified (see Chapter 4.3.3).

#### **4.3.1 Cross-border Trade with Major Food Staples**

Tunduma border, located in Mbeya Region, is the most relevant trade corridor to Southern Africa as well as to the rest of Tanzania. Thus, most crops produced in Mbeya and Rukwa Regions are transported to Tunduma from where they are sold either inside or outside the country. In general, different reasons can be highlighted why cross-border trade exists. One of the reasons is the proximity of Tanzania and Zambia. Because southern Tanzania's transport connections to the rest of the country are inadequate, there are more incentives to sell surpluses to nearby deficit areas. This is especially true in the case of Rukwa Region where distances to the rest of the country are longer and roads are comparatively poor, whereas in Mbeya Region there are relatively good road and railway connections to Dar es Salaam and the north of Tanzania (WFP / FEWS NET 2009).

Therefore, trade flows from the southern part of Tanzania to neighbouring countries,

such as Zambia and the DRC, have been recorded, irrespective of tariffs and non-tariff barriers (NTBs) (see Chapter 4.3.3).

**Table 4: Tanzania's Official Exports of Maize to SADC Member States**

Country of Destination	2005		2006		2007	
	Export (tonnes)	Share of Tanzanian exports to resp. SADC country	Export (tonnes)	Share of Tanzanian exports to resp. SADC country	Export (tonnes)	Share of Tanzanian exports to resp. SADC country
ZAM	2,942	35%	11,825	52%	54	1%
MAL	2,000	24%	8,000	35%	0	0%
DRC	3,423	41%	2,377	11%	2,323	32%
RSA	35	0%	455	2%	4,801	67%
Total		100%		100%		100%

Abbreviations: MAL (Malawi); RSA (Republic of South Africa); ZAM (Zambia); DRC (Democratic Republic of Congo)

Source: NBS (2009)

Interviewees at Tunduma border stated that their trading partners with or without the Export Control Act have not changed over time.<sup>136</sup> Another incentive for trade between Tanzania and its neighbouring countries is the high price level in Zambia and in the DRC (see Chapter 4.3.2).

Current trade flows within the SADC region reflect the importance of trade connections between Tanzania and Zambia. With regard to maize exports, Tanzania's most important trading partners within the SADC region are Zambia, the DRC, Malawi and the RSA (see Table 4). Trade flows to Malawi, Zambia or the RSA vary a lot. Focussing on Zambian-Tanzanian trade, almost no official trade occurred in 2007 but in 2006, more than 50% of Tanzanian exports to SADC member countries (around 12,000 t) were exported to Zambia.<sup>137</sup> A possible reason might be higher production in Zambia in 2006/07.<sup>138</sup> Overall, maize is Tanzania's most important item, exported to Zambia.

<sup>136</sup> 78% of the interviewed wholesalers at Tunduma border said their trading partners did not change in the last years (TRADERS FIELD SURVEY 2009).

<sup>137</sup> Although statistics from the Tanzania National Bureau of Statistics (NBS) and the Zambian Ministry of Commerce, Trade and Industries (MCTI) do not completely comply with each other, data from the MCTI show a similar trend: In 2007, Zambia imported only 311t officially from Tanzania, but in previous years, up to 15,600t (see Table A24 in the annex).

<sup>138</sup> Total maize production in Zambia summed up to 1.4 million tonnes, almost 40% more than in the preceding year (MACO 1989 - 2009).

**Table 5: Zambian Imports of Maize and Beans from Tanzania – Informal Trade\***

	2005/06	2006/07	2007/08	2008/09
Maize	13,556	6,260	4,980	2,449
Beans (dried)	472	588	1,058	946

\* In tonnes.

Source: WFP/FEWS NET (2009).

Besides maize, beans and rice are also exported formally to Zambia, although quantities are low (NBS 2009a). Wheat or meslin flour is even less important. Although wheat is being processed and in accordance with Tanzanian law is allowed to be exported, Zambia has currently imposed an import ban on wheat flour from Tanzania.<sup>139</sup> Compared with formal trade, the informal trade flows of maize between Tanzania and Zambia are comparatively high.

#### **Box 6: General Information of Tanzania's Trade with Maize**

Tanzania is generally a net-importer of cereals, comprised of i.a. wheat, rice, maize and sorghum. Total import quantities vary between 530,000 tons and 985,000 tons each year (2002-2007) (SADC DATABASE, 2009). Tanzania's most relevant trade partners for imports of maize are the United States of America (above 50% of all imports), Uganda (20%), and Mexico (13%) (NATIONAL BUREAU OF STATISTICS 2006).

Concerning trade with maize, Tanzania is mainly a net-exporter. In the majority of cases export quantities are exceeding import quantities (see Table 1).

**Table 6: Tanzanian Net-exports of Maize (2002 to 2007)**

	2003	2004	2005	2006	2007
Maize (t)	78.201	-74.627	82.493	-229.125	80.467

Source: ITC (2009).

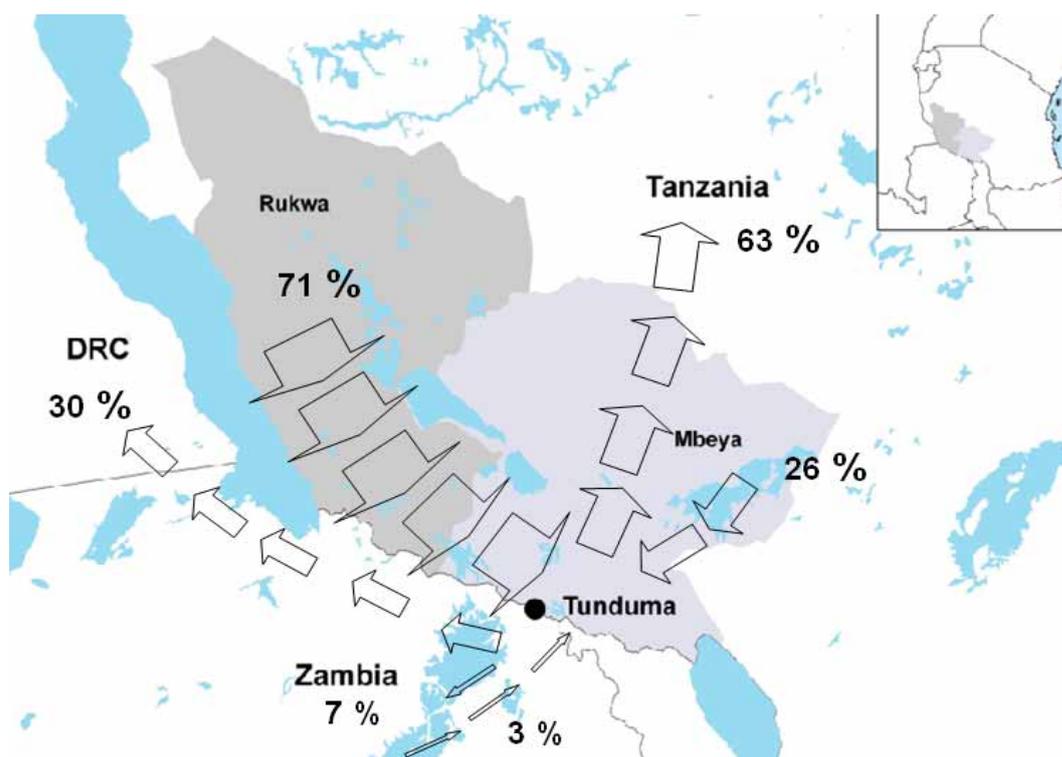
According to the SADC database, maize from Tanzania is mainly exported to Kenya or stays within SADC. The table below shows the most important customers of Tanzania's maize exports.

**Table 7: Tanzanian Exports of Maize**

	2005	2006	2007
Maize (t)	79,280	22,807	69,578
Thereof Exports to Kenya (%)	63	0,5	30
Thereof Exports to SADC (%)	11	99	10

Source: NBS (2009).

<sup>139</sup> Nevertheless, wheat crosses the border because the Zambian import ban promotes the transportation of wheat to the DRC in transit. Between 2006 and 2008, Tanzania exported 2,000 up to 6,000t to the DRC each year (see Table A24 in the annex).

**Figure 9: Origin of Maize traded in Tunduma and Origin of Customers**

Source: TRADERS FIELD SURVEY (2009), KEY INFORMANT INTERVIEWS (2009).

In 2005/06, the informal exports to Zambia (13,556t) were around 10% higher than formal trade flows recorded for the same period.<sup>140</sup>

In 2007, only 1% of the total trade crossed the border via official channels (see Table 4).<sup>141</sup> The same applies to informal trade with beans. Between 2005 and 2008, informal trade flows of beans were always above formal trade volumes. For example, in 2007 no formal trade took place (see Table A24 in the annex); while 1,058 tons of beans were traded informally (see Table 5).

The statements of wholesalers at the Tunduma border underline the fact that informal trade is a crucial issue. They stated that up to 50% of the produce reaching the border region is traded across the border informally with bicycles or carts.<sup>142</sup> In general, most traders prefer informal trade along the porous border between Tanzania and Zambia to avoid expensive taxes and other trade-related payments.<sup>143</sup> However, farmers and traders who avert risks associated with such trade are

<sup>140</sup> Informal trade with maize normally reaches its peak immediately after harvest in July when many Tanzanian farmers have ample on-farm stocks to sell. (WFP / FEWS NET 2009).

<sup>141</sup> The informal trade data are assembled by the Famine Early Warning Systems Network (FEWS NET), which is financially supported by USAID. As they are the only organisation investigating informal trade flows within southern Africa, the information in this report is based solely on this source.

<sup>142</sup> FGD with wholesalers at Tunduma, 15/08/2009.

<sup>143</sup> Interview, PETER RUSHOKANA, Agricultural Officer, MAFC, Tunduma, 07/09/2009.

excluded from participation in the market (WFP / FEWS NET 2009). In addition, Government loses revenues when no duties are paid and furthermore it has no influence on record keeping or quality control of products crossing the border.

As already mentioned, Tunduma plays an important role for trade within Tanzania and its neighbouring countries, such as Zambia or the DRC. Maize, as the main food staple traded, is mainly produced in Rukwa Region and from there transported to Tunduma. Out of the wholesalers interviewed in Tunduma, 71% stated that they obtained maize from Rukwa Region; 26% of them said it came from Mbeya Region (see Figure 9).<sup>144</sup>

Despite bad road connections and other disincentives to trade domestically, the field survey revealed that 63% of the wholesaler's main trading partners were based within Tanzania whereas 30% mentioned that they mainly traded with customers from the DRC and 7% with Zambian customers. This was further reflected by their preferred trading partners; i.e., 68% of the wholesalers stated that they have good relations with Congolese traders and only 8% preferred to trade with Zambian customers.<sup>145</sup>

In this context, it was observed that food staples coming from Tanzania do not necessarily remain in Zambia. While food staples are exported to the DRC via Zambia, the interviewees also stated that commodities in transit to the DRC are occasionally offloaded in Zambia.<sup>146</sup> Since there is no information available on this, the real quantities of food staples imported from Tanzania to Zambia might differ from above-mentioned figures.

### 4.3.2 Market Chain and Market Development

Market participants refer to individuals or firms that are involved in the marketing process (MUKWENDA 2005). Based on the field surveys with wholesalers and farmers in Mbeya and Rukwa Regions and on the analysis of interviews with key informants, a market chain was developed (see Figure 9). Due to the export ban on maize, the market chain shows the stakeholders involved in informal cross-border trade and stakeholders of domestic demand.

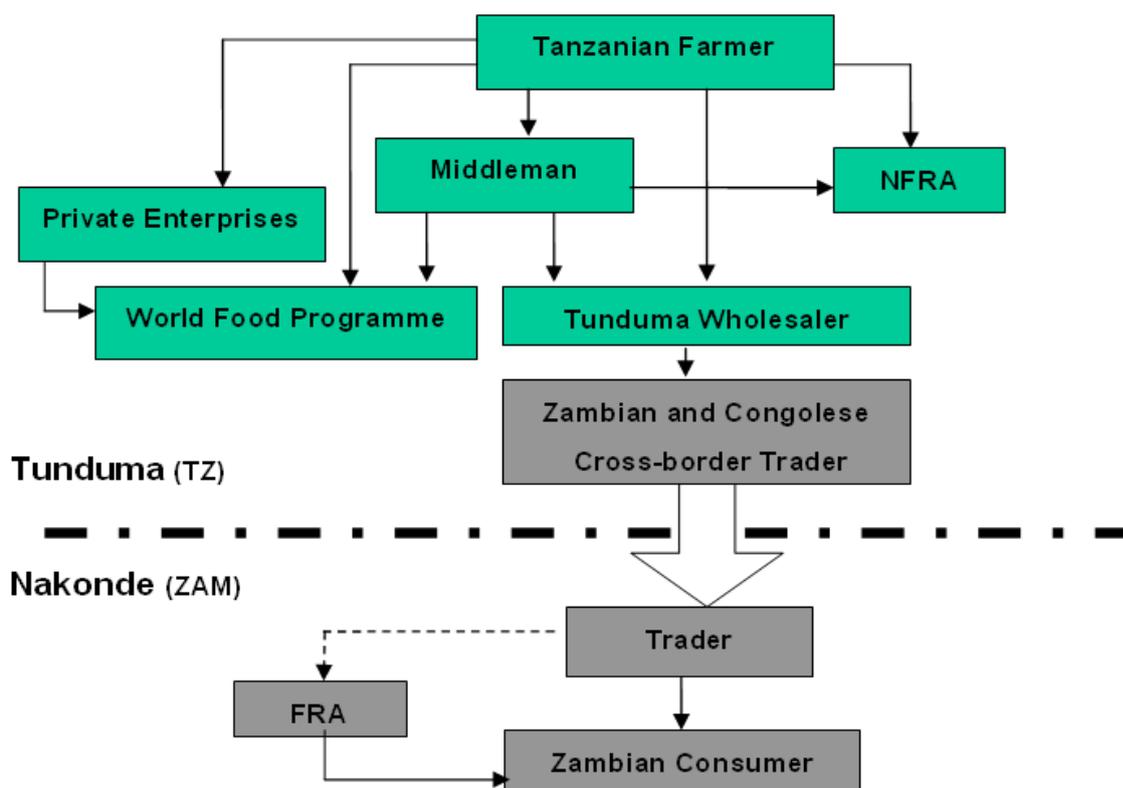
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<sup>144</sup> Only 3% of the wholesalers mentioned Zambia as a main source for buying (TRADERS FIELD SURVEY 2009).

<sup>145</sup> Nevertheless, it has to be mentioned that the real meaning of Zambian or Congolese as trade partners for Tanzania might be underestimated. Against the background of an export ban on maize, it is likely that the interviewed wholesalers do not feel comfortable about illegal trade relations with other countries. Therefore, it can be assumed that their statements are biased and information regarding trade relations with Zambia and the DRC may have been retained.

<sup>146</sup> Interview, EMMANUEL NGULUBE, USAID, Lusaka, 15/09/2009; interview, BWENDO KABANDA, Lusaka, Oxfam, 17/09/2009. These statements have been further affirmed by personal observations during the bus trip from Nakonde to Lusaka (11/09/2009).

**Figure 10: Market Chain for Tanzanian-Zambian Cross-border Trade with Maize**



Source: Own compilation (2009).

The farmer's field survey revealed that most of the time Tanzanian farmers sell their products to middlemen (68.2%)<sup>147</sup> or wholesalers (9.6%); only a few sell their produce directly to the National Food Reserve Agency (NFRA).<sup>148</sup> Occasionally, via middlemen, farmers sell their produce to private enterprises or to the World Food Programme (WFP).<sup>149</sup> Most of the time middlemen buy the produce at the farm-gate because farmers usually do not have the capacity to transport their produce to nearby markets. The distance from the farm-gate to the nearby markets in Mbeya Region is on average 10 km, in Rukwa Region up to 28 km. This is apparently a long

<sup>147</sup> A middleman is defined as a stakeholder, who acts as a bond between farmers and traders, and demonstrates a key link in the marketing chain (KABUNGO 2008). The middleman is involved in buying the produce at farm-gate, collecting and transporting it to selling points, such as Tunduma. Other terms, such as transporter, broker, village assembler or collector are used in literature with a similar meaning (IBID, MWAMNYANGE 2008). The research in the border region revealed that in a few cases the activities of the middlemen, such as collection of produce in the villages, are undertaken by two different actors, the assembler and the transporter (FGD, Tunduma, 15/08/2009).

Generally actors involved in trade can change their roles. A wholesaler at Tunduma border, for instance, can take the role of a middleman by collecting and buying goods from the producing village himself or herself instead of purchasing the goods from middlemen.

<sup>148</sup> 68% of 184 valid cases mentioned that middlemen are their major buyer. The same applies for 10%, who said they sell their produce to wholesalers and 2%, who tender their produce by co-operatives (FARMER FIELD SURVEY, 2009).

<sup>149</sup> Interview, JUVENAL KISANGA, WFP, Dar es Salaam, 13/07/2009.

distance for farmers whose transportation means are by bicycle or else on foot (see Chapter 4.2). From the nearby markets the produce is transported to Tunduma, where wholesalers get involved.<sup>150</sup> Most of them are sedentary traders who do not cross the border themselves and instead sell to traders coming from Zambia or the DRC. They have comparatively good market conditions: 72% of the wholesalers at Tunduma stated that they buy crops from different vendors; thus, the dependency on a single supplier is low. Furthermore, the field survey revealed that 85% of the wholesalers have access to storage facilities with an average capacity of 509 bags. This allows them to act independently of harvest and lean seasons.

NFRA is another important player for the farmers in Mbeya and especially Rukwa Regions. In 2009, there has been just one sub-station of the NFRA buying centre in Mbeya Region (Mbozi District), but in the Rukwa Region there are six buying centres.<sup>151</sup> In Sumbawanga District (Rukwa Region), there are four sub-centres in bigger villages; this enables the nearby farmers to sell their produce at NFRA's floor price. In Rukwa Region, there are storing facilities for 38,000t of grains altogether, equivalent to 20% of the average production. In 2009/10, NFRA plans to purchase up to 60,000t from Rukwa Region.<sup>152</sup> In comparison, in 2008/09, the agency purchased about 27,000t and in 2007/08, 45,200t of maize, equivalent to 13% of the total production during that period (UNITED REPUBLIC OF TANZANIA 2009a).

For farmers, the purchase of private enterprises is also important. Enterprises such as Salim Said Barkhesa and Mohammed Enterprise are mainly involved in intra-national trade with maize flour for domestic consumption. Mohammed Enterprise buys around 25,000t of maize from Sumbawanga District each year.<sup>153</sup> These enterprises are not involved in cross-border trade with maize between Tanzania and Zambia. But in times of food shortages<sup>154</sup>, the private sector is commissioned by the Government to import grain from international markets since the NFRA has no mandate to import (see Chapter 3.2).

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<sup>150</sup> Wholesalers are not exclusively involved in transporting the produce to the Tunduma market. Sometimes they are involved in purchasing food staples right at the village level. The trader survey results show that almost 58% of the wholesalers buy their products directly from the farmers, while around 40% buy from middlemen. Thus, most of them maintain trade relations straight with the village level. This result is contradictory to the statements of the farmers, who said they predominately traded with middlemen (FARMERS FIELD SURVEY, 2009).

<sup>151</sup> Interview, ALBERT NGONDO, NFRA, Dar es Salaam, 19/08/2009.

<sup>152</sup> Interview, RAMADHANI MKILINDI, NFRA, Sumbawanga, 02/09/2009.

<sup>153</sup> Mohammed Enterprises is located i.e. in Mbeya and Rukwa Regions.

<sup>154</sup> In 2008/09, the Tanzanian Government asked the private sector to import 300,000t to compensate for national grain shortages. After all, enterprises managed to import only 80,000t and consequently, consumer prices increased. According to MAFC, the private sector is interested only in business when chances of profit do exist (interview, JOHN MNGODO, MAFC, Dar es Salaam, 15/08/2009). However, Salim Said Barkhesa argued that the importation of white maize from the RSA was economically not sustainable, because in 2008 market price was above local price level (interview, SAID MOHAMMED SAID, Dar es Salaam, 25/09/2009).

WFP also purchases maize in Mbeya and Rukwa Regions based on the warehouse receipt system. The purchasing volume is around 500t per year and the maize is mainly transported to deficit areas in Northern Tanzania. WFP is also not involved in cross-border trade.<sup>155</sup>

Since the Tanzanian wholesalers are sedentary, the Zambian traders cross the border to purchase in Tunduma. Then, small quantities of maize are transported to Nakonde, Zambia, by bicycles on so called 'panya' routes<sup>156</sup>, which are hidden paths next to the official border post. On the Zambian side, FRA is one important buyer of maize crossing the border from Tanzania. FRA purchases maize throughout Zambia, including the Northern Province. Its high floor price attracts informal maize imports from Tanzania.<sup>157</sup>

### Comparison of Market Prices

In general, maize prices paid by different stakeholders diverge remarkably. This is especially relevant for the position of wholesalers and middlemen in the market as well as for the farmers, as prices are fundamental incentives for production. Table 8 shows seasonal prices paid by the most relevant stakeholders at the village level, i.e., wholesalers in Tunduma, NFRA, and private enterprises on the Tanzanian side. The table presents the price developments in September 2009 which are based mainly on Mbeya and Rukwa Regions.

While the wholesalers stated that the buying price lies around 200TSh (US\$ 0.15) per kg, NFRA purchases maize in Sumbawanga District for a minimum price of 270TSh/kg (US\$ 0.2), and in Mbeya Region for 300TSh/kg (US\$ 0.23). Mohammed Enterprise, located in Sumbawanga District and Mbeya Region, pays between 240 and 250TSh/kg (US 0.18US\$/kg) at the farm-gate. In comparison, Salim Said Barkhesa's purchasing price for maize on a national average is around 300TSh/kg (US\$ 0.23).

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<sup>155</sup> However, a few interviewees stated that there are no clear insights regarding WFP's export regulations and interaction with the Tanzanian Government, which makes room for speculations (interview, WILMAN KAPENJAMA, FES, Dar es Salaam, 10/08/2009; interview, ANA MARGARIDA MARIGUESA, EC, Dar es Salaam, 27/08/2009).

<sup>156</sup> "Panya" translated from Kiswahili into English, means "mouse".

<sup>157</sup> The Crop Forecasting Surveys conducted by the Zambian Ministry of Agriculture can be regarded as circumstantial evidence because they indicate a production forecast that in the past has been lower than the actual production shown in the Post Harvest Surveys (PHS). Interviewees further stated that imports from Tanzania are included in the official production data of bordering provinces in Zambia. However, the PHSs of the past three years are not yet ready (interview, WILFRIED KAYOMBO, REGIONAL AGRICULTURE ADVISER, Mbeya, 04/09/2009; interview, DINGI BANDA, MACO, Lusaka, 09/16/2009).

**Table 8: Nominal Price Data of Maize, September, 2009\***

	<b>Tunduma Wholesalers</b>	<b>NFRA</b>	<b>Private Enterprises</b>
Buying Price	200 TSh/kg (0.15 US\$/kg)	270-300 TSh/kg (0.2-0.23 US\$/kg)	250-300 TSh/kg (0.19-0.23 US\$/kg)
Selling Price (Tunduma Market)	250 TSh/kg (0.19 US\$/kg)		

\* Exchange rate 1,329 TSh to 1 US\$ (23/09/2009)

Source: Interview, RAMADHANI MKILIND, NFRA, (02/09/2009), interview, SAID MOHAMMED SAID, Salim Said Barkhesa (25/09/2009), TRADERS FIELD SURVEY (2009).

In general, it is notable that NFRA's floor price is above the price paid by wholesalers. Thus, farmers with access to NFRA buying centres, in Rukwa Region for example, will most probably sell their produce to NFRA.

In Zambia, a similar situation can be observed. The Zambian maize market is influenced by FRA's floor price and by exchange rate fluctuations. From May to July 2009, the market price for maize was about 1,136 ZK/kg (US\$ 0.24) (CENTRAL STATISTICAL OFFICE OF ZAMBIA 2009), while FRA's floor price was around 1,300 ZK/kg (US\$ 0.27).<sup>158</sup> The difference between the selling price at Tunduma of 250TSh (US\$ 0.19) and the FRA price is even higher. Without considering transportation costs<sup>159</sup> and other intermediaries involved, the difference displays a marketing margin of 110TSh/kg. This makes Zambian maize markets more attractive for cross-border traders.

### 4.3.3 Non-tariff Barriers and Trade Procedures

Concerning tariffs, Tanzania and Zambia are currently treating cross-border trade in different ways. While Tanzania currently applies an import tariff of 15% ad valorem (see Table A17 in the annex) for maize from other SADC countries,<sup>160</sup> Zambia allows imports free of any tariffs (see Chapter 3.3). Both sides do not apply any export tariffs. As the analysis has shown, formal trade for food staples concentrates on exports from Tanzania and imports to Zambia. It is likely that as long as Tanzanian import tariffs exist exports of food staples from Zambia to Tanzania cannot compete on Tanzanian markets, even in times of surplus in the Zambian border region.

Formal trade for food staples between both countries is controlled by a range of non-

<sup>158</sup> The calculation is based on an exchange rate of 4,733 Zambian Kwacha (ZK) for 1 US\$ (23/09/2009).

<sup>159</sup> The charge for transporting goods from the Tanzanian to the Zambian side of the border is around 1,000 TSh (US\$ 0.75) per bag. Within Tanzania, transportation costs are around 230TSh/km/t (US\$ 0.17).

<sup>160</sup> For 2010, the Tanzanian import tariff for maize (HS 1005.90.00) will be reduced to 10% ad valorem to be completely eliminated by 2012, see Table 17 in the annex.

tariff barriers (NTBs). Table 9 gives an overview on the measures currently applied for bilateral trade in maize, with the main focus on Tanzanian exports. The procedures described for maize are also applicable for other food staples.

The instrument to implement the Tanzanian Export Control Act (see Chapter 3.2) is the issuing of export permits. These permits are always required for any consignment above 1 t per person.<sup>161</sup> In times when the ban is imposed, the Ministry of Agriculture, Food Security and Cooperatives (MAFC) rejects the applications for those permissions. However, the Ministry grants waivers from the ban, if this is seen to be necessary. Under particular circumstances, the waiver can also be granted by the Regional Commissioner's Office after consultation with the Ministry. On the Zambian side, import permits are necessary which can be obtained directly at the border posts with administrative charges of US\$ 7 per 30t.

Both countries demand phyto-sanitary certificates for bilateral trade. Tanzania requests certificates for consignments above 100t with inspection and obligatory fumigation (see Table 9). Zambia inspects any container or truck to avoid the import of pests and diseases. With fumigation, a delay in trade has to be taken into account depending on the pesticide used.

To benefit from the privileges of intra-SADC trade Tanzanian exporters have to obtain certificates of origin for the Zambian customs procedures. Otherwise imports are treated as third-party consignments.

Both countries apply a number of taxes to local and regional authorities. As Table 9 shows, these taxes vary between districts on the Tanzanian side and can be applied more than once for one consignment. These taxes are applied for any consignment, independent of the final destination of the goods.

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<sup>161</sup> Interview, CLEMENT LULAJI, RTO Rukwa, Sumbawanga, 08/08/2009.

**Table 9: Non-tariff Barriers for the Formal Trade of Maize**

<b>TANZANIA</b>	<b>ZAMBIA</b>
Export permits	Import permits
<p>An export permit in Tanzania is needed only for “big” quantities above 1 t from MAFC and is free of charge.</p> <p>Small quantities that do not need a permit are below 1 t per person.</p> <p>Note: Required even in times without the Export Control Act, and issued on a “walk in, walk out basis”, valid for one month, otherwise it has to be extended.</p>	<p>Import permits can be obtained at the MACO offices in Nakonde for all cereals with the exception of wheat and wheat flour which has to be applied for in Lusaka.</p> <p>The cost is about 7 US\$/30 t. There have been no protective policies for cereals recently with exception of wheat; import has been banned and thus all the wheat from Tanzania is in transit to the DRC.</p>
Phyto-sanitary certificate	
<p>A phyto-sanitary certificate is needed for consignments of 100 t and above.</p> <p>Maize consignments are inspected at warehouses; samples are analysed for sanitary and phyto-sanitary standards.</p> <p>Fumigation is obligatory and costs 100 US\$ per consignment done by the trader under MAFC official supervision/observation.</p> <p>Note: It takes up to 4 days before goods can be traded after fumigation (Phosphine or Methyl bromide)</p>	<p>Plant import permit is needed: it costs 1 US\$ and then inspection per container/truck follows at about 11 US\$ each.</p>
Certificate of Origin	
<p>Traders must obtain the certificate from the TCCIA at a fee of about 15 US\$ and upon certifying all the above procedures.</p>	<p>Certificate of Origin duly signed by the exporter and authenticated with a seal and signature by the designated TCCIA official must be submitted to customs office.</p>
Taxes	
<p>Traders taking cereals from production areas have to pay taxes to local authorities, i.e., village authorities, district councils, and market levies (Source).</p> <p>There are also so-called withholding taxes and stamp duties (FEWS NET/WFP, 2002:07).</p> <p>Note: These taxes vary between district, villages and markets but state unpractised laws demand no doubling of taxes.</p>	<p>For each car a COMESA fee around 80 US\$ for 3 months has to be paid.</p> <p>Traders have to pay council and city levies which are 76 and 6.5 US\$ respectively.</p> <p>Truckers must pay about 43 US\$ as carbon tax.</p> <p>Also, the road toll which is to be paid on annual basis lays at 330 US\$.</p> <p>Where the container has no customs seal for products in transit, the escort costs 50 US\$ per truck.</p>

Source: TRADERS FIELD SURVEY (2009).

For both, formal and informal trade several other trade hindrances are of importance. Cross-border and domestic trade are controlled at road blocks, weighbridges, and other check points. These check-ups are in place for different purposes, for the collection of local taxes, for the control of rules and regulations, and for security. On the main road towards Tunduma there are about seven to eight road blocks and two weigh-bridges only within the Mbeya Region. For the whole way from Dar es Salaam to the Zambian border about twenty road blocks and other traffic controls are counted.

There are complaints about the cumbersome and bureaucratic procedure for obtaining phyto-sanitary certificates (WFP / FEWS NET 2002). Getting permits can take days and this necessitates a delay in purchases and shipments. This provokes traders to risk informal cross-border trade. Quality control is then compromised. It is impossible to trace and inspect the products crossing the border informally. This has made cross-border surveillance and the control of trans-boundary pests and diseases difficult. Tanzania is blamed by neighbouring countries for spreading pests and diseases to their countries.<sup>162</sup>

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<sup>162</sup> Interview JACOB MWALE, GTAZ / GEORGE LIACOPOLOUS, ZDENAKIE Ltd., Lusaka, 15/09/2009, interview, Anthony Mwanaumo, FRA, Lusaka, 16/09/2009.

## 5 Assessment of the Field Survey Results

As recommended in the Analytical Framework (AF) (see Chapter 2), the assessment of the case study is based on two tools. (1) Relevant government strategies and implementing institutions regarding agricultural trade and food security and their effects on different stakeholders are illustrated in the policy matrix (see Chapter 5.1). (2) Results from the farmers' and traders' field surveys are summarized and evaluated by using a SWOT (Strength, Weaknesses, Opportunities and Threats) analysis (see Chapter 5.2). Based on the SWOT Analysis, the potentials are identified for farmers to increase production and for traders to intensify cross-border trade. Finally, in Chapter 5.3, recommendations based on identified potentials are given.

### 5.1 Evaluation of the Political and Institutional Level

Agricultural policies encompass both food security and agricultural trade policies, but neither in Tanzania nor in Zambia is there an explicit policy existing for each sector. The policy matrix focuses solely on those stakeholders affected by the corresponding policies in the respective country, either in Tanzania or Zambia; e.g., it does not allow any conclusions on the effects of Tanzanian policies on Zambian consumers and vice versa. Within the scope of the matrix, farmers may be simultaneously considered as consumers.

By filling in the matrix, the conflict of interest between the policy goals of food security and agricultural market liberalization was striking in both countries. The measures cannot be assigned to one single policy since they pursue different goals; e.g., fertilizers are subsidized to intensify production for agricultural growth on the one hand and to ensure food security on the other. The matrix is described in accordance with Table 10; for the detailed policy matrix for both countries see Tables A25 and A26 in the annex.

#### Food Security and Agricultural Policies

Governments in both, Tanzania and Zambia subsidise fertilisers to intensify agricultural production with the aim of increasing the level of national food security.

In **Tanzania**, fertilizers are distributed to increase agricultural growth and production or food availability at the same time. Farmers who receive subsidized fertilizers are able to reduce production costs for food staples. However, in many areas fertilizers are distributed belatedly; thus not allowing the farmers to use the input at the most appropriate time, with a smaller increase in yields compared to results after delivery in good time. This may indirectly lead to unpredictable yields and tradable crops for

traders which in turn may cause supply-side constraints in the long run. Like in Tanzania, the **Zambian** Government subsidizes fertilizers to assure national food security and to foster agricultural growth simultaneously. The Fertilizer Support Programme (FSP) should stimulate maize production and operate on a refund scheme. Fertilisers are given out by co-operatives; this means that only farmers organised in co-operatives actually benefit from the programme, especially when the co-operative is affiliated to the ruling party.

**Table 10: Synopsis of the Policy Matrix**

	<b>Policy/Strategy/Institution</b>	<b>Goals</b>
<b>Tanzania</b>	<b>Food Security and Agricultural Policies:</b> Kilimo Kwanza (2009), Agricultural Development Sector Strategy (2001)	Intensification of domestic production
		Food security at national and household level
	<b>Agricultural Trade Policy:</b> Kilimo Kwanza (2009), National Trade Policy (2003)	Creation of a diversified and competitive export sector
	National Food Reserve Agency	National food security
<b>Zambia</b>	<b>Food Security and Agricultural Policies:</b> Fifth National Development Plan (2006), National Agricultural Policy (2004)	Intensification of domestic production
		Food security at national and household level
	<b>Agricultural Trade Policy:</b> Commercial, Trade, and Industrial Policy (2009), Fifth National Development Plan (2006)	Strengthening agricultural trade liberalization, creation of an export-driven and competitive middle-income economy by 2015
Food Reserve Agency	Contribution to stabilisation of national food security and market prices	

Source: Own compilation (2009).

Both countries, **Tanzania** and **Zambia**, pursue various protectionist policy measures to ensure national food security. By giving out export or import licences, the Governments seek to control the export or import of specific food commodities. These formal procedures are centralised and cumbersome, and reduce incentives for traders to get involved in formal cross-border trade. They may rather tend to get involved in informal cross-border trade, either on the Tanzanian or the Zambian side. In the Tanzanian case, traders are much more affected by these procedures than the

export ban because it is very hard for them to fulfil formal procedures.

There are a few food security measures that differ between Tanzania and Zambia. **Tanzania** has currently imposed an export ban on food staples to assure national food security. The ban is legalised through the Export Control Act which aims to stock up food and stabilise prices to supply food to deficit regions. It is generally imposed on a temporary basis. However, in Tanzania, the ban has presently been in existence for a longer period and has created considerable, negative effects on farmers and traders. First, it has reduced incentives for Tanzanian farmers to intensify their production. Since export markets are more or less closed, prices on local markets tend to decrease from their perspective. While the minority of the farmers sell directly to the Tanzanian National Food Reserve Agency (NFRA), the majority sell to middlemen who trade with the NFRA or other parts of Tanzania. Domestic trade also is not attractive for farmers because middlemen purchase at lower prices when trading with Central or Northern Tanzania. These lower prices result from the high transportation costs because of bad transport connections (especially in Rukwa Region). In comparison with domestic trade, cross-border trade with Zambia or the DRC is more attractive because of the short transport connections from both, Mbeya and Rukwa Regions, to nearby Zambia. Secondly, the decision-making for imposing the export ban remains unpredictable and intransparent for export traders. Subsequently, the ban hampers formal export trade as well as market development. Traders involved in cross-border trade face reduced incentives to participate in the market since they are not allowed to export officially and, consequently, tend to get increasingly involved in informal cross-border trade. Thirdly, consumers may benefit from generally lower market prices in the short run, because of domestic food availability. In the long run, supply-side constraints may arise from reduced food availability that, in turn, may lead to higher market prices.

In comparison with Tanzania, **Zambia** distributes so-called Food Security Packs (FSP-PAM) which are meant to support small farmers in securing their livelihoods. Farmers who receive the maize seeds and fertilisers given out with the packs do benefit but the support is not guaranteed since the allocation comes with strings attached that cannot be met by all farmers. Another measure consists of regular subsidies for milling companies to lower mealie meal prices temporarily for consumers. This Government intervention sidelines the private sector as it cannot compete with these comparably low prices.

### **Agricultural Trade Policy**

Both Tanzania and Zambia pursue a liberalised agricultural trade policy and seek to create a competitive export sector. **Tanzania's** policy is based on the recently published Kilimo Kwanza (2009) that aims to transform the agricultural sector

towards a green revolution. The Government plans to commercialize and modernize the agricultural sector to create a diversified and competitive export sector based on agricultural growth. In **Zambia**, the objective of the recently reviewed Commercial, Trade and Industrial Policy (2009), which is based on the Fifth National Development Plan (2006), is to create an export-driven and competitive middle-income economy by 2015. Because both agricultural trade policies in Tanzania and Zambia have just been defined, concrete measures have not been implemented and entailed effects on farmers, traders, or consumers could not be observed so far.

### **National Food Reserve Agencies**

The Tanzanian and the Zambian Food Reserve Agencies pursue similar policies with effects that vary to a certain extent. Both agencies have to facilitate national food security by stocking up food domestically and balance seasonal market price fluctuations. They mainly differ concerning the mandate on redistributing and importing food during times of maize shortages. In both cases, the Food Reserve Agencies continue to depend strongly on government funds while their interventions create market distortion and distrust between Government and the private sector.

On behalf of the **Tanzanian** Government, NFRA purchases maize in areas where farmers have no access to markets and no means of transport. The interventionist policy of NFRA has different effects. First of all, only farmers with the capacity to sell their produce directly to NFRA's buying centres may benefit from the Agency's floor price. Furthermore, unpredictable Government funds and annually changing locations of buying centres create an unreliable situation for those farmers who want to sell their harvest regularly to NFRA. Only very few farmers have the capacity to bring their produce to the buying centres. Most of the farmers instead sell to middlemen who, in turn, sell to the Agency. Those farmers do not benefit from NFRA's higher floor price and depend on middlemen as their only buyer. Secondly, traders face difficulties in competing with the high floor price. This creates disincentives for traders to participate in the market or squeezes out of the market traders without the capacity to compete with the floor price. This in turn may harm farmers in the long run because their dependency on NFRA purchases would increase. Thirdly, NFRA redistributes food to deficit areas mainly in Central and Northern Tanzania where consumers generally benefit from falling prices or free supply.

The **Zambian** FRA has the mandate to stabilise both, the national food security situation and the market prices of designated crops. FRA purchases maize from farmers based in remote areas who are supposed to benefit directly from this intervention. In the past, FRA had announced plans to buy more maize than its public funds allowed. Consequently, a number of farmers could not sell their produce. This

signifies that farmers cannot rely on the Agency's purchases due to the Agency's non-economical and inefficient management (e.g. insufficient funds, inadequate storage facilities). By fixing a floor price lying above the market price and by supplying the maize to millers, the Zambian Government creates disincentives for traders to participate in the market. In general, the private sector has limited capacities to compete with such government subsidies. In contrast with Tanzania where the Food Reserve Agency has no mandate to import during times of shortage, in Zambia, maize is imported mainly by either FRA or the private sector, depending on the actual tender.

## 5.2 Evaluation of Farmers and Traders Field Surveys

Table 11 summarises the results from questioning the farmers in Mbeya and Rukwa Regions as well as some interviews conducted in Dar es Salaam that gave the farmers' point of view.

**Table 11: SWOT Analysis from Farmers' Point of View**

I N T E R N A L	<b>Strengths</b>	<b>Weaknesses</b>
	Experience with coffee co-operatives Access to storage facilities Yields above national level	Low rate of membership in food crop co-operatives Low level of technology use Partly decreasing production
E X T E R N A L	<b>Opportunities</b>	<b>Threats</b>
	Extension services at community level NFRA buys at high prices Favourable climatic conditions Potentials for Irrigation	Insufficient extension service at the village level Unpredictability of NFRA activities Limited and insufficient market access Missing access to credit Export Control Act

Source: Own compilation (2009).

As **strengths** on an internal level farmers have the experience with coffee co-operatives, access to storage facilities, and high yields. Although most existing co-operatives are related to coffee marketing, the experience with co-operatives is identified as strength as the knowledge of self-organisation can be used for the establishment of co-operatives for marketing food staples. The majority of farmers questioned stated that they had access to storage facilities. Most of them mentioned

that facilities were sufficient to store their own harvest. This is seen as strength, as storage facilities are an important precondition to allow farmers to sell their produce in the lean season when prices might be higher. Furthermore, it was found that average yields in Mbeya and Rukwa Regions are generally above the national level. This is seen as strength as it might indicate more favourable production conditions in both regions compared with other regions in Tanzania.

The low rate of membership in food crop co-operatives, the low level of technology use and decreasing production within recent years are found as **weaknesses**. Marketing of products is often a crucial problem in rural areas. Therefore, the low rate of farmers organised into food crop co-operatives is evaluated as a weakness. Also, the low technology level used for cultivation is seen as a weakness as it might hinder farmers from increasing production. Some farmers even mentioned that production had decreased for a couple of years, due to a lack of knowledge on how to adapt to changing conditions of production, for example changes in rainfall patterns. On an external dimension, the existence of extensionists at community level, the high prices paid by NFRA, and the mainly favourable climatic conditions are seen as **opportunities**.

As **threats**, the insufficiency of extension services, the unpredictable activities of NFRA, limited market access, lack of access to credits, and the Export Control Act are identified. The insufficiency of extension services is reflected at two different levels. (1) Although extensionists are available at the community level, many farmers do not have access to these services because they are not spread village-wide. (2) The service package that is offered seems not to be well-adapted to farmers' needs. The majority of farmers having access to extension services benefit from the service in terms of increased production. Just one-third of them declared that they also managed to increase their income (see Chapter 4.2.3). This gap, an increase in production but the failure to realise higher income, indicates that the current design hinders farmers from fully benefiting from extension services.

The unpredictability of NFRA purchases (see Chapter 5.1) also has to be characterised as threat for farmers as they cannot rely on the quantity NFRA buys and thus they are not able to orientate their production to NFRA's demand and plan other marketing activities accordingly.

Limited market access here means the unavailability of market price information. Farmers get information about market prices either from friends and neighbours or from wholesalers and middlemen (see Chapter 4.2.2). Both channels of information generation are seen as unreliable and biased. With unreliable information on market prices, the bargaining power of farmers and their ability to generate higher profits are hampered.

More than 80% of farmers stated that they did not have access to credits. Without

sufficient financial resources farmers are often forced to sell their produce immediately after harvest to buy inputs for the next season, even when they have access to storage facilities (see Chapter 4.2.1).

The Export Control Act affects farmers negatively, as described within the policy matrix (see Chapters 4.2.2 and 5.1). Although not being directly involved in cross-border trade, the farmers realise the consequences of the ban via increased pressure from middlemen claiming a reduction in selling prices. The bargaining position of farmers is weakened due to the additional supply on regional markets.

After the evaluation of the results from the farmers' field survey, the following SWOT Analysis (see Table 12) summarises the results from the traders' point of view.

**Table 12: SWOT Analysis from the Traders' Point of View**

I N T E R N A L	<b>Strengths</b>	<b>Weaknesses</b>
	Independence from a single supplier Good trade relations with Congolese traders Access to storage facilities	Inconstant buying relations Mistrust of Zambian traders
E X T E R N A L	<b>Opportunities</b>	<b>Threats</b>
	High price level abroad Policy objective of export-led growth SADC Protocol on Trade Informal trade channels	Export Control Act Market distortions NTBs

Source: Own compilation (2009).

As **strengths**, the independence of traders from single suppliers, the good trade relations with Congolese traders, and the access to storage facilities have been evaluated. As presented in Chapter 4.3, the majority of traders stated that they bought crops from different farmers. Thus, traders are flexible concerning the quantity of food crops they buy and therefore, they increase their bargaining power. Owning storage facilities enables traders to use price differences between harvest and lean seasons. Due to a stable and extensive demand from Congolese traders, the Tanzanian traders established good relations with these market partners. From their point of view these business relations can be enhanced, offering opportunities to increase their profits and to expand their business in general.

As **weaknesses**, inconstant buying relations and the mistrust felt for Zambian traders have been identified. Due to inconstant buying relations, the transaction costs of traders might increase because they have to create new customer relations each season. Also, the mistrust of Zambian traders (see Chapter 4.3) is seen as a weakness as it might preclude Tanzanian traders from increasing cross-border trade business to an extent that could be possible.

As **opportunities**, the high price level abroad, informal trade channels, the policy objective of export-led growth, and the SADC Protocol on Trade have been evaluated. The high price level in Zambia and the DRC enables traders to generate higher income. Informal trade channels open these attractive markets that are officially not accessible to them. When it is implemented, the export-led, growth-oriented trade policy of the Tanzanian Government and the SADC protocol on trade have also to be seen as opportunities as they open up attractive business opportunities. Existing market distortions, a high number of non-tariff barriers (NTBs), and the export ban have been identified as major threats for traders. The buying activities of NFRA put traders at a disadvantage and lead to market distortions (see Chapters 4.3.1 and 5.1). As NTBs lower the incentive to trade formally and also increase the costs of formal and informal trade, they are identified as **threat**.

The Export Control Act has discouraged local and international formal traders<sup>163</sup>. Prominent trading companies in Tanzania completely stopped purchasing large quantities of maize from the Southern Highlands for export to Zambia, the DRC, and Kenya. Also, traders from the DRC, Malawi, and Zambia have sought alternative sources of grain. The majority of grain traders at Tunduma, Tanzania, wished the ban to be lifted and they had a clear perception that even the domestic grain trade is negatively affected. Issuance of export permits by regional authorities has been noted as creating a loophole for bias and bribery.<sup>164</sup>

### 5.3 Recommendations

The assessment has shown that potential for regional trade between Tanzania and Zambia to enhance food security in Zambia exists. However, it seems that currently this potential is not used to the extent that might be possible, for the advantage of all stakeholders involved.

Within this Chapter, recommendations are presented which are derived from analysing the political and institutional context (see Chapter 5.1) and the situation of farmers and traders (see Chapter 5.2). Recommendations are given on the sub-

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<sup>163</sup> Interview, SIMON KITOJO, TCCIA, Mbeya, August 2009.

<sup>164</sup> Interview, DAVID O. ROBINSON, IMF, Dar es Salaam, 06/08/2009.

national, national, and regional levels. This follows the different levels of investigation within the AF. Recommendations on the sub-national level are mainly derived by converting weaknesses into strengths and threats into opportunities. Recommendations on the national and regional levels are mainly derived from the policy matrix. The recommendations are directed towards policy-makers, farmers, and traders.

### **Recommendation on Sub-national Level:**

#### **(1) Develop an effectively functioning price information system**

The limited availability of market price information was seen as a threat for farmers in their effort to increase production. To strengthen the farmers' position, a market price information system needs to be implemented. It is important to empower farmers and to strengthen their bargaining power. In the Tanzanian context, this is crucial, because policy makers usually argue that lifting the export ban would benefit only traders and not farmers. To enable farmers also to benefit from cross-border trade, access to market price information is crucial. A good example of how farmers in remote areas are able to obtain market price information regularly is by the use of mobile phones, since these are very common, even in remote areas. (AMIS 2009). MYHR (2006) showed that fishermen located in rural Tanzania managed to enhance their bargaining power through the increased access to market information obtained by the use of mobile phones.

#### **(2) Improve access to extension services and adapt the package according to the needs of farmers**

To convert the insufficiency of extension services into an opportunity, the improvement of existing services is needed. Field survey results indicate that production consultancy already functions quite well, even though it is not spread sufficiently on the village level. But farmers severely lack marketing consultancy. First, it is necessary to spread extension services more widely so that farmers in remote areas also have access to them. The Kilimo Kwanza demonstrates first steps in this direction. This process has to be strengthened so that the goal can be realised in the medium term. Secondly, the extension service package needs to be adapted to the farmers' needs. Therefore, the inclusion of marketing aspects is recommended in extension services.

#### **(3) Strengthen the self-organisation of farmers**

This recommendation refers to different weaknesses and threats. The access to markets could be enhanced by better self-organisation of farmers, for example, if farmers themselves organised the transport to the market. Also the creation of

marketing co-operatives is facilitated with a higher level of self-organisation. For the establishment of credit groups (see Recommendation 4), self-organisation is necessary. This process could be pushed by incentives for organising or by workshops to train farmers and to raise their awareness.

#### **(4) Improve access to credits for farmers**

The lack of access to credits is seen as a threat for farmers. The establishment of microfinance institutions to enhance their access to credits is one possibility. The establishment and efficient functioning of microfinance institutions are facilitated by Recommendation (2) and (3) as organisation in extension service groups and self-organisation in co-operatives create a structure that might be needed for the group-lending components of a microfinance programme. This aspect probably cannot be tackled in the short run, but could be a medium- and long-term possibility. It is a crucial component in strengthening the bargaining power of farmers, since they would not be forced any longer to sell their produce right after harvest.

#### **(5) Use irrigation potentials**

Some farmers mentioned reduced production, for example, due to changes in rainfall patterns. The consequences of this situation could be faced by using existing irrigation potentials. Water harvesting might be one option, showing how irrigation potentials could be used in the short run, since costs for establishment are low. However, to introduce a well-adapted strategy to use irrigation potentials, further research is needed.

#### **(6) Improve infrastructure**

Farmers lack physical access to markets due to bad roads, especially in Rukwa Region. Therefore, in the long run it is essential to improve the existing road network. Also for traders, infrastructure is a problem as it is difficult to transport crops to central and northern Tanzania.

### **Recommendations on National Level:**

#### **(7) Reduce barriers for formal trade**

Several NTBs exist which constrain cross-border trade. To create a more favourable situation for cross-border trade, the barriers for formal trade need to be reduced. This general recommendation consists of at least four interrelated recommendations. The first step is to create a situation allowing formal cross-border trade from a practical point of view. Therefore, (7.1) the export ban needs to be lifted. Simultaneously, (7.2) the incentives for formal trade have to be increased. Therefore, (7.3) it is necessary to reduce costs of formal trade by abolishing other NTBs. It would be helpful (7.4) to

decentralise licensing to simplify customs procedures.<sup>165</sup>

### **(8) Increase the co-operation between food reserve agencies in Tanzania and Zambia**

Several indicators have been found that the co-operation between NFRA and FRA is rather weak. Improved co-operation between the Agencies could enable an ad-hoc compensation for a food deficit in either country - this is one task of both institutions. A constant exchange of information on the national production level and corresponding food security status has to be institutionalised and strengthened. Thus, co-operation on an institutional level would facilitate a faster and more efficient reaction to food deficits in both countries, and the prevention of a food crisis at the national level would be enhanced.

### **(9) Adjust the floor price of the food reserve agency to the market price**

By adjusting the floor prices to the market prices, market distortions resulting from the higher floor prices of NFRA and FRA could be diminished. On the one hand, this creates more incentives for the private sector to participate in agricultural market development and to push agricultural growth in the long run. On the other hand, farmers might have the opportunity to decide when and at what price to sell in conditions when they have access to reliable market prices and sufficient credit (see Recommendations 1 and 4).

### **(10) Facilitate the dialogue between Government and the private sector**

For market development it is necessary that government policies and measures are predictable and reliable for market actors. Here, it is necessary to assist the trust building process between the Government and the private sector. A best practice is the workshop implemented by the World Bank that created awareness and mutual understanding among different stakeholders in Zambia. Enhanced mutual trust between the government and the private sector would facilitate further the consultation process with one another. It is also necessary to strengthen confidence building measures to institutionalise consultation processes among major stakeholders in the agricultural sector. The Stock Monitoring Committee in Zambia can be mentioned as another best practice.

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<sup>165</sup> Regarding the export ban it has to be kept in mind that even before implementation informal trade took place to a large extent.

## Recommendations on Regional Level:

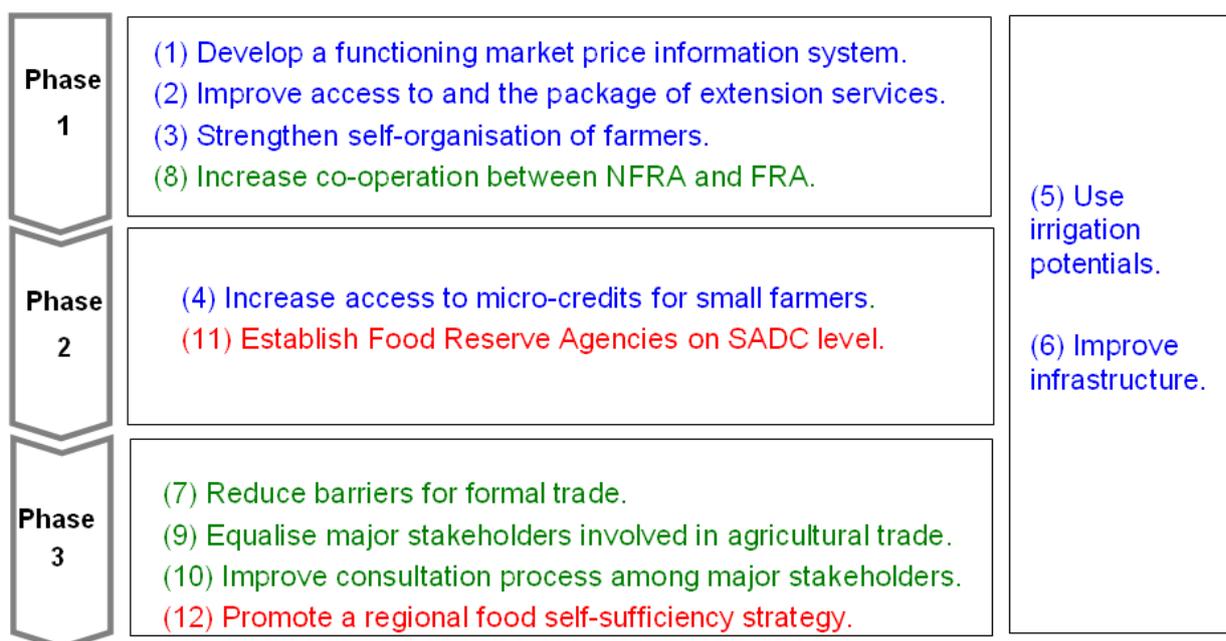
### (11) Strengthen the co-operation of national food reserve agencies on the SADC level

The co-operation of national food reserve agencies would help to ensure food security within SADC countries. During times of shortages, this would enable Tanzania to compensate for food shortages with the support of other food reserve agencies.

### (12) Promote a regional food security strategy

To promote a regional food security strategy it is necessary to facilitate the development of a common agricultural policy. In turn, this would strengthen regional co-operation through the implementation of this common policy and the development of regional agricultural markets. Furthermore, it is necessary to strengthen the implementation of the SADC Protocol on Trade and set aside national exceptional rules.

**Figure 11: Recommendations in Time Context**



Source: Own compilation (2009).

Figure 11 describes the chronology of recommendations that is advised for their implementation. A number of recommendations are interlinked and based upon one another. Therefore, implementation is necessary in a specific time order; this is illustrated by the three boxes, one upon the other. Other recommendations are

independent regarding a time schedule and therefore can be tackled at any point in time. This is illustrated by the left-hand phases. The different colours represent the different levels of recommendation.

## 5.4 Conclusions

According to the research results, Tanzania contributes to food security in Zambia and beyond in DRC. Maize is the most important agricultural product traded formally from Tanzania to Zambia. At the same time, comparably high volumes of staple food continuously cross the border informally. Government policies in Tanzania do not keep track of these developments. The export of major food staples is recurrently banned in Tanzania, as nowadays. The Tanzanian Government fears that food security in central and northern Tanzania would worsen if the export ban is lifted. But, policies of prohibiting cross-border trade do not have the intended outcome of retaining food staples within the country. Furthermore, the ban obliged several big enterprises to disengage from cross-border maize trade. Cumbersome and time-consuming customs procedures, on both sides of the border, considerably increase transaction costs for formal cross-border trade. Thereby, incentives for the private sector to engage in formal trade are reduced. As a consequence, Government loses revenues. Furthermore, non-tariff barriers such as roadblocks, weighbridges and bad infrastructure increase the costs of formal, informal and even domestic trade. Government policies, including interventionist policies by food reserve agencies, distort and hinder the development of agricultural markets. These policies result in an unpredictable and intransparent environment for market participants.

Producers and traders in Mbeya and Rukwa Regions could take the opportunity of liberalised regional markets, as convened in SADC. The free flow of food staples could create incentives for producers and traders. Producers have the potential to increase production and to sell maize at competitive prices. To unlock this potential the access to markets and development of market information systems must go hand in hand with a liberalised agricultural trade policy. Likewise, traders have the capacity to extend cross-border trade benefiting from increased demand from neighbouring markets. Consequently, enhanced regional trade could be of mutual benefit. Tanzania could benefit from agricultural growth, while Zambia could further enhance its food security.

The development of efficient domestic and regional markets can be promoted by actively reducing trade barriers, facilitating formal trade and overcoming supply-side constraints. In addition, it is vital to create awareness amongst policy-makers and to support dialogue of market participants, especially across national boundaries. Eventually, sustained political will is decisive for liberalised regional trade to unfold its potential for food security and economic growth.

## 6 Summary

Eastern and Southern African countries still face an increasing gap between their own production of food and demand. This is also true for Tanzania and Zambia with seasonal and regional food shortages. Food security, therefore, is an issue of high importance for these countries. Governments are obliged to ensure food security for all people at all times. With the ongoing regional integration within the Southern African Development Community (SADC), liberalisation and intensification of regional trade attract more importance. For policy-makers it is, thus, necessary to combine objectives, supporting regional trade and also enhancing food security. Recent research shows positive linkages between both aims.

The study at hand is supposed to contribute to the public debate on the potentials of regional trade for food security by developing a methodological approach for evaluation and using a case study to apply this approach in Tanzania and Zambia.

Regional trade is able to contribute to food security by increasing the availability, accessibility, and stability of food supply and prices. Governments currently pursue two broad options to achieve food security, either self-sufficiency policies with protectionist measures or food self-reliance policies with a liberal trade regime. To enhance food security via regional trade the latter option is more appropriate.

To evaluate the potentials of regional trade to enhance food security a comprehensive tool is necessary which should be transposable to different regional contexts. This study introduces an Analytical Framework (AF) as a user-oriented, easy-to-use method. Three constitutive working levels are defined: (1) a desk study to identify relevant countries or areas, (2) a fact-finding mission to collect in-depth data and information via key informant interviews and field surveys, and (3) an assessment to evaluate the potentials via a policy matrix to summarize findings on the political and institutional environment and a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis for the perspective of stakeholders. The analysis starts with bilateral co-operation. Secondly, on the national level, relevant policies and stakeholders are identified. The AF continues on a sub-national level by analysing demand and supply, as well as trade and its influencing factors.

The AF guides the user in assessing whether the essential pre-conditions for regional trade are met. The AF may also be adapted to analyse the potentials of regional trade for economic growth. The quality of available data and information might limit the application of the approach.

The AF is implemented in a case study on cross-border trade between Tanzania and Zambia. Both countries are member states of SADC. The overriding objective is to alleviate poverty via sustainable economic growth and political integration. The

integration agenda focuses inter alia on trade liberalization, gradually phasing out tariffs and other trade hindrances. Currently, member states reserve the right to introduce trade measures to prevent a shortage of food at the national level.

Although generally food secure, Tanzania still faces seasonal and regional food shortages. The most important food staple countrywide is maize and 95% of the country's food requirements are normally met by domestic production. At present, food security policy in Tanzania is part of the general agricultural policy as laid down in Kilimo Kwanza-Agriculture First Strategy and the Agricultural Sector Development Strategy. The Ministry of Agriculture, Food Security, and Co-operatives is in charge of issues of food security in co-operation with the Prime Minister's Office. For implementation, the National Food Reserve Agency has been established. Using this Agency, the Government pursues an interventionist policy by purchasing food staples, mainly maize, in surplus areas to re-distribute the food in areas of deficit at subsidized prices. To support domestic market interventions several measures for external have been introduced. The most prominent measure is a flexible and temporary export ban with the aim of keeping domestic production in the country in times of food shortages.

Zambia's food security policies are biased towards maize as a major food staple. Food security is addressed in the Fifth National Development Plan and the National Agricultural Policy. The main instrument is a Fertilizer Support Programme for small-scale farmers. The Government also intervenes via the Food Reserve Agency by purchasing maize in areas of surplus. The maize is then sold to milling companies at subsidised prices to supply mealie meal, mainly in urban areas. Zambia's Northern Province is generally food secure; however, most of the people are net-buyers of maize and the region, like Zambia as a whole, faces seasonal food shortages.

The Mbeya and Rukwa Regions in the Southern Highlands of Tanzania have favourable natural conditions. With reliable and sufficient rainfall patterns, fertile soils, and moderate climates the farmers produce maize, beans, and rice as the main food staples. Yields are normally above the national average. The regions provide surpluses of these main food staples. However, the farmers have to face several constraints to achieve increased production and economic success. With respect to the marketing of produce, farmers are dependent on middlemen, purchasing mainly at farm-gates. Furthermore, a reliable price information system is lacking. The farmers have limited access to extension services and to sources of credit as well as a low rate of self-organisation into marketing co-operatives.

Due to the proximity of both regions and attractive conditions, the south of Tanzania and Zambia has developed sustainable trade relations for agricultural produce. Zambia's demand is reflected in the fact that maize is the dominant product for export from Tanzania. Within SADC, Zambia is the most important trading partner for official

exports of maize. Apart from formal trade, cross-border trade with maize and other food staples takes place on informal ways, bypassing official customs procedures. The border town Tunduma is also important as a trade corridor for intra-Tanzanian trade.

The market for maize in Mbeya and Rukwa Regions is very much influenced by the activities of the National Food Reserve Agency that purchases up to 20% of production in Rukwa Region. Other main actors on the markets are bigger private enterprises buying maize for processing for the domestic market. Current market prices differ on the demand-side with the National Food Reserve Agency on top.

The cross-border trade is hampered by a number of non-tariff barriers, in particular the export ban on the Tanzanian side, the need for both export and import permissions, and phyto-sanitary certificates. The negative effects of these measures on trade are increased by practical implementation.

The assessment of the policy measures shows conflicts of interest between national food security policies on the one side, and trade liberalisation on the other. Market interventions via food reserve agencies have negative effects on trade in general and on traders in particular. In addition, the Tanzanian export ban creates disincentives for farmers and traders. Non-tariff barriers and trade procedures are time-consuming and costly, hampering official trade. Therefore, traders tend to become increasingly involved in informal trade.

For farmers in Mbeya and Rukwa Regions strengths are identified, i.e., the favourable natural conditions and some experience with self-organization although this is currently not widespread. Furthermore, the level of technology use is still low compared to the available means. Extension services are of benefit in those villages with access to them. Other threats for farmers include the unpredictable activities of the National Food Reserve Agency and limited market access. Traders gain from good trade relations with Congolese traders and the higher price level abroad. The mistrust of Zambian traders has to be seen as a threat since it hampers business expansion.

On the sub-national level, the study recommends the improvement of services for farmers and the strengthening of their marketing infrastructure. For the national level, it recommends a reduction in existing trade barriers, including customs procedures, and a strengthening of the co-ordination and co-operation between Tanzania and Zambia in general and between both food reserve agencies in particular.

Altogether, the study concluded that trade with food staples between Tanzania and Zambia is very much influenced by political measures of both countries. The development of efficient trade can be promoted by actively supporting co-operation and co-ordination, at first on political level.

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**Table A13: Country Rapid Assessment Profile – Template**

<b>General Indicators</b>	<b>Country A</b>	<b>Country B</b>
Membership in RIA		
ESC-Rights <sup>166</sup> (year of ratification)		
Total population (million)		
Population growth (annual %)		
Rural population (% of total population)		
Life expectancy at birth (years)		
Surface area (sq km)		

Source: CIA, FAO, National Statistics, UNDP, World Bank, WTO.

<b>Key Economic Data</b>	<b>Country A</b>	<b>Country B</b>
GDP growth (annual %)		
GDP per capita (PPP US\$)		
GDP per capita growth (annual %)		
GINI Index		
GDP composition by sector (%)		
Agriculture		
Industry		
Services		
Employment by economic activity (%)		
Agriculture		
Industry		
Services		
People below poverty line (MDG1) (%)		

Source: CIA, IMF, National Statistics, UNDP, World Bank.

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<sup>166</sup> International Covenant on Economic, Social and Cultural Rights

**Table A13 (continued)**

<b>Key Agricultural Data</b>	<b>Country A</b>	<b>Country B</b>
Arable land (% of total surface)		
Average yield/ha for maize (t)		
Irrigated land (sq km)		
Agricultural sector growth rate (% p.a.)		
National budget for agriculture (% p.a.)		

Source: CIA, Economic Intelligence Unit, Ministry of Agriculture, Ministry of Finance.

<b>Food Security Data</b>	<b>Country A</b>	<b>Country B</b>
Global Hunger Index (value)		
Total production of major food staples based on Food Balance Sheet		
Import of main food staples (kg/person/year)		
Food aid (% of total consumption)		
People undernourished (% of total population)		
Average annual change in Consumer Price Index (%)		

Source: FAO, IFPRI, Ministry of Agriculture, UNDP, WFP.

<b>Key Trade Data</b>	<b>Country A</b>	<b>Country B</b>
Total exports from A to B (US\$)		
Total exports from B to A (US\$)		
Agricultural exports from A to B (% of total)		
Agricultural exports from B to A (% of total)		
Export of major food staples from A to B (t)		
Export of major food staples from B to A (t)		
Import tariffs for main food staples from country A/B (%)		

Source: FAOSTAT, Ministry of Agriculture, Ministry of Trade, Regional Integration Arrangement, UNComtrade.

**Table A14: The Three Market Chain Pillars of the Analytical Framework**

<b>Consumption</b>	<b>Source</b>	<b>Market</b>	<b>Source</b>	<b>Production</b>	<b>Source</b>
National level		Cross-border trade		Natural conditions	
- domestic production	- FBS, Crop Forecasting Survey, Post Harvest Survey	- market organisation	- traders, farmers	- agro-ecological and climatic conditions	- MoA
- degree on self-sufficiency or self-reliance	- Food Balance Sheet	- buying and selling price differential	- traders, farmers, Food Reserve, Media	Farming systems	
- consumer prices	- Consumer Price Index	- import and export volumes of food staples	- customs authority, traders	- irrigation schemes	- MoA, farmers
- seasonality	- seasonal calendar	- share of formal and informal trade	- customs authority, traders	- production costs	- MoA, farmers
Household level		Non-tariff barriers		- utilisation of arable land	- MoA
- consumption patterns	- MoA	- export/import control	- MoA, customs authority	- land tenure	- MoA, farmers
- income level	- Living Standards Survey	- customs regulations and procedures	- clearing and forwarding agents, customs authority, transporters, traders	- share of population working in the agricultural sector	- LSS, farmers
- purchasing power	- Living Standards Survey	- food safety standards	- transporters, traders	- labour use	- farmers
- expenditures	- Basic Needs Basket LSS	- road blocks	- local authorities	Marketing	
- vulnerability	- Living Standards Survey, Vulnerability Rapid Assessment	- local levies	- transporters, traders	- market information	- farmers, farmers union
- food aid	- MoA, Food reserve	- bribery		- fertiliser and seeds	- MoA, farmers
		Infrastructure		- subsidies	- MoA, farmers
		- storage facilities	- traders, Food Reserve, farmers	Rural services	
		- transport system and costs	- transporters, traders	- extension services	- MoA, farmers
		- market information-credit facilitation		- credit facilitation	- MoA, farmers
			- traders		

**Table A15: Country Rapid Assessment Profile of Tanzania and Zambia (2009)**

<b>General Indicators</b>	<b>Tanzania</b>	<b>Zambia</b>
Membership in RIA	SADC, EAC	SADC, COMESA
ESC-Rights <sup>167</sup>	1976	1984
Total population (million)	41.9 (2009)	12.9 (2009)
Population growth (annual %)	2.0 (2009)	1.6 (2009)
Rural population (% of total population)	62 (2005)	64 (2005)
Life expectancy at birth (years)	55 (2007)	45 (2007)
Surface area (sq km)	947.3 (2008)	752.6 (2008)

Source: CIA, FAO, NBS, UNDP, World Bank, WTO.

<b>Key Economic Data</b>	<b>Tanzania</b>	<b>Zambia</b>
GDP growth (annual %)	7.5 (2008)	6.0 (2008)
GDP per capita (PPP US\$)	1,208 (2007)	1,358 (2007)
GDP per capita growth (annual %)	1.8 (1990-2007)	0.1 (1990-2007)
GINI Index	34.6 (2009)	50.7 (2009)
GDP composition by sector (%)		
Agriculture	27.1 (2008)	16.0 (2008)
Industry	22.5 (2008)	26.6 (2008)
Services	50.4 (2008 est.)	57.4 (2008 est.)
Employment by economic activity (%)		
Agriculture	82 (1996-2005)	70 (1996-2005)
Industry	3 (1996-2005)	7 (1996-2005)
Services	15 (1996-2005)	23 (1996-2005)
People below poverty line (MDG1) (%)	33.4 (2007)	51 (2006)

Source: CIA, IMF, UNDP, World Bank.

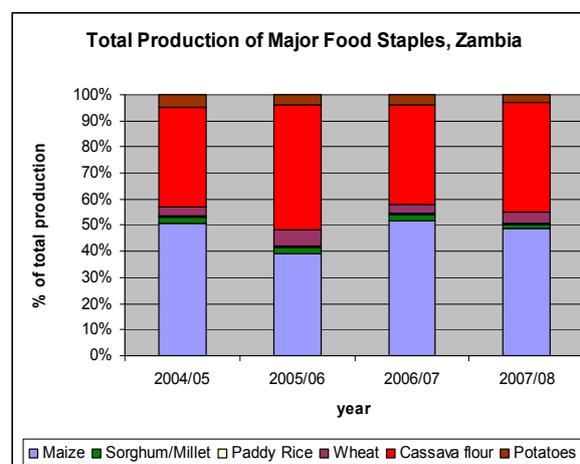
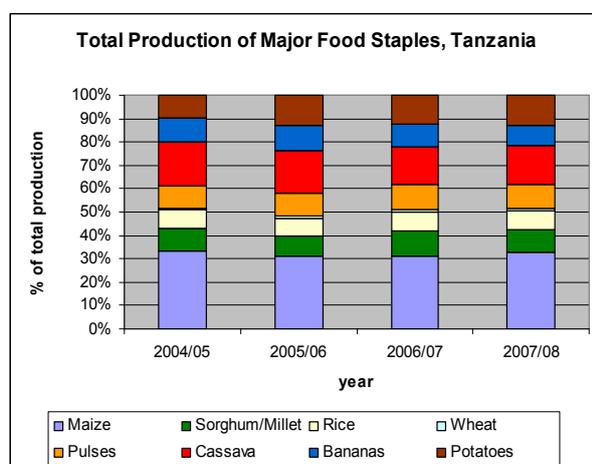
<sup>167</sup> International Covenant on Economic, Social and Cultural Rights

Table A15 (continued)

Key Agricultural Data	Tanzania	Zambia
Arable land (% of total surface)	4.23 (2005)	6.99 (2005)
Average yield/ha for maize (t)	1.4 (2009)	1.7 (2009)
Irrigated land (sq km)	1,840 (2003)	1,560 (2003)
Agricultural sector growth rate (%)	3.5 (2008)	2.7 (2008)
National budget for agriculture (%)	6.4 (2008)	5.7 (2008)

Source: CIA, MAFC, MACO, TNBC.

Key Food Security Data	Tanzania	Zambia
Global Hunger Index (value)	21.3 (2009)	25.7 (2009)
Maize imports (kg/person/year)	3 (2003-05)	6 (2003-05)
Food aid (% of total consumption)	1.6 (2003-05)	6.9 (2003-05)
People undernourished (% of total population)	35 (2003-05)	45 (2003-05)
Average annual change in CPI <sup>168</sup> (%)	7.0 (2006-07)	10.7 (2006-07)



Source: FAO, IFPRI, MACO, MAFC.

<sup>168</sup> Consumer Price Index

**Table A15 (continued)**

<b>Key Trade Data</b>	<b>Tanzania (TZ) &amp; Zambia (ZAM)</b>
Total exports from TZ to ZAM (million US\$)	23.5 (2007)
Total exports from ZAM to TZ (million US\$)	94.7 (2007)
Agricultural exports from TZ to ZAM (% of total exports)	6.5 (2002-07)
Agricultural exports from ZAM to TZ (% of total exports)	n.a.
Export of maize from TZ to ZAM (t)	0 (2009)
Export of maize from ZAM to TZ (t)	n.a.
Import tariffs within SADC(%)	Beans 0%, maize 15%, rice 15% (2009)

Source: MCTI, SADC.

**Table A16: Tanzania Production Data based on the Food Balance Sheets (in t)**

	Cereals <sup>169</sup>				Non-Cereals <sup>170</sup>				Total Food			
	Total Availability	Total Requirements	Surplus/ Deficit	SSR*	Total Availability	Total Requirements	Surplus/ deficit	SSR*	Total Availability	Total Requirements	Surplus/ deficit	SSR*
<b>2004/05</b>	4,870,707	5,246,136	-375,429	93	3,967,429	3,361,712	605,716	118	8,838,136	8,607,849	230,287	103
<b>2005/06</b>	5,015,116	5,890,817	-875,701	85	4,653,699	3,545,096	1,108,603	131	9,668,816	9,435,913	232,902	102
<b>2006/07</b>	5,277,159	6,083,501	-806,232	87	5,668,191	3,664,928	2,003,262	155	10,945,350	9,748,430	1,196,920	112
<b>2007/08</b>	5,422,208	6,251,117	-828,909	87	5,238,093	3,782,367	1,455,726	138	10,660,301	10,033,484	626,817	106
<b>2008/09</b>	5,587,547	6,448,303	-860,756	87	5,284,788	3,889,677	1,395,110	136	10,872,335	10,337,980	534,355	105
<b>2009/10</b>	5,009,596	6,537,146	-1,527,551	77	5,793,829	3,990,541	1,803,287	145	10,803,425	10,527,688	275,737	103

\* SSR Self-sufficiency Rate

Source: MAFC (2009b).

<sup>169</sup> Cereals include sorghum, millet, rice, wheat and maize (MAFC 2009a).

<sup>170</sup> Non-cereals include cassava, banana, potatoes and pulses (MAFC 2009a).

**Table A17: Import Tariffs for Selected Food Staples within SADC**

H.S. Code	Food crops	SADC (incl. South Africa <sup>171</sup> )			
		2009	2010	2011	2012
1005.90.00	Maize (corn)	15%	10%	5%	0%
1006.10.00	Rice in the husk (paddy or rough)	15%	10%	5%	0%
1006.30.00	Semi-milled or wholly milled rice	15%	10%	5%	0%
1006.40.00	Broken Rice	15%	10%	5%	0%
1101.00.00	Wheat or meslin flour	15%	10%	5%	0%
1102.20.00	Maize flour	15%	10%	5%	0%
2005.51.00	Beans shelled	0%	0%	0%	0%

Source: SADC LIBERALISATION SCHEDULE.

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<sup>171</sup> Usually, the republic of South Africa (RSA) is treated differently than other SADC countries due to its high developed economy. As a consequence some tariffs differ between RSA and other SADC countries (for further information see chapter 3.1). In case of above mentioned food crops no difference in tariffs could be found. Thus, RSA and other SADC countries are presented within the same column.

**Table A18: Zambian Production Data based on the Food Balance Sheets (in t)**

	Maize			Paddy rice <sup>172</sup>			Cassava flour <sup>173</sup>			Total (Maize equivalent) <sup>174</sup>		
	Total Availability <sup>175</sup>	Total Requirements <sup>176</sup>	Surplus/deficit	Total Availability	Total Requirements	Surplus/deficit	Total Availability	Total Requirements	Surplus/deficit	Total Availability	Total Requirements	Surplus/deficit
<b>1998/99</b>	729,000	1,312,000	n.a.	7,000	35,350	n.a.	1,021,000	1,021,000	n.a.	n.a.	n.a.	n.a.
<b>1999/2000</b>	890,869	1,266,851	-375,982	14,699	17,032	-2,333	968,583	585,188	383,395	2,431,728	2,450,222	-41,506
<b>2000/01</b>	1,112,806	1,314,209	-201,403	9,828	17,097	-7,269	815,301	594,558	220,743	2,433,765	2,513,730	-79,965
<b>2001/02</b>	862,418	1,320,908	-458,490	14,387	17,382	-2,995	815,301	598,284	217,017	2,112,018	2,524,535	-412,517
<b>2002/03<sup>177</sup></b>	621,606	1,202,900	-581,294	12,645	16,508	-3,863	850,626	569,922	280,704	2,034,210	1,412,897	-321,496
<b>2003/04</b>	1,307,000	1,187,000	-120,000	11,000	17,000	-7,000	958,000	610,000	349,000	2,258,000	1,832,000	425,000
<b>2004/05</b>	1,393,336	1,208,336	-185,000	11,969	18,469	-6,500	911,673	679,423	232,250	2,268,234	1,923,120	345,114
<b>2005/06</b>	1,056,889	1,141,889	-85,000	13,440	25,440	-12,000	1,056,380	731,546	324,834	2,106,803	1,892,391	214,413
<b>2006/07</b>	1,444,698	1,284,698	160,000	14,065	26,065	-12,000	1,062,681	726,734	335,948	2,452,042	2,038,979	413,064
<b>2007/08</b>	1,799,188	1,549,188	250,000	19,248	31,248	-12,000	1,190,059	727,104	462,956	2,875,349	2,246,952	628,396
<b>2008/09</b>	1,601,916	1,458,916	143,000	26,822	37,249	-10,427	1,163,029	694,134	468,895	2,761,001	2,196,454	564,548
<b>2009/10</b>	1,950,808	1,747,537	203,271	42,107	54,107	-12,000	1,151,700	687,067	464,632	3,457,562	2,785,196	672,367

Source: MACO (1999-2009).

<sup>172</sup> Before 2003/04 the Food balance Sheet (FBS) included rice. In 2003/04 the FBS changed in favour of paddy rice.

<sup>173</sup> In 1998/99 cassava fell under other tubers (cassava & potatoes). Until 2003/04 cassava was measured as grain and then, included as flour.

<sup>174</sup> The maize equivalent was introduced after the drought during the agricultural season 2002/03.

<sup>175</sup> Total availability includes opening stocks and total production of the last agricultural season.

<sup>176</sup> Total requirements include (i) staples food requirements: human consumption and food reserve stocks, (ii) industrial requirements: stockfeed, breweries, seed, (iii) losses, and (iv) structural cross-border trade.

<sup>177</sup> The FBS 2003/04 was written in thousand mt.

**Table A19: Small/medium Scale Smallholder Maize Output and FRA Purchase**

Production season	Maize production	Marketed output from production	FRA purchases	FRA purchases as % of smallholder marketed surplus
	'000 tons			
1997/98	724	157	200	127
1998/99	929	217	23	11
1999/00	1,123	270	35	13
2000/01	939	197	155	79
2001/02	948	190	25	13
2002/03	1,126	284	55	19
2003/04	1,217	352	105	30
2004/05	820	193	79	41
2005/06	1,107	358	389	109
2006/07	1,104	398	396	99.5
2007/08	988	357	74	21

Source: TEMBO et al. (2009: 4).

**Table A20: Interviews conducted in Tanzania**

<b>Organisation</b>	<b>Person contacted</b>	<b>Date of Interview</b>
Commission of the European Union, Permanent Delegation to Tanzania, Dar es Salaam	Ana Margarida Mariguêsa, Programme Officer, Agriculture / Food Security	26.08.09
Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) Dar es Salaam	Frank Holtmeier, Senior Advisor	17.08.09
Energy Millings Ltd., Sumbawanga	Christopher Joni, Sales Manager	02.09.09
Food and Agriculture Organization of the United Nations (FAO), Country Office Tanzania, Dar es Salaam	Mr James Yanozi, Assistant FAO Representative	26.08.09
Friedrich-Ebert-Stiftung (FES), Dar es Salaam	Wilman Kapenjama, Project Manager	10.08.09
International Monetary Fund (IMF); Permanent Delegation to Tanzania, Dar es Salaam	Mr David O. Robinson, Senior Resident Representative	06.08.09
Ministry of Agriculture, Food Security and Cooperatives (MAFC) Tunduma	Peter Rushokana, Officer-in-Charge for Pest Control	13.08.09
Ministry of Agriculture, Food Security and Cooperatives (MAFC), Food Security Department, Dar es Salaam	John T. J. Mngodo, Director	25.08.09
Ministry of Agriculture, Food Security and Cooperatives (MAFC), Policy Planning Department Dar es Salaam	Emanuel M. Achayo, Director	21.08.09
Ministry of Agriculture, Food Security and Cooperatives (MAFC), Research Department, Dar es Salaam	Mr Timothy Kirway, Assistant Director	12.08.09
Ministry of Industry, Trade, and Marketing (MITM), Directorate of Trade Integration, Dar es Salaam	Pastory M.D. Masomhe	21.08.09
Ministry of Industry, Trade, and Marketing (MITM), Directorate of Trade Integration, Dar es Salaam	Ismail Hussein Mfinanga Boniface A.N. Michael Ernest C. Elias	25.08.09
Mohammed Enterprises, Sumbawanga	Mselem Nassor	02.09.09

**Table A20 (continued)**

<b>Organisation</b>	<b>Person contacted</b>	<b>Date of Interview</b>
National Food Reserve Agency (NFRA) Buying Centre Sumbawanga, Sumbawanga	Ramadhani Mkilindi, Zonal Accountant	02.09.09
National Food Reserve Agency (NFRA), Dar es Salaam	Edwin Mukwenda, Planning and Logistics Unit	19.08.09
National Food Reserve Agency (NFRA), Dar es Salaam	Albert Ngondo, Director	19.08.09
Office of the District Commissioner Nkasi District, Rukwa Region, Sumbawanga	Mr. Mlowe, District Agriculture and Livestock Development Officer (DALDO)	01.09.09
Office of the District Commissioner Mbozi District, Mbeya Region, Mbozi	Gabriele Kimolo, District Commissioner	10.09.09
Office of the District Commissioner Mbozi District, Mbozi	Richard Sirilli, District Agriculture and Livestock Development Officer	13.08.09
Office of the District Commissioner, Sumbawanga District, Rukwa Region, Sumbawanga	Mohammed Alfani, Agriculture Extension Officer	09.09.09
Office of the District Commissioner, Mbeya Rural District, Mbeya	Dr Tarimo, District Agriculture and Livestock Development Officer	11.08.09
Regional Commissioner's Office, , Rukwa Region, Sumbawanga	Mr. Mwano Hamsa, Regional Trade Officer (RTO) Mr. Sesemkwa, Regional Agriculture Adviser (RAA)	08.09.09
Regional Commissioner's Office; Mbeya Region, Mbeya	Beatha Swai, Regional Administrative Secretary	10.08.09
Regional Commissioner's Office, Mbeya Region, Mbeya	Mrs Mziray, Regional Trade Officer (RTO)	02.09.09
Regional Commissioner's Office, Mbeya Region, Mbeya	Hon. John L. Mwakipesile, Regional Commissioner	08.09.09
Regional Commissioner's Office, Mbeya Region, Mbeya	Wilfred Kayombo, Regional Agriculture Adviser (RAA)	10.08.09, 04.09.09

<b>Organisation</b>	<b>Person contacted</b>	<b>Date of Interview</b>
Research on Poverty Alleviation (REPOA), Dar es Salaam	Dr Damian Gabagambi, Senior Researcher	12.08.09
Tanzania Revenue Authority (TRA); Tunduam Border Post, Tunduma	Phares Mniko, Officer-in-Charge	13.08.09
Tanzanian Chamber of Commerce, Industry and Agriculture (TCCIA), Dar es Salaam	Ms Mkocha	12.08.09
Tanzanian Chamber of Commerce, Industry and Agriculture (TCCIA), Tunduma	Simon Kitojo, Regional Representative	13.08.09
Tanzanian Revenue Authority (TRA), Control and Enforcement Unit, Dar es Salaam	Jomimasa M. Nsindo, Manager	24.08.09
University of Dar es Salaam, Department of Economics, Dar es Salaam	Stephen L. Kirama, Assistant Lecturer	11.08.09
World Food Programme (WFP); Country Office Tanzania, Dar es Salaam	Mr Juvenal Kisanga, National Programme Officer	13.08.09

**Table A20 (continued)**

Source: Own Compilation.

**Table A21: Interviews conducted in Zambia**

<b>Organisation</b>	<b>Person contacted</b>	<b>Date of Interview</b>
Agricultural Consultative Forum (ACF), Lusaka	Hyde Haantuba, Co-ordinator	15.09.09
COMESA, Lusaka	Mr Muyunda, Senior Agricultural Advisor and CAADP Coordinator	15.09.09
Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) Good Governance Programme, Lusaka	Dr. Marion Popp, Advisor	17.09.09
Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), Lusaka	Dr. Marco Larizza, Statistical Advisor	15.09.09
Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), Lusaka	Rudy van Gent, Principal Advisor COMPACI	15.09.09
Development Fund of the European Union and GFA Consulting Group: Ministry of Agriculture and Cooperatives (MACO), Lusaka	Dr. Rainer Droste, Team Leader and Xavier Rouillard, Technical Advisor (SADFS)	16.09.09
Food Reserve Agency (FRA)	Dr. Anthony Mwanaumo, Executive Director	17.09.09
Food Security Research Programme (FSRP), Lusaka	Chance Kabaghe, Director Antony Chapoto, Research Coordinator	18.09.09
Grain Trader's Association of Zambia (GTAZ) and ZDENAKIE Ltd., Lusaka	Jacob Mwale, Executive Director, George Liacopoulos, Managing Director	15.09.09
Ministry of Agriculture and Co-operatives (MACO), Policy and Planning, Lusaka	Dr. Cosmos Mwanga, Chief Planner	17.09.09
Ministry of Agriculture and Co- operatives (MACO), Lusaka	Emma Malawo, Deputy Director, Policy Analyst and Statistics	15.09.09

**Table A21 (continued)**

<b>Organisation</b>	<b>Person contacted</b>	<b>Date of Interview</b>
Ministry of Agriculture and Cooperatives (MACO), Nakonde	Macsious Hakanga, Plant Health Officer and FEWS NET contact person, Nakonde	13.09.09
Ministry of Commerce, Trade and Industry (MCTI), Lusaka	Muyambango Nkwemu, Senior Economist, Trence Simfukwe, Economist	14.09.09
Oxfam, Lusaka	Bwendo Kabanda, Livelihood Coordinator	17.09.09
United States Agency for International Development (USAID)	Emmanuel Ngulube, Food for Peace Manager	15.09.09
United States Agency for International Development (USAID), Market Access Trade and Enabling Policies (MATEP), Lusaka	Scott Simons, Director and Chief of Party	15.09.09
World Food Programme (WFP), Lusaka	Purnima Kashyap, Deputy Country Director	18.09.09
Zambian Bureau of Standards (ZABS), Lusaka	Prisca Mulonda Shapole, Standards Officer, Mrs Lusanga, Mrs Chituta	17.09.09
Zambian Chamber of Commerce and Industry (ZACCI), Lusaka	Justin Chisulu, Chief Executive Director	19.09.09

Source: Own compilation (2009).

## **Annex A22. Methodological Approach and Procedure of the Field Surveys**

In addition to the already mentioned interviews with stakeholders at different levels two field surveys were carried out during the research to get a closer look into the current features of regional trade in the research area. These field surveys consisted of (1) a traders survey including one focus group discussion and (2) a farmer's survey, including (3) seven focus group discussions. (4) Furthermore, a descriptive analysis of the conducted field surveys is presented here.

### **(1) Traders Survey**

Main purpose of the traders survey was to understand the current cross-border trade between Tanzania and Zambia. Four aspects were of interest (1) volume, prices and direction of trade, (2) tariffs, non-tariff barriers, procedures of trade, (3) marketing chains including supply and demand as well as (4) the personal view of traders concerning the influence of trade policies on their business. The questioning concentrates on traders at Tunduma in the Mbeya Region, since this is the main border point between Tanzania and Zambia.

For this purpose, a questionnaire<sup>178</sup> was developed with both, so-called closed questions with given answers as well as semi-structured questions with open answers from the interviewees. The questioning concentrated on maize, rice and beans (phaseolus), since these food staples were identified as most important for trade, according to statistical data and interviews.

The draft questionnaire was pre-tested with traders at other market places than Tunduma and adapted during a preparatory mission. Furthermore, the questionnaires were presented to trade experts, with the intention to improve questions and to discuss possible answers. It was planned to carry out a survey with all traders at Tunduma, since their number was expected to vary between 30 and 50 traders. Actually, 61 traders were interviewed (see below).

### **(2) Farmers Survey**

The farmer's survey was intended to provide information on the following aspects: (1) potential for increased agricultural production in the research area, (2) food security situation at the household level and (3) market chains and marketing behaviour of farmers.

Again, a questionnaire was developed with support of experts, combining open questions and so-called closed questions. Open questions were mainly included for those aspects, where farmer's opinions were of interest.

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<sup>178</sup> The questionnaires are available upon request from SLE: [info@sle-berlin.de](mailto:info@sle-berlin.de)

The questionnaire was pre-tested with farmers outside the research area and again discussed with experts. To meet scientific requirements, the villages and later the farmers should be selected randomly. However, the three districts within the research area were selected due to their main focus on food staple production with a high market orientation.

### **(3) Focus Group Discussion**

Focus group discussions were carried out to support both field surveys and to provide additional information, in particular information on farmers' and traders' opinion about the influence of politics and their main obstacles for production, marketing and trade, respectively. For these discussions guideline questions were developed, following an approach with strengths and weaknesses from the view of the interviewees. The focused group discussions were therefore carried out with those farmers and traders who were interviewed before with the questionnaire.

### **(4) Descriptive Analysis of Interviewees**

After critical review of the raw data of the field survey, the computerised analysis of the data set was executed with SPSS 12. Table A23 gives an overview on the field survey more in detail.

Altogether 61 traders were interviewed at Tunduma. Names and addresses of the traders were provided by the District Trade Officer. Later, these names were compared with the member's directory of the local trader's association to ensure that all the available traders were covered. The traders were interviewed by extension officers, mainly directly at their warehouses at Tunduma. The interviews were carried out between September 2nd and September 11th, 2009.

As Table A23 shows, most of the 61 traders had a primary education (88% of the interviewees), followed by 7% with secondary education and 5% with only informal education. Their age varies between 27 years and 51 years (mean 38 years). About 57% of the interviewees were men; with 43% of traders are women. The majority of traders (89% of the interviewees) are full-time traders and nearly all of them are self-employed. Concerning the main economic activity, 43% of traders are engaged in wholesaling, followed by 36% in retail and 21% of traders working as assemblers.

As mentioned, the villages for the farmers survey were selected randomly from villages producing mainly food staples in the respective district. For Mbeya Rural and Mbozi Districts, each 5 villages were taken out of a total of 122 and 143 villages, respectively. In Sumbawanga District of Rukwa Region 10 villages were identified, also using random selection out of 163 villages.

In Mbeya Rural and Mbozi Districts the farmers were again randomly selected, now by the Village Extension Officers. The interviews were then carried out in the

respective villages by extension officers, based at the District Agricultural Development Offices (DALDOs). For the Sumbawanga District the same approach was used concerning selection of farmers. However, this time the farmers were interviewed by their respective Village Extension Officers. The interviews took about 45 to 60 minutes per farmer and they were carried out between September 4<sup>th</sup> and September 10<sup>th</sup>, 2009.

Out of the 200 farmers, who were interviewed (see Table A23) in total, 145 were men (72.5% of the interviewees, with a minimum of 58% in Mbeya Rural and a maximum of 93% at Sumbawanga District). About 14% of farmers have only informal education (range 8% to 19%), 74% with primary education (range 64% to 82%) and 12% of interviewees secondary education. Their age varies between 20 and 80 years (mean 39 years for the whole sample). For most of the farmers agriculture is the main source of income, for the whole sample 76%, minimum 70% in Mbozi District and maximum 82% in Mbeya Rural District.

**Table A23: Overview on the Field Surveys**

	Farmers Surveys			Traders Survey
Region	Mbeya		Rukwa	Mbeya
District	Mbeya Rural	Mbozi	Sumbawanga	Mbozi
Villages	Itewe, Ihombe*, Mwampalapala*, Mwakasita, Mlowo*	Mahenje, Zelezeta*, Hasamba*, Ntinga, Chindi	Chisambo, Chombe, Kalalasi*, Kalumbaleza, Kambo, Katalemwa, Katete, Lowe, Lwanji*, Selengoma	Tunduma
Date of interviews	02.09. – 04.09.09	08.09. – 10.09.09	04.09. – 08.09.09	02.09. – 11.09.09
Number of Interviews	50	50	100	61
Age of the respondents (years)				
Mean	40.2	40.4	37.99	38.1
Minimum	22	20	20	27
Maximum	80	71	73	51
Sex (% of answers)				
Male	58	86	93	57
Female	42	14	7	43
Educational Background (% of answers)				
Informal	8	8	19	5
Primary	82	86	64	88
Secondary	10	6	16	7
Post Secondary	0	0	1	0
Main economic activity (% of answers)				
Agriculture	81.7	70	76.2	Wholesale 43
Livestock	13.3	22.9	13.5	Retailer 36
Petty trade	3.3	5.7	9.5	Assembling 21
Remittances	1.7	1.4	0.8	

\* Plus Focus Group Discussion

Source: FARMERS FIELD SURVEY (2009), TRADERS FIELD SURVEY (2009).

**Table A24: Net-exports from Tanzania to Zambia and the DRC\***

Source of Information	Item	Unit	Country of Destination	2002	2003	2004	2005	2006	2007
National Bureau of Statistics, 2009	Maize (excl. seed)	kg	Zambia				2,941,900	11,794,930	54,000
Zambian Ministry of Commerce, 2008	Maize (excl. seed)	kg	Zambia	9,123,526	15,577,643	22,382	7,162,908	13,546,499	310,600
Tunduma Border Post, Own Compilation, 2009	Maize (excl. seed)	kg	Zambia				2,307,000	0	429,300
Tunduma Border Post, Own Compilation, 2009	Beans	kg	Zambia				154,000	3,500	0
Zambian Ministry of Commerce, 2008	Beans	kg	Zambia	58,000	543,000	626,000	102,000	282,000	0
National Bureau of Statistics, 2009	Maize (excl. seed)	kg	DRC				3,362,800	2,376,730	2,178,000
Tunduma Border Post, Own Compilation, 2009	Maize (excl. seed)	Kg	DRC					3,009,000	3,905,000
Tunduma Border Post, Own Compilation, 2009	Beans	kg	DRC					27,000	909,500

\*Selected Sources of Cross-Border Trade

DRC Democratic Republic of Congo

Source: Own compilation (2009).

**Table A25: Main Policies and their Effects on Stakeholders - Tanzania**

	Policy/Strategy/Institution	Goals	Measures	Farmers	Traders	Consumers
<b>TANZANIA</b>	Food Security and Agricultural Policies: Kilimo Kwanza (2009), Agricultural Sector Development Strategy (2001)	Intensification of agricultural production	Fertiliser subsidies	Benefits from subsidised fertilisers Low yields due to delayed fertiliser distribution	No predictability of trade business	n.a.
		Food security at national and household level: 125% self-sufficiency rate	Export Control Act (2008)	Reduced incentives to intensify production Selling at lower prices	Reduced incentives to participate in market Losing of export markets <i>Tendency to trade informally</i>	Short-term: Benefits from lower food staple prices Long-term: <i>Supply-side constraints may lead to higher prices.</i>
			Export and import licensing	n.a.	Disincentive to trade formally	n.a.

**Table A25 (continued)**

	Policy/Strategy/Institution	Goals	Measures	Farmers	Traders	Consumers
<b>Tanzania</b>	Agricultural Trade Policy: Kilimo Kwanza (2009), National Trade Policy (2003)	Creation of a diversified and competitive export sector	n.a.	n.a.	n.a.	n.a.
	National Food Reserve Agency (NFRA)	National food security	Subsidised maize purchases and sales (fixing floor price, redistribution).	Gains from higher prices Unpredictable sales Dependency on middlemen's purchases	Gains from higher prices No capacity to compete with subsidised floor prices Reduced incentive to participate in market.	Short-term: Benefits from lower maize prices Long-term: <i>Rising food prices</i>

Source: Own compilation (2009).

**Table A26: Main Policies and their Effects on Stakeholders - Zambia**

	Policy/Strategy/Institution	Goals	Measures	Farmers	Traders	Consumers
<b>ZAMBIA</b>	Food security and agricultural policies: Fifth National Development Plan (2006), National Agricultural Policy (2004)	Intensification of agricultural production	Fertiliser Support Programme (FSP)	Co-operatives affiliated to ruling party are main beneficiaries. No guarantee for farmers to receive FSP	Incentives for sustainable market development are reduced.	n.a.
		Food security at national and household level: 90% of the population are food secure by 2015	Food Security Packs (FSP-PAM)	Small farmers benefit when receiving FSP-PAM No guarantee to receive FSP-PAM	n.a.	n.a.
			Regular subsidises for millers on mealie meal prices.	n.a.	No capacity to compete with subsidised prices. Reduced incentive to participate in market.	Short-term: Benefits from lower maize prices. Long-term: n.a.
			Export and import licensing	n.a.	Disincentive to trade formally	n.a.

**Table A26 (continued)**

	<b>Policy/Strategy/Institution</b>	<b>Goals</b>	<b>Measures</b>	<b>Farmers</b>	<b>Traders</b>	<b>Consumers</b>
<b>Zambia</b>	Agricultural Trade Policy: Commercial, Trade and Industrial Policies (2009), Fifth National Development Plan (2006)	Agricultural trade liberalisation; creation of an export-driven, competitive middle-income economy by 2015	n.a.	n.a.	n.a.	n.a.
	Food Reserve Agency (FRA)	Contribution to stabilisation of national food security and market prices	Subsidised maize purchases and sales (fixing floor price, sales to millers)	Some farmers in remote areas benefit. Unpredictable sales to FRA	No capacity to compete with subsidised floor prices Reduced incentive to participate in market	n.a.

Source: Own compilation (2009).

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