



USAID
FROM THE AMERICAN PEOPLE



FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

SERA POLICY PROJECT YEAR 4 ANNUAL REPORT

TANZANIA ENABLING POLICY ENVIRONMENT FOR AGRICULTURAL SECTOR GROWTH

OCTOBER 1, 2014 – SEPTEMBER 30, 2015

This document was produced for the United States Agency for International Development (USAID/Tanzania) by the USAID Feed the Future SERA Policy Project, Contract Number 621-C-00-11-00003-00.

SERA POLICY PROJECT

YEAR 4 ANNUAL REPORT

Contract No. 621-C-00-11-00003-00
USAID Feed the Future SERA Policy Project
Tanzania Enabling Policy Environment for Agricultural Sector Growth

Implemented by Booz Allen Hamilton

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS.....	iv
YEAR 4 ACHIEVEMENTS.....	1
YEAR 5 PRIORITY ACTIVITIES.....	4
INTRODUCTION	4
OVERVIEW	5
IMPLEMENTATION PROGRESS.....	5
COMPONENT I: POLICY RESEARCH AND REFORM.....	5
1. Intermediate Result 1: Improved Agriculture Productivity.....	5
2. Intermediate Result 2: Expanding Markets and Trade	7
3. Intermediate Result 4: Improved Enabling Policy Environment for both Agriculture and Nutrition	11
COMPONENT II: INDIVIDUAL AND INSTITUTIONAL CAPACITY BUILDING	15
1. Intermediate Result 4: Improved Enabling Policy Environment for both Agriculture and Nutrition	15
COMPONENT III: ADVOCACY AND COMMUNICATIONS.....	23
1. Intermediate Result 4: Improved Enabling Policy Environment for both Agriculture and Nutrition	23
ACTIVITIES IMPLEMENTED IN ZANZIBAR.....	24
1. Intermediate Result 2: Expanding Markets and Trade	24
2. Intermediate Result 4: Improved Enabling Policy Environment for both Agriculture and Nutrition	25
PROJECT MANAGEMENT AND PERFORMANCE	25
PROBLEMS / CHALLENGES.....	25
CROSS-CUTTING ISSUES.....	26
FINANCIAL SUMMARY	27
PERFORMANCE MANAGEMENT PLAN	28
Table 1. USAID Standard Indicator and Required if Applicable Indicator Targets for Life of Contract	28
Table 2. Project/Custom Level Indicator Targets for Life of Contract.....	29
ANNEXES	A1-1
Annex 1. Policy Paper – Options for Food Security, Agricultural Growth and Poverty Reduction in Tanzania, February 2015	A1-1
Annex 2. Terms of Reference – Gender and Maize Research Activity, Part II, September – December 2015	A2-1
Annex 3. Research – Maize Market Efficiency, 30 September 2015	A3-1
Annex 4. Policy Note – Agriculture in Tanzania, September 2015	A4-1
Annex 5. Statement of Work – Market Intelligence Unit Feasibility Study	A5-1
Annex 6. Strategic Plan – Rice Council of Tanzania Strategic Plan 2015-2019, April 2015.....	A6-1

Annex 7. Assessment Report – Tanzania Rice Sector Market Assessment, May 2015	A7-1#
Annex 8. Policy Brief – Food Basket Costs in Tanzania and Implications for Food Security, 3 September 2015	A8-1#
Annex 9. Assessment Report – Tanzania’s Food Security Early Warning System, September 2014	A9-1#
Annex 10. Year 4 Deliverables and Reports.....	A10-1#

ABBREVIATIONS AND ACRONYMS

AIRD	Associates for International Resources and Development
AIRF	Agricultural Innovation Research Foundation
BOD	Board of Directors
BOT	Bank of Tanzania
BRN	Big Results Now
CET	Common External Tariff
CI	Custom Indicator
CMEW	Crop Monitoring and Early Warning
CN	Concept Note
COP	Chief of Party
CSO	Civil Society Organization
DAEA	Department of Agricultural Economics and Agribusiness
DCOP	Deputy Chief of Party
DFSN	Department of Food Security and Nutrition
DPP	Department of Policy and Planning
DSM	Dar es Salaam
EAC	East African Community
ERS	Economic Research Service
FAOSTAT	Food and Agriculture Organization Statistical Database
FBM	Food Basket Methodology
FDI	Foreign Direct Investment
FtF	Feed the Future
GDP	Gross Domestic Product
GMO	Genetically Modified Organisms
GOT	Government of the United Republic of Tanzania
iAGRI	USAID Feed the Future Research and Education Project
IFC	International Finance Corporation
IPC	Integrated Phase Classification
IR	Intermediate Result
ISTA	International Seed Testing Association
LGA	Local Government Authority
MAFC	Ministry of Agriculture, Food Security and Cooperatives
MANR	Ministry of Agriculture and Natural Resources
MIT	Ministry of Industry and Trade
MIU	Market Intelligence Unit
MLFD	Ministry of Livestock and Fisheries Development
MLHSD	Ministry of Lands, Housing and Human Settlements Development

MOF	Ministry of Finance
MSU	Michigan State University
MT	Metric Tons
MUCHALI	Mfumo wa Uchambuzi wa Uhakika wa Chakula na Lishe (Tanzanian Food Security and Nutrition Analysis System)
NA	Not applicable
NAFAKA	USAID Feed the Future Staples Value Chain Project
NBS	National Bureau of Statistics
NFRA	National Food Reserve Agency
NFSD	National Food Security Department
NPS	National Panel Survey
OECD	Organization for Economic Co-operation and Development
PAPAC	Platform for Agricultural Policy Analysis and Coordination
PDB	President's Delivery Bureau
PMO	Prime Minister's Office
PRU	Policy Research Unit
RCT	Rice Council of Tanzania
RGoZ	Revolutionary Government of Zanzibar
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SERA	USAID Feed the Future Policy Project
SME	Small and Medium Enterprise
SOW	Statement of Work
SRI	System of Rice Intensification
SUA	Sokoine University
TAHA	Tanzania Horticultural Association
TANTRADE	Tanzania Trade Development Authority
TAPP	Tanzania Agriculture Productivity Program
TASAF	Tanzania Social Action Fund
TASTA	Tanzania Seed Trade Association
TIC	Tanzania Investment Centre
TOR	Term of Reference
UPOV	International Union for the Protection of New Varieties of Plants
USAID	United States Agency for International Development
USD	United States Dollar
USDA	United States Department of Agriculture
USG	United States Government
WB	World Bank

YEAR 4 ACHIEVEMENTS

The Tanzania SERA Project has made significant achievements towards improving the agricultural policy environment, and developing individual and institutional capacity in the four years of the Project. SERA is positioned to successfully transition on-going activities and conclude work on priority areas in 2016. The SERA Project's reputation for fair, balanced, and timely analysis and cutting edge research on important policy issues continues to provide access to decision makers in the public and private sector. SERA will continue to conduct research and provide capacity building support with a focus on providing an actionable framework for the continued analysis and reform of critical policy issues in agriculture to alleviate poverty.

Accomplishments in Research and Policy

The SERA Project had a busy agenda of policy research and analysis in Year 4, successfully completing a number of important initiatives while also starting new activities. In February, SERA presented the final report on "*Policy Options for Food Security, Agricultural Growth and Poverty Reduction in Tanzania*" (Policy Options Paper) (Annex 1) in a workshop to the Government of the United Republic of Tanzania (GOT). The Policy Options Paper was the culmination of research initiated in Year 1 and continued in Years 2 and 3 on the agricultural policy environment. This effort led to significant policy changes including the lifting of the maize export ban in 2012. The final report presented 24 policy recommendations and options in five policy areas. The recommendations were well received and the GOT is prioritizing recommendations and working on implementation. One of the most significant outcomes has been the request for support for a feasibility study on the creation of a Market Intelligence Unit (MIU). It is anticipated that the MIU will host several systems needed to implement a transparent rules-based emergency food import system and will integrate the Food Basket Methodology into policy analysis. In addition to the Policy Options Paper, SERA continued efforts to improve the policy environment in seeds, the business environment in agriculture, credit, and land. SERA also began studies on food demand and gender in maize marketing and production, and concluded a study on maize market efficiency.

Seed Policy

Significant progress was made to improve seed policy in Year 4 by supporting a workshop that brought together GOT seed policy officials and industry stakeholders. This was the third such workshop supported by SERA and this persistent effort has resulted in improved dialogue between GOT and stakeholders, and progress on resolving important policy issues, including international and regional accreditation to enable seed exports, and improved access by private seed companies to protected government seed varieties.

Business Environment for Agriculture

At the request of GOT and key stakeholders, a study of the business environment in Tanzanian agriculture was initiated by SERA in Year 4. The study is a collaborative effort between SERA, Ministry of Agriculture, Food Security and Cooperatives (MAFC), the Southern Agricultural Growth Corridor (SAGCOT) and the President's Delivery Bureau (PDB) of the Big Results Now (BRN) initiative. The study will focus on the business environment for corporate agriculture and

will respond to concerns that foreign investors are not investing in the agriculture sector due to the poor business environment. A field trip was conducted in Tanzania to interview agricultural companies and listen to their concerns. Field trips are planned to neighbouring countries in Year 5 to compare the business environment in those countries with Tanzania.

Food Demand Study

An econometric study of food demand began in Year 4 to estimate economic parameters for major food groups. The results of the study are expected to provide a more solid foundation for projecting future food demand growth and the implications for food production and trade. This research activity follows on a previous rice demand study and will provide better understanding of food consumption patterns in Tanzania.

Gender in Maize Marketing and Production

A study of the influence of gender on maize marketing and production was initiated in Year 4 in collaboration with the World Bank (WB) and International Finance Corporation (IFC). The research will survey 600 maize farmers in two region in order to determine whether there are significant differences between men and women maize farmers. A term of reference (TOR) for the study is attached as Annex 2. The study will gather prices received, use of inputs, and yields of women maize farmers compared to men maize farmers, and will attempt to identify key causes of any significant differences. This activity will help identify policy constraints faced by women farmers and will make policy recommendations on how these differences can be reduced.

Collateral Registry

The SERA Project has supported the GOT to establish a modern collateral registry to facilitate the use of moveable assets as collateral on loans with financial institutions. This activity was started under a previous United States Agency for International Development (USAID)-supported project and continued by SERA. The World Bank has joined SERA in supporting this activity and will include financial support in their overall program to improve financial markets in Tanzania. Meetings were held with counterparts at the Bank of Tanzania (BOT) and a Policy Brief was produced to highlight the importance of such a system. The BOT has institutionalized support for the development of the Collateral Registry through the establishment of a project unit. The project unit will lead this activity including internal reporting to the Board of Directors (BOD) on implementation progress.

Maize Market Efficiency

SERA completed a study of maize market efficiency (Annex 3) and plans to prepare a Policy Research Brief on the study in Year 5. In response to concerns expressed by GOT officials that farmers do not participate in price increases, the study quantified the relationship between increases in farm gate maize prices and increases in prices in regional market centers based on the National Panel Survey (NPS) of 2010/11 and 2012/13. The results showed that about two-thirds of the maize price increases at the regional market centers are reflected in farm gate prices for farmers near rural trunk roads but only 40 per cent of those increases accrue to farmers located at an average of 13 kilometers from the trunk road.

Additional accomplishments:

- A SERA team presented the research on Land Compensation and Benefits Sharing to the Ministry of Lands, Housing and Human Settlements Development (MLHHSD).
- SERA completed a study on the Domestic and External Drivers of Maize Prices in Tanzania and produced a Research Brief. The paper was presented at the International Conference of Agricultural Economists in Milan, Italy in August.
- In December 2014, SERA presented two papers, the Drivers of Maize Prices and the Food Basket Methodology, at the First Annual Agricultural Policy Conference.
- SERA was invited by the World Bank to prepare a policy note on agriculture to the new Government after the election in October 2015 (Annex 4).
- SERA began analysis to identify a healthy/nutritious Food Basket in Zanzibar.

Achievements in Capacity Building and Communications

Significant achievements in capacity building were gained in transitioning policy research to capacity building and implementation, building stronger linkages with the MAFC Department of Policy and Planning (DPP), collaborating with other USAID projects, supporting the Rice Council of Tanzania (RCT), and transitioning activities to local partners.

- Following presentation of the Policy Options Paper, initiated a feasibility study on the creation of a Market Intelligence Unit within the GOT (Statement of Work (SOW), Annex 5).
- Supported the second policy seminar series with iAGRI and Michigan State University (MSU) with the Land Study Inception Workshop on 25 August 2015.
- Completed and supported the implementation of the Food Basket Methodology (FBM) for measuring food costs and food security for the Department Food Security and Nutrition Zanzibar (DFSN).
- Completed training on the Food Basket Methodology for food security policy analysis for MAFC DPP.
- Supported development of the RCT's first organizational strategic plan (Annex 6).
- Completed rapid assessment of the rice sector in Tanzania in support of RCT (Annex 7).
- Provided RCT with personnel support for policy analysis.
- Supported the first Annual Agricultural Research and Policy Conference in December 2014.
- Participated in the National Agricultural Policy Conference and presented SERA research.
- Published a Research Brief on Domestic and External Drivers of Maize Prices in Tanzania.
- Published a Policy Brief on Collateral Registry.
- Completed a Policy Brief for calculating and using Food Basket Methodology (Annex 8).

Personnel Changes

Several personnel changes took place in Year 4:

- The SERA Chief of Party (COP) demobilized from Tanzania at the end of Year 3, and the Deputy Chief of Party (DCOP) was approved as the new COP October 1, 2014.
- A research associate was hired in Q2 of Year 2.

YEAR 5 PRIORITY ACTIVITIES

Year 5 of the SERA Policy Project will focus on supporting the transition to the new government of Tanzania, complete priority research and capacity building activities, and transition research and activities that are in progress. Specific priority initiatives include:

- Supporting the GOT in the creation and implementation of a transparent rules-based system for emergency food import, and rationalization of the grains export permit system;
- Supporting the Bank of Tanzania and the Ministry of Finance on the creation of draft legislations for the legal framework for the collateral registry system;
- Conducting a feasibility study on the creation and implementation of a Market Intelligence Unit for the monitoring of food commodity prices;
- Completing the agricultural business environment study;
- Supporting the Platform for Agricultural Policy Analysis and Coordination (PAPAC) and the MAFC DPP in the transition of critical policy research and reform issues through knowledge transfer activities and trainings;
- Strengthening the capacity of the MAFC's National Food Security Department (NFSD) to implement the Food Basket Methodology; and
- Supporting the implementation of the FBM and the feasibility of a nutritious food basket with the Department of Food Security and Nutrition of the Ministry of Agriculture and Natural Resources (MANR) of Zanzibar.

INTRODUCTION

The Tanzania SERA Policy Project assists both the Government of the United Republic of Tanzania and the private sector to enable a broad-based, sustainable transformation of the agricultural sector through policy reform. The vision for this project is twofold: to improve the policy and regulatory environment for agricultural growth and to build a group of public sector institutions, advocacy organizations, and individuals capable of performing rigorous policy analysis and advocating for policy reform. Improving agricultural policies is accomplished by working with the GOT and other stakeholders to identify important policy constraints to growth in the agricultural sector and by helping to alleviate these constraints through policy and regulatory reforms.

The SERA Project conducts and commissions evidence-based policy research to inform the GOT and other stakeholders of the impacts of existing policies and the potential benefits of improved policies. In addition, the SERA Project develops the capacity of individuals, institutions, and organizations to engage in policy analysis and advocate for policy change. At the conclusion of the project, we expect USAID will leave behind an improved policy environment and a legacy of enabling the GOT and other stakeholders to initiate, develop, and utilize evidence-based research in policy decisions and implementation. The SERA Project focuses its activities around priorities identified in collaboration with the Southern Agricultural Growth Corridor of Tanzania initiative.

OVERVIEW

The SERA Policy Project has three primary components: Policy Research and Reform, Capacity Building, and Advocacy and Communications. Other important activity areas include collaboration, leadership, monitoring and evaluation.

Policy Research and Reform

The SERA Project's approach to policy reform is to provide evidence-based research on important policy issues to inform GOT and other stakeholders on policy impacts and options. This has proven to be an effective method of encouraging policy debate and achieving policy reforms.

Capacity Building

The SERA Project is engaged in both institutional and individual capacity building in support of policy reform. This includes institutional evaluations and support for strategic planning as well as formal training for GOT staff. Support to individuals includes financial assistance for research on important policy issues and training for selected individuals.

Advocacy and Communications

The approach to advocacy and communication is to provide information and disseminate research findings rather than to publicly advocate for policy reform. This is consistent with our approach to policy reform which is focused on GOT counterparts for policy reform rather than grass roots organizations or other stakeholders.

IMPLEMENTATION PROGRESS

COMPONENT I: POLICY RESEARCH AND REFORM

The SERA Project undertakes analysis and research on important policy issues in an effort to provide evidence-based analysis of policy impacts and provide policy options to government. Some of this research is conducted by SERA staff, and some is contracted to consultants. In all cases, high standards are maintained. Increasingly, the SERA team is invited to join policy discussions at an early stage to provide input on important policy issues and this is an effective way to influence policies while they are still in the early development stages.

1. Intermediate Result 1: Improved Agriculture Productivity

A. Seed Policy (Concluded)

Access to high quality seeds is essential to raising productivity and improving the competitiveness of the agricultural sector. However, improved seeds in Tanzania are estimated to be only 15-25 per cent of total seeds planted, which is among the lowest in the region. This situation is due, at least in part, to weak enforcement of existing regulations and GOT controls on certain aspects of the seed industry that limits private sector involvement. The SERA Project has supported efforts to improve access to high quality seeds at internationally competitive prices, and to stimulate investment in the seed sector by creating an enabling economic environment for the private sector.

In Year 4, the SERA Project began to work closely with the MAFC's Registrar of Plant Breeders' Rights to support a National Seed Industry Stakeholders' workshop on Plant Breeders' Rights and Licensing of Public Varieties. The MAFC updated participants on their progress to address key concerns, including:

- Clarifying the definition of protected seed varieties;
- Sharing details of the procedures for the private sector to gain access to these protected;
- Updating participants on the application to the International Union for the Protection of New Varieties of Plants (UPOV), the International Seed Testing Association (ISTA) Quality Assurance System, and the Organisation for Economic Co-operation and Development (OECD) seed certification scheme.

The SERA Project supported 22 public sector representatives to attend the stakeholders' workshop while private sector representatives self-financed their trips. The final report from the workshop's facilitator is pending completion. This workshop is the final SERA activity supporting public-private sector dialogue between Tanzania Seed Trade Association (TASTA) and the MAFC regarding plant breeders' rights and licensing of public varieties. This concludes SERA's support for this activity.

Policy Action Status:

- Stage 5: Passed for which implementation has begun.

Tasks completed in Y4:

- Supported stakeholder's meetings to discuss policy issues as identified.

Contribute to:

- Intermediate Result (IR) 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of United States Government (USG) assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- Custom Indicator (CI) 1.1.1 Volume of improved seed available in domestic market.

B. Taxes on Seeds and Seed Packaging Materials (Concluded)

High taxes on seeds and seed packaging materials have been identified as one of the constraints to expanded local production and sale of seeds, and the SERA Project is working with the seed industry through MAFC, TASTA, Tanzania Horticultural Association (TAHA) and SAGCOT to improve the tax treatment of seeds and seed packaging materials. The case for reducing taxes on seeds and seed packaging materials was prepared by SERA in collaboration with TASTA and SAGCOT in Year 2 and 3 and submitted to MAFC. This material was used to support MAFC's request to the Ministry of Finance (MOF) to reduce taxes. However, no policy action was taken and the severe budget constraints faced by GOT suggest that improved tax treatment of seeds and seed packaging materials is remote. In addition, the upcoming national elections have impacted government priorities. TASTA, TAHA, and the MAFC have the necessary materials to continue working with the Ministry of Finance in future governments. *The activity is closed.*

Policy Action Status:

- Stage 4: Passed / approved.

Tasks completed in Y4: None.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 1.1.1 Volume of improved seed available in domestic market.

2. Intermediate Result 2: Expanding Markets and Trade

The SERA Project works to expand markets through improved trade policies, improved market performance, and increased access to credit. Trade policy is an important component of economic policy and an enabling economic environment. The SERA Project has previously focused on two important trade policy issues, the requirement of the MAFC that traders obtain export and import permits from the GOT before undertaking trade, and the ad hoc approach of GOT to emergency food imports that can disrupt markets and are vulnerable to rent seeking. In addition to these activities taking place in Year 4, the SERA Project undertook research on the performance of maize markets and began research on gender in maize marketing and production. Improved credit also contributes to expanding markets and trade, and is addressed by the collateral registry system being developed by the Bank of Tanzania with SERA support.

A. Export Permits

Permits are required from the Ministry of Agriculture, Food Security and Cooperatives to import or export food crops. The confusing, lengthy, and costly procedure for obtaining permits has led to widespread efforts to circumvent the system. Research conducted by the SERA Project in Years 1 and 2 showed that export permits do not provide accurate information on export levels nor do they control the flow of exports. Imports are similarly controlled by permits and traders report that food crops are often imported without appropriate permits. On 12 October 2014, the GOT announced the temporary decentralization of the export permit system and granted authority to the Regional Commission Administrators to issue export permits for staple crops, mainly maize.

The SERA Policy Options Paper presentation in Q2 recommended the promotion of private-sector led agricultural exports by reducing trade barriers and streamlining export approval requirements. Specifically, the Paper called for the removal export permits and streamlining of other permits required for exports. It is anticipated that follow up action on this recommendation will be combined with activities that support the implementation of a Transparent Rules-Based Emergency Import System and the creation of a Market Intelligence Unit.

Policy Action Status:

- Stage 2: Drafted and presented for public/stakeholder consultation.

Tasks completed in Y4:

- Presented recommendations at the Policy Options Workshop (February 2015).

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research output.

B. Transparent and Rules-Based Import Policy

Emergency food imports are allowed on a case-by-case basis and often unduly disrupt markets as was the case when the GOT allowed duty-free rice imports from January to March 2013. A more transparent and less disruptive policy would be for the GOT to enforce existing tariffs and allow the private sector to import and export freely based on market conditions. The SERA Project presented a series of recommendations and options in the Food Security Policy Options Paper and is ready assist the GOT in designing and implementing a rules-based and transparent mechanism to allow emergency food imports. It is anticipated that follow up action will be combined with activities that support recommendations to remove barriers to trade, such as the export permit system and the creation of a Market Intelligence Unit.

Policy Action Status:

- Stage 2: Drafted and presented for public/stakeholder consultation.

Tasks completed in Year 4:

- Developed and presented a rules-based transparent system for emergency food imports to GOT and other stakeholders at the Policy Options Workshop (February 2015).

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research output.

C. Export Promotion (Concluded)

Tanzania has a history of restricting exports of food crops, but had a large cereals surplus in 2014. This led to discussions with key GOT officials on ways to promote exports in order to clear the surplus before the next planting season. This activity focused on relaxing policy constraints in order to facilitate exports. Various ideas have been considered, including fast tracking export procedures, facilitating the ease with which foreign traders can buy in Tanzania, and promoting the availability of surplus supplies to traders in neighbouring countries. The NFSD of MAFC did not express interest in this activity and ***no further activity is planned.***

Policy Action Status:

- Stage 1: Analyzed.

Tasks completed in Y4:

- Prepared a draft concept note (CN) and engaged with Tanzania Trade Development Authority (TANTRADE) and the MAFC NFSD to offer support. The GOT declined SERA Project support.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research output.

D. Credit to Smallholders and SMEs /Collateral Registry

Credit is essential to investments and delivering credit to small and medium enterprises (SMEs) and small farmers has been a challenge in Tanzania because of the lack of assets that can be used as collateral. Land cannot generally be used as collateral because most land is owned by the government and held in common by local communities. Other assets such as machinery have been used as collateral in other countries, but not extensively in Tanzania due to the weak legal structure and undeveloped registry to record liens against such assets. The SERA Project is working to improve this situation by completing the legal requirements for a modern collateral registry system. The new registry system will help SMEs to use moveable assets as collateral and will also benefit smallholders with limited assets. The SERA Project has agreed to collaborate with the World Bank on this important activity, with the World Bank providing financial support for the necessary computer equipment and software, and SERA providing policy support. Capacity to use this system will then be developed through trainings and capacity building activities.

So far, progress has been limited in this activity. The Policy Options Paper on Food Security restated the importance of the Collateral Registry and included its establishment as part of the recommendations. Efforts have been made to address internal bottlenecks within the BOT. SERA Project completed a policy brief and has distributed copies to key stakeholders and partners. In Q4, the BOT took steps to institutionalize support for the development of the Collateral Registry through the establishment of a project unit. The project unit will lead this activity including internal reporting to the BOT on implementation progress. While this is progress in creating ownership and leadership within the BOT, it may cause delays in the future due to changes to BOT personnel.

Policy Action Status:

- Stage 1: Analyzed.

Tasks planned but not completed Y4:

- Hold a stakeholder's workshop to draft legislation for the collateral registry.
- Present the draft legislation to parliament for approval.

- Work with the World Bank to create the technology specification for necessary computer equipment.
- Design a training program for primary users of the information system.

Tasks completed in Y4:

- Following persistent communication from SERA, BOT assigned internal program unit to lead the establishment of the Collateral Registry.
- Published Policy Brief on Collateral Registry.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.

E. Drivers of Maize and Rice Market Prices

The SERA Project's research on Domestic and External Drivers of Maize Prices in Tanzania has identified key market linkages and quantified policy impacts for the maize market in 18 regional markets. A follow up study will be undertaken in Year 5 to extend this analysis to rice and other food crops using the same methodology.

Policy Action Status:

- Stage 2: Drafted and presented for public/stakeholder consultation.

Tasks completed in Y4:

- Completed study of domestic and external driver of prices of maize.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research output.

F. Improving Performance of Maize Market/Maize Market Efficiency

Maize is the most important food crop in Tanzania, and is grown by an estimated 85 per cent of farmers. When the export ban was lifted in 2012, MAFC officials expressed concern that lifting the export ban would not benefit farmers because they would not participate in the increased prices. In response to this concern, SERA Project tasked a consultant to investigate the efficiency of the maize market by using the National Panel Surveys from 2010/11 and 2012/12. The results showed that farm gate prices did rise in response to higher price in regional market centers and the study provided other useful insights into the maize market.

Policy Action Status:

- Stage 1: Analyzed.

Tasks completed in Y4:

- Completed maize market efficiency study (Annex 3).

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research output.

3. Intermediate Result 4: Improved Enabling Policy Environment for both Agriculture and Nutrition

An enabling environment is essential to a competitive private-sector led agricultural sector. The SERA Project has several activities designed to improve the enabling environment, including reviewing food security policies, reviewing operations of the National Food Reserve Agency (NFRA), improving land policies, and improving the business environment.

A. Food Security

The presentation of the Policy Options for Food Security, Agricultural Growth and Poverty Reduction in Tanzania on 27 February 2015 was the primary deliverable for this research and policy reform activity. The Paper concluded our research efforts to provide mainland Tanzania with options for a more comprehensive food security program. Follow-up meetings with the Prime Minister's Office (PMO) indicate that the GOT has no objections with the recommendations made, and there is interest in several specific key recommendations, including:

- Establishing a modern Collateral Registry System;
- Adopting a Rules-Based System for emergency food imports;
- Limiting the use of export permits;
- Strengthening the monitoring of food imports and enforcement of tariffs;
- Creating a Market Intelligence Unit within MAFC;
- Adopting the Food Basket Methodology to estimate food costs and guide policy.

Follow-up activity has been limited to a request from the MAFC to conduct a feasibility study to establish a MIU (Annex 5). An Inception report was completed and Diligent Consulting will be leading this activity. Discussion indicated that the MIU will be used to implement a Rules-Based System for emergency food imports and exports and monitor food basket costs.

Policy Action Status:

- Stage 2: Drafted and presented for public/stakeholder consultation.

Tasks completed in Y4:

- Completed the Food Security Policy Options Paper.

- Presented the paper to GOT and other stakeholders.
- Initiated implementation of recommendations.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research output.

B. National Food Reserve Agency/Food Security (Concluded)

An assessment of the policies and procedures of the National Food Reserve Agency was initiated in Year 2 and concluded in Year 4. The assessment provided an improved understanding of Tanzania’s emergency food requirements and implementation capabilities. The Policy Options Paper presented final recommendations and actions in support of this activity. In summary, NFRA is mandated to hold food reserves for food assistance and emergency purposes; it should not be called upon to engage in other activities such as price controls. To the extent that NFRA is required to engage in such activities, its budget should be increased to compensate for associated costs. NFRA should operate in a business-like manner, buying and selling grain stocks at prevailing market prices in order to reduce disruptions to local markets and reduce budgetary requirements. The overall reception to the Policy Options Paper was positive, and concerns over the strategic role of the NFRA were discussed at length. ***No further work is anticipated on this activity.***

Policy Action Status:

- Stage 2: Drafted and presented for public/stakeholder consultation.
Related to following policy action –
 - Food Security.

Tasks completed in Y4:

- Completed study of NFRA and presented recommendations in the Policy Options Paper.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.

C. Agriculture Business Environment Study

The business environment facing agriculture in Tanzania is poor and that largely accounts for the low level of foreign direct investment in the sector. A number of studies have identified factors contributing to the poor business environment and they include: unreliable and costly power supply, poor infrastructure, lengthy and uncertain procedures for foreign investors to acquire land, and high taxes. In response to requests from GOT, the SERA Project began a study of the

business environment of the Tanzanian agriculture and those of neighboring countries. This study is being conducted in collaboration with the MAFC, SAGCOT, PDB and Tanzania Investment Centre (TIC) and will focus on investment incentives that can partially offset the factors contributing to the poor business environment.

Policy Action Status:

- Stage 1: Analyzed.

Tasks completed in Y4:

- Prepared a CN and SOW for the study.
- Completed field research in Tanzania.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research output.

D. Land Policy

Land policy is very controversial in Tanzania amid concerns that investors will grab land and displace those with informal or insecure land rights. The SERA Project was invited by the Ministry of Lands, Housing and Human Settlements Development to undertake a study on Compensation and Benefits Sharing approaches used in the region. The study was completed and presented to MLHSD for comments. MLHSD staff expressed concern regarding the implications of the legal opinions but expressed willingness to utilize information from the study in their current efforts to review and revise the Land Act of 1999. SERA Project has received no further communications from the MLHSD or follow-up for the Commissioner of Lands.

Policy Action Status:

- Stage 2: Drafted and presented for public/stakeholder consultation.

Tasks planned and not completed in Year 4:

- Publish a Policy Brief on land policy.
- Present study to stakeholders at a national workshop.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research outputs.

E. Price Stabilization (Concluded)

The MAFC has replaced the input subsidy program, in operation since 2008, with two new programs, including a price stabilization program for selected cash crops. Since such price stabilization programs have been tried in other countries without success, the SERA Project planned to prepare a Policy Brief on these experiences in an effort to inform GOT on the international experience. As similar work is being conducted by Michigan State University, **no further action is planned** by SERA Project.

Policy Action Status: NA.

Tasks planned and not completed in Year 4:

- Prepare a background paper on the international experience with agricultural price stabilization programs.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.

G. Food Demand

The SERA Project began research on food demand in Year 4 and plans to complete it in Year 5. This study will contribute to a better understanding of the current situation and future trends in food demand, and will in turn be useful in directing resources, such as extension, and marketing into rapidly growing segments of food demand. Such information is essential to evidence-based policy decisions and strategic planning.

The study will use data from the most recent household budget survey, and an academic expert has been identified to provide guidance on the methodology to use and on interpreting subsequent results obtained. Among the expected outcomes of the study are:

- Estimates of price, income, and expenditure elasticities for different food groups in Tanzania using current household survey data and a theoretically consistent micro-econometric demand model;
- Comparisons of food demand patterns between rural and urban households; and
- Identification of socio-economic characteristics that affect consumer food demand.

A CN was prepared and circulated for comments.

Policy Action Status: NA.

Tasks completed in Y4:

- Prepared a CN and began assembling relevant data.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1:

Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.

- CI 4.1.1 Number of research output.

COMPONENT II: INDIVIDUAL AND INSTITUTIONAL CAPACITY BUILDING

The SERA Project's approach to capacity building is twofold. The first approach focuses on institutional capacity building activities of selected organizations that can provide the greatest impact to support development of an enabling policy environment. The second approach addresses increasing capacity for research and evidenced-based policy analysis of individuals through training and support for research and policy analysis.

In Year 4, the SERA Project continued to focus its support on public sector institutions, providing institutional and individual capacity building to support the implementation of policy reforms. Public sector support was extended to include institutional training with the DPP through PAPAC. Policy research activities expanded opportunities to provide capacity building to individuals representing various GOT institutions through the development of local policy research teams. In addition, SERA Project provided strategic support TASTA and the RCT.

1. Intermediate Result 4: Improved Enabling Policy Environment for both Agriculture and Nutrition

A. MUCHALI - Institutional Assessments and Capacity Building Action Plan Concluded)

In Year 4, SERA Project finalized the assessment of Tanzania's Food Security Early Warning System. The name MUCHALI is derived from the Swahili phrase: "Mfumo wa Uchambuzi wa Uhakika wa Chakula na Lishe", meaning "System for the analysis of food security and nutrition". The objectives of this assessment were to determine information requirements, data sources, and to review the systems that provide data and information for the Tanzania national food security system; specifically the Food Basket Methodology and the MUCHALI framework. The activity identified strengths, limitations, opportunities, gaps, and weaknesses in the current Food Security Early Warning Information System utilized by the MAFC. Participation from stakeholders was limited due to competing priorities. Recommendations from the assessment were presented as part of the Policy Options for Food Security, Agriculture and Poverty Reduction, *but not undertaken as priority items*. Due to limited interest from the GOT and stakeholders, specific recommendations will be transitioned to capacity building effort with other stakeholders where applicable. **No further support is planned for this activity.**

Related Policy Action Status:

- Stage 2: Drafted and presented for public/stakeholder consultation.
Related to following policy actions –
 - Food Security - Comprehensive Food Security Study, Policy Options Paper.

Tasks completed in Y4:

- Finalized Assessment Report (Annex 9).

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1. Number of institutions receiving USG assistance.

B. Ministry of Agriculture, Food Security and Cooperatives, National Food Security Department

SERA Project continued to work with the United States Department of Agriculture (USDA) Economic Research Service (ERS) to support the adoption of the Food Basket Methodology by the MAFC NFSD. The focus of activities was the development and implementation of a Food Basket pilot program that would help ensure stakeholder ownership and long-term sustainability. There was no substantive progress made for the implementation of the pilot activity. Due to the lack of progress implementing a pilot, plans to conduct a training-of-trainers session were postponed.

Activities in Year 4 expanded from work with the National Food Security Department to include requests for support from the Department of Policy and Planning, who expressed strong interest in the FBM and the implementation of Recommendations from the Policy Options Paper. The DPP submitted a proposal for a feasibility study for a Market Intelligence Unit, and the PAPAC unit received training on the FBM.

i. Food Basket Methodology - NFSD

SERA Project and USDA ERS have provided support to the MAFC National Food Security Department for the development of a regional food basket. In Year 4, SERA Project and ERS worked with the NFSD on the development of a pilot activity that would address questions and concerns regarding data sources and income calculation for measuring access. A draft proposal, received in March 2015, highlighted a series of field visits to the pilot regions, but did not explain how the field visits would address the objectives referred in the proposal. SERA submitted a response requesting clarifications on the questions below:

- What are the questions and concerns of the Crops Monitoring and Early Warning (CMEW) regarding the FBM that the pilot seeks to address?
- What is the measurement of success for the pilot activity?
- How will this activity be evaluated?
- What is the process of evaluation and what are the possible next steps for implementation?

A stakeholders' panel was held to solicit input and comments on the pilot activity with two primary concerns explained below.

1. The monthly retail prices reported by the National Bureau of Statistics (NBS) are used to calculate the food basket cost collected at urban markets and may not be a good reflection of the prices facing rural households most vulnerable to food insecurity. Alternative sources of data were explored; however, there is no other reliable source for retail prices.

2. To measure access, it is necessary to compare the food basket cost to income. To date, per capita gross domestic product (GDP) by region, though not ideal, has been used as a proxy for household income. In the future, developing an alternative method of determining income using data from the ongoing Household Economic Approach survey may be an option. This survey provides baseline income for very poor and poor households, and also lists the sources of the income. Using monthly prices for cash commodities that provide the greatest share of income in the district—cattle, sunflower seed, cotton, coffee, or even non-agricultural products—we may be able to estimate changes in income based on prices of these commodities.

A revised proposal was discussed in Q3, however, it failed to meet SERA project requirements. Given the limited time remaining for SERA Project, it is unlikely that the pilot will move forward. SERA Project is exploring options with NFSD on how to best move forward and transition the activity in Year 5.

Related Policy Action Status:

- Food Security. Stage 2: Drafted and presented for public/stakeholder consultation.
- Food Basket Methodology. Stage 5: Passed for which implementation has begun.

Tasks planned and not completed in Year 4:

- Pilot activity for FBM (*added to WP in Y4-Q1*).
- NFSD FBM Operations Manual:
 - Complete FBM Operations Manual.
 - Introduce FBM Operations Manual.
 - Provide support for FBM Monthly Analysis for up to 12 regions.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1. Number of institutions receiving USG assistance.

ii. Training of Trainers - NFSD

The first draft of the training materials for the FBM Training of Trainers was completed in Q1. These materials include, slide presentations, a participant workbook, and the lead trainer manual. Further work on this activity is contingent upon the implementation and success of the pilot activity.

Related Policy Action Status: NA.

Task completed in Y4:

- Developed Training of Trainers material.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1. Number of institutions receiving USG assistance.

iii. Data Harmonization Workshop

The issue of quality data for policy decision-making was discussed throughout Year 3. A series of planning meetings and draft agendas did not result in agreed upon objectives and timing for this activity. In Year 4 this activity was combined with other recommendations in the Policy Options Paper and is now part of the MIU activity.

Related Policy Action Status:

- Stage 2: Drafted and presented for public/stakeholder consultation.
Related to following policy actions –
 - Food Import Policy - Transparent rules-based import policies.

Tasks completed in Y4:

- Incorporated into MIU activity.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1. Number of institutions receiving USG assistance.

iv. Food Basket Methodology – DPP

SERA Project worked in collaboration with the Platform for Agricultural Policy Analysis and Coordination in the Department of Policy and Planning to provide training and capacity building support on the development and application of the food basket costs to inform policy decisions and long-term planning. Training participants were selected from previous PAPAC training activities to build on existing skills sets. The training was anchored in the application of the FBM for policy analysis completed in the *SERA Policy Brief, Food Basket Costs in Tanzania and the Implications for Food Security* (Annex 8). The training was well received and follow-up activities will be explored for Year 5.

Related Policy Action Status:

- Stage 4: Passed/approved.

Tasks completed in Year 4:

- Trained PAPAC staff in Food Basket Methodology.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1. Number of institutions receiving USG assistance.

v. Market Intelligence Unit - DPP

The Policy Options Paper recommended the establishment of a Market Intelligence Unit to coordinate domestic and international market data on key agricultural commodities to support policy analysis. A MIU could improve the performance of Tanzanian food markets by informing traders and farmers of the current market situation and future prospects, support a rules-based emergency food import system, and act as a catalyst for improving data systems as market intelligence becomes integrated into policy decision making.

In Q4, SERA Project received a request to support a feasibility study for the establishment of a MIU within MAFC (Annex 5) with staff participation from the following Ministries: MAFC, Ministry of Livestock and Fisheries Development (MLFD), and Ministry of Industry and Trade (MIT). This activity is being led by SERA local partner and subcontractor Diligent Consulting Ltd. A draft activity inception report and budget, including proposed personnel have been submitted for review and approval.

Related Policy Action Status:

- Stage 2: Drafted and presented for public/stakeholder consultation.
Related to following policy actions –
 - Transparent rules-based import policies.
 - Export Permits.
 - Food Basket Methodology.

Tasks completed in Y4:

- Completed inception report and work plan for implementation.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1. Number of institutions receiving USG assistance.

C. Strategic Support – Advocacy Organizations

SERA Project provided strategic support to two private sector organization in Year 4, TASTA and the Rice Council of Tanzania.

i. TASTA

In Y4, SERA Project continued to provide support to TASTA by assisting with two stakeholder engagements around critical seed policy issues:

- National Seed Industry Stakeholders’ workshop on Plant Breeders’ Rights and Licensing of Public Varieties (June 2015).
- Biotechnology Stakeholders Workshop (September 2015).

Related Policy Action Status: NA.

Tasks completed in Y4:

- Supported two stakeholder events.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1 Number of institutions receiving USG assistance.

ii. Rice Council of Tanzania

SERA also began working with the Rice Council of Tanzania in Y4, providing support in three areas: organizational and strategic plan, a rapid assessment of the rice sector, and personnel support.

a. Strategic Plan Development

SERA Project engaged a local consulting firm, Agricultural Innovation Research Foundation (AIRF) to facilitate and draft the RCT first Strategic Plan. The strategic planning process included a detailed environmental analysis, a stakeholder workshop, and feedback from the RCT BOD. The final draft was presented to the RCT BOD on 26 May 2015 and the RCT developed an internal work plan for implementation.

The main objectives of the Strategic Plan are:

1. To improve RCT's governance, organization and coordination capacity, Human Resource Management, working environment, and operations through capacity building by December 2016.
2. To advocate for conducive policy, regulatory, business, and investment environments to support the growth of the rice industry by 2019 and beyond.
3. To mobilize resources to enable the implementation of RCT objectives and ensure sustainability by 2018.
4. To play a coordinating role through advocacy and collaborative engagements, and dissemination of rice value chain information and data.
5. To facilitate and assist rice industry entities to increase rice output by 20 per cent by 2019 through facilitating and assisting rice value chain entities to increase productivity, production levels, and profitability through improved access to affordable input factors, governance, skills, and compliance to quality standards and market requirements.
6. To forge new partnerships, alliances, and networks for soliciting joint project/activities implementation, sharing and exchange of resources, and collaborate on other approaches.

Related Policy Action Status: NA.

Tasks completed in Y4:

- Completed Strategic Plan that was subsequently adopted by RCT BOD (Annex 6).

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1 Number of institutions receiving USG assistance.

b. Rapid Rice Sector Assessment

In Y4, SERA Project assisted the RCT in completing a rapid assessment of private sector rice stocks held in Tanzania. The rapid assessment provided a snapshot of the location and quantities available in the Mbeya, Morogoro, and Shinyanga regions. The final report and presentation of the Rapid Assessment of the Rice Sector was made on 8 May 2015 to the RCT Chairman of the Board, NAFKA, SERA, and representatives from USAID. The report covered studies from the field visits to Morogoro, Iringa, Mbeya, Shinyanga, Mwana, Arusha, Kilimanjaro and the Dar markets.

The major findings include:

1. **Imported rice** is affecting local rice market, specifically through distortion of price and poor quality of local rice. The causes include mixing of imported rice with local rice and repacking of imported rice.
2. **Electricity** is a major constraint to millers due to frequent power cut and high cost.
3. **Unreliable rains** are causing fluctuations in production and reduced water supply in irrigation infrastructures.
4. **Crop cess** has great variation in application. Among the districts surveyed, cess ranged between 5 -30 TZS/kg, in Mbeya 5 TZS/kg, Magugu 20 TZS/kg, TZS/kg, and Morogoro 30 TZS/kg.
5. **Poor road infrastructure** discourage traders and delay deliveries to markets.
6. There is an overwhelming lack of awareness and applications of **Quality and Grade Standards**. Some areas use buckets for measuring rice, others use 100kgs PP bags. There is also a lack of good postharvest practices in both drying and storage.

The RCT held a stakeholders discussion on 22 June 2015 and released their position paper entitled *Tanzania's Rice Industry is Under Threat*. Findings from the Rapid Assessment of the Rice Sector were also presented at this meeting. The event was attended by 75 participants and 35 media houses.

Related Policy Action Status: NA.

Tasks completed in Y4:

- Completed Rapid Assessment of the Rice Sector (Annex 7).

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1 Number of institutions receiving USG assistance.

c. Personnel Support

SERA Project is providing long-term personnel support for a policy analyst position for RCT. Recruitment was completed in Q4 and the selected candidate was hired through Diligent Consulting Ltd.

Related Policy Action Status: NA.

Tasks completed in Y4:

- Hired Policy Analyst for RCT.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1 Number of institutions receiving USG assistance.

D. Sokoine University

The SERA Project and iAGRI Project are working on two joint activities with Sokoine University (SUA), the Policy Seminar Series, which began in Year 1 and support for a Policy Research Unit (PRU).

i. Policy Seminar Series.

SERA and iAGRI have jointly sponsored a Policy Seminar Series for faculty and students at Sokoine University to encourage agricultural policy research. The second Policy Seminar Series began in Year 4. Changes in the terms of reference have been made based on the experiences and lessons learned from the Series I where a more structured and targeted approach is being taken in Series II, with a topical research focused on Land. This collaboration now includes MSU. SERA Project sponsored the stakeholders/kick-off meeting on 25 August 2015. The purpose of the stakeholder's meeting was to present initial findings and solicit input and comments on the research study "*Implications to Agriculture Sector Transformation and Smallholder Farmers*". Forty-seven stakeholders attended the event, including representatives from MAFC, GOT agencies, private-sector organizations, academia, civil society organizations (CSOs) and businesses. Based on this activity, research team have develop draft concept paper.

Related Policy Action Status: NA.

Tasks completed in Y4:

- Selected research teams.
- Held inception meeting with stakeholders.
- Draft concept notes prepared.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1 Number of institutions receiving USG assistance.

ii. Policy Research Unit.

SERA Project and iAGRI have been working together to support the development of a Policy Research Unit in the Department of Agricultural Economics and Agribusiness (DAEA) at Sokoine University. As of Q3 MSU has joined in this collaboration. The vision is for the PRU to conduct demand driven evidence-based policy analysis for internal and external clients. SERA Project received a final revised proposal from the director of the DAEA in June. Discussion resulted in agreement that a feasibility study should be conducted to ensure institutional readiness and demand for services. In addition, there is interest in supporting this activity from other development partners. A TOR is being developed for this purpose. It is anticipated that this activity will start in Year 5.

Related Policy Action Status: NA.

Tasks completed in Y4:

- Received proposal from DAEA.
- Secured additional partners/resources.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1 Number of institutions receiving USG assistance.

COMPONENT III: ADVOCACY AND COMMUNICATIONS

The SERA Project focuses on communication activities that support the policy research agenda and targets public sector institution. The primary communication instruments are the SERA Project website, policy briefs, and public events such as conferences and workshops.

1. Intermediate Result 4: Improved Enabling Policy Environment for both Agriculture and Nutrition**A. SERA Website**

The website is the main communications tool for SERA, making available evidence-based research and other key policy information. In addition, SERA continues to explore ways to engage more directly with target audience of the website.

Related Policy Action Status: NA.

Tasks completed in Y4:

- Updated content on a quarterly basis.
- Monitored usage on a quarterly basis.

Contribute to:

- CI 4.1.3 Number of hits/visits to the SERA website.

B. Policy and Research Briefs

The SERA Project published one Policy Brief and one Research Brief, and developed two draft Policy Briefs in Year 4 in support of policy analysis and research. The Policy and Research Briefs summarized specific policy research and recommendations on key issues affecting the agriculture sector environment and are meant to inform decision makers and stakeholders.

Related Policy Action Status: NA.

Tasks planned, but not completed in Year 4:

- Drafted but not published the Land Compensation and Benefits Sharing brief.
- Price Stabilization brief due to cancellation of activity.

Tasks completed in Y4:

- Published Drivers of Maize and Rice Prices,
- Published Secure Transactions Systems: Collateral Registry
- Completed, to be published in Y5 Food Basket Costs and Implications for Food Security.

Contribute to:

- CI 4.1.2 Total number of SERA mentions in the press and social media.

C. Success Stories

In Year 4, SERA Project prepared two USAID Success Stories: the Lifting of the Export Ban and the Food Basket Methodology. Publication of the success stories will follow USAID branding and marking requirements.

Related Policy Action Status: NA.

Tasks completed in Y4:

- Drafted Success Story on Lifting of the Export Ban.
- Drafted Success Story on the Food Basket Methodology.

Contribute to:

- CI 4.1.2 Total number of SERA mentions in the press and social media.

D. Policy Conferences and Workshops

SERA Project participated in the first Annual Agricultural Policy Conference held on 2 – 4 December 2014. In addition to providing financial and logistical support, SERA Project presented two research papers, Drivers of Maize Prices in Tanzania by Don Mitchell, and Measurement of Food Basket Costs in Tanzania by Aneth Kayombo. Both papers were well received and reflected well the activities and capabilities of the SERA Project.

ACTIVITIES IMPLEMENTED IN ZANZIBAR

1. Intermediate Result 2: Expanding Markets and Trade

A. Irrigated and Rain-fed Rice Profitability Analysis (Concluded)

The SERA Project worked with the NAFKA Project and the Tanzania Agriculture Productivity Program (TAPP) to evaluate the profitability of irrigated and rain-fed rice on Zanzibar. This analysis was used to guide policy and investment decisions of Revolutionary Government of Zanzibar (RGoZ), USAID, and other donors for the rice sector in Zanzibar. **The activity is complete and no further action is planned.**

Policy Action Status:

- Stage 3: Presented for legislation/decreed.

Tasks completed in Y4: None.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research output.

2. Intermediate Result 4: Improved Enabling Policy Environment for both Agriculture and Nutrition

A. Zanzibar Department of Food Security and Nutrition

In Year 4, the SERA Project and the USDA ERS began working with the DFSN to support the application of the Food Basket Methodology in the Zanzibar Food Security early warning system. The development of the Food Basket Methodology and training of DFSN staff were completed in Q2. The DFSN will use the FBM in quarterly presentation of early warning information to the Food Security and Nutrition Committee. In Q4, the DFSN began the development of a healthy/nutritious food basket, with support from SERA and ERS. It is anticipated that this work will be completed in Year 5.

Additional support to DFSN was limited due to resource constraints. In Year 5, SERA Project will focus on concluding all communications support activities and the implementation of a health/nutritious food basket methodology.

Related Policy Action Status: NA.

Tasks completed Year 4:

- Completed training and adoption of the Food Basket Methodology in Zanzibar.
- Started developing a healthy/nutritious food basket.

Contribute to:

- IR 4.5.2-7 Number of individuals who have received USG supported short-term agricultural sector productivity or food security training.
- CI 4.2.1 Number of institutions receiving USG assistance.

PROJECT MANAGEMENT AND PERFORMANCE

1. Management

In Year 4 SERA Project experienced several personnel changes.

1. Marialyce Mutchler, Deputy Chief of Party, was approved a Chief of Party at the beginning of October 2014.
2. Don Mitchell, transitioned to part-time Senior Advisor under contract with DPR International in November 2014.
3. Edith Lazaro was hired by Diligent Consulting Ltd as a research associate (Junior Researcher) in February 2015.
4. Leoncia Salakana was hired by Diligent Consulting Ltd as the RCT Policy Analyst in September 2015.

PROBLEMS / CHALLENGES

While relationships with key government ministries and offices were stronger in Year 4, challenges remain with access and participation of GOT partners, specifically during parliamentary sessions. The Presidential elections will be held on 25 October 2015, but have so far not resulted in significant challenges or delays in program activities.

CROSS-CUTTING ISSUES

1. Gender

Gender is an important cross cutting issue and the SERA Project is undertaking research to better understand women maize farmers' input use, yields, and price received compared to men maize farmers.

A. Gender in Maize Marketing and Production

Women are actively engaged in farming, but little is known about their activities. Do they have access to similar levels of credit, inputs, and land? Do they receive similar prices for their output when they market? The SERA Project collaborated with the World Bank and International Finance Corporation in Year 4 to conduct surveys to answer these questions. The results and report will be completed in Year 5 and could identify areas of support for women farmers that would increase their incomes and contribute to their food security.

Related Policy Action Status: NA.

Tasks completed in Y4:

- Prepared a CN and SOW for the gender in maize marketing and production study (Annex 2).
- Developed Survey Questionnaire and identified survey teams.

Contribute to:

- IR 4.5.1-24 Number of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Stage 1: Analyzed -- Stage 2: Drafted or presented for public/stakeholder consultation -- Stage 3: Presented for legislation/decreed -- Stage 4: Passed/Approved -- Stage 5: Passed for which implementation has begun.
- CI 4.1.1 Number of research output.

2. Poverty

Poverty is an important cross cutting issue and SERA policy reform activities are expected to be pro-poor because they deal with food crops produced by most rural households.

3. Climate Change

Climate change is an important cross-cutting issue and the research conducted by SERA Project on the Determinants of Maize Prices in Tanzania provided some useful insights into policies that can mitigate climate change impacts. The findings of the study indicate that export bans intensify the impacts of weather shocks and seasonal price fluctuations, and open trade policies can mitigate the impacts of such factors. That implies that policies that restrict trade in food crops will result in greater price variability and delayed transmission of prices to market forces.

FINANCIAL SUMMARY

ANNUAL REPORT	Year 0.5 Apr 11 - Sep 11	Year 1 Oct 11 - Sep 12	Year 2 Oct 12 - Sep 13	Year 3 Oct 13 - Sep 14	Year 4 Oct 14 - Sep 15	Cumulative Apr 11 - Sep 15
Reimbursable Costs	\$162,022	\$1,177,257	\$1,569,631	\$1,567,452	\$1,563,425	\$6,039,786
Fee	\$12,950	\$84,837	\$134,853	\$129,456	\$123,884	\$485,981
Reimbursable Costs plus Fixed Fee	\$174,972	\$1,262,094	\$1,704,484	\$1,696,907	\$1,687,309	\$6,525,767
Contract Cumulative	\$174,972	\$1,437,066	\$3,141,550	\$4,838,458	\$6,525,767	

PERFORMANCE MANAGEMENT PLAN

Table 1. USAID Standard Indicator and Required if Applicable Indicator Targets for Life of Contract

Indicator		Baseline	Y4 Target	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Y4 Total	LIFE OF CONTRACT TARGET
IR 4.5.2-7. Number of individuals who have received USG supported short-term agricultural sector productivity or food security training (RiA) (WOG).	New	0	98	15	21	NA	34	70	1,700
	Continue	0	100	9	0	NA	21	30	
	Male	0	132	12	17	66	85	180	
	Female	0	66	12	4	14	31	61	
IR 4.5.2-36 Value of exports of targeted agricultural commodities as a result of USG assistance (\$).	Maize	\$20,820,000	\$34,990,000	NA	NA	NA	NA	0	\$56,749,200
	Rice	\$37,050,000		NA	NA	NA	NA	0	NA
IR 4.5.2-30 Number of MSMEs, including farmers, receiving USG assistance to access loans (\$).	Medium	0	800	0	0	0	0	0	2,400
	Small	0	125	0	0	0	0	0	350
	Micro	0	75	0	0	0	0	0	250
IR 4.5.1-24 Numbers of Policies / Regulations / Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: (\$) <ul style="list-style-type: none"> • Stage 1: Analyzed • Stage 2: Drafted and presented for public / stakeholder consultation • Stage 3: Presented for legislation / decree • Stage 4: Passed / approved • Stage 5: Passed for which implementation has begun 	NA								
		0	0	0	0	0	2	2	2
		0	0	0	6*	0	3	3	3
		0	1	0	0	0	3	3	3
		0	0	0	0	1	0	0	0
		0	3	0	0	0	4	4	6

* Represents specific policies presented in the Food Security Policy Options Workshop 27 February 2015.

Table 2. Project/Custom Level Indicator Targets for Life of Contract

Indicator	Baseline	Y4 Target	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual	Y4 Total	LIFE OF CONTRACT TARGET
1.1.1 Volume of improved seed available in domestic market	26,545 tons	5,000 tons	NA	NA	NA	NA	NA	36,000 tons
4.1.1. Number of research output	0	0	1	0	1	0	2	7
4.1.2 Total number of SERA mentions in the press and social media	0	5	0	0	0	0	0	40
4.1.3 Number of hits/visits to the SERA website	0	2,000	68*	210	1,869	0	2,147	9,000
4.2.1 Number of institutions receiving USG assistance	0	4	2	18	4	0	24	15

**Google Analytics is used to track this indicator. Tracking began on 2 December 2014.*

ANNEXES

Annex 1. Policy Paper – Options for Food Security, Agricultural Growth and Poverty Reduction in Tanzania, February 2015

Please see attachment “SERA Year 4 Annual Report, Attachment A”.



Annex 2. Terms of Reference – Gender and Maize Research Activity, Part II, September – December 2015

TERMS OF REFERENCE Gender and Maize Research Activity, Part II September - December 2015

I. Project Overview

The Tanzania SERA Policy Project assists the Government of the Republic of Tanzania (GoT) and the private sector to enable broad-based, sustainable transformation of the agriculture sector through policy reform. The project supports partnerships such as SAGCOT, and conducts policy analysis, research, advocacy, and legal work in support of policy reforms. SERA Project also provides institutional and individual capacity building support to public and private sector institutions engaged in policy reform activities.

II. Background

Maize is the most important food crop in Tanzania. It accounts for nearly 50 percent of total calories in the diet and 40 percent of cropped area. It is an important export crop and has good potential to increase exports within the region because most countries in the region are maize deficit and have limited resources to increase production. Maize production is concentrated in the Southern Highland regions of Mbeya, Iringa, and Rukwa; but occurs in all regions and by an estimated 85 percent of farmers. Seventy percent of maize farmers are reported to be women, but little is known about the marketing, production and resources of women maize farmers. Do women maize farmers receive similar prices for maize, have similar access to inputs and finance, produce similar quantities and qualities of maize compared to men? This proposed research would attempt to answer these questions by surveying women and men maize farmers in selected regions of Tanzania.

The primary focus of the survey would be on marketing and prices received for maize because that influences production incentives and input use, but other information about production, input use, access to finance, training, and extension would also be collected. From previous studies, we know that women tend to be much more time constrained than men and such time constraints may influence their choice of marketing channels, access to market information, and attendance at trainings. The findings of the survey could lead to targeted interventions to support women farmers, such as extension on best practices in production, better information on input and output prices and markets, and training on record keeping and business practices. These interventions could reduce the constraints on women maize farmers, increase their incomes, reduce poverty, and contribute to national production which could increase food security as well as exports. The findings may also be applicable to other crops produced by women farmers and could lead to further research and targeted assistance to women.

The first study was conducted in July 2014 Mbeya and Rukwa regions and represent domestic and “export” marketing of maize to other regions. Eight producing districts in each of the regions

were randomly selected, at the district level 2-3 wards were randomly selected. Phase one captured the views of 613 maize producing households, with 50% male-headed and 50% female-headed.

This activity will review the study questionnaire, replicate the field research in two new regions, Iringa and Ruvuma, and provide a detailed report of the findings and recommend potential policy interventions.

III. Assignment Objectives

The primary objective of the research is to determine whether women farmers receive significantly different prices for maize than men farmers after adjusting for quality differences and other relevant factors. It will be important to identify what marketing channels women use compared to men (e.g. to whom they sell and how) and what kind and type of information they have access to related to prices and other market conditions. A second objective is to quantify farmer's characteristics, input use in maize production, production per hectare and per farmer, and yields of women maize farmers compared to men maize farmers. Within this second objective, the research would try to identify key causes of any differences input use and output, such as access to inputs, finance, training, extension services, etc.

IV. Methodology

The methodology will be to conduct farmer surveys of an equal number of men and women maize farmers in selected maize producing regions of Tanzania. Tentatively, the regions to be surveyed could be Ruvuma and Iringa, which are two large maize producing regions.

Hypothesis I: That women farmers receive lower prices for maize than men farmers after adjusting for quality differences and other factors.

Hypothesis II: That women maize farmers have lower maize yields, lower production, less access to finance, less market knowledge, and lower input use than men maize farmers.

V. Collaboration with the International Finance Corporation and World Bank

This activity follows a similar survey done by the International Finance Corporation and World Bank in July 2015 and is intended to use the same survey questionnaire in order to ensure comparability of findings. It differs from the previous survey in that it will focus more on prices received by men and women maize farmers which the previous survey was not able to complete because of the weather-induced delay in the harvest. The survey of prices received should quantify the factors that may influence prices received such as quantities and qualities sold, location of sale, type of buyer, distance from trunk road and markets, and form of payment. Other aspects of the previous survey, including characteristics of men and women maize farmers, input use, access to finance, market information, training and extension, input use, yields, and production will be collected in the same manner and detail as in the previous study in order to allow comparability of the results. It is intended that the same consultant would complete both studies.

VI. Activities/Tasks

Field research activities will take in 2-3 wards of eight randomly selected districts in Iringa and Ruvuma

The tasks will include:

- Conduct a survey of an approximately equal number of men and women farmers in two maize producing regions of Tanzania using the questionnaire developed for the previous study of men and women maize farmers, with the addition of specific questions on maize prices received and factors that could influence those prices.
- Review and modify as needed the survey framework and questionnaire.
- Administer the survey to 150 male and 150 female maize farmers randomly selected in each of the two regions during or shortly after the harvest season from August to September, 2015.
 - The surveys should be geo referenced, time and date stamped.
- Analyze the survey, quantify the results, and prepare a draft written report for review.
- Revise the analysis and written report as required by the Activity Manager.

VII. Deliverables

- Questionnaire for approval by Activity Manager prior to undertaking survey.
- Summarized survey results in table form.
- Draft report summarizing survey results.
- Raw data in excel spreadsheet format for possible subsequent analysis.
- Final Report that quantifies the survey results and identifies constraints that affect men and women maize farmers and policy recommendation to address the constraints.

VIII. Period of Performance

Anticipated award for this activity is September 1, the activity will be completed by December 30.

Annex 3. Research – Maize Market Efficiency, 30 September 2015

RESEARCH PAPER

How Remoteness Impedes Maize Market Efficiency Evidence from Tanzania’s Maize Sector

by Varun Kshirsagar, SERA Policy Project Consultant
30 September 2015

Abstract

We show that an exogenous increase in maize prices in urban markets resulted in a large real increase in the (unit) value rural households place on the maize they produce. However, the extent of this increase differed across maize-producing households. In the Southern Highlands, the maize surplus region, households that were close to the trunk road network reported large farm-gate price increases (around 65 percent) between 2010/12 and 2012/13 - comparable to households in other parts of the country. However, remote households in the southern highlands reported more muted increases in the value of their maize produce. Together, our findings are consistent with a view that maize price increases in the urban areas in Tanzania are transmitted down the supply chain to the farm-gate, but that price transmission to remote households in the surplus area requires an improvement in rural road infrastructure.

1. Introduction

Are food price increases in major regional markets transmitted to food producers in rural areas? While there is a large literature on food price transmission between major markets within and across countries (e.g. Fackler and Goodwin (2001)), there is limited empirical evidence on the extent to which prices at the farm-gate respond to aggregate food price shocks. In this study we document that the large increase in maize prices in major markets, following the removal of Tanzania's export ban in 2012, was in fact reflected in higher maize prices at the farm-gate during the following harvest. However, we also find that the increase in farm-gate prices varied across maize producing households. Further, in the food-surplus southern zone, this variation is related to a household's proximity to the main (trunk) road network.

Together, our results constitute evidence in favor of the existence of a sub-optimal equilibrium in the southern highlands. This equilibrium involves low farm-gate prices and low adoption of modern inputs, which may impede improvements in agricultural productivity and consequently serve as barrier to development. The southern highlands is Tanzania's most fertile agricultural region, but is also one of its most remote regions. Consequently, as a result of favorable land productivity and poor non-farm opportunities, a greater fraction of households in the southern highlands both produce maize and have a surplus that they market. However, even if rents to market intermediaries are small, households that are further from the main trunk network face significant transport costs to get their goods to market. As a result, farm-gate prices for maize falls, along with fertilizer use, as remoteness increases. Consequently, in the region, maize yields are around 2 MT/Ha – merely a fifth of the significant potential suggested by on-farm trials (e.g. Institute of Development Studies 2011). Remoteness engenders lower prices, which in turn mutes incentives to improve agricultural productivity in the most fertile region in the country.

The issues discussed here are central to a fundamental debate regarding the causes of economic growth and development. On the one hand, several economists (e.g. Acemoglu et al 2000) have argued that improved institutions lead to growth. On the other, Diamond (1999) and Gallup et al (1999) have argued in favor of geographic determinants. While Rodrik et al (2004) also favor the primacy of institutions, they suggest that institutional quality, trade openness and geography may interact to impede development. Gallup et al (1999) have also argued in favor of more detailed examination of the relationship between geography and trade – in particular, in understanding low growth in the context of landlocked countries and remote areas within countries. In this paper, we demonstrate in one particular sub-national region, that geography, barriers to intra-national trade and sub-optimal public investments in rural infrastructure have, in fact, interacted to impede economic development.

The importance of investigating these interacting mechanisms has been recently alluded to by Kraay and McKenzie (2014), in their review of the large literature on poverty traps. Although they evince skepticism regarding the existing evidence for the theorized mechanisms that are responsible for poverty traps, they argue that most plausible evidence for the existence of poverty traps comes from low-productivity geographic areas (either remote regions or isolated countries). Our focus here is not on poverty traps, but rather on a low-productivity trap

engendered by a sub-optimal equilibria arising from the interaction of remoteness and high agricultural productivity. As such, it provides a clear rationale for public investments in rural infrastructure. Further, it demonstrates that evidence on mechanisms impeding development based on variation across countries may obscure mechanisms properly examined at a lower level of aggregation.

Using household-level, as well as other sub-national data, Jalan and Ravallion (2002) present, in the Chinese context, perhaps the clearest evidence in favor of the existence of geography-based poverty traps. They show that “geographic capital” - captured by a household’s location (when land markets are thin and labor mobility relatively small) did exert an influence, across a six year period, on household consumption growth rates in China. The implication drawn is that public investments in poor areas may engender a long-run reduction in poverty. In particular, regarding road infrastructure, they show that that low road density is an important factor that contributes to the formation of geographic poverty traps.

For developing countries, it is often argued that trade liberalization, and the attendant food price increases in major markets, will engender increases in the prices at which rural households sell their produce.¹ These higher prices “at the farm-gate” are, in turn, posited to strengthen both household and state incentives to increase agricultural productivity.²

Tanzania lifted its ban on maize exports at the end of 2011.³ This ban was the last in a series of intermittent export bans that began after Tanzania gained independence. As a consequence, it is unlikely that rural households could be certain that another ban would not be imposed. Therefore, for the period of the 2012/13 survey, it is unlikely that farming households would have made large investment decisions under the assumption that maize prices would remain high. The concern would remain that might be once again brought down by the imposition of another ban. This uncertainty about trade and other policies that influence markets significantly deter investments along the supply chain (Tschirley and Jayne (2010)). Therefore, one would expect a lag during which households and other market participants feel assured that the government is unlikely to intervene when prices are high (see also Timmer (1986)). However, the timing of the survey rounds does allow us to estimate whether rural households experienced an increase in farm-gate prices.

Fafchamps and Hill (2008) have previously examined the relationship between changes in export prices and farm-gate prices for coffee in Uganda. They found that changes in export prices are transmitted along the supply chain but do not influence farm-gate prices. They argue that higher prices induce greater entry of traders who take advantage of a household’s lack of information. While they are several differences between their context and the one we study – it is instructive

¹ See, for example, the discussion in Winters et al (2004).

² “[I]t is clear that government investments in agricultural research, infrastructure, and other supporting services for rural areas are very much a function of the perceived scarcity of food. Prices are one loud and clear signal of this scarcity” [Timmer (1986), pg. 132].

³ Baffes et al (2015) provide a description of Tanzania’s maize trade policy as well as the timing of export bans from 2002 to 2012.

to parse through one important difference. Maize is widely consumed and produced in Mainland Tanzania. As a consequence, the price in any location is determined by local supply and demand as well as external demand. Further, rural households also decide on whether, and how much, maize to market in a given season. In contrast, Ugandan coffee is mainly produced for external consumption. As a consequence, Tanzanian maize farmers have greater choices in terms of who and indeed, whether, to market their maize than Ugandan coffee farmers.

The following features of our study are worth highlighting. First, in contrast to the literature (e.g. Jacoby (2000)) that has examined the impact of rural roads in the cross-section, we use household panel data and are consequently able to control for unobserved household-level factors.

Second, we are able to estimate differential impacts of an aggregate food trade policy change on rural households in surplus and non-surplus areas and relate these impacts to household remoteness. Khandker et al (2009) have previously used panel data to estimate the effects of rural roads on household incomes and consumption in Bangladesh. In contrast to their study, which used crop price indices, we examine the price of single commodity (maize) that is widely produced and consumed. Consequently, we are able to make inferences about how the impacts of trade policy vary across surplus and non-surplus areas and separate the influence of impact based on connectivity.

Third, and perhaps most importantly, our analysis underscores the importance of adopting an equilibrium perspective (e.g. Acemoglu (2010)).⁴ For example, we show that there is an inverse relationship between the (implicit) price per kg that producers value their maize production and the likelihood of selling maize. Further we show that the likelihood of selling maize in the southern highlands is inversely related to the distance from the trunk road network. It is plausible, though we cannot provide evidence in this study, that more remote households in the southern highlands have limited sources of income and are consequently more likely to market maize, even at lower prices. In any event, taken together, our results document different relationships between key variables in surplus and non-surplus areas, and also suggest that remoteness itself may be the underlying reason for other symptoms of under-development.

The rest of this paper is organized as follows. Section 2 examines changes in the perceived farm-gate prices. It then examines the robustness of these results for alternative samples, for the 2012/13 cross-section, and for village (community) prices. Section 3 provides evidence that remoteness influences both input use and maize marketing choices in the southern highlands. Section 4 concludes with a discussion of the policy implications and a summary of the main results.

⁴ “Depending on magnitudes of various effects, general equilibrium interactions can offset or even reverse sensible partial equilibrium conclusions” [pg. 22].

2. The Impact of the Maize Export Ban on Food Prices

2.1 Measuring maize prices

There are three difficulties with measuring maize prices at the farm-gate in Tanzania (and other subsistence rural economies). First, only a quarter of maize producing households sell maize. As consequence, while these households may be aware of the price that they would receive, in the absence of a transaction this is not certain. Second, prices are dynamic and vary greatly over the harvest cycle (Baffes et al (2015)). Third, maize quality may also vary.

We confront these difficulties by choosing a value that households themselves report in the surveys. Households report on the quantity of maize they produce as well as the value. From this information we can deduce the price per kg that it assumes its maize output is worth. This has two advantages. First, we circumvent the difficult issue of making a judgement on how to value maize that is produced but not sold. Second, we do not have to make a decision on which month is most appropriate for a household that is selling maize in any given location. This is especially relevant given that harvest cycles are not synchronized across zones, and perhaps even within zones.

We do two checks of robustness. First we examine consumer prices in the village (community) markets. After controlling for seasonality (because information is surveyed in different months), we find the same relationships that we do in our main analysis. Second, the cross-sectional correlations are high - 0.64 (p-value = 0.00) in 2010/11 and 0.66 (pvalue = 0.00) in 2012/13 - for the relationships between the price that maize is sold and the value that households place on their maize production (for those households that actually sell maize). Yet, it is worth noting that we are still inferring prices where none may exist, and indeed where in some cases, a market price may not be formed. However, given the strong and robust relationships between remoteness and maize price levels (even after controlling for regional effects), it is likely that our main price measure reflects local maize scarcity.

2.2 Heterogeneous Increase in Farm-Gate Maize Prices

Estimated farm-gate maize price increased by 54 percent (inflation was 35 percent between the rounds) for households close to the trunk road (Table 1, column 4). For households close to the trunk road network, there is no difference between the percent increase in the surplus area (Mbeya, Iringa, Rukwa and Ruvuma) and the other regions. However, in surplus areas (i.e. the southern highlands) estimated increases were lower as distance to the trunk road increased. At the median distance (~ 13 km) the increase was 40 percent. Further, as Figure 1 shows, at 26 km, maize farm-gate prices increases about the same as the CPI. So the remote households did not benefit, but households close to reasonable rural infrastructure (i.e. the trunk road) did benefit. There is a much smaller relationship between price changes and distance in non-surplus areas that is not statistically significant. These relationships are robust to including regional dummies – which suggests that there are not driven by agro-ecological conditions or weather shocks. Further, as Table 1 (column 5) shows these relationships are robust to including (log) price levels from the base period (2010/11).

Together, Table 1 suggests that the impact of the maize export ban was large for households that are close to the trunk road network. Maize prices increased by close to twice as much as the general consumer price index. Only for households close to the 75th percentile is the increase in maize prices lower than inflation. This suggests that transport costs, and not market institutions, are responsible for differences in farm-gate price increases. Our interpretation of these results is that in the surplus region local supply is abundant while fewer households demand maize. As a consequence, transport costs are more important. In contrast, in other areas, there is both local demand and local supply. Therefore, for the non-surplus areas, transport costs exert a smaller influence.⁵

If remoteness affects the transmission of food price changes, it should also have an impact on price differentials in 2012/13. Table 2 shows that households that are at a median distance from a trunk road (13 km) estimate maize prices to be 12 percent lower than households next to the trunk road network. Once again, the costs of remoteness are only felt in the surplus region. Once again, this result is robust to including region dummies. So spatial price differentials are not driven by differences in regional policies. Further, the region dummies control for weather shocks. In addition, differences in weather shocks, within a region, are unlikely to be related to the distance from a trunk road. As a consequence, we can state with some confidence, that is the distance from a trunk road, and not other factors that explain both differences in maize farm-gate price levels as well as differences in price changes.

Table 5 shows that farm-gate prices are, on average, 34 percent lower than the prices in the relevant regional market. However, for households in the southern highlands that are at the median distance away from a trunk road (13 km), price spreads are a further 7 percent points lower. So it is not just that farmers face lower prices because prices in the main southern highland regional markets are lower (Baffes et al 2015), but in addition there are additional penalties from being away from the trunk road network for more remote households.

It is possible that distance does not measure transport costs, but is a proxy for search costs, informational asymmetries and bargaining inefficiencies of the type discussed by Fafchamps and Hill (2009). In contrast, if local maize markets are functioning reasonably, and spatial price differences are not driven by oligopolistic market intermediaries then we should see the same relationships between remoteness and prices exhibited in local consumer markets. Table 9 shows, distance to a trunk road exerts the same downward pressure on consumer prices at the village level. This suggests that transport costs are probably driving the relationship between distance to a trunk road and prices in the surplus region.

Even if one accepts that the distance to a trunk road is a proxy for transport costs and is driving these results, it is not clear if this is merely a last mile problem or distance matters across different

⁵ Another, not competing, plausible explanation is that non-trunk roads in other areas are better able to reach communities that are farther away from the trunk road network. An explanation that we are able to rule out is that there is a greater proportion of households that are further away from the trunk network in the southern highlands.

ranges. Table 6 examines the relationship between price changes and distance for four different samples – households that are less than or greater than 5 km from a trunk road and households that are less than or greater than 10 km from a trunk road. For all four samples, the relationship remains large and statistically significant.

There are many ways of conceiving remoteness. Our measure – distance to a trunk road network - is just one. The trunk road provides the main transport linkage to main deficit areas in Dar es Salaam, Dodoma and Kenya. However, it is possible that households that are close to the district headquarters will experience a large increase in the price of maize. Table 11 (specifications 1-3) compare the two measures of remoteness. The distance to a trunk road is relevant for maize producers, not the distance to the district headquarters. This is consistent with the hypothesis that transport costs, and not market inefficiencies are driving differentials in price changes.

It is sometimes argued that primary processing alleviates transport costs by increasing the value to weight ratios. However, table 8 and 9 show that village prices for both maize grain and maize flour have a strong relationship with remoteness, although the effects are slightly muted for maize flour. In comparison, Table 10 shows that remoteness has a much more muted impact on village prices for husked rice in the rice surplus areas.

3. Influence of Remoteness on Inorganic Fertilizer Use and Maize Marketing

3.1 Inorganic Fertilizer Use

Despite the large input subsidy program, successive rounds of the National Panel survey in 2010/11 and 2012/13 found that roughly the same proportion of households (15 percent) used inorganic fertilizers. Although we cannot identify reasons for low input use, find similar patterns with the incidence of use and remoteness that we found for prices. Once again, only in the surplus areas is there an inverse relationship between inorganic fertilizer use and distance to a trunk road. A household, in the surplus area, that is at a median distance away from a trunk road (13 km) has a 20 percentage lower probability of using inorganic fertilizer. It is worth noting that the relationship between remoteness and the incidence of fertilizer use in 2012/13 goes away when we control for fertilizer use in 2010/11. This suggests that, although fertilizer use is correlated with remoteness in surplus regions, nothing changed between the survey rounds.

It is plausible that remoteness influences fertilizer use either through higher fertilizer prices or lower product prices. We cannot measure fertilizer prices for households that do not use fertilizer, but we have provided evidence that remote households in the surplus area also place a lower unit value (i.e. price) on the maize production. As a consequence, it is possible that the marginal returns to fertilizer use are low. Without exporting the excess maize out of the surplus areas, a fertilizer subsidy may increase production and lower prices even further and consequently lower farm incomes.

3.2 Monetization of Maize production

While the ultimate objective of many rural development programs involves increasing rural incomes, an important intermediate objective involves increasing either the amount or share of produce that is monetized or traded. However, tables 3 and 4 give reason for pause.

Table 3 shows that, in the surplus areas, farmers are *more* likely to sell maize the further they are from the trunk road. This is counter-intuitive if you think in simple (partial equilibrium) terms. What is going on is that there are fewer other opportunities for income. So farmers are forced to monetize some of their maize output. This is what causes a regional surplus.

Following the rationale of Table 3, farmers sell more maize locally in the southern highlands. Table 4 shows that there is an inverse relationship between whether a farmer sells maize and the price they expect to receive. This is counter-intuitive if you think of one farmer deciding to sell (and making that decision based on the price). But it makes sense if farmers that market their maize are in remote/surplus areas in which other farmers are also selling maize.

4. Conclusions

In this study we highlight one dimension – rural connectivity - along which impacts of an aggregate price shock may be heterogeneous. We show that the impact of the large increase in maize prices (in major regional markets), is in fact, transmitted to rural maize-producing households and reflected in an increase in farm-gate maize prices. However, in the important fertile and surplus maize producing region, the more remote households are less likely to benefit.

In this study we have shown that the removal of the export ban engendered an increase in the (unit) value rural households place on the maize they produce. Higher maize prices are likely to, in turn, stimulate greater input use as well as other investments that raise agricultural productivity. Future studies, using planned additions to the same household panel survey we examined, may hopefully be able to document these changes.

This study complements our previous study (Baffes et al 2015) on Tanzania's maize sector. While our previous work examined price changes in the main regional markets across time, in this study we document determinants of spatial differences that confirm three of our main findings. First, we provide evidence that transport costs are an important influence on both maize price levels and price changes. The significant influence of transport costs on local maize markets is consistent with the considerable influence of harvest cycles on regional maize prices. Indeed, price seasonality in our previous study was found to be the most pronounced in the southern highlands, while the linkages to external prices were found to be the most tenuous. Second, the significant impact of large transport costs is also consistent with the large impact of local weather shocks documented in our previous study. Third, and perhaps most importantly, our previous study found that price movements were consistent with fundamental drivers, suggesting a smaller role for oligopolistic price-setting by market intermediaries. Here we show that both farm-gate maize prices as well as village maize flour and grain prices exhibit the same relationships between remoteness and price levels – a fact which is consistent with transport

costs and not oligopolistic power being the main driver of local food price movements – even at a more granular (i.e. household) level.⁶

Our results also speak to the role the Tanzanian government could play in inducing increases agricultural productivity. From a policy perspective, it is worth comparing the removal of Tanzania’s export ban with its input subsidy program. The benefits from the subsidy program were limited. Less than 10 percent of households received the vouchers. Further there is no difference in inorganic fertilizer use between the 2010/11 and 2012/13 rounds of the National Panel Survey. The well-designed input subsidy program involved expenditures that were close to 300 million dollars.⁷ However, the limited reach of the program speaks to a cleavage between design and implementation. In contrast, expenditure on roads are less regressive and the benefits work through the market system - including providing stronger incentives to improve productivity across market participants along the supply chain.

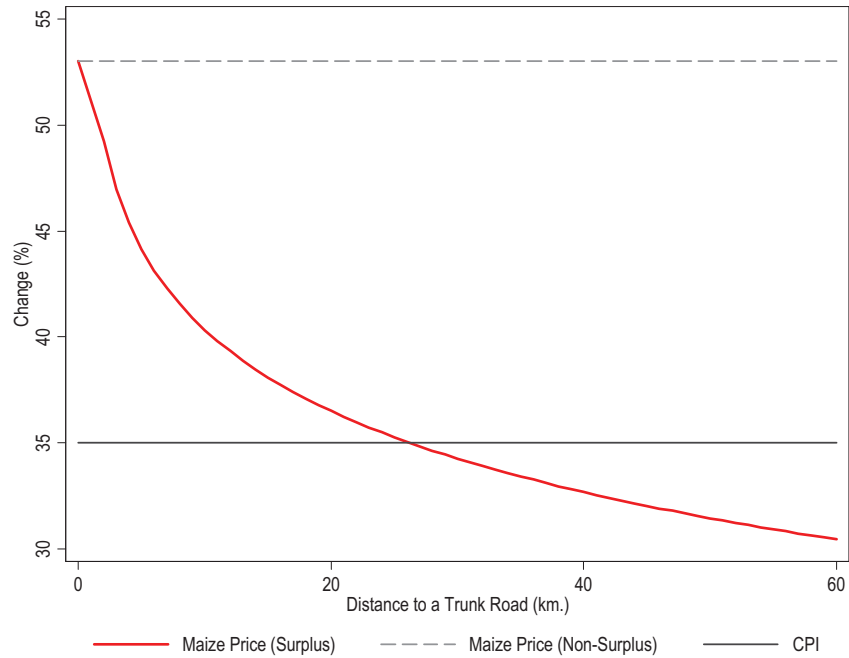
⁶ In contrast to our study of regional maize markets in Tanzania, what is gained from a spatial perspective is our ability to document considerable heterogeneity, across households even within regions, with regard to access to markets and further to explicitly document a robust empirical relationship between remoteness and both lower product prices and lower modern input use.

⁷ <http://www.worldbank.org/projects/P114291/tanzania-accelerated-food-security-project?lang=en>

References

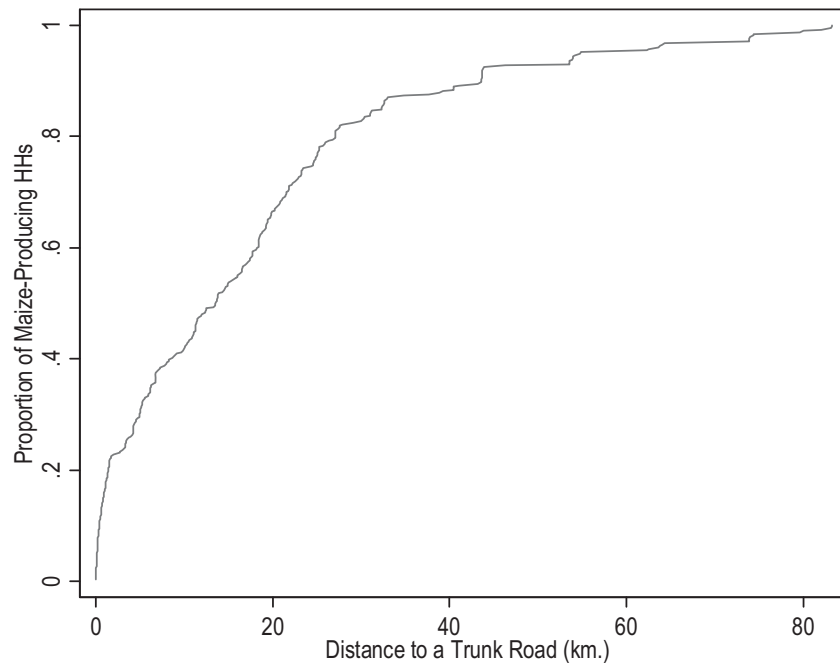
- Acemoglu, Daron, Simon Johnson, and James A. Robinson.** *The colonial origins of comparative development: An empirical investigation*. No. w7771. National bureau of economic research, 2000.
- Acemoglu, Daron.** "Theory, General Equilibrium, and Political Economy in Development Economics." *The Journal of Economic Perspectives* 24.3 (2010): 17.
- Baffes, John, Varun Kshirsagar, and Donald Mitchell.** "What Drives Local Food Prices? Evidence from the Tanzanian Maize Market." *World Bank Policy Research Working Paper* 7338 (2015).
- Diamond, Jared.** *Guns, Germs, and Steel: The Fates of Human Societies*. WW Norton & Company, 1999.
- Gallup, John Luke, Jeffrey D. Sachs, and Andrew D. Mellinger.** "Geography and economic development." *International regional science review* 22.2 (1999): 179-232.
- Jacoby, Hanan G.** "Access to markets and the benefits of rural roads." *Economic journal* (2000): 713-737.
- Jalan, Jyotsna, and Martin Ravallion.** "Geographic poverty traps? A micro model of consumption growth in rural China." *Journal of applied econometrics* 17.4 (2002): 329-346.
- Fafchamps, Marcel, and Ruth Vargas Hill.** "Price transmission and trader entry in domestic commodity markets." *Economic Development and Cultural Change* 56.4 (2008): 729-766.
- Khandker, Shahidur R., Zaid Bakht, and Gayatri B. Koolwal.** "The poverty impact of rural roads: evidence from Bangladesh." *Economic Development and Cultural Change* 57.4 (2009): 685-722.
- Kraay, Aart, and David McKenzie.** "Do poverty traps exist? Assessing the evidence." *The Journal of Economic Perspectives* 28.3 (2014): 127-148.
- Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi.** "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development." *Journal of Economic Growth* 9 (2004): 131-165.
- Timmer, C. Peter.** *Getting Prices Right: The scope and limits of agricultural price policy*. Cornell University Press, 1986.
- Tschirley, David L and Thomas S Jayne,** "Exploring the logic behind southern Africa's food crises," *World Development*, 2010, 38 (1), 76–87.
- Alan, Winters L., Nel McCulloch, and Andrew McKay.** "Trade liberalization and poverty: the evidence so far." *Journal of economic literature* 42.1 (2004): 72-115.

Figure 1: Increase in Farm-Gate Price is muted in Remote Surplus Areas



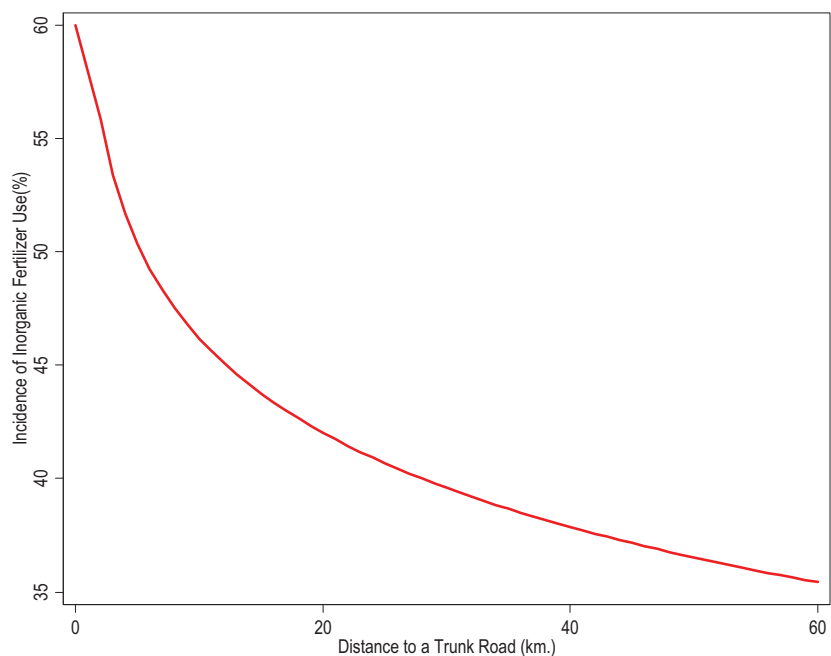
Notes: The parameters used to estimate farm-gate price relationships are taken from Table 2 (column 4). The table shows that at 26 km from a trunk road the increase in farm-gate prices are exactly off-set by inflation in surplus areas. In non-surplus areas, farm-gate prices do not decline away from trunk roads.

Fig 2: Distance between Maize-Producing HHs and the Trunk Rd: Surplus Region



Notes: The figure shows the distribution of the access to a major (trunk) road across maize producers in the surplus area (southern highlands). About half the maize producing households are within a 20 km distance. The rest are more remote and likely to face large transport costs. As a consequence, these households did not benefit from the large increase in prices in major markets.

Figure 3: Fertilizer Use Falls with Distance to a Trunk Road in Surplus Areas



Note: These parameters are estimated from regressions reported in Table 7 (column 3). While surplus areas have greater incidence of fertilizer use, the incidence falls rapidly with distance to a trunk road. In the surplus area, almost 60 percent of households near a trunk road use inorganic fertilizers. However, only 40 percent of maize-producing households that are 20 km away from a trunk road use inorganic fertilizer and the likelihood of fertilizer use falls further for households that produce maize in even more remote locations.

Table 1

	(1)	(2)	(3)	(4)	(5)
Dep. Variable: Change in Estimated Maize Harvest Price (2010/11-2012/13)					
Distance to Rd.	-2.63*	-1.34	-5.71**	-0.21	-2.72*
	[0.095]	[0.485]	[0.040]	[0.907]	[0.097]
Distance X Surplus				-5.31	-3.71
				[0.108]	[0.203]
Surplus	3.20	5.11	-1.79	-0.19	1.83
	[0.469]	[0.403]	[0.760]	[0.965]	[0.637]
Smallholder (2010/11)	-4.79				
	[0.298]				
Ln Price (2010/11)					-93.00***
					[0.000]
Constant	63.58***	59.30***	69.10***	53.04***	562.29***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Fixed Effects	No	No	No	Region	Region
Sample	Mainland	Non-Surplus	Surplus	Mainland	Mainland
Observations	781	505	276	781	781
R-squared	0.008	0.003	0.022	0.058	0.340
Distance (Surplus)			-5.71**	-5.52***	-6.42***
			[0.040]	[0.046]	[0.008]
Distance (Other)		-1.34		-0.21	-2.72*
		[0.485]		[0.907]	[0.097]

Notes: Panel Survey weights are employed. Robust standard errors are clustered at the cluster level.

Significance levels:

* = 10 percent

** = 5 percent

*** = 1 percent

Table 2

	(1)	(2)	(3)	(4)	(5)
Dep. Variable: Log Estimated Maize Harvest Price (2012/13)					
Distance to Rd.	-0.02** [0.023]	-0.02 [0.188]	-0.04** [0.012]	-0.02 [0.116]	-0.02 [0.154]
Distance X Surplus				-0.03 [0.209]	-0.02 [0.287]
Surplus	-0.21*** [0.000]				
Smallholder (2010/11)	-0.00 [0.918]	0.01 [0.835]	-0.03 [0.461]	-0.03 [0.317]	-0.02 [0.481]
Ln Price (2010/11)					0.18*** [0.000]
Constant	5.99*** [0.000]	5.97*** [0.000]	5.85*** [0.000]	5.84*** [0.000]	4.85*** [0.000]
Fixed Effects	No	No	No	Region	Region
Sample	Mainland	Non-Surplus	Surplus	Mainland	Mainland
Observations	1,133	790	343	1,133	844
R-squared	0.068	0.004	0.028	0.180	0.224
Distance (Surplus)			-0.04** [0.012]	-0.04** [0.011]	-0.04** [0.020]
Distance (Other)		-0.02 [0.188]		-0.02 [0.116]	-0.02 [0.154]

Notes: Panel Survey weights are employed. Robust standard errors are clustered at the cluster level.

Significance levels:

- * = 10 percent
- ** = 5 percent
- *** = 1 percent

Table 3:

	(1)	(2)	(3)	(4)	(5)
Dep. Variable: Any Maize Sold by Maize Producer (2012/13)					
Distance to Rd.	0.01 [0.313]	-0.01 [0.459]	0.08*** [0.001]	-0.01 [0.304]	-0.02 [0.146]
Distance X Surplus				0.08*** [0.003]	0.08*** [0.002]
Smallholder (2010/11)	-0.11*** [0.000]	-0.07** [0.041]	-0.18*** [0.002]	-0.12*** [0.000]	-0.10*** [0.002]
Surplus	0.23*** [0.000]				
Any Maize Sold (2010/11)					0.27*** [0.000]
Constant	0.21*** [0.000]	0.27*** [0.000]	0.29*** [0.000]	0.19*** [0.003]	0.14*** [0.009]
Fixed Effects	No	No	No	Region	Region
Sample	Mainland	Non-Surplus	Surplus	Mainland	Mainland
Observations	1,236	881	355	1,236	1,144
R-squared	0.069	0.008	0.090	0.136	0.205
Distance (Surplus)			0.08*** [0.001]	0.07*** [0.004]	0.06*** [0.007]
Distance (Other)		-0.01 [0.459]		-0.01 [0.304]	-0.02 [0.146]

Notes: Panel Survey weights are employed. Robust standard errors are clustered at the cluster level.

Significance levels:

- * = 10 percent
- ** = 5 percent
- *** = 1 percent

Table 4

	(1)	(2)	(3)	(4)	(5)
Dep. Variable : Any Maize Sold by Maize Producer (2012/13)					
Ln Price (2012/13)	-0.16*** [0.000]	-0.11*** [0.005]	-0.28*** [0.002]	-0.12*** [0.007]	-0.09** [0.037]
Ln Price X Surplus				-0.17* [0.074]	-0.16* [0.079]
Smallholder (2010/11)	-0.11*** [0.001]	-0.06 [0.117]	-0.21*** [0.001]	-0.13*** [0.000]	-0.10*** [0.002]
Surplus Region	0.18*** [0.000]				
Any Maize Sold (2010/11)					0.27*** [0.000]
Constant	1.22*** [0.000]	0.93*** [0.000]	2.15*** [0.000]	0.84*** [0.001]	0.64** [0.014]
Fixed Effects	No	No	No	Region	Region
Sample	Mainland	Non-Surplus	Surplus	Mainland	Mainland
Observations	1,133	790	343	1,133	1,055
R-squared	0.074	0.015	0.081	0.136	0.204
In Price (Surplus)			-0.28*** [0.002]	-0.28*** [0.001]	-0.25*** [0.002]
In Price (Other)		-0.11*** [0.005]		-0.12*** [0.007]	-0.09** [0.037]

Notes: Panel Survey weights are employed. Robust standard errors are clustered at the cluster level.

Significance levels:

- * = 10 percent
- ** = 5 percent
- *** = 1 percent

Table 5

	(1)	(2)	(3)	(4)	(5)
Dep. Variable: Regional to Farm Gate Maize Price Spread in 2012/13 (%)					
Distance to Rd.	-1.23*	-0.68	-2.78**	-1.07	-1.01
	[0.061]	[0.389]	[0.010]	[0.128]	[0.193]
Distance X Surplus				-1.07	-1.02
				[0.403]	[0.460]
Smallholder (2010/11)	0.03	1.94	-4.34	-1.57	-1.19
	[0.986]	[0.368]	[0.120]	[0.360]	[0.514]
Surplus Region	-7.13***				
	[0.001]				
Maize Spread (2010/11)					0.13**
					[0.012]
Constant	-32.34***	-34.47***	-33.64***	-52.19***	-48.46***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Fixed Effects	No	No	No	Region	Region
Sample	Mainland	Non-Surplus	Surplus	Mainland	Mainland
Observations	1,133	790	343	1,133	1,055
R-squared	0.074	0.015	0.081	0.136	0.204
Distance (Surplus)			-2.78**	-2.13**	-2.03*
			[0.010]	[0.046]	[0.077]
Distance (Other)		-0.68		-1.07	-1.01
		[0.389]		[0.128]	[0.193]

Notes: Panel Survey weights are employed. Robust standard errors are clustered at the cluster level.

Significance levels:

* = 10 percent

** = 5 percent

*** = 1 percent

Table 6

	(1)	(2)	(3)	(4)	(5)
Dep. Variable: Change in Estimated Maize Harvest Price (2010/11-2012/13)					
Distance to Rd.	-2.72* [0.097]	6.81 [0.132]	1.56 [0.787]	0.19 [0.971]	-4.76 [0.227]
Distance X Surplus	-3.71 [0.203]	-17.11** [0.026]	-16.44* [0.071]	-18.39** [0.048]	-5.53 [0.379]
Smallholder	1.83 [0.637]	3.43 [0.451]	4.62 [0.561]	2.01 [0.675]	6.02 [0.390]
Ln Price (2010/11)	-93.00*** [0.000]	-92.02*** [0.000]	-97.80*** [0.000]	-96.34*** [0.000]	-91.50*** [0.000]
Constant	562.29*** [0.000]	533.88*** [0.000]	555.84*** [0.000]	579.52*** [0.000]	541.17*** [0.000]
Region Dummies	Yes	Yes	Yes	Yes	Yes
Sample	Mainland	Mainland	Mainland	Mainland	Mainland
Distance to Rd. (km)	Full	>5	<=5	>10	<=10
Observations	781	538	243	470	311
R-squared	0.340	0.372	0.427	0.388	0.370
Distance (Surplus)	-6.4*** [0.008]	-10.3* [0.092]	-14.9** [0.033]	-18.2** [0.017]	-10.3** [0.044]
Distance (Other)	-2.72* [0.097]	6.81 [0.132]	1.56 [0.787]	0.19 [0.971]	-4.76 [0.227]

Notes: Panel Survey weights are employed. Robust standard errors are clustered at the cluster level.

Significance levels:

- * = 10 percent
- ** = 5 percent
- *** = 1 percent

Table 7

	(1)	(2)	(3)	(4)	(5)
Dep. Variable: Inorganic Fertilizer Use by Maize Producer (2012/13)					
Distance to Rd.	-0.03** [0.031]	-0.01 [0.276]	-0.07** [0.046]	-0.01 [0.552]	0.00 [0.713]
Distance X Surplus				-0.06* [0.063]	-0.03 [0.159]
Smallholder (2010/11)	0.02 [0.394]	0.03 [0.325]	-0.01 [0.926]	-0.02 [0.495]	0.03 [0.143]
Surplus	0.30*** [0.000]				
<i>Inorg Fert. Use (2010/11)</i>					0.58*** [0.000]
Constant	0.17*** [0.000]	0.13*** [0.001]	0.60*** [0.000]	0.02 [0.488]	-0.01 [0.530]
Fixed Effects	No	No	No	Region	Region
Sample	Mainland	Non-Surplus	Surplus	Mainland	Mainland
Observations	1,236	881	355	1,236	1,144
R-squared	0.131	0.006	0.036	0.261	0.489
Distance (Surplus)			-0.07** [0.046]	-0.06** [0.030]	-0.02 [0.172]
Distance (Other)		-0.01 [0.276]		-0.01 [0.552]	0.00 [0.713]

Notes: Panel Survey weights are employed. Robust standard errors are clustered at the cluster level.

Significance levels:

- * = 10 percent
- ** = 5 percent
- *** = 1 percent

Table 8

	(1)	(2)	(3)	(4)	(5)
Dep. Variable: Ln Community Maize Flour Prices (2012/13)					
Distance to Rd.			0.03*** [0.002]		0.03*** [0.001]
Distance X Surplus			-0.09*** [0.002]		-0.09*** [0.008]
Distance to District				0.01 [0.155]	-0.00 [0.521]
Distance District X Surplus				-0.05** [0.021]	-0.01 [0.546]
Constant	7.15*** [0.000]	6.98*** [0.000]	6.88*** [0.000]	6.94*** [0.000]	6.89*** [0.000]
Month Dummies	Yes	Yes	Yes	Yes	Yes
Fixed Effects	No	Region	Region	Region	Region
Sample	Mainland	Mainland	Mainland	Mainland	Mainland
Observations	435	435	433	422	420
R-squared	0.135	0.265	0.314	0.270	0.311
Distance Rd. (Surplus)			-0.06** [0.021]		-0.05* [0.070]
Distance Rd. (Other)			0.03*** [0.008]		0.03*** [0.009]
Distance District (Surplus)				-0.04** [0.041]	-0.02 [0.39]
Distance District (Other)				0.01 [0.155]	-0.00 [0.521]

Notes: Robust standard errors are clustered at the regional level.

Significance levels:

* = 10 percent

** = 5 percent

*** = 1 percent

Table 9

	(1)	(2)	(3)	(4)	(5)
Dep. Variable: Ln Community Maize Grain Prices (2012/13)					
Distance to Rd.			0.00 [0.944]		0.02 [0.667]
Distance X Surplus			-0.07* [0.068]		-0.08 [0.101]
Distance to District				-0.04 [0.409]	-0.05 [0.427]
Distance District X Surplus				-0.02 [0.726]	0.02 [0.759]
Constant	6.71*** [0.100]	6.65*** [0.063]	6.63*** [0.123]	6.81*** [0.213]	6.78*** [0.185]
Month Dummies	Yes	Yes	Yes	Yes	Yes
Fixed Effects	No	Region	Region	Region	Region
Sample	Mainland	Mainland	Mainland	Mainland	Mainland
Observations	6.71***	6.65***	6.63***	6.81***	6.78***
R-squared	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Distance Rd. (Surplus)			-0.07** [0.011]		-0.06** [0.026]
Distance Rd. (Other)			0.00 [0.026]		0.02** [0.037]
Distance District (Surplus)				-0.06*** [0.000]	-0.03** [0.040]
Distance District (Other)				0.02** [0.045]	-0.05 [0.427]

Notes: Robust standard errors are clustered at the regional level.

Significance levels:

* = 10 percent

** = 5 percent

*** = 1 percent

Table 10

	(1)	(2)	(3)	(4)	(5)
Dep. Variable: Ln Community Husked Rice Prices (2012/13)					
Distance to Rd.			0.04 [0.117]		0.03 [0.163]
Distance X Surplus			-0.06* [0.083]		-0.06* [0.058]
Distance to District				0.04* [0.079]	0.03* [0.056]
Distance District X Surplus				-0.04 [0.225]	-0.01 [0.719]
Constant	7.63*** [0.000]	7.85*** [0.000]	7.75*** [0.000]	7.70*** [0.000]	7.67*** [0.000]
Month Dummies	Yes	Yes	Yes	Yes	Yes
Fixed Effects	No	Region	Region	Region	Region
Sample	Mainland	Mainland	Mainland	Mainland	Mainland
Observations	489	489	487	476	474
R-squared	0.269	0.446	0.469	0.467	0.481
Distance Rd. (Surplus)			-0.02 [0.166]		-0.03** [0.024]
Distance Rd. (Other)			0.00 [0.026]		0.03 [0.163]
Distance District (Surplus)				-0.00 [0.997]	-0.02 [0.161]
Distance District (Other)				0.04* [0.079]	0.03* [0.056]

Notes: Robust standard errors are clustered at the regional level.

Significance levels:

* = 10 percent

** = 5 percent

*** = 1 percent

Table 11

	(1)	(2)	(3)	(4)	(5)	(6)
	Change in Harvest Price			Any Maize Sold		
Distance to Rd.	-2.72* [0.097]		-3.06* [0.077]	-0.01 [0.287]		-0.01 [0.251]
Distance X Surplus	-3.71 [0.203]		-2.95 [0.322]	0.08*** [0.003]		0.08*** [0.004]
Distance to District		0.32 [0.877]	1.36 [0.478]		-0.01 [0.371]	-0.01 [0.479]
Distance District X Surplus		1.41 [0.627]	1.88 [0.499]		-0.01 [0.727]	-0.02 [0.456]
Smallholder	1.83 [0.637]	3.58 [0.387]	2.34 [0.563]	-0.10*** [0.001]	-0.11*** [0.001]	-0.11*** [0.001]
Constant	562.29*** [0.000]	526.50*** [0.000]	540.13*** [0.000]	-0.76** [0.012]	-0.65* [0.057]	0.20** [0.011]
Observations	781	692	692	1,144	994	994
R-squared	0.340	0.328	0.339	0.212	0.222	0.227
Distance Rd. (Surplus)	-6.42*** [0.008]		-6.01*** [0.014]	0.07*** [0.005]		0.06*** [0.008]
Distance Rd. (Other)	-2.72* [0.097]		-3.06* [0.077]	-0.01 [0.287]		-0.01 [0.251]
Distance District (Surplus)		1.73 [0.388]	3.24 [0.104]		0.02 [0.378]	-0.02 [0.161]
Distance District (Other)		0.32 [0.877]	1.36 [0.478]		-0.01 [0.371]	-0.01 [0.479]

Notes: Robust standard errors are clustered at the regional level.

Significance levels:

* = 10 percent

** = 5 percent

*** = 1 percent

Annex 4. Policy Note – Agriculture in Tanzania, September 2015

POLICY NOTE Agriculture in Tanzania Policy Note for the New Government September 2015

Tanzania has the potential to be the breadbasket of eastern Africa. Food crop exports increased by an average of 12 percent per year between 2000 and 2012, and even more rapid growth is possible because the region is food deficit and expected to remain so for the foreseeable future. These exports have been led by maize, rice, and horticultural crops, and with the right policies regional exports could continue to increase rapidly. Maintaining access to regional export markets is critical and export restrictions and trade disputes limit export opportunities and should be avoided.

Exports of traditional cash crops (cashews, coffee, cotton, tea and tobacco) increased by almost 7 percent per year from 2000 to 2012, but Tanzania is still losing market share for these crops. Higher growth rates can be obtained by promoting stronger collaboration between farmers and agribusiness, investing in processing of these commodities, and building trade linkages. Investment is needed to speed the adoption of technology, improve the efficiency of assembly and grading systems, and reduce trading and transportation costs. The appropriate role for the crop boards also needs to be reconsidered.

Domestic markets for food will also see rapid growth in the future as incomes rise and Tanzania becomes more urbanized. The population of urban areas, including Dar es Salaam, will more than double in the next 15 years and along with continued rapid income growth this will translate into sharply higher demand for crops, fish and livestock products and a growing demand for more processed agricultural products.

Agriculture must modernize In order to meet the demands from each of these markets. The majority of farmers must apply the latest available technologies. But the main objective is no longer simply to increase farm production, but to increase efficiency and achieve broad-based sustainable growth in order to raise farm incomes and reduce rural poverty. Much larger gains must be obtained through improvements in agricultural marketing.

Three-quarters of Tanzanian employment opportunities are currently found in agriculture, and most of those are in farming. But, over the next 10 to 15 years, a rapidly growing share of this employment will be found in marketing and other off farm activities. Sixty-five percent of farming households already earn income outside of their farms. Many of these households will leave farming for employment opportunities that are linked with the expansion of agricultural markets. This includes the expansion of input markets, the provision of financial services, and expanded private investment in assembly and warehousing operations, agro-processing, wholesaling, retailing and the food service sector.

More rapid growth in agriculture will reduce poverty in rural areas. Eighty percent of the poor and extreme poor still live in rural areas, and economic growth reduces poverty and growth in the agricultural sector has been shown to have a higher impact on reducing poverty than overall economic growth.

Challenges and Opportunities

The challenge for policy is to help speed the transition of Tanzania’s agricultural sector to a more modern and efficient market economy. Infrastructure investments need to reduce the costs of transporting inputs to the farm, and products to the factory gate, wholesale market and consumer. Market regulations need to encourage investment in the best new technology, promote market competitiveness and transparency, and assure food safety. Budget commitments need to support the delivery of key public goods like extension advice and shared infrastructure. And transparent tax policies need to encourage investments in expanding production and trade while generating an equitable share of revenue from the sector. Trade policies need to encourage trade and the business environment for agriculture must be improved.

The productivity of Tanzania’s smallholder farmers is low by international standards. Crop and livestock yields are commonly less than 20 percent of their potential. This is because only 15 percent of smallholders use inorganic fertilizer, 12 percent use pesticides and 3 percent use irrigation. Only 6 percent of farmers use tractors while most rely on the hand hoe which limits the amount of land they can till with family labor. Only 10 percent of farmers report owning an ox plow and 23 percent report owning or renting an ox plough. Low technology adoption rates partly reflect constraints in access to these technologies, and investment is limited by lack of access to finance. More importantly, prices offered for agricultural commodities at the farm gate are too low to make many improved technologies profitable. Markets must be strengthened in order to improve input access and agricultural finance, and raise farm gate prices.

Input markets can be improved by speeding approvals (release and registration) for new seed and agro-chemical that have proven successful in similar environments. Tanzanian farmers should have access to as good a set of technologies as those in neighboring Kenya, or Zambia, or more distant Brazil. Extension programs should work with input suppliers to promote a doubling of current adoption rates for improved seed and fertilizer.

The prices farmers pay for their inputs and receive for their products can be improved through collective action. Individual farmers are caught in a price squeeze between the high costs of obtaining small amounts of seed and fertilizer and the low prices received for their small quantities of sales at the farm gate. The Big Results Now program is encouraging bulking of input purchases and crop sales linked with the development of warehouse operations. Such approaches should be expanded across a wider range of crops and communities. Cellphones have created opportunities for electronic money transfer, which is now evolving to more sophisticated payments, credit and savings systems. Over sixty percent of farmers now have cellphones, and

but only one-half of these are using them for money transfer. Cellphone based payments, savings and credit systems need to be rapidly expanded as a means to link the majority of farmers into national banking systems. Further experimentation with new financial products should be encouraged with the establishment of transparent regulatory controls to ensure financial safety.

Investments in irrigation infrastructure need to be more cost effective. Tanzania has huge potential for expanding irrigation, and thus reducing one of the main risks to agricultural production. However, expansion strategies need to account for the rising competition for water for electricity supply, domestic use, and national parks. Farmers should not have to wait for massive government investments in large-scale irrigation schemes. The expansion of irrigation can be speeded with the promotion of a wider array of lower cost technologies such as small-scale motorized or treadle pumps. Water use can be made fairer and more sustainable by charging users for water. Environmental losses can be reduced by tracking outflows as well as inflows.

Investments in transport infrastructure should target the expanded flow of agricultural commodities. Farmers located near rural roads receive higher prices for their output and use more fertilizer and expanding the rural road system should be a priority. When prioritizing the construction and improvement of rural roads stronger consideration should be given to expected agricultural growth. Measures of the expected expansion in agricultural trade can be used to rank road infrastructure for attention. Feeder roads need to be linked with the national rail system, which in turn needs to provide more timely and reliable services.

Urban wholesale markets need to be re-sited and re-organized in order to facilitate commodity flows, and improve trading and storage space. The quantities of produce moving through these markets will sharply increase as urban populations expand. Yet many of these markets are already highly congested and unhygienic. Physical losses are high, translating to higher prices to consumers and lower prices to farmers.

Agribusiness investment needs to be encouraged. SAGCOT has encouraged agribusinesses around the world to invest in Tanzania, but the number and size of these investments continues to be stymied by land constraints, high taxes and uncertainty about national trade policies. While Tanzania has been extremely successful in attracting Foreign Direct Investment into the overall economy, only 2 percent of those investments, an average of USD 26 million per year from 2008-2011, went into agriculture. Higher rates of investment will bring new technologies, processing facilities and trade links to international markets. Investments offering greater employment and trading opportunities to Tanzanians need to be especially encouraged. To achieve this, the national land bank and associated market must become truly functional. Investment incentives need to be more transparent while favoring employment generation. Tax policies need to encourage innovation. An expedited approval process should encourage the quicker licensing of new firms.

Import and export permits should be eliminated. Export permits are justified as means to track the level of exports and control these when necessary. But in practice, these licenses increase

trading costs and discourage longer term investments in expanding production for regional and global markets. Import permits are meant to protect domestic producers, but more commonly reward the few traders with access to these licenses while raising consumer prices. Both sets of permits encourage corruption as licenses are simply recycled. In order to stimulate larger investments in the expansion of agricultural exports, trade controls should be reduced, and phytosanitary documentation should be more easily available at one-stop border posts.

Initiate the establishment of a rural land market. The definitions of village land rights outlined in the Land Act 1999 and the Village Land Act 1999 need to be clarified and improved to better protect rural land rights while encouraging more intensive use of the country's large areas of land that are currently underutilized. This includes the completion of village land surveys, and the establishment of a transparent registry facilitating land rent and land sales. There are approximately 44 million hectares of arable land (suitable for crops) in Tanzania and only one-quarter of this is used for crops. Gaining access to this land by an investor is often a lengthy process and often leads to disputes with those with informal use rights who use the land for various livelihood activities.

Promote the expansion of SME investments in the agricultural sector. The largest non-farm employer in Tanzania is trading activities—most linked directly or indirectly with the agricultural sector. Correspondingly, the agricultural sector encompasses the largest number of SME firms including input suppliers, transporters, wholesale traders, agro-processors, and retail traders. Further expansion of these employment generating enterprises can be stimulated through a more deliberate strategy of rapid licensing, business mentorship, and especially improved finance. The Tanzania Investment Centre (TIC) should become more proactive in promoting business investment. Rather than waiting for investors to register for tax incentives, the TIC should collaborate with the Tanzania Investment Bank to sharply increase lending to agricultural SME in coordination with licensing and advisory support. The modern collateral registry system being developed by the Bank of Tanzania has the potential to make credit more easily available by allowing better use of moveable assets as collateral and should be fast tracked.

Rationalize agricultural regulations. Businesses, particularly processing firms, in the agricultural sector struggle with the incidence of multiple inspections from many different regulators. This problem is worsened by the fact that many regulators earn a share of their budgets through fines underlying the stricter enforcement of regulations. This raises the costs of doing business, and undermines incentives to expand trading and processing operations. All funds raised from regulatory enforcement should be allocated to the central Treasury, not the regulatory authority. The regulatory inspection process should be rationalized to reduce the number of inspections by different agencies, and eliminate unnecessary requirements.

Public extension strategies need to be reformed. National funding is simply no longer available to try to provide an extension worker in every village. Even ward and district level extension officer are currently underfunded for the task expected of them. As a result, the majority of small-scale farmers rarely see an agent. It is time to shift strategies to rely more heavily on farmer to farmer extension, encourage information flows about new technologies through the private

sector, and apply information and communications technologies (ICT) in more innovative ways to share information about production technologies and marketing opportunities. These need to be linked with programs targeting a doubling of technology adoption rates within the next five years.

The business environment in agriculture must be improved. The agricultural sector is heavily taxed, with total corporate taxes of 44 percent of profits and smallholders subject to the crop produce cess of up to 5 percent of gross value of output. There are lengthy approval processes for corporate agriculture to obtain access to land and licenses to operate. Compliance with regional agreements is not consistent and this often leads to regional trade disputes and high price variability. Parastatals compete directly with the private sector and disrupt markets by announcing unrealistic buying prices which cause producers to withhold crops from markets.

Significant policy improvements have been made in recent years, but significant challenges remain. The Government intervenes in markets through its parastatals in competition with the private sector, and that increases policy uncertainty and undermines the operations of the private sector. Trade policy, while much improved, still presents challenges. Nontariff barriers, such as export permits, are applied to exports within the region despite a liberalized export policy on food crops. Food imports, such as rice, are subject to quantitative restrictions and tariffs, but these are often unevenly applied which leads to high price variability, policy uncertainty, and lost import duty revenue to the Government. The business environment for the agriculture sector is poor and that largely accounts for the low level of foreign direct investment in the agricultural sector. The sector is heavily taxed and total corporate taxes are among the highest in the region.

Policy Recommendations for the Agricultural Sector

Reconsider the role for crop boards

- **Crop boards have a mixed performance record.** Some are supportive of producers, but others are inefficient and are a burden to producers.

Remove constraints to exporting food crops

- **Eliminate export permits.** Export permits do not provide useful data on export volumes or prices because they are widely circumvented by traders. Documents required for international trade, such as rules of origin and phytosanitary permits, should be available at major border posts and issued promptly.

Improve the business environment

- **Reduce the corporate tax rate on agriculture.** The corporate tax rate on agriculture is prohibitively high at 44 percent of profits and they discourages corporate investment and slow growth in the sector. The corporate tax rate should be reduced through special incentives or a differential tax rate as has been done in Zambia, which has a 10 percent tax rate for farming.

- **Establish clear and transparent requirements for licensing of commercial firms and an expedited approval process.** The licensing of large-scale commercial agricultural firms is very lengthy and the outcome uncertain which limits corporate investment.
- **Review land legislation an effort to make land more readily available to qualified foreign and domestic investors while protecting rights of villagers and current land users with informal land use rights.** Despite an abundance of underutilized land in Tanzania that is suitable for crop production, the procedures for obtaining access to land by qualified investors is lengthy and the outcomes uncertain.

Comply with regional agreements to avoid trade disruptions and market disruptions

- **Uniformly apply import duties in accordance with regional agreements.** Import duties can provide substantial revenue to the Government and price stability to markets and should be uniformly enforced in accordance with regional agreements.
- **Establish transparent rules-based procedures for emergency food imports.** Emergency food imports are occasionally needed when production is reduced by drought or other calamities. They should be undertaken in accordance with previously agreed transparent rules in order to avoid market disruptions, trade disputes, and opportunities for rent seeking.

Annex 5. Statement of Work – Market Intelligence Unit Feasibility Study

STATEMENT OF WORK

Market Intelligence Unit (MIU)

Feasibility Study for the Establishment of an Agricultural MIU
at the Ministry of Agriculture, Food Security and Cooperatives

1. Background

Agricultural marketing environment is getting more and more complex due to both supply and demand factors. Effects of climate change have made agricultural production more erratic. Food consumption patterns are also changing in response to urbanization, emerging middle class and changing demographics. Globalization and regional integration in food markets is also being felt with increased import of value-added food products while new opportunities are opening up in regional markets for staples. Food marketing systems in urban markets are also changing dramatically with the emergency of supermarket and new format markets as opposed to traditional open air markets (sokos and genges).

The Ministry of Agriculture, Food Security and Cooperatives (MAFC) is facing challenges in making informed trade policies due to lack of reliable market information and inadequate market analysis. For example, in 2009/10 the GoT had to impose an export ban on staples in order to address the perceived food shortage. The situation was reverse in 2014/15 cropping season where the country had a surplus of 1.5 million tons of maize and 0.5 million tons of rice. The situation was aggravated by the issuance of permits for duty free importation of rice based on available information. To alleviate the situation, the Ministry had to purchase part of crop stocks through the National Food Reserve Agency (NFRA).

In response to these challenges, USAID through its SERA project conducted studies on food trade policies to inform MAFC in alternative policies for sustainable agriculture sector development. Among other things USAID SERA study recommended establishment of a MIU at MAFC. Furthermore, the Presidential Delivery Bureau (PDB) organized a two weeks “Business environment Lab” in which among other things, the stakeholders resolved to establish a MIU at the Ministry of Agriculture. MAFC asked the Directorate of Policy and Planning (DPP) to take leadership in establishing MIU. MSU and USAID SERA are providing technical support in helping DPP to set up the MIU.

MAFC has placed highly the importance of linking farmers with markets in the second phase of the Agricultural Sector Development Program (ASDP II).

2. Agricultural Marketing Information System in Tanzania

Agricultural Marketing Information Systems (AMIS) in Tanzania dates back to 1971 when Food and Agriculture Organization (FAO) helped the GoT to establish Marketing Development Bureau (MDB) in the Ministry of Agriculture. By then Tanzania had a centrally planned economy and the government had direct interventions in the market such as purchase, milling/processing,

distribute and export crops through its parastatals. Hence MDB functions were mainly to:

- Provide advice to the government on marketing policy;
- Organize marketing training for the staff that would be required by the Ministry, marketing authorities and cooperatives for their marketing activities;
- Establish a regular market news service;
- Set consumer prices;
- Carry out research on costs of crop production on behalf of the Cooperative Unions;
- Recommend producer prices for staples and major cash crops (1973/74).

As the government embraced market liberalization and market economy the organizational structure and the role of AMIS changed over time into marketing research, intelligence, regulation and promotion functions. In 1995, the new GoT formed a stand-alone Ministry, the Ministry of Cooperatives and Marketing (MCM) which was based in Dodoma. During this time MDB was moved and reorganized into the Division of Agricultural Market Information System (MIS) under MCM, with two sections as follows:

- 1) Marketing Research and Information Section
 - a. Marketing research unit
 - b. Marketing intelligence unit
- 2) Promotion and Regulation Section
 - a. Market promotion unit
 - b. Market regulation unit.

However, as the new government was elected in 2005, MCM was broken where cooperative functions were transferred back to MAFC and marketing functions transferred to the Ministry of Industry, Trade and Marketing (MIT). Therefore, MIS was placed in the Marketing Division of MIT.

3. Feasibility Study Justification

Though MIT continues to collect and disseminate market information, MAFC has challenges in accessing such information in a timely manner. In addition, lack of rigorous analysis limits MAFC in making informed decision. Market conditions (including prices and volumes) are changing rapidly because of the previously mentioned factors. It is therefore, imperative to have MIU at MAFC.

4. Marketing Intelligence Unit

Marketing Intelligence Unit (MIU) is only a part of Agricultural Marketing Information System (MIS). Market intelligence provides information about current marketing-environment and the changing conditions in the market. MIU role is to package synthesized information from various sources for decision makers. MIU is to provide information that would benefit various stakeholders in agricultural value chain including farmers, agribusiness, regulators and policy makers.

5. Scope of Work

The Department of Policy and Planning (DPP) in Ministry of Agriculture, Food Security and

Cooperatives (MAFC), with financial and technical support from USAID SERA and MSU, would like to engage a consultant to assess the feasibility of setting up the agriculture Marketing Intelligence Unit (MIU) in the DPPs office. Specifically, the consultant will:

- 1) Review the previous and existing Agricultural Marketing Information Systems (MIS) with a view of setting up a new MIU under DPPs office taking into consideration potential overlaps and synergies with MIS in the Ministry of Industry, Trade and Marketing.
- 2) Layout alternative organizational options for MIU including setting up an executive agency.
- 3) Analyze the advantage and disadvantage of each option including legal and institutional implication of each.
- 4) Identify the priority functions of MIU, no more than 5 e.g. price analysis, market information dissemination to key stakeholders, etc.
- 5) Demonstrate how MIU will leverage existing data and price collection systems, including capacity needs for MIT price collection system.
- 6) Explore the institutionalization of price and data collection in existing agencies (e.g. NBS, MIT) with a view of long term budgetary allocation for sustainability.
- 7) Consider the complementary role of the private sector in MIS.
- 8) Consult key stakeholders of the proposed MIU and lay out some options for MIU organizational structure in relation to MAFC and MIT. The illustrative list of key stakeholders (but not limited to it) include former MDB and MCM staff, MAFC, MIT, MLFD, PMO-RALG, and farmers associations (ACT, ANSAF, MVIWATA, TAHA, TCCIA, Cooperatives, traders, market masters, etc).
- 9) Proposed human resource needs, needed capacity building and options for staffing MIU. This task includes defining roles and responsibility of each position, qualification requirements and whether MAFC needs to hire new staff.
- 10) Prepare an illustrative budget for MIU including initial capital investment, operations cost and financing options (e.g. sources of initial financing and financial sustainability).
- 11) Develop a detailed work plan for setting up and rolling out of MIU including deliverables e.g. website, market intelligence database, reports, etc. The proposed timeline for MIU include a 2 years pilot phase.
- 12) Organize a half day workshop of key MIS stakeholders to present the report, incorporate changes and submit the final report.

6. Methodology

It is envisaged that the study team will adopt a two stage approach where in the first stage the team will synthesize national various reports on agriculture MIS in Tanzania, USAID-SERA food security option paper, BRN business environment, etc. Also review literature and communicate with agriculture MIS of other countries in the region. In the second stage the study team will conduct interviews with former MDB, MCM staff and current staff in marketing and policy department of agriculture sector lead ministries e.g. MAFC, MIT, MLFD, PMO-RALG, PDB, etc. Also interview other agriculture MIS stakeholders. Based on information gather from the two stage, the study team then prepare a feasibility study for setting up a MIU at MAFC. The proposal would then be presented to the stakeholders meeting and later in the Agriculture Sector

Consultative Meeting for validation.

7. Study Team

This study will be led by a national consultant working closely with staff from ASLM as follows:

- 1) National consultant:
 - a. Team leader and overall in charge of the consultancy
 - b. Masters or PhD in agricultural economics, economics, business management or related field.
 - c. Experience of at least 5 years in agricultural marketing and organizational structuring
- 2) Assistant consultant:
 - a. Assist the team leader in implementing the task
 - b. At least a masters in agricultural economics, business management and marketing
- 3) Three staff, one from each of the key three ministries, namely MAFC, MLDF and MIT, with experience in MIS.

8. Expected Deliverables

The outputs expected from the consultancy are as follows:

- 1) An inception report that describes the approach and methodology,
- 2) Data collection tools (questionnaires and check list for key informant interviews),
- 3) First draft report,
- 4) Stakeholders meeting,
- 5) Final report.

9. Duration

The time frame for the assignment for the team leader (lead consultant) will be 20 days spread between August 1st and September 15th, 2015.

10. Reporting and research partners

The consultant will report Ms. Simkanga, the Director of Policy and Planning at MAFC on the technical report. On the contract and financial matters the consultant will be reporting to Marialyce Mutchler at USAID/SERA. The consultants will be assisted by a team of 4 resource person from Agriculture Sector Lead Ministries.

11. Remuneration

Payment for the consultancy fee will be in three instalments; 30% upon submission of an acceptable inception report and research tools, 30% upon submission of the second draft of the report and presenting the results in the stakeholders' meeting. The remaining 40% will be paid after submission of the final report and fully accounting for the cash advance.

12. Research costs

The study team leader will submit their budget to USAID/SERA including travel cost and per diems for GoT staff from ASLM. The team leader will be advanced with the cash amount for field expenses and stakeholders workshop as budgeted. He/she will be required to account for the advance according to USAID SERA financial accounting procedures.

Annex 6. Strategic Plan – Rice Council of Tanzania Strategic Plan 2015-2019, April 2015

Please see attachment “SERA Year 4 Annual Report, Attachment B”.



Annex 7. Assessment Report – Tanzania Rice Sector Market Assessment, May 2015

Please see attachment “SERA Year 4 Annual Report, Attachment C”.

[SERA Year 4 Annual Report, Attachment C](#)

**TANZANIA RAPID RICE SECTOR MARKET
ASSESSMENT REPORT**



Annex 8. Policy Brief – Food Basket Costs in Tanzania and Implications for Food Security, 3 September 2015



POLICY BRIEF Food Basket Costs in Tanzania and the Implications for Food Security⁸

No. 3, September, 2015

Food is the largest expenditure item for the typical Tanzanian household and accounts for significantly more than half of total expenditures for the poorest. Consequently, food prices and food costs are very important to consumers and to the Government of the United Republic of Tanzania (GOT) as it addresses food security concerns. Since the typical diet and food prices vary greatly across Tanzania, it is important to consider the cost of the entire food basket in each region in order to fully understand the implications for food security. The SERA Policy Project and the Economic Research Service of the U.S. Department of Agriculture worked closely with the Department of Food Security and the Department of Policy and Planning of the Ministry of Agriculture, Food Security, and Cooperatives to develop and pilot a comprehensive and systematic approach to measuring food costs. This approach is referred to as the Food Basket Methodology (FBM), and it is used to measure the monthly costs of the typical food basket.

This Policy Brief explains the Food Basket Methodology and provides estimates of the monthly food basket costs from January 2011 to July 2015 for 21 regions in Tanzania and considers the implications for food security. Food basket costs can be used to provide early warning of regional food cost increases, but they can also provide valuable insights into broader food security issues by showing how prices of individual food items affect overall food basket costs and how food prices are related within a region and between regions. This information can be used to assess the impact of a particular food price increase on food basket costs. For example, maize is the main food staple in Tanzania accounting for about 40% of total calories in the typical diet; but it accounts for only 14.5% of the cost of the typical food basket and less than 8% of the food basket in Dar es Salaam. Consequently, an increase in maize prices has less of an impact on food costs

⁸ This Policy Brief was prepared by Don Mitchell and Aneth Kayombo, Senior Advisor and Policy Analyst, respectively, of the SERA Policy Project. It relies heavily on the methodology and initial analysis done by Nancy Cochrane of the U.S. Department of Agriculture but extends the analysis to 21 regions and focuses on the implications for food security. Thanks are given to the National Bureau of Statistics for providing data used in the calculations and the Ministry of Agriculture, Food Security, and Cooperatives for piloting the Methodology and providing valuable insights into regional food costs. Comments should be addressed to Marialyce Mutchler, the SERA Chief of Party, at marialyce.mutchler@tzsera.com. The SERA Policy Project is a USAID-funded Feed the Future project that seeks to improve agricultural policies and develop capacity for policy analysis and advocacy in Tanzania. The project is implemented by Booz Allen Hamilton.

and food security than implied by its calorie share or market visibility. Such detailed knowledge of food basket costs can contribute to better understanding of food security in Tanzania and lead to better policy decisions and better targeting of food assistance by identifying vulnerable regions and their consumption patterns.

Food Basket Methodology

The typical food basket is comprised of a large number of food items, but relatively few items account for the bulk of the food basket's calories and costs. For the FBM, the 17 food items with the largest contribution to the total calories in the Tanzanian diet were selected to be included in the typical food basket. This was done partly due to data limitations and partly to reduce the computational burden of including a larger number of food items with small calorie shares in the food basket. These 17 food items account for an average of 88% of total calories in the typical regional food basket. The contribution of the remaining food items was estimated by scaling up the food basket to the total daily calories consumed per person per day in Tanzania.

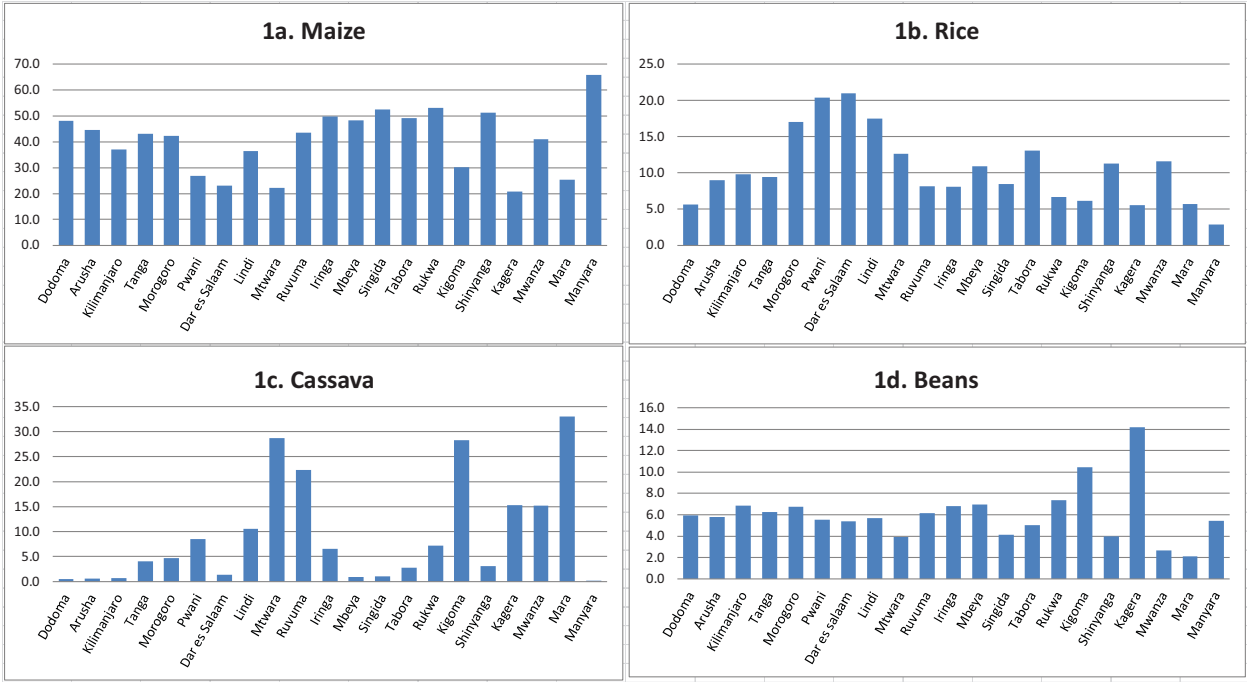
The costs of the 17 food items in the typical food basket were computed based on monthly retail prices and per capita consumption. The retail prices for the major urban center in each region were obtained from the National Bureau of Statistics and calorie shares were obtained from the National Panel Survey 2010/2011. The calorie shares are nationally representative, but the sample sizes are not sufficient for the calorie shares to be statistically representative at the regional level and, thus, regional results should be used with caution. A sensitivity test was performed in order to determine the share of food basket cost differences between regions that were due to prices and those that were due to the composition of the food basket. The results showed that about 70% of the differences in regional food basket costs compared to the national average were due to the composition of the food basket and about 30% were due to differences in prices. This shows the importance of the composition of the food basket in food costs and the importance of improving estimates of regional consumption patterns. There was wide variability in these results. For example, nearly all of the difference in Mtwara region was due to prices while nearly all the difference in Dodoma region was due to the composition of the food basket. The Dar es Salaam region was representative of the national average, with 29% of the difference in food basket costs compared to the national average due to prices and 71% due to the composition of the food basket.

Composition of the Typical Diets

Maize is the dominate food staple in Tanzania, accounting for an average of 40.6% of the share of total calories in the 21 regions during 2011-2014. However, the share of maize varied, accounting for less than 25% of total calories in Kagera, Dar es Salaam, Mara, Mtwara and more than 50% in Manyara, Rukwa, Shinyanga and Singida (Figure 1a). Rice was the second largest item in the typical diet, accounting for an average of 10.5% of total calories in the 21 regions. The calorie shares from rice ranged from a low of 2.9% in Manyara to a high of 20.9% in Dar es Salaam (Figure 1b). Cassava was the third largest component of the diet, accounting for 9.3% of total calories and the largest share of calories in Mtwara (28.7%), Mara (33.0%), and Kigoma (28.3%) regions but only 0.6% in Arusha and 1.3% in Dar es Salaam (Figure 1c). Dry beans ranked fourth in their contribution to total calories in the typical diet, accounting for 6.1% and having less

variability than either maize or rice (Figure 1d). Bananas were an important contributor to the diets in Kagera, but a relatively small component of the diets in most other regions. Fish and animal products accounted for only 1.1% and 3.4% of total calories, respectively. The three largest food items accounted for 65% of total calories in the typical diet. Diets were more diversified in more urban regions and higher income regions and less diversified in more rural regions. Annex Table A1 provides the calorie shares for all regions.

Figure 1. Calorie Shares of the Largest Food Items in the Typical Food Basket (%)



Source: SERA, based on National Bureau of Statistics data.

Food Prices

Retail food prices varied widely across Tanzania with perishable foods, such as mangoes and bananas, having the highest variability, with the highest average price among the 21 regions more than triple the lowest price. Staples, such as maize and cassava, had highest prices that were more than double the lowest prices. Rice, wheat flour, and sugar had the lowest variability with the highest price above the lowest prices by 31%, 24%, and 18%, respectively. Improved roads, better storage, and improved market information would all contribute to reducing the price differences and result in higher prices for producers, lower prices for consumers, and improved food security. The range of prices and the coefficient of variation⁹ of prices are shown in Annex Table A2.

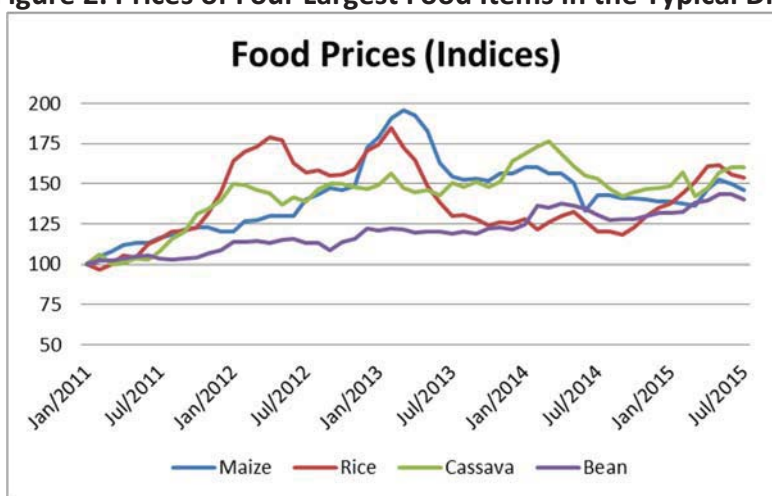
A number of regions had the lowest or highest prices in more than one commodity which, at least in part, reflects transportation costs and linkages. Rukwa had the lowest prices for maize and rice, Singida had the lowest prices for cooking oil and fresh fish, Kagera had the lowest prices for

⁹ The coefficient of variation is defined as the standard deviation divided by the mean of the data series.

beef, beans, and cooking bananas, and Kigoma had the lowest prices of cassava, sweet potatoes, sweet bananas, and mangoes. Mtwara had the highest prices for fresh fish, beef, cooking bananas, and chicken, while Lindi had the highest prices for beans, finger millet, and mangoes, and Kilimanjaro had the highest prices for cassava and sweet bananas. The southern regions of Mtwara and Lindi accounted for the highest prices for 7 of the 17 food items and are regions not well linked by transportation. These regions are especially vulnerable to food insecurity if local food production is disrupted by drought or other events.

Food prices were not found to be highly correlated which has important implications for food security and policy responses. The monthly retail prices of the four food items with the largest calorie shares in the typical food basket are shown in Figure 2. The average correlation coefficient between these food prices was about 0.50 which means that only one-quarter of the variability in one food price was explained by the variability in another food price. This has important implications for food security because it means that individual food prices have not historically risen or fallen together and that gives consumers greater opportunities to switch among food items when the price of one item rises. Nominal prices for these important food items have not trended higher since 2013.

Figure 2. Prices of Four Largest Food Items in the Typical Diet



Source: SERA, based on National Bureau of Statistics data.

Note: The indices are for nominal food prices in TZS/kg, with January 2011=100.

Food Basket Costs

The average nominal food basket costs during 2011-2014 ranged from a low of 21,921 TZS per person per month in Kigoma to a high of 44,020 TZS per person per month in Dar es Salaam (Table 1). The lowest food basket costs were generally concentrated in surplus producing regions such as the regions in the Southern Highlands and the highest were in more urbanized regions such as Dar es Salaam and more remote regions such as Mtwara and Lindi. Mwanza also had high food costs. Comparing food basket costs across regions is not sufficient to identify regions vulnerable to food insecurity because it does not consider the ability to access food. Access to food depends on income as well as food costs and other factors, and is usually measured as the share of

household income spent on food. The USDA study¹⁰ concluded that the households in the bottom two income quintiles¹¹ in Tanzania face problems with access to food because the cost of a minimal food basket is close to 100% of the average income of the bottom quintile and 80-90% for the second lowest quintile. Measuring access to food in Tanzania is difficult because data on household incomes is not available. Per capita GDP is available for regions, and while not a good measure of household incomes, it does provide some evidence of the ability of households in various regions to access food. It shows that more urbanized regions, such as Dar es Salaam, have greater access to food because incomes in these regions are high enough to offset high food basket costs. The surplus producing regions in the Southern Highlands also have good access to food because they have both low food costs and relatively high incomes. The regions with the poorest access to foods are Kagera, Mara, Mtwara, and Shinyanga because they have high food costs and relatively low incomes.

Table 1. Nominal Food Basket Costs by Region

Region	Average 2011-2014	Region	Average 2011-2014
Dodoma	25,739	Mbeya	26,550
Arusha	39,849	Singida	26,576
Tanga	28,460	Tabora	29,974
Kilimanjaro	41,212	Rukwa	25,679
Morogoro	31,774	Kigoma	21,921
Pwani	42,040	Shinyanga	33,310
DSM	44,020	Kagera	31,991
Lindi	32,988	Mwanza	40,101
Mtwara	41,111	Mara	38,735
Ruvuma	23,854	Manyara	28,688
Iringa	27,645	Average	32,486

Source: SERA, based on National Bureau of Statistics retail price data and National Panel Survey consumption patterns.

While not an adequate measure of access, comparing food basket costs across regions provides useful information on relative food basket costs and regional differences. National average food basket costs are shown in Figure 3a in real and nominal terms, and food basket costs for all other regions are shown in Figure 3(b-f) in nominal terms only because regional price deflators are not available to compute real food basket costs. Real food basket costs for Tanzania¹² have been relatively stable since 2012 (Figure 3a) while nominal food basket costs have increased modestly. Real food basket costs peaked in January 2013 and declined 6.4% through July 2015 while nominal food basket costs increased 2.6% over this period. Comparing nominal food basket costs across Zones shows that Coastal and Lake Zones had the highest food basket costs while the Southern and Central Zones had the lowest. There were significant differences in food basket

¹⁰ USDA, Economic Research Service, “Measuring Access to Food in Tanzania: A Food Basket Approach” by Nancy Cochrane and Anna D’Souza, February 2015.

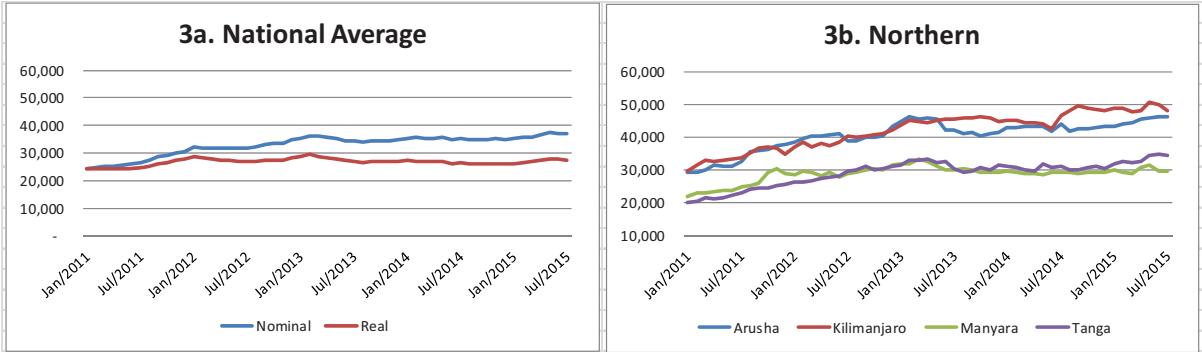
¹¹ A quintile is 20%, so the lowest income quintile would be the households with the lowest 20% of incomes of all households.

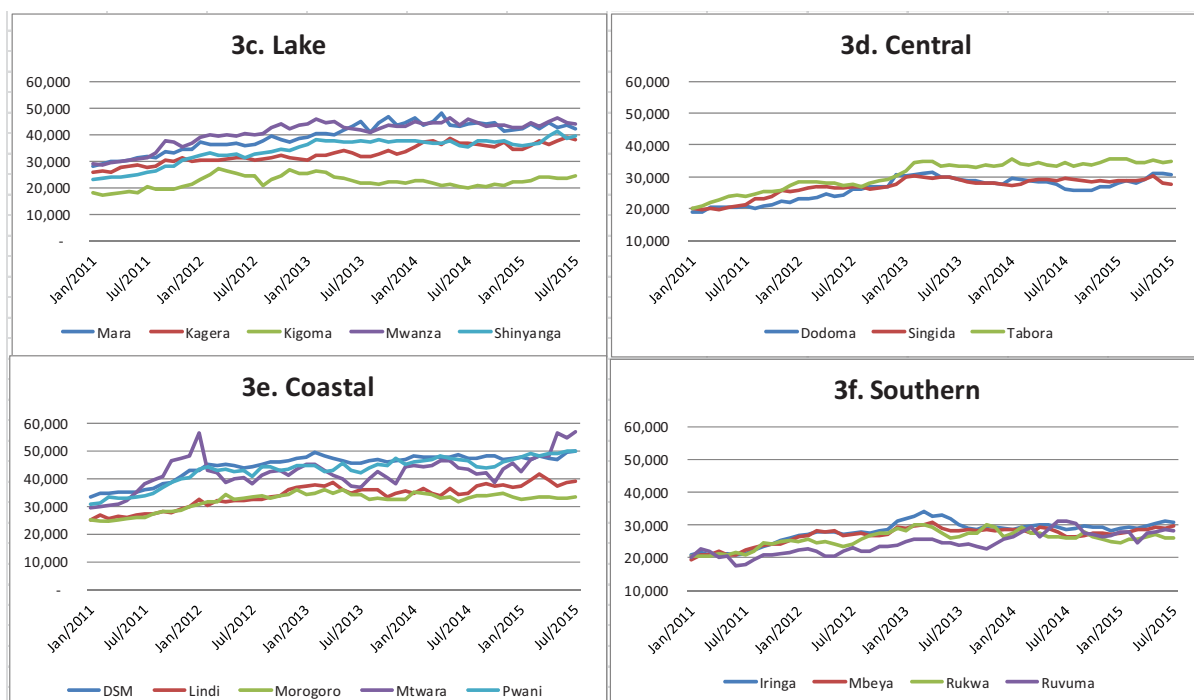
¹² The non-food CPI was used as the deflator because food is a large component of the overall CPI and deflating by it would understate food price inflation.

costs within Zones, with Kigoma region having much lower costs than other regions in the Lake Zone and Manyara and Tanga having much lower food basket costs than Arusha and Kilimanjaro in the Northern Zone. Mtwara in the Coastal Zone has had significantly greater variability in food basket costs than other regions in that Zone and was experiencing a period of rapid food basket cost increases in mid-2015. This illustrates the usefulness of the Food Basket Methodology as an early warning tool.

The contribution of individual food items to food basket costs contrasts sharply with the contribution of these food items to total calories in the diets. Fish and animal products (beef, dairy, and poultry) accounted for 34% of the cost of the typical food basket but only 5% of total calories, while cereals (maize, rice, millet, sorghum, and wheat flour) contributed 26% to the cost of the typical food basket but 54% to total calories (Annex Table A3). Fish had the largest contributions to food basket costs (16.7%), followed by maize (14.5%). Rice was the third largest cost component of the typical diet (8.6%), but ranked first in Dar es Salaam at 13.9%. Cassava was largest in Kigoma and Mara and fourth largest nationwide accounting for 7.5% of total food basket costs. Beans, which are an important source of protein accounted for 6.1% of total calories and 5.8% of total costs. The relatively low share of beans in the calories and costs of the diet suggest that beans could improve the protein content of the diet at relatively low cost. Food basket costs were much less variable during 2011-2014 than the prices of the major food items that comprised the basket. For example, the coefficient of variation (CV), was about half as large for the cost of the typical food basket as for the individual prices of the food items that comprised the food basket. The average coefficient of variation of the typical food basket was .121 compared to the calorie weighted average coefficient of variation of individual food prices of .223. The CVs for the prices of individual food items are reported in Annex Table A2 and were computed as the average of the CVs in each region for monthly retail prices from January 2011 to December 2014. The average CVs for the four food items with the largest calorie shares in the food basket were: maize (.226), rice (.186), cassava (.214), and beans (.124).

Figure 3. Food Basket Costs, January 2011-July 2015 (TZS/month/person)





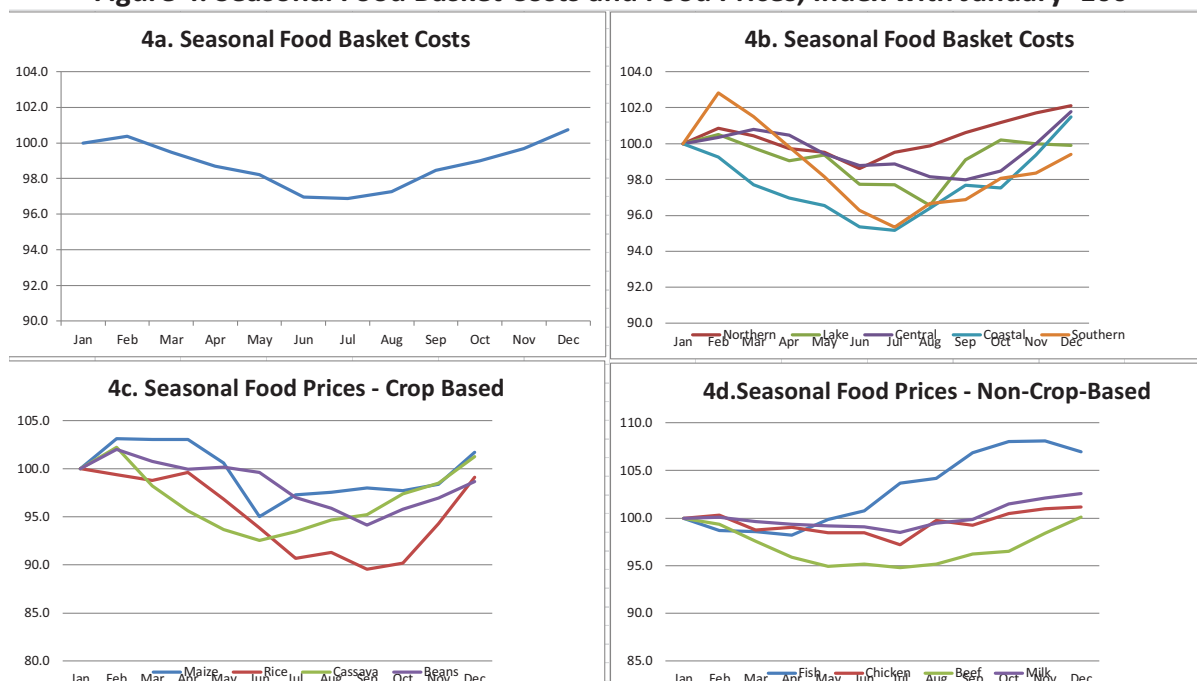
Source: SERA, based on National Bureau of Statistics data.

Seasonality

Food basket costs and food prices had strong seasonal patterns during 2011-2014, with prices reaching a peak during November to February and then declining to their lows during June to August.¹³ This pattern was evident in all regions and for most food items. Figure 4a shows the pattern for the national average food basket measured in real terms relative to non-food items in the economy. Food basket costs declined about 4% from highs to lows and then returned to their highs during the end-of-year period. Figure 4b shows the food basket cost index for Zones and shows a similar pattern. The seasonal pattern of real food prices is shown in Figures 4c and 4d for food prices that are crop-based and non-crop-based, respectively. The crop-based food prices (maize, rice, cassava, beans) had a similar seasonal pattern to the food basket costs, while the non-crop based food item (fish, chicken, beef, milk) did not follow the same seasonal pattern as closely. Real fish prices (Figure 4d) did not have an evident seasonal pattern as prices rose steadily throughout the year, while beef showed a similar seasonal price pattern to crop-based food prices. Chicken and milk had a less pronounced seasonal pattern than crop-based food prices but followed the same pattern. The seasonal pattern in food basket costs was less variable than the seasonal pattern for crop-based food items.

¹³ The seasonal indices were computed as the average of the price movements of real (deflated) prices in each year relative to January which was set equal to 100. Real prices were used instead of nominal prices to remove the tendency for nominal prices to increase throughout the year and thus appear as seasonal trends.

Figure 4. Seasonal Food Basket Costs and Food Prices, Index with January=100



Source: SERA, based on National Bureau of Statistics data.

Conclusions and Policy Implications

Food is the largest expenditure item for the typical household in Tanzania and accounts for significantly more than half of total expenditures for the poorest households. The typical food basket contains a large number of food items, but relatively few account for most of the calories in the food basket. Maize accounts for about 40% of total calories, but only 20% in some regions such as Dar es Salaam. Rice and cassava are the second and third most important foods based on their contribution to calories in the diet, and each contributes about 10% of total calories. Cassava is an important food item in a few regions such as Mara, Kigoma, and Mtwara where it contributes about 30% of total calories but is less important in most other regions. The contribution of individual food items to food basket costs is significantly more diversified than the contribution to calories in the diet. Maize accounts for 14.5% of total food basket costs while rice and cassava contribute 8.6% and 7.5%, respectively. Cereals (maize, rice, millet/sorghum, and wheat flour) account for about one-third of total food basket costs while contributing 54% of total calories to the diet. Animal products and fish account for about one-third of total food basket costs but contribute only 5% to total calories. The three largest food items in each region accounted for an average of 65% of total calories in the typical diet but only 40% of food basket costs.

Food prices have large variations between regions, with highly perishable foods such as mangoes and bananas having average prices in the region with the highest prices that are more than triple those in the region with the lowest prices. Maize prices are less variable than highly perishables, but the highest prices are still more than double the lowest prices at 136%. Rice, sugar, and wheat flour have the least variability; with the highest to lowest prices of 31%, 18%, and 24%,

respectively. Part of the variability of prices is due to high transport costs, especially for foods such as maize, cassava, and potatoes that have low value to weight. But, others such as cooking oil that have high value to weight also have high variability and this may reflect market imperfections or a lack of market information that would encourage traders to profitably transport these items between regions. Improvements in roads, storage, and information systems would reduce these price differences and result in higher prices for producers and lower prices for consumers.

Food basket costs also vary widely between regions, with Dar es Salaam having the highest average food basket costs and Kigoma the lowest. The surplus producing regions of the Southern Highlands generally have the lowest average food basket costs at approximately 25,000-30,000 TZS per person per month. The Central Zone has the next lowest average food basket costs at slightly more than 30,000 TZS per month; and the Coastal, Lake, and Northern Zones have the highest food basket costs. However, there are large differences within these Zones (refer to Table 3 for details). Mtwara has the most volatile food basket costs and that seems to reflect the poor transportation linkages with other regions and highlights the vulnerability of this region to food insecurity when domestic production is disrupted. The differences in food basket costs between regions are due both to differences in prices and differences in consumption patterns, with about 70% of the differences due to the composition of the diet and 30% due to differences in prices. Nominal food basket costs have increased over the 2011-2015 period, but real food basket costs have declined by about 6% since 2013. Real food basket costs have not shown the large seasonal variations that occur in individual food prices.

Main Findings and Policy Implications

Food prices are not highly correlated.

The prices of the four food items that account for more than two-thirds of total calories in the typical diet (maize, rice, cassava and beans) are not highly correlated.

Policy Implication: A price increase in one of these food items does not typically mean that the prices of the other food items will be significantly affected. That reduces the food security concern when the price of one of these important food items increases.

Food basket costs are less variable than food prices.

The typical food basket is comprised of a large number of food items and the cost of the food basket is about half as variable as the prices of the items in the food basket.

Policy Implication: The cost of the typical food basket should be considered in monitoring and responding to food security concerns rather than just the prices of the basic staples.

Staple foods, such as maize and rice, account for a relatively small share of food basket costs.

Maize accounts for an average of 14.5% of total food basket costs and rice accounts for 8.6%. In Dar es Salaam, maize accounts for only 7.7% of the total food basket costs and rice accounts for 13.9%.

Policy Implication: Maize and rice are highly visible indicators of food security in Tanzania, but they account for a relatively small share of total food basket costs. The GOT should

consider the entire food basket when considering policy actions in response to food security concerns, and not focus on only the most visible food items.

Food consumption patterns vary widely across Tanzania.

Maize is the most important food item in most regions, but cassava, rice, and beans are also important and as incomes increase and diets diversify the importance of maize in the diet will decrease and other food items will become more important.

Policy Implication: Food assistance should not rely only on maize to meet the food needs of the poor and a cash transfer program would be more appropriate for responding to food security concerns in those regions where maize is not the basic staple.

Food prices vary widely between regions.

The prices of most food items vary widely between regions due to high transportation costs, inadequate storage, and imperfect markets which are slow to adjust to price differences.

Policy Implication: Reducing this variability through investments in infrastructure and information systems would improve food security and increase prices to producers while also reducing prices to consumers.

ANNEX

Table A1. Calorie Shares of Food Items for 21 Regions (%)

	Arusha	DSM	Dodoma	Iringa	Kagera	Kigoma	Kilimanjaro	Lindi	Manyara	Mara	Mbeya
Maize	44.6	23.1	48.0	49.7	20.7	30.1	36.9	36.3	65.9	25.4	48.2
Rice	9.0	20.9	5.6	8.1	5.6	6.1	9.8	17.5	2.9	5.7	10.9
Beans	5.8	5.4	5.9	6.8	14.2	10.5	6.9	5.7	5.4	2.1	7.0
Bananas	2.9	1.2	0.0	1.6	16.6	3.4	11.1	0.8	0.7	1.7	3.2
Millet/Sorghum	1.1	0.8	16.9	0.4	0.2	0.2	0.7	4.4	0.5	11.5	0.6
Potatoes	0.4	0.8	0.3	1.3	1.3	0.1	0.3	0.1	0.2	0.2	1.3
Sweet Potatoes	0.2	0.4	0.6	0.9	3.1	1.9	0.5	0.6	0.1	0.9	0.9
Wheat/Other Grains	0.0	0.7	0.1	0.1	0.1	0.0	0.2	0.0	0.0	0.0	0.1
Cassava	0.6	1.3	0.5	6.6	15.3	28.3	0.7	10.5	0.2	33.0	0.9
Poultry	0.4	0.5	0.4	0.3	0.3	0.2	0.3	0.3	0.4	0.5	0.3
Beef/Goat	2.1	1.5	0.9	1.0	0.7	0.4	2.2	0.1	1.6	1.2	1.0
Fish	0.6	1.1	0.4	0.6	1.2	1.0	1.1	1.2	0.4	2.0	0.8
Cooking Oil	7.2	8.4	3.9	4.7	3.0	3.7	9.2	3.2	5.8	4.3	5.8
Ripe Bananas	0.5	0.6	0.2	0.6	0.9	0.5	0.5	0.3	0.1	0.2	0.7
Mangoes/Other Fruits	0.4	1.0	0.3	0.8	1.8	0.6	0.5	0.4	0.3	1.4	0.8
Sugar	5.8	5.5	2.5	3.7	3.5	1.7	6.6	2.5	4.6	3.0	3.1
Dairy	6.5	1.0	2.3	0.9	1.1	0.2	5.2	0.2	6.4	2.6	1.7
Total Calorie Share	88.0	74.2	88.7	88.1	89.4	88.7	92.8	84.2	95.4	95.6	87.2
Three Largest Share	60.8	52.4	70.8	64.6	52.6	68.8	57.8	64.3	78.2	69.9	66.1

	Morogoro	Mtwara	Mwanza	Pwani	Rukwa	Ruvuma	Tabora	Tanga	Shinyanga	Singida	Average
Maize	42.2	22.3	41.0	26.8	53.1	43.5	49.1	43.0	51.2	52.5	40.6
Rice	17.0	12.6	11.6	20.4	6.7	8.1	13.1	9.4	11.3	8.5	10.5
Beans	6.8	3.9	2.7	5.6	7.4	6.1	5.1	6.2	4.0	4.2	6.1
Bananas	3.9	0.8	0.8	2.4	1.4	1.0	0.3	3.2	0.3	0.3	2.7
Millet/Sorghum	0.2	1.9	1.8	0.6	1.6	0.3	3.5	0.3	3.2	11.8	3.0
Potatoes	0.6	0.2	0.1	0.4	0.4	0.2	0.1	0.4	0.2	0.2	0.4
Sweet Potatoes	0.8	0.3	6.3	0.7	1.6	1.2	2.9	0.4	3.5	0.6	1.4
Wheat/Other Grains	0.1	0.1	0.1	0.4	0.1	0.0	0.6	0.1	0.4	0.2	0.2
Cassava	4.7	28.7	15.2	8.5	7.2	22.3	2.7	4.1	3.0	1.0	9.3
Poultry	0.5	0.3	0.7	0.5	0.1	0.2	0.6	0.5	0.6	0.5	0.4
Beef/Goat	0.6	0.4	1.2	0.4	0.5	0.4	1.2	1.0	1.2	1.6	1.0
Fish	0.9	1.6	2.7	1.9	1.5	1.0	0.8	0.8	0.8	0.8	1.1
Cooking Oil	4.6	3.0	4.0	4.6	3.8	3.2	5.0	6.2	4.0	5.8	4.9
Ripe Bananas	0.7	0.2	0.3	0.6	0.4	0.5	0.3	0.2	0.2	0.2	0.4
Mangoes/Other Fruits	1.2	1.4	1.2	0.7	0.3	0.2	0.6	0.3	0.2	0.7	0.7
Sugar	2.6	2.8	3.0	4.3	2.0	2.5	2.6	5.9	3.3	2.4	3.5
Dairy	0.6	0.2	1.4	0.5	1.2	0.1	3.0	1.8	3.8	1.2	2.0
Total Calorie Share	88.0	80.6	94.0	79.3	89.2	91.0	91.5	83.9	91.2	92.5	88.3
Three Largest Share	65.9	63.6	67.7	55.7	67.6	73.9	67.3	58.7	66.4	72.8	65.0

Source: SERA, based on National Bureau of Statistics data.

Table A2. Average Prices of Food Basket Items, 2011-2014, Range, Average and CV

	Lowest		Highest		Average	Range %	CV
Maize	Rukwa	404	Morogoro	953	651	136	0.226
Rice	Rukwa	1,306	Arusha	1,716	1,544	31	0.186
Beans	Kagera	1,180	Lindi	1,956	1,502	66	0.124
Bananas	Kagera	405	Mtwara	1,647	754	307	0.197
Millet/Sorghum	Iringa	1,146	Lindi	1,694	1,462	48	0.267
Potatoes	Mbeya	351	Pwani	1,104	745	214	0.167
Sweet Potatoes	Kigoma	343	Dodoma	857	608	150	0.215
Wheat Flour	Morogoro	1,159	Kigoma	1,439	1,318	24	0.078
Cassava	Kigoma	321	Kilimanjaro	858	598	167	0.214
Poultry	Tanga	3,765	Mtwara	13,017	6,119	246	0.112
Beef/Goat	Kagera	3,699	Mtwara	6,047	4,992	63	0.109
Fresh Fish	Singida	4,004	Mtwara	8,704	6,193	117	0.219
Cooking Oil	Singida	29,36	DSM	6,281	3,712	114	0.077
Sweet Banana	Kigoma	606	Kilimanjaro	1,740	1,089	187	0.196
Mangoes	Kigoma	445	Lindi	1,685	1,091	279	0.305
Sugar	Iringa	1,815	Mbeya	2,143	1,990	18	0.093
Dairy	Tabora	777	Mtwara	1,474	1,474	90	0.112

Source: SERA, based on National Bureau of Statistics data on retail food prices.

Notes: Prices are the average of monthly prices from January 2011 to December 2014. Regions with the lowest and highest prices are shown along with the average of the 21 regions. The range in prices is shown as a percentage of highest to lowest (i.e., the range of maize prices is 549 TZS and the highest is 136% of the lowest). CV is the average of 21 regions.

Table A3. Food Basket Cost Shares of Major Food Items (%)

	Arusha	DSM	Dodoma	Iringa	Kagera	Kigoma	Kilimanjaro	Lindi	Manyara	Mara	Mbeya
Maize	16.3	7.7	16.9	18.4	9.8	12.0	11.6	11.6	21.8	7.1	16.2
Rice	6.8	13.9	5.9	7.5	4.4	6.9	6.9	15.9	2.9	3.8	11.3
Beans	4.1	3.6	6.6	7.1	10.1	11.9	4.8	6.5	5.3	1.8	8.2
Bananas	2.8	1.2	0.0	1.9	10.0	3.0	6.6	1.1	0.9	1.2	2.6
Millet/Sorghum	0.8	0.5	16.9	0.3	0.2	0.2	0.5	4.2	0.4	8.1	0.7
Potatoes	0.5	1.2	0.6	3.3	3.0	0.3	0.4	0.3	0.3	0.3	1.4
Sweet Potatoes	0.3	0.4	1.2	1.1	3.0	1.8	0.6	0.7	0.1	0.6	1.1
Wheat/Other Grains	0.0	0.3	0.1	0.1	0.1	0.0	0.2	0.0	0.0	0.0	0.1
Cassava	0.4	0.7	0.7	7.3	9.6	17.8	0.6	6.0	0.1	26.2	0.7
Poultry	1.9	2.1	3.5	2.4	3.4	2.2	1.6	4.2	4.7	3.3	3.0
Beef/Goat	16.1	10.0	10.2	9.9	4.5	4.7	17.1	0.9	14.7	7.7	10.3
Fish	7.3	12.6	6.7	12.4	12.9	17.8	13.7	22.9	5.8	18.7	13.8
Cooking Oil	5.6	8.7	3.7	3.9	2.6	4.0	6.1	3.3	4.5	4.2	4.9
Ripe Bananas	1.3	1.0	0.3	1.1	1.9	1.0	1.5	1.0	0.2	0.4	1.5
Mangoes/Other Fruits	1.3	3.3	1.8	3.8	6.9	1.3	2.5	2.3	0.8	4.0	2.1
Sugar	4.4	3.9	3.0	3.9	3.5	2.6	5.0	2.5	5.2	2.5	4.0
Dairy	18.0	3.1	10.5	3.7	3.7	1.1	13.1	0.7	27.8	5.6	5.6
Total Calorie Share	88.0	74.2	88.7	88.1	89.4	88.7	92.8	84.2	95.4	95.6	87.2
Three Largest Share	50.5	36.4	44.3	29.8	33.0	47.7	43.9	50.4	64.3	53.1	41.3

	Morogoro	Mtwara	Mwanza	Pwani	Rukwa	Ruvuma	Tabora	Tanga	Shinyanga	Singida	Average
Maize	22.0	7.1	10.6	8.6	14.5	13.1	21.3	13.2	21.3	18.8	14.5
Rice	14.0	8.7	7.7	14.3	6.0	9.3	11.3	9.7	8.1	9.1	8.6
Beans	6.2	2.9	2.2	3.8	9.3	6.4	4.6	6.1	3.3	4.1	5.8
Bananas	3.1	1.6	0.7	3.4	2.6	1.2	0.4	2.3	0.3	0.4	2.3
Millet/Sorghum	0.2	1.4	1.3	0.5	1.4	0.4	2.9	0.3	2.2	10.2	2.8
Potatoes	0.9	0.3	0.2	0.8	0.8	0.5	0.3	0.9	0.3	0.5	0.8
Sweet Potatoes	0.9	0.3	4.0	0.9	2.2	1.4	3.2	0.7	3.6	0.8	1.5
Wheat/Other Grains	0.1	0.1	0.0	0.2	0.1	0.0	0.5	0.1	0.3	0.2	0.1
Cassava	3.6	14.6	11.4	5.9	9.2	20.0	2.2	3.5	1.8	1.1	7.5
Poultry	3.6	4.4	3.4	2.2	1.8	1.9	4.7	2.8	6.5	7.1	3.5
Beef/Goat	5.6	3.5	6.9	3.3	5.1	5.4	8.8	9.5	9.3	14.7	8.0
Fish	11.0	26.6	31.9	23.7	23.5	22.3	14.4	16.4	13.9	9.3	16.7
Cooking Oil	4.6	1.9	2.3	2.8	3.4	3.2	3.7	5.5	2.9	4.7	3.8
Ripe Bananas	1.4	0.4	0.6	1.4	1.4	1.1	0.6	0.4	0.4	0.6	0.9
Mangoes/Other Fruits	6.2	3.9	5.1	2.9	1.4	1.0	1.8	1.1	0.8	2.9	2.8
Sugar	2.6	2.2	2.5	3.1	2.5	3.3	2.8	6.1	3.3	2.8	3.3
Dairy	2.0	0.6	3.4	1.3	3.9	0.4	8.0	5.4	13.0	5.1	6.1
Total Calorie Share	88.0	80.6	94.0	79.3	89.2	91.0	91.5	83.9	91.2	92.5	89.0
Three Largest Share	47.0	49.9	53.6	46.7	47.4	55.4	47.0	39.3	48.3	43.7	39.8

Source: SERA, based on National Bureau of Statistics data.

Annex 9. Assessment Report – Tanzania’s Food Security Early Warning System, September 2014

Please see attachment “SERA Year 4 Annual Report, Attachment D”.



Annex 10. Year 4 Deliverables and Reports

- Work Plan for Year 4, October 1, 2014 – September 30, 2015
- Quarterly Report for Q1, October 1, 2014 – December 31, 2014
- Quarterly Report for Q2, January 1, 2015 – March 31, 2015
- Quarterly Report for Q3, April 1, 2015 – June 30, 2015
- Annual Report, October 1, 2014 – September 30, 2015
- Research Brief – Drivers of Maize Prices in Tanzania, November 2014
- Abstract – Drivers of Maize Price in Tanzania, December 4, 2014
- Abstract – Measurement of Regional Food Basket Costs in Tanzania, December 4, 2014
- Food Security Policy Options, December 6, 2014
- Schedule – Food Basket Methodology Training, November 6 – 7, 2014
- List of Participants – Food Basket Methodology Training, November 6 – 7, 2014
- Knowledge Evaluation – Food Basket Methodology Training, November 7, 2014
- Concept Note – Implementation of Food Basket Methodology
- Schedule – Zanzibar Food Basket Methodology Training, November 4 – 5, 2014
- List of Participants – Zanzibar Food Basket Methodology Training, November 4 – 5, 2014
- Analysis – Rice Sector, January 2015
- Summary – Policy Options for Food Security, Agricultural Growth and Poverty Reduction Workshop, February 2015
- Agenda – Rice Council of Tanzania Strategic Workshop, March 2015
- List of Meetings – Rapid Assessment of Rice Market, Phase One, March 2015
- Concept Note – Business Environment for Agriculture, March 2015
- Term of Reference – Gender in Maize Marketing Study
- Proposal – USDA ERS Proposal for a Nutritious Food Basket
- Term of Reference – Rapid Rice Sector Assessment (Revised)
- Survey Tool – Rapid Rice Assessment
- Schedule – Tanzania Seed Industry Stakeholders’ Meeting, 11-12 June 2015
- Meeting Notes – Tanzania Seed Industry Stakeholders’ Meeting, 11-12 June 2015
- Policy Brief – Collateral Registry
- Concept Note – Proposed Food Demand Study
- Proposal – Food Basket Methodology Pilot
- Questions to Proposal – Food Basket Methodology Pilot
- Policy Paper – Options for Food Security, Agricultural Growth and Poverty Reduction in Tanzania, February 2015
- Terms of Reference – Gender and Maize Research Activity, Part II, September – December 2015
- Research – Maize Market Efficiency, 30 September 2015
- Policy Note – Agriculture in Tanzania, September 2015
- Statement of Work – Market Intelligence Unit Feasibility Study
- Strategic Plan – Rice Council of Tanzania Strategic Plan, 2015-2019, April 2015
- Assessment Report – Tanzania Rice Sector Market Assessment, May 2015

- Policy Brief – Food Basket Costs in Tanzania and Implications for Food Security, 3 September 2015
- Assessment Report – Tanzania’s Food Security Early Warning System, September 2014

U.S. Agency for International Development

Tanzania

686 Bagamoyo Road, Msasani

P.O. Box 9130

Dar es Salaam, Tanzania

Tel: +255 22 229 4490; Fax: +255 22 266 8421

www.usaid.gov/tanzania



USAID
FROM THE AMERICAN PEOPLE



FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

POLICY OPTIONS FOR FOOD SECURITY, AGRICULTURAL GROWTH, AND POVERTY REDUCTION IN TANZANIA

TANZANIA ENABLING POLICY ENVIRONMENT FOR AGRICULTURAL SECTOR GROWTH

FEBRUARY 2015

This document was prepared for the United States Agency for International Development (USAID/Tanzania) by the USAID Feed the Future SERA Policy Project, Contract Number 621-C-00-11-00003-00 with support from USAID NAFKA Staples Value Chains Project, Task Order Number AID-621-TO-11-05000. The SERA Policy Project is implemented by Booz Allen Hamilton.

Policy Options for Food Security, Agricultural Growth, and Poverty Reduction in Tanzania

February 2015

Contract No. 621-C-00-11-00003-00
USAID Feed the Future SERA Policy Project
Tanzania Enabling Policy Environment for Agricultural Sector Growth

Implemented by Booz Allen Hamilton

DISCLAIMER

The views expressed in this report do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Table of Contents

ABBREVIATIONS AND ACRONYMS 2

INTRODUCTION 3

POLICIES TO INCREASE FOOD CROPS PRODUCTION 4

POLICIES TO ENCOURAGE EXPORTS OF FOOD CROPS TO STABILIZE PRICES AND RAISE INCOMES 7

POLICIES TO IMPROVE SYSTEMS TO IDENTIFY FOOD INSECURE AND VULNERABLE GROUPS AND DELIVER ASSISTANCE 10

POLICIES TO HOLD ADEQUATE FOOD GRAIN RESERVES FOR FOOD ASSISTANCE AND EMERGENCIES 14

POLICIES TO ESTABLISH A TRANSPARENT RULES-BASED SYSTEM FOR EMERGENCY FOOD IMPORTS..... 18

CONCLUSIONS AND WAY FORWARD 23

ABBREVIATIONS AND ACRONYMS

AIRD	Associates for International Resources and Development
BRN	Big Results Now
CET	Common External Tariff
DMS	Dar es Salaam
EAC	East Africa Community
FAOSTAT	FAO Statistical Database
FDI	Foreign Direct Investment
FtF	Feed the Future
GMO	Genetically Modified Organisms
GoT	Government of the United Republic of Tanzania
IPC	Integrated Phase Classification
LGA	Local Government Authority
MAFC	Ministry of Agriculture, Food Security, and Cooperatives
MIT	Ministry of Industry and Trade
MT	Metric Tons
MUCHALI	Mfumo wa Uchambuzi wa Uhakika wa Chakula na Lishe [Tanzanian Food Security and Nutrition Analysis System]
NAFAKA	USAID Feed the Future Staples Value Chain Project
NBS	National Bureau of Statistics
NFRA	National Food Reserve Agency
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SRI	System of Rice Intensification
TASAF	Tanzania Social Action Fund
USD	U.S. Dollar

Policy Options for Food Security, Agricultural Growth, and Poverty Reduction in Tanzania¹

USAID Feed the Future SERA Policy Project

INTRODUCTION

The Government of the United Republic of Tanzania has long been committed to the objectives of achieving long-term food security, rapid agricultural growth, and poverty reduction (GoT 2005, 2011, 2013), and these objectives are attainable. Agricultural growth contributes to poverty reduction by increasing incomes, and poverty reduction contributes to improved food security. Agricultural growth is especially important because poverty is concentrated in rural areas and the poor often depend on agriculture as their main source of income. Growth in the agricultural sector is also twice as effective in reducing poverty as growth in other sectors (World Bank, 2008). Thus, the most effective way to improve food security is by increasing agricultural growth and reducing poverty. Those who cannot acquire food from the market, due to extreme poverty or lack of marketable skills or job opportunities, will need assistance as part of a comprehensive food security program.

Tanzania has a unique opportunity to improve food security by increasing agricultural growth and rural incomes through exports of food crops to the East Africa region. It has an abundance of natural resources that can be used to increase food crops production, and it faces a regional market that is food deficit and expected to remain food deficit for the foreseeable future because of rapid population and income growth and limited capacity for many countries to increase production to meet their own needs. Therefore, Tanzania's exports will depend mostly on its ability to increase production and access regional markets. Enabling policies are essential for Tanzania to achieve its export potential both in order to provide incentives to farmers to increase production and in order to maintain access to regional export markets. These policies should focus on private sector-led growth, encouraging exports, and allowing market forces to guide the economy because policies that distort market forces lead to inefficiencies, lower economic growth, and inequities.

Tanzania has the natural resources and market opportunity to become the food basket of East Africa, but these are not enough. It is also essential that it make the right policy choices in order to achieve its export potential. The SERA Project has worked closely with the Government to improve agricultural policies during the past four years and based on that research and the international experience has

¹Thanks are expressed to the Ministry of Agriculture, Food Security, and Cooperatives and the Prime Minister's Office for supporting the development of this report and providing valuable comments on a prior draft. Thanks are also extended to the Feed the Future NAFKA Staples Value Chain Activity for support for the AIRD team to contribute to this report and for its continued support over the past three years.

grouped these policy choices into five key areas. These five key policy areas are policies to: 1) Increase Food Crops Production, 2) Encourage Exports of Food Crops to Stabilize Prices and Raise Incomes, 3) Improve Systems to Identify Food Insecure and Vulnerable Groups and Deliver Assistance, 4) Hold Adequate Food Grain Reserves for Food Assistance and Emergencies, and 5) Establish a Transparent Rules-Based System for Emergency Food Imports. If Tanzania can make the right policy choices in these key areas, then it can expect to achieve long-term food security, rapid growth in the agricultural sector, and reduced rural poverty. Stable macroeconomic policies are also very important, including maintaining a fairly valued exchange rate, but are left for future work.

POLICIES TO INCREASE FOOD CROPS PRODUCTION

Increasing food crops production is an important component of improving food security and policies to support increased production should focus on market-based economic incentives, adoption of improved technologies, and increasing the availability of improved inputs. Investments by the Government should focus on improving infrastructure and supporting public goods such as research and extension. Direct support to producers should be well targeted and have defined limits and purpose. Foreign investors can play an important role in increasing food crops production by providing capital, technology, management, and market access. Stable and transparent policies reduce uncertainty and encourage the private sector to invest and produce, and it is important to communicate policy changes and the details of current policies to Government officials and the private sector so they are well informed on current policies and advised of future policy changes.

Issue: Frequent policy changes create uncertainty for the private sector and reduce investment incentives.

Recommendation: Follow stable and transparent policies to provide incentives to increase food crops production and exports, and communicate current policies and future policy changes.

Action: Ministry of Agriculture, Food Security, and Cooperatives to publish their agricultural policies and Disseminate.

Access to improved inputs such as high quality seeds, fertilizers, and agro-chemicals are essential to a competitive agricultural sector and policies should focus on making those inputs available at competitive prices. While much has been done by the Government to improve seed policies in recent years, improved seed use in Tanzania is still among the lowest in the region at approximately 20 percent of total seeds sown. Procedures for approving new seed varieties, fertilizer blends, and agro-chemicals are long and costly; and a more streamlined approval process is needed. Eliminating the crop produce cess on seeds and reducing taxes on seed packaging materials would also reduce costs and seed prices to farmers.

Issue: Use of improved inputs is low and that reduces agricultural productivity and production.

Recommendation: Improve access to improved seeds, fertilizers, and agro-chemicals.

Action: Streamline the approval process for new seed varieties, fertilizer blends, and agro-chemicals. Eliminate the crop produce cess on seeds and reduce taxes on seed packaging materials.

Improved access to credit is essential to increasing the commercialization of agriculture in Tanzania and the Collateral Registry System being developed by the Bank of Tanzania (BoT) with SERA Project and World Bank support provides such a credit system. It will allow financial institutions greater certainty in using movable assets as collateral on loans and, thereby, reduce lending costs and expand credit to agriculture.

Issue: Lack of access to credit is a constraint to agriculture, partly due to the laws that do not allow a financial institution to easily recover collateral if the loan fails.

Recommendation: Implement a modern Collateral Registry System to make credit more easily available to agriculture.

Action: The Collateral Registry System is being developed by the Bank of Tanzania with SERA and World Bank support.

Closing the gap between actual and potential yields is one way that Tanzania can increase food crops production and take advantage of regional export opportunities as well as raise incomes of farmers. The USAID-funded NAFKA Project has worked closely with maize and rice farmers to adopt modern technology with outstanding success. Rice farmers using the System of Rice Intensification (SRI) and other improved technologies were able to more than double yields and profitability compared to farmers using traditional technology, and maize farmers were able to increase yields by almost 30 percent on rain-fed areas.

Issue: Yields of food crops are low and improved production practices can increase yields and profitability.

Recommendation: Support smallholders to access improved technology and increase productivity and incomes.

Action: Institutionalize the efforts of NAFKA to close the yield gap, by greater involvement of Government extension officers.

Attracting foreign investment has been a cornerstone of Kilimo Kwanza, the Southern Agricultural Growth Corridor (SAGCOT), and Big Results Now (BRN) initiatives. In order to attract foreign investors, it is essential that Tanzania be competitive with other countries in the region on important measures such

as the business environment, investment incentives, and corporate income taxes. Tanzania has one of the highest corporate income tax rates in the region at 44% of corporate profits after allowable deductions and exemptions. This compares with 38% in Kenya, 37% in Uganda, 37% in Mozambique, 36% in Malawi, 34% in Rwanda, and 29% in South Africa (World Bank 2015). This high corporate tax contributes to the low foreign investment in agriculture which, according to the Bank of Tanzania, averaged only USD26 million per year from 2008-2011 and comprised only 2% of Foreign Direct Investment (FDI). The BoT concluded that greater efforts are needed to make agriculture more attractive to investors in order to boost inflows to agriculture. Other sectors such as telecom, energy, mining, and tourism have attracted much larger FDI, but agriculture is traditionally a low-profit industry and may need special incentives if it is to attract foreign investors and contribute to reducing poverty. One solution is to apply differential tax rates as Zambia has done with a 35% corporate tax on manufacturing but only a 10% corporate tax on farming. Other investment incentives available to agriculture should also be reconsidered to see if they meet the needs of the sector and whether special incentives such as those available to the mining and petroleum sectors in Tanzania are needed.

Issue: Foreign Investment into agriculture is low which deprives Tanzania of needed capital, technology, and management.

Recommendation: Ensure that investment incentives and the business environment are competitive with other countries in the region.

Action: Review investment incentives for agricultural investors, develop special incentives as needed, and seek approval for a greater package of incentives for investors in agriculture.

Access to conflict-free land is essential to encourage agricultural investments in Tanzania, and this is only possible when local communities are supportive and benefit directly from such investments. That can best be achieved by making local communities partners in such investments. Recent research by the SERA Project concluded that local communities have the legal authority to engage directly with investors. If this finding is upheld, it would allow local communities to retain control of village lands while leasing or partnering with investors on productive activities.

Issue: Large tracts of land are underutilized in Tanzania and that limits investments opportunities, reduces production, and deprives local communities of increased incomes.

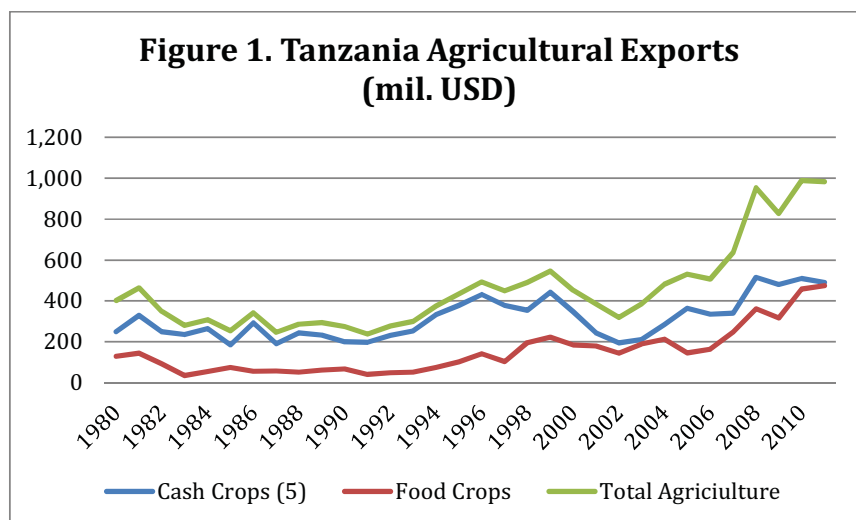
Recommendation: Improve land policies to allow underutilized land to be used for crop production while protecting the rights of local communities and those with informal land use rights.

Action: Clarify the legal authority of local communities to retain control of village lands while leasing or partnering with investors on productive activities.

POLICIES TO ENCOURAGE EXPORTS OF FOOD CROPS TO STABILIZE PRICES AND RAISE INCOMES

Export-led growth has been the path out of poverty in many countries, such as Brazil, China, Malaysia, Thailand, and Vietnam; and the link between export growth and overall economic growth and poverty reduction is well established from both cross-country and country-specific research². The research shows that trade openness increases the growth of income and output, and there are strong links between overall economic growth and poverty reduction especially when the growth comes from the agricultural sector. Exports also reduce price volatility caused by seasonality and weather shocks as shown for the Tanzania maize market (Baffes, et al. 2014).

Tanzania's total agricultural export growth (in USD) has been very impressive in the past decade, averaging 7.3% from 2000 to 2011 (Figure 1), and even more rapid growth may have occurred because Custom records often underestimate exports. The growth has been led by food crops which grew by 9% per year during this period compared to traditional export crops (cashews, coffee, cotton, tea, and tobacco) which grew by 3.2% per year. Even more rapid export growth may be possible as demonstrated by the tobacco sector which grew by 12.9% over this same period. The tobacco sector is private-sector led and production is exclusively by smallholders, with private tobacco companies contracting with smallholders to produce green leaf tobacco. The value of tobacco exports increased from USD27.1 million in 1995 when the sector was liberalized to USD106.6 million in 2011.

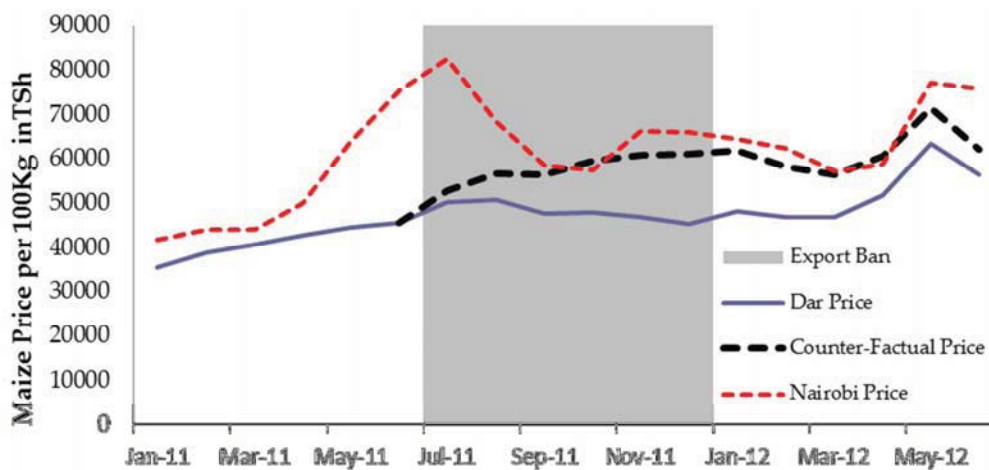


Source: Data from FAOSTAT and analysis by SERA Policy Project.

² The link between export growth and income growth is well established, with substantial cross country evidence that trade liberalization and trade openness increase the growth of income and output (Sachs and Warner, (1995), Dollar (1992), Edwards (1993, 1998), Ben David (1993) and Frankel and Romer (1999), and Bhagwati and Srinivasan (1999)). The link of overall growth to poverty alleviation has also been demonstrated in cross-country analyses (Dollar and Kraay, 2000), and for individual countries (e.g., Srinivasan, 2000).

Fully capitalizing on Tanzania’s export opportunities requires policies that support rather than restrict exports. Tanzania made an important policy choice in 2012 when it lifted the export ban on maize. Recent research conducted by the SERA Project in collaboration with the World Bank has now quantified the impacts of the export ban on maize prices using econometric techniques (Baffes, et al. 2014). Those results showed that the 2011 maize export ban reduced wholesale maize prices by 8.8 percentage points for every month that the ban was in effect and by 36 per cent by the time it was lifted (Figure 2). The short-run influences of weather shocks on domestic prices were also found to be larger during an export ban, and seasonal price volatility more pronounced. The study also pointed to the importance of improved transport linkages and storage to reduce seasonal price swings and reduce the impact of weather shocks on prices.

Figure 2. Impact of the 2011 Maize Export Ban on Dar es Salaam prices.



Source: Baffes, et al. 2014.

While Tanzania removed the maize export ban in 2012, it still required export permits for food crops such as maize and rice. The purpose of the permits was to allow the Government to monitor exports. However, they may have the opposite effect—they may discourage accurate reporting of exports by Custom. Since export permits are costly for traders to obtain due to travel and approval time, traders may fail to secure the permits and instead they may bribe or evade officials. One example of such evasion is the use of a parallel permit systems whereby clearing agents “rent” permits to traders, which adds financial cost despite the fact that the permits are supposed to be free of charge. The clearing agents also re-use the permits, which undermines collection of accurate trade data. If export permits are required, they should be available at minimal cost and inconvenience so that there is little incentive to evade them. The authority to issue export and import permits comes from the Cereals and Other Produce Act of 2009, although there is no requirement in the Act to issue these permits. The system was recently changed to temporarily devolve responsibility to local authorities with unknown consequences.

Issue: Promote food crop exports to raise incomes, reduce poverty, and stabilize prices.

Recommendation: Promote private-sector led agricultural exports by reducing trade barriers and streamlining export approval requirements.

Action: Remove export permits and streamline granting of other permits required for exports.

Other impediments to trade include frequent road blocks to inspect produce and collect crop cess or transit fees which add to transport costs. A recent study on the Agricultural Produce Cess in Tanzania (GoT 2014) recommended that the cess should be reduced from a maximum of 5 percent of the gross value of agricultural produce to 3 percent in accordance with the Government's commitment under the G8's "New Alliance for Food Security and Nutrition" declaration. The crop produce cess was found to be poorly implemented and widely evaded, but still very high on certain crops. Greater efficiency in collection could increase revenues of LGAs while reducing the burden on farmers.

Issue: Trade barriers reduce the incentives to export.

Recommendation: Reduce or remove export trade barriers such as the crop produce cess.

Action: Reduce the crop produce cess from 5% to 3% and increase the efficiency of collection in order to support LGA revenue collection.

Monitoring of food crop exports is a legitimate need of Government and improvements are needed to make such information more reliable. Since Customs is mandated to collect data on exports, they should be the focus of efforts to improve the data. In addition to underreporting of exports crossing official border points, there are also unrecorded exports and imports along both land routes and seaports. The differential tariff rates between Zanzibar and mainland Tanzania contribute to the problem. Imports that do not comply with East Africa Community (EAC) protocols and collect the Common External Tariff (CET) can lead to trade conflicts with neighboring countries which undermine efforts to export food crops in the region. This situation has recently affected rice exports from Tanzania and has prevented legitimate rice exports within the EAC by Tanzanian farmers. It is important to increase the capacity of Customs to collect and communicate such data to MAFC in a timely manner.

Issue: Accurate data on food crop exports are needed to inform Government policy decisions.

Recommendation: Improve monitoring of food crop exports.

Action: Engage with Customs to develop a plan to improve monitoring of food crop exports.

Food crops imports are widely reported to enter Tanzania unrecorded and duty-free. This deprives Tanzania of needed tariff revenues and undermines local producers. For example, in 2012 raw sugar imports reported by Tanzanian Customs were 32,000 tons while major exporters, such as India, Brazil, and Thailand, reported exporting 133,000 tons to Tanzania (Table 1). The tariff revenue on the 101,000

tons of unrecorded imports would have been USD56 million at prevailing prices, and the VAT revenue would have been an additional USD29 million for a total loss of revenue to the Government of USD85 million. That revenue could allow Customs to modernize its systems and support the Government budget.

Table 1. Raw Sugar Imports 2012 (tons)	
Reported Imports by Tanzania	32,108
Reported Exports to Tanzania by:	
India	116,938
Brazil	13,528
Thailand	2,675
Total Reported Exports	133,141

Issue: Unrecorded imports deprive Government of tariff revenue and undermine local producers.

Recommendation: Strengthen monitoring of food crop imports and collect appropriate tariff revenues.

Action: Engage with Customs to develop a plan to improve monitoring of food crop imports and tariff enforcement.

POLICIES TO IMPROVE SYSTEMS TO IDENTIFY FOOD INSECURE AND VULNERABLE GROUPS AND DELIVER ASSISTANCE

Monitoring food costs, identifying the food insecure, and delivering food or financial assistance are essential parts of a comprehensive food security program. The Ministry of Agriculture, Food Security, and Cooperatives has historically monitored key food prices such as maize and rice to assess food costs. This approach can over-emphasize the prices of key food items rather than considering the costs of the entire food basket and that can lead to food aid assistance or policy action when it may not be needed. A more comprehensive approach would be to monitor the cost of a typical food basket using the Food Basket Methodology developed for use by the MAFC Department of Food Security.

Identifying the food insecure currently focuses on vulnerable groups in regions or districts that have production shortfalls, and delivery of food aid assistance to these regions is focused on providing maize free or at low costs. This approach does not meet the food needs of consumers in regions where maize is not a large share of the diet, and fails to identify the food insecure in regions or districts that are not experiencing a production shortfall. Food consumption patterns are also changing and maize will

become a smaller share of diets in the future while rice and other high value food items will become more important. Recent research (Table 2) estimated the demand for rice, maize, and other cereals (millet, sorghum, and wheat) from primary household data in Dar es Salaam and Morogoro and found that the demand for rice is growing five times faster than the demand for maize in response to increased household expenditures. This means that food aid assistance will need to focus more on rice or cash transfers in the future and less on maize as the basic staple food. The results also show that rice consumers are very sensitive to prices and will reduce consumption roughly in proportion to price increases. A further finding is that there is little substitutability between domestic and imported rice. While the results of the study are not nationally representative, they do show strong changes in consumer demand for the areas of the study.

Category	Expenditure Elasticity	Own Price Elasticity
High Quality Domestic Rice	1.02	-.78
Average Quality Domestic Rice	.99	-.86
Other Domestic Rice Varieties	1.07	-1.04
Imported Rice	1.07	-1.08
Other Cereals (millet, sorghum, and wheat)	1.05	-1.13
Maize	0.18	-.24

Source: Lazaro, 2014.

Note: The Expenditure Elasticity shows the percentage change in consumption for a given percentage change in household expenditures. For example, if household expenditures rise (fall) by 1.0%, the consumption of High Quality Domestic Rice would rise (fall) by 1.02%. The Own Price Elasticities show how consumption would change in response to a change in price. For example, a 1.0% increase (decrease) in the price of High Quality Domestic Rice would cause consumption to decline (rise) by 0.78%.

MUCHALI is the multidisciplinary operational framework designed to provide actionable knowledge to stakeholders in food security. It does not exist as a government department in its own right, but operates on the basis of cooperation amongst the various stakeholders who allocate the resources that allow the MUCHALI framework to function. In its original design, MUCHALI was expected to undertake situation analysis (especially the real-time updating of current and projected food and nutrition conditions), intervention analysis, decentralization support, information management, operational support, and additional research when needed. However, current resources are inadequate to support the comprehensive activities described. Instead MUCHALI oversees a twice-yearly process of data collection and analysis by cooperating stakeholders driven by the production forecast data. This process results in the generation of actionable knowledge in the form of Integrated Phase Classification (IPC) data for each District that is reported for onward circulation both to stakeholders and to other agencies (including other Ministries and Donor agencies). Limited resources affected the MAFC's ability to complete the mid-year production forecast and the MUCHALI assessment. Part of the reason for the limited scope of activities of MUCHALI lies in the delay in its formalization as an institutional entity rather than the ad-hoc assembly of stakeholders interested in food security that it currently represents.

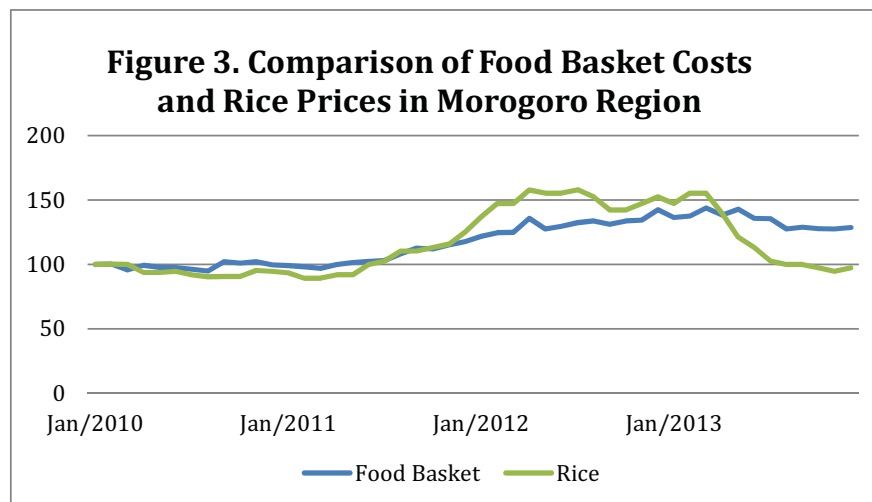
Until such formalization has occurred, the MUCHALI framework will lack a single dedicated source of finance and remain exposed to external influences.

Issue: MUCHALI is an ad-hoc assembly of stakeholder without the dedicated funding needed to effectively perform its mandate.

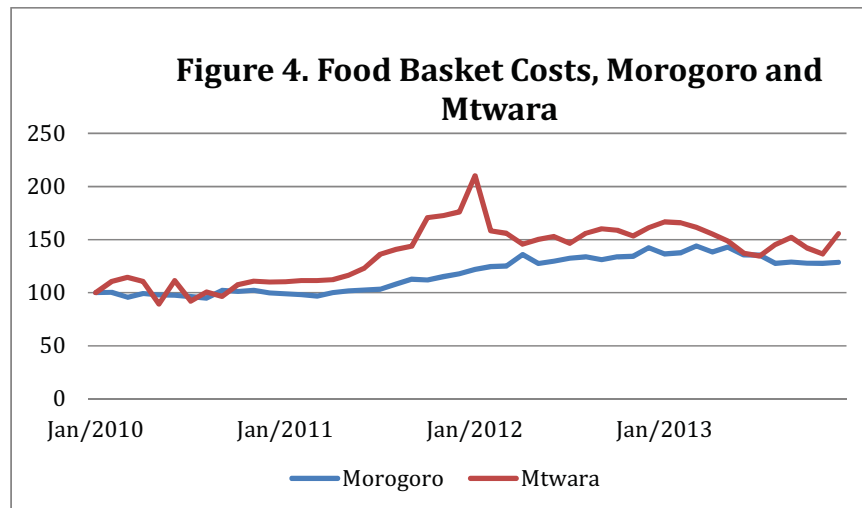
Recommendation: Formalize MUCHALI into an institutional entity and increase resources for its activities.

Action: Begin efforts to institutionalize MUCHALI and obtain dedicated financing.

The SERA Project in collaboration with the USDA's Economic Research Service has developed, piloted, and trained Ministry of Agriculture, Food Security, and Cooperative's staff on the estimation and use of the cost of a typical food basket in each region. This broad measure of food costs is computed from the retail prices of the 17 largest food items in the typical food basket, and is significantly less variable than the prices of key food items typically monitored. For example, the cost of the typical food basket in Morogoro region and the retail prices of rice are shown in Figure 3. The cost of the typical food basket rose 19 percent from January to December 2011, while the retail price of rice rose 34 percent. Conversely, the cost of a typical food basket fell 6 percent from January to December of 2013 while rice prices fell 15 percent. The Food Basket Methodology has the advantages of being timely, objective, and quantitative which facilitates comparison of food costs over time and between regions. The food basket costs can also capture significant food cost increases in regions without a food crops shortage as shown by the case of Mtwara compared to Morogoro in Figure 4.



Source: SERA Policy Project.



Source: SERA Policy Project.

The estimation of food basket costs can be integrated into the MUCHALI framework to better identify vulnerable groups through regular monitoring of food basket costs in all regions. Such monitoring can provide MUCHALI with a regular overview that facilitates focusing on key regions when food security concerns are identified. However, the chronically food insecure in each region will not be identified by this approach and community-based efforts are needed to identify such groups and individuals and provide targeted support through TASAF or other programs. Better coordination between MUCHALI and TASAF would also be beneficial.

Issue: Food basket costs are an improved method of measuring regional food costs and should be used as an early warning of food insecurity.

Recommendation: Integrate food basket costs into MUCHALI framework.

Action: Ministry of Agriculture, Food Security, and Cooperatives to calculate food basket costs in each region and disseminate results to other Ministries for their own use. MUCHALI to work closely with MAFC to integrate the Food Basket Methodology into their analysis.

Good agricultural data is essential to good policy decisions and efforts are underway to improve the estimates of food crop production, stock levels, and prices. This effort is led by the National Bureau of Statistics (NBS) with support from USAID and other donors, and an implementation team that includes the U.S. Department of Agriculture. An annual survey of agriculture has been designed, but not completed, by NBS and completing it is a high priority. There are other data priorities as well. Retail prices collected by NBS and wholesale prices collected by the Ministry of Industry and Trade (MIT) do not differentiate crop quality or variety, and providing this detail is also a high priority.

Issue: More accurate agricultural data is needed for policy decision making.

Recommendation: Improve agricultural data.

Actions: NBS to complete survey of agriculture. NBS and MIT to expand their price collection activities to include prices for different crop varieties and qualities.

POLICIES TO HOLD ADEQUATE FOOD GRAIN RESERVES FOR FOOD ASSISTANCE AND EMERGENCIES³

Tanzania is a surplus food crops producer in most years, and the magnitude of the surplus is expected to increase in the future as production increases faster than demand. Tanzania is also vulnerable to droughts and other weather disturbances that can lead to production shortfalls. Food grain reserves can offset the impacts of such production shortfalls and also provide stocks for disaster relief and food aid to vulnerable groups. However, stockholding is costly and budgets for such stockholding are limited; and it is important to determine the appropriate level of stocks that will meet a shortfall of an expected frequency. Research undertaken by Associates for International Resources and Development (AIRD) for this Policy Options Paper reached a number of important conclusions, which are summarized here.⁴

In the long run, the most cost-effective way of promoting food security in Tanzania is to exploit its comparative advantage within the region in food production, especially of rice and maize, and build its capacity to increase that production in ways that involve the poorer elements of the population as farmers or wage laborers. This will increase their incomes, providing them with their best insurance against food insecurity.

AIRD analysis shows that 100,000 metric tons (MT) of food purchased by NFRA each year at the time of harvest and held seasonally until distributed as food assistance or sold on the market before the next harvest will on average be sufficient for the food assistance program over a normal five-year period, especially now that production of maize and rice has increased quite markedly. The balance of what is not used for food assistance can be sold on the market before the new crop is harvested, with seasonal price increases providing a margin to cover the costs of storage. This serves as a buffer that enables supplies of food available for assistance to vary according to need, within the 100,000 MT ceiling, without resorting to retaining expensive carryover stocks.

It is recommended that NFRA continue to procure about 100,000 MT of grain annually. This may be used for food assistance, based on the MUCHALI assessment or, to the extent that not all the grain is needed for that purpose, it should be sold to the World Food Program (WFP), millers, prisons, external buyers, and other destinations at market prices; which should in the long run cover procurement and storage costs because of the seasonal rise in prices. To the extent that the Government requires that these sales

³ This section was prepared by Dirck Stryker, Associates for International Resources and Development (AIRD).

⁴ Details of this analysis are contained in J. Dirck Stryker and Mukhtar Amin, "Tanzania National Food Reserve Agency's Role in Assuring Food Security," Final Report Draft, Revised December 2014.

be below market prices or that NFRA not purchase grain at prices below the cost of production, NFRA should be compensated for the subsidies involved.

Issue: Adequate food reserves are needed for food assistance programs, but are costly to maintain.

Recommendation: NFRA procure 100,000 MT of grain annually to be used for the food assistance program and distributed according to need or sold before the next harvest.

Action: Ministry of Agriculture, Food Security, and Cooperatives establish a target of 100,000 MT of grain to be purchased annually for food assistance or sold before the next harvest. This target should be adjusted periodically in accordance with trends in food production and the need for food assistance. Any subsidized purchases or sales of food by NFRA, including food assistance should be covered explicitly in its budget.

Subsidized purchases and sales are disruptive to market development and generally involve the allocation of unearned rents to selected sellers and buyers. In neither case are NFRA transactions sufficiently large to establish effective price floors or ceilings. Instead they disrupt the market, transfer rents to favored parties, and reduce NFRA's profitability. This is important to the extent that NFRA is called upon to perform public functions for which it is unable to recover costs, such as food assistance and maintaining strategic reserve carryover stocks. Although NFRA is under political pressure to provide these subsidies, the terms under which they are offered and the procedures applied to determine beneficiaries should be explicitly stated.

Issue: NFRA purchases and sales of grain can disrupt markets and lead to rent-seeking unless done in a transparent way at prevailing market prices.

Recommendation: NFRA operates in a transparent and rules-based way regarding its purchases and sales of grain.

Action: NFRA establish and adhere to transparent rules, to be approved by MAFC, for the buying and selling of grain that ensure that these operations do not involve favoritism and rent-seeking. These transparent rules should specify how the prices that are to be applied to these transactions are to be determined.

The magnitude of greater food shortfalls that are likely to occur less frequently than once in five years is not high in relation to the size of private carryover stocks and the capacity of the private sector to fill much of the gap through food imports. Nevertheless, the shock of these shortfalls will fall disproportionately on poor households without the means to supplement their own production through food purchases. To cushion these households, additional food supplies for public sector food distribution will be necessary – from food storage carryover or from food imports.

The cost of NFRA storing food carryover beyond the annual food procurement, which is only held seasonally, can become prohibitive. The financial cost of holding this carryover for a period of five years is estimated at 698 USD/MT, which is considerably in excess of the cost of importing food from South

Africa and transporting it up country to food deficit regions, which is about 464 USD/MT. If these carryover stocks are held for longer than five years, assuming three-year turnover to avoid spoilage, costs rise in proportion to the time held.

Beyond the annual procurement, additional carryover stocks should be determined by the budgetary resources that are available, the degree to which the Government is willing to pay more for the security of having GMO-free stocks compared with imports, and the degree to which additional evidence suggests there is greater risk than is shown by food production data. Such risk might involve the danger of flooding, pestilence, or other natural disaster – with respect to both its magnitude and its frequency. Costs will vary with each of these dimensions. The greater the magnitude, the more grain must be set aside; the lower the frequency of occurrence, the longer on average the grain will have to be retained in reserve until used and the higher the cost of holding it.

Issue: Grain reserves to protect against infrequent production shortages are costly to maintain.

Recommendation: Determine and apply the target level of carryover stocks.

Action: The Prime Minister’s Office and the Ministry of Agriculture, Food Security, and Cooperatives jointly determine the target level of carryover stocks beyond the 100,000 MT annual procurement, which are to be used primarily for emergency food assistance. This determination should be made according to the criteria specified above, and NFRA should receive the budgetary resources required for procuring and holding these stocks.

In the event of the unlikely coincidence of a very bad crop year and a price spike on world markets, Tanzania would have to take extraordinary measures to assure adequate supplies of food for its population. This would likely involve assistance from the international community. Financial instruments such as futures and options could be used to secure offshore reserves, but they present challenges including the cost of maintaining such financial instruments and the inability to secure GMO-free reserves. All the evidence presented in this analysis suggests, however, that the coincidence of a very bad crop year and a price spike on world markets is extremely unlikely and would be highly costly to protect against in advance by holding food reserves.

One low-cost approach for NFRA to hold larger reserves is by designating these reserves as available for sale on a seasonal basis. Sales contracts have, for example, been signed with WFP. As Tanzania moves increasingly into surplus grain production, these transactions can assist in the disposal of surpluses through exports. In the event of local shortages in Tanzania that require more food assistance than the 100,000 MT of annual purchases, some of these stocks could be diverted to local assistance programs. However, care must be taken to avoid building up large carryover stocks in order to remove surplus grain from the market to support the market price. This can become very expensive. For example, at the end of the crop year 2013-14, NFRA’s warehouses were almost full, with over 200,000 MT of grain. This grain needed to be moved in order to provide space for the new harvest. NFRA was to sell 200,000 MT of grain to Kenya, but the transaction was delayed because the grain could not be certified as free from aflatoxins. This illustrates the importance of building strong trade networks, where buyers can be

assured of getting a good quality product and NFRA can supplement its local procurement in case of need, such as occurred in 2013 when NFRA purchased maize from Zambia to replenish warehouse stocks.

Even more threatening would be to build additional storage capacity for the purpose of storing most of the surplus grain that is produced. Tanzania has the financing to begin constructing an additional 200,000 MT of storage capacity, mostly in the form of silos. This would give NFRA a total storage capacity of about 400,000 MT. But disposal of surpluses must involve increased exports and not just putting the surpluses into storage. To rely on expanded storage could be very expensive and create great uncertainty regarding what market price would prevail. This was one of the reasons why the old Strategic Grain Reserve went bankrupt.

Issue: NFRA should not purchase and store surplus grain in order to support prices.

Recommendation: Expand secure NFRA sales outlets as well as external sources of supply.

Action: NFRA work towards integrating itself into a secure and reliable grain trade network within East and Southern Africa, which will allow it to dispose of its surpluses and supplement its sources of supply as determined by market conditions. This should be done before it expands its storage capacity.

At present, NFRA's procurement and storage costs are very high. This will make it difficult to compete with the private sector. One item that has been identified as contributing to these high costs is the maintenance of buying stations throughout the country. There are also inefficiencies in and lack of proper equipment for handling and storage.

Issue: NFRA procurement and storage costs are high and it cannot compete with the private sector.

Recommendation: Reduce NFRA operating costs.

Action: Close most NFRA buying stations and buy directly from farmers and traders at NFRA warehouses.

Prices of food in Tanzania are linked with food prices within the region and particularly in Kenya, where prices are determined by local demand and supply conditions and by the price of grain imported from South Africa. Demand and supply conditions in Tanzania are also important, especially during the vuli season, which can determine the direction of trade with Kenya early in the year. When the major crop is harvested, however, Tanzania becomes an exporter to Kenya and its prices are determined largely as a residual after subtracting transport and other transfer costs. This presents an opportunity for Tanzanian producers and exporters. The Government can do very little to alter these market relations and any attempts to do so will just disrupt the market, creating rent-seeking opportunities and lower prices to farmers without lowering prices for consumers.

Although it is important that Tanzania be well integrated into the East and Horn of Africa grain market, this does not imply that there would be much benefit to Tanzania from participating in a regional public storage program. The experience in SADC is not reassuring regarding the ability to get agreement among member states on such a program. Furthermore, climate conditions among potential members are not sufficiently different that there would be important gains from taking a regional approach. Finally, transportation costs and other barriers to trade would minimize any advantages that might result.

POLICIES TO ESTABLISH A TRANSPARENT RULES-BASED SYSTEM FOR EMERGENCY FOOD IMPORTS⁵

When Tanzania experiences unusually high and sustained domestic food price spikes, policy makers will be forced to alter the prevailing policies related to food importation. Under emergency food security conditions, the Government can employ various trade and other food policy instruments for mitigating the effects of extreme price increases. In implementing such policies, the Government should ensure that it follows a rules-based emergency food import system that is predictable, transparent, and consistent with creating stable markets and long-term development of the private sector. Frequent policy shifts can create uncertainty and dampen trader incentives to import in potential food emergency situations. It is therefore crucial for the Government to put in place rules-based trade policy instruments that have some basic features in their design, including:

- a) They should be least disruptive to the private market.
- b) The rules should be spelled out in advance, and Government needs to be credible that it would fulfill its commitments. Lack of commitment to pre-defined rules would defeat the very essence of a rules-based emergency import system.
- c) The process of identifying and spelling out the roles of all the stakeholders should be transparent and inclusive.
- d) The policy options chosen should be ones that the Government is administratively capable of accomplishing. A policy prescription may be sound in its design, but if the public sector does not have the capacity for effective implementation, it is unlikely to improve the situation.
- e) The policy option should sufficiently address the main concerns of the Government, including the risks of price spikes and their impact on social order and macro-economic stability.

⁵ This section was prepared by Mukhtar Amin is a Senior Economist at Associates for International Resources and Development (AIRD).

f) The policies should generally conform to EAC procedures.

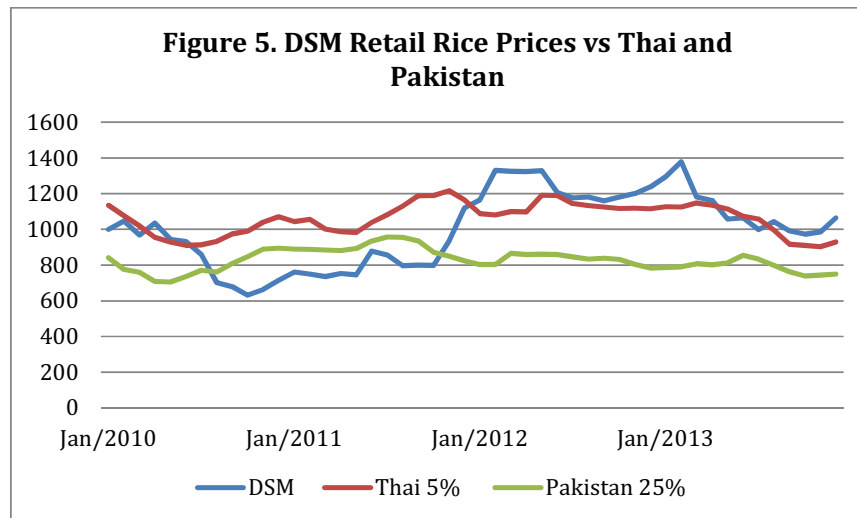
Issue: Ad-hoc emergency food imports can disrupt markets, provide opportunities for rent-seeking, and create regional trade conflicts.

Recommendation: MAFC publicly commits to a predictable, transparent, and rules-based emergency food import regime and publicizes its commitment so as to ensure that all stakeholders are fully informed.

Action: MAFC communicates to the private sector its commitment to move away from ad-hoc emergency import system to the rules-based system.

Various policy options for operationalizing a rules-based emergency food import system have been considered, including a) a trigger price mechanism where the Government intervenes by suspending or significantly reducing import tariff rates and combines the tariff reduction with an auction-based import permit system; and b) the public sector issues Government tenders, after which the Government negotiates fixed price contracts with private importers. However, there are fundamental limitations of these alternatives, including their reliance on complex and easy to abuse permit systems and their implications that the Government gets deeply involved in food marketing—a move that will clearly set back the country's long-term goal of developing its private marketing system.

Tanzania should rely on the East Africa Communities' Common External Tariff on imports of food crops, such as rice, to regulate imports under normal market conditions. Fluctuations in domestic prices would make imports profitable at certain times and unprofitable at other times and that would allow imports to dampen Tanzanian price movements. For example, the tariff on rice imported from outside the EAC is 75% and the landed world market price plus tariff on rice from Thailand was approximately USD890 per ton in October, 2014: the landed price of lower quality Pakistan rice was approximately USD750 per ton. The retail price of local rice in Dar es Salaam (DSM) was approximately 1,200 TSH/kg or about USD725 per ton. Consequently there was no incentive to import rice from Thailand after paying the EAC tariff, and little incentive to import lower quality Pakistan rice. However, over the period 2010-2013 (Figure 5), there would have been several times when it would have been profitable for traders to import rice from Thailand and Pakistan, and those imports would have moderated Dar es Salaam (DSM) retail rice prices. As shown in Figure 5, DSM rice prices were above the levels required to make imports profitable during most of 2012 and part of 2013. Since Thailand's rice is less preferred than locally produced rice, imports may not fully cap the DSM price but they would moderate the price increases and provide a lower cost alternative to consumers. Pakistan rice would have been imported almost continuously during 2012 and 2013, although this would have had little effect on DSM domestic rice prices because of the large quality differential. Thus under normal market conditions (when imports are occasionally profitable after paying the EAC import tariff) imported rice would moderate domestic prices and emergency imports would not be required.



Source: SERA Policy Project.

Imported rice would moderate domestic prices effectively only when Tanzania's Customs consistently apply the prevailing tariff rates. When this is not done, imports of foreign rice would almost always be profitable and large quantities would be imported and would disrupt local markets. The Tanzania's Customs services have been modernized and automated, and valuation and risk assessment are now done in Dar es Salaam and communicated to the ports. Each shipment has a green, yellow, or red designation. If green, the shipment goes through with minimum verification of documents; if yellow, the documents are examined in detail and physically inspected if there is an apparent problem, and the shipment is always physically inspected if the designation is red. But despite these recent improvements, problems of undervaluation and illegal imports continue.

Issue: How to manage food imports under normal market conditions.

Recommendation: Under normal market conditions, allow the East Africa Community's Common External Tariff to regulate food imports and stabilize domestic prices.

Action: Customs office ensures that the East Africa Community's Common External Tariff is being applied consistently. Uniform application of the official tariff rate will strengthen the integrity of the system and ensure that the Government is capturing revenue.

On rare occasion, the landed prices of rice imported from Thailand and Pakistan may be above the level that would provide incentives for imports and the domestic price may be higher than desired by Government. For example, suppose the landed world market price plus EAC tariff was USD1,200 per ton for high quality rice from Thailand and the DSM price reached USD1,000 per ton. Imports from the world market would not enter until the Tanzanian price reached USD1,200, and the Government might want to prevent such price increases. This would be an occasion when emergency imports could be

considered. In such conditions, the Government could intervene by reducing the tariff rates. In this case, USD1,000 is taken as the domestic price per ton of rice that the Government would not want to exceed, but the general price threshold that triggers Government intervention should be determined according to well-defined criteria and take into account both technical matters as well as social/political choices. The targeted domestic price of the imported food can then be accomplished by varying the tariff rate in relation to the landed import price so that the sum of the two would equal the target that the Government is attempting to achieve. Under this scenario, the needed change to the tariff rate would imply reduction of the tariff from the EAC rate 75% to a level that the landed price of rice from Thailand would fall to just under USD1,000 per ton. Lowering the tariff rate would therefore allow imports to prevent DSM prices from rising significantly above USD1,000 per ton.

It is desirable that Tanzania's rules-based emergency food import system be replicated at the regional level as well. Currently, there are no existing EAC-wide procedures that allow member countries to independently vary their duty rates when such countries are dealing with emergency food security situations. Under existing EAC rules, the process through which remissions/waivers are proposed is under the pre-budget consultation meeting of the Ministers of Finance, which takes place once each year. Getting approval under the existing system is ad-hoc, takes time, and is not designed for emergency food importation. Tanzania should pursue the establishment of an EAC-wide regional process that is pro-active and allows member countries to efficiently change tariff rates under emergency conditions. Such procedures should be put in place in advance and they should be transparent and predictable.

Issue: Adjusting the Common External Tariff to cap rising prices, without disrupting markets or creating trade disputes.

Recommendation: When domestic market prices exceed a predetermined trigger level and imports paying full EAC tariff rates are not profitable for the private sector, reduce the East Africa Community Common External Tariff by an amount required to make imports profitable in order to cap domestic price increases.

Action: Pursue changes to the EAC procedures so as to create a region-wide rules-based system that is pro-active and allows member countries to efficiently change EAC tariff rates under extreme food security conditions.

A critical aspect of this policy instrument is that it allows the private sector to determine the volume of imports that are needed to bring the market price down below the trigger price. In other words, the Government would not dictate the volume of imports that importers can bring into the country, since the ultimate goal of the Government is simply to ensure that prices stay below the predetermined ceiling. In addition, the Government would not set a date by which importers need to bring in their imports, but instead would concentrate on manipulating tariff rates until the desired price level is achieved. Once prices have come down and are below the trigger price, the tariff rate would automatically go up to the EAC Common External Tariff.

Issue: What should be the role of the private sector in food imports?

Recommendation: Allow the private sector to determine the volume of imports that are needed to bring the market price down below the trigger price.

Action: Public sector focuses on monitoring price transmission and how to efficiently varying tariffs is bringing prices below the trigger price.

Another situation when emergency imports might be required is when world market prices are above levels that allow profitable imports even with a zero EAC tariff. This happened in 2008 and 2009 when world market rice prices rose to extreme levels. In this case, Tanzania could take several actions, including obtaining approval from the EAC to reduce the import tariff to zero. Tanzania could also request support from the donor community and development agencies for financial assistance for emergency food imports (as was done by many countries in 2008 and 2009). This would allow limited imports of key food items. Tanzania could also reduce import tariffs on other food crops such as wheat (with EAC approval) to provide consumption alternatives to consumers.

Issue: Providing for emergency food imports under extreme circumstances.

Recommendation: In extreme circumstances, when world market prices are above the levels that allow profitable imports even with a zero EAC import duty, consider short-term subsidy; approach the international community for financial assistance for market imports; and request approval from the EAC to reduce the import tariff on related food items.

Action: Ministry of Agriculture, Food Security, and Cooperatives, the Prime Minister's Office, and Ministry of Finance and Economic Affairs jointly determine the combination of short-term subsidy, food aid, and tariff reduction on related food items.

A transparent and rules-based system would provide an action plan when emergency food imports are needed. The role of the public and private sectors should be clearly identified in order to prevent rent seeking and market manipulation, and decisions should be communicated to prevent market disruptions. The decision to allow emergency imports should be based on the most reliable data available. At this time, that appears to be regional wholesale crop prices collected by the Ministry of Industry and Trade and monthly retail food prices collected by the National Bureau of Statistics from major markets in each region. While this data lacks details on grades, volumes, and varieties, it appears to be the best available information for policy decision making and is internally consistent when subjected to rigorous statistical analysis. Food production and stock data can be used to validate signals provided by the price data, but such data is only periodically available. Prices of a typical food basket could be used to quantify the impact of the rise in a specific food item such as maize or rice on the consumer's food costs. A price trigger could take the form of prices exceeding a previously agreed threshold or prices increasing by a certain percentage over a specified period. Once a price trigger is

reached, an investigation should be undertaken to determine whether emergency food imports are required. Transparency is important to allow the private sector time to adjust.

CONCLUSIONS AND WAY FORWARD

Tanzania can achieve its objectives of long-term food security, rapid agricultural growth, and poverty reduction if it makes the right policy choices. Tanzania has an abundance of natural resources that can be used to increase food crops production, and it faces a regional market that is food deficit and expected to remain food deficit for the foreseeable future. Food crops exports can provide more rapid growth to the agricultural sector, higher incomes to farmers, reduce rural poverty, increase food security, and provide more stable prices. This export opportunity is already evident in food crops exports, which grew by 9% per year from 2000 to 2011 (in USD). In order to fully achieve this export potential, Tanzania will need to follow policies that support increased food crops production and exports to the regional market. Such policies include providing better access to improved inputs and credit, implementing land policies that make underutilized land available to investors while protecting the rights of local communities and current land users with informal rights, and improving access to credit. Trade policies should focus on facilitating exports and avoiding regional disputes. Aligning investment incentives with those in neighboring countries is also important to ensure that Tanzania is an attractive destination for foreign investors who can bring much needed capital, technology, and management to partner with Tanzanian farmers as contract farmers and outgrowers.

Monitoring food costs, identifying the food insecure, and delivering food or financial assistance are essential parts of a comprehensive food security program of which MUCHALI plays a critical role. The recently developed Food Basket Methodology can help to monitor food basket costs at the regional level in a timely and cost effective manner and help identify food insecure regions for more detailed analysis by the MUCHALI system. However, MUCHALI lacks the resources to fully fulfil its mandate because it is an ad-hoc assembly of stakeholders interested in food security and not a formalized institutional entity with dedicated funding. Formalizing MUCHALI into an institutional entity with dedicated funding would strengthen its ability to identify the food insecure and deliver assistance in a timely manner. This would also allow MUCHALI to broaden its scope to identify and provide assistance to the food insecure who are not in regions experiencing production shortfalls. Currently, MUCHALI focuses on districts and regions that are experiencing a production shortfall due to drought or other disasters.

Maintaining adequate grain reserves to provide stocks for disaster relief, food aid to vulnerable groups, and offset production shortfalls is the responsibility of the National Food Reserve Agency (NFRA) and holding the appropriate level of reserves is essential to meet reserve requirements while limiting budget outlays. The level of grain reserves needed to meet disaster relief requirements and food aid based on past experience is approximately 100,000 metric tons per year. Adequate reserves to offset production

shortfalls are of a similar order but should be determined by budgetary resources and the degree to which the Government is willing to pay for the security of GMO-free reserves compared to imports. One low-cost approach for NFRA to hold larger reserves is by designating these reserves as available for sale on a seasonal basis—to the World Food Program for example. This would reduce the stocks that are held from one year to the next and avoid the risk of intra-year price changes. Costs can also be contained by NFRA purchasing and selling at market prices, which would be less disruptive to grain markets and less costly to Government budgets. In some years grain reserves held by NFRA may not be adequate to offset a production shortfall or regional prices may rise due to production shortfalls in neighboring countries. In such cases, emergency food imports may be required to prevent prices from rising above established thresholds. Such imports should be undertaken in accordance with East Africa Community Protocols to avoid regional trade disputes and according to established transparent rules in order to avoid severe market disruptions and reduce opportunities for rent seeking.

Many of the policy recommendations contained in this Policy Options Paper will not require additional resources and many are cost saving. Others are taken up by the private sector or are a matter of priorities rather than new initiatives. Still others are already being implemented with support from donors or multilateral organizations. For example, the Collateral Registry being developed by the Bank of Tanzania is being supported by the SERA Policy Project and the World Bank. Support to smallholders to access improved technology would require some re-directing of extension programs and training of extension officers. Improving the business environment would have budgetary implications in the short run, but would increase economic growth and tax revenues in the long run. Applying East Africa Common external tariffs on food crop imports would generate substantial revenues to the Government. Permitting the NFRA to operate in a more business-like manner by buying and selling at prevailing market prices would reduce their budget outlays. And undertaking emergency food imports in accordance with transparent rules would not entail budgetary outlays, but would require training of Ministry of Agriculture, Food Security, and Cooperative staff in regional and global market analysis.

References:

Amin, Mukhtar and Dirck Stryker, Impact of Export and Import Permits on Staple Food Trade in Tanzania, Associates for International Resources and Development, Arlington, Massachusetts, September 2013.

Amin, Mukhtar, Policy Options for Emergency Food Importations, Associates for International Resources and Development, Arlington, Massachusetts, December, 2014.

Baffes, John, Varun Kshirsagar, and Donald Mitchell, Domestic and External Drivers of Maize Prices in Tanzania, Working Paper November 2014.

Christensen, Cheryl and Nancy Cochrane, Strengthening Tanzania's Safety Net: Alternative Program and Policy Options to Support Food Security, Economic Research Service, United States Department of Agriculture, Washington, D.C., June 2012.

Cochrane, Nancy, Anna D'Souza and Cheryl Christensen, Food Basket Analysis as a Tool to Measure Food Access in Tanzania, Economic Research Service, United States Department of Agriculture, Washington, D.C., September 2013.

Diao, Xinshen, Athur Mabiso, and Adam Kennedy, Economywide Impacts of Maize Export Bans on Agricultural Growth and Household Welfare in Tanzania—a Dynamic CGE Model Analysis, International Food Policy Research Institute, Washington, D.C., June 2012.

Kayombo, Aneth, Measurement of Regional Food Basket Costs in Tanzania, SERA Policy Project, December 4, 2014.

Lazaro, Edith, An Empirical Analysis of Rice Demand in Tanzania, MS Thesis Ohio State University, December 2014.

Mitchell, Don, The Importance of Stable and Transparent Policies, SERA Policy Project, September 11, 2013.

Stryker, Dirck and Mukhtar Amin, Study of Policy Options for Increasing Tanzanian Exports of Maize and Rice in East Africa While Improving Its Food Security to the Year 2025, Associates for International Resources and Development, Arlington, Massachusetts, June 2012.

Stryker, Dirck and Mukhtar Amin, Tanzania National Food Reserve Agency's Role in Assuring Food Security, Associates for International Resources and Development, Arlington, Massachusetts, September 2013.

Stryker, Dirck, Holding Adequate Levels of Food Reserves in Tanzania, Associates for International Resources and Development, Arlington, Massachusetts, December, 2014.

United Republic of Tanzania (GoT), National Strategy for Growth and Reduction of Poverty, Vice President's Office, June 2005.

United Republic of Tanzania (GoT), Tanzania Agriculture and Food Security Investment Plan (TASIF), 2011-12 to 2020-21, October 2011.

United Republic of Tanzania (GoT), Agricultural Development Strategy – II, 2013.2014 – 2020/2021, November 2013.

United States Agency for International Development (USAID) Enabling Agricultural Trade, SeedCLIR Tanzania, July 2013.

World Bank, World Development Report 2008.

World Bank, Doing Business Project, accessed 2015.



Rice Council of Tanzania (RCT)

RCT's Strategic Plan 2015-2019

April, 2015

TABLE OF CONTENTS

ABBREVIATIONS.....	5
LIST OF FIGURES AND TABLES.....	7
EXECUTIVE SUMMARY.....	8
1.0 INTRODUCTION.....	18
1.1 Background.....	18
1.1.1 Brief overview of the rice industry in Tanzania.....	18
1.1.2 Major issues in the rice industry.....	24
1.1.3 Establishment of Tanzania Rice Partnership (TARIPA) and the Evolution of Rice Council of Tanzania (RCT).....	24
1.2 Rationale.....	26
1.3 Approach.....	26
1.4 Organization of the Report.....	27
2.0 SITUATIONAL ANALYSIS.....	28
2.1 Policy environment.....	28
2.2 Environmental scan.....	31
2.2.1 SWOC Analysis.....	31
2.2.2 Stakeholder analysis.....	33
2.3. Critical issues.....	33
3.0 STRATEGIC DIRECTION.....	36
3.1 Vision.....	36
3.2 Mission.....	36
3.3 Core values.....	36
3.4 Strategic thrusts.....	36
3.5 Motto.....	37
4.0 STRATEGIC OBJECTIVES, STRATEGIES AND ACTIVITIES.....	38
4.1 Introduction.....	38
4.2 Goal, Strategic Objectives, Strategies, and Main Activities.....	38
4.2.1 Goal and strategic objectives.....	38
4.2.2 The strategies and priority activities.....	38
4.3 Expected results.....	45
5.0 IMPLEMENTATION MANAGEMENT.....	47
5.1 The implementation matrix.....	47
5.2 The expected Key Rest.....	47
5.3 Governance Procedures.....	48
5.4 Organizational Arrangements.....	50

5.5	Physical Resources Development and Management	50
5.6	Funding and Financial Sustainability	51
5.6.1	Financial resource acquisition and management.....	51
5.7	Monitoring and Evaluation.....	52
5.8	Internal Financial Assets Audit.....	53
5.9	Institutional and Legal Services	53
5.10	Information Management and Communication Technology	53
5.11	Gender issues	54
5.12	Assumptions and risks	55
6.0	RECCOMENDATIONS.....	58
7.0	ANNEXES	61
	Annex I. Stakeholders Analysis	61
	Annex II. Implementation Plan.....	68
	Annex III. Stakeholder Workshop Participants	79

The future belongs to those who prepare for it today

ABBREVIATIONS

ACT	Agricultural Council of Tanzania
AIRF	Agricultural Innovation Research Foundation
ASDP	Agricultural Sector Development Program
ASDS	Agricultural Sector Development Strategy
EAC	East African Community
FAO	Food and Agriculture Organization
GAP	Good Agricultural Practices
GMP	Good Manufacturing Practices
GoT	Government of Tanzania
HACCP	Hazard Analysis Critical Control Points
HBS	National House Hold Budget Survey
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
ICT	Information Communication Technology
ISO	International Standard Organization
ISO 14001	ISO requirements for Environmental Management System
ISO 9001	ISO requirements for Quality Management
IT	Information Technology
KRA	Key Results Areas
MAFC	Ministry of Agriculture Food security and Cooperatives
MDG	Millennium Development Goals
MKUKUTA	Mpango wa Kukuza Uchumi na Kuondoa Umaskini Tanzania
MKURABITA	Mpango wa Kurasimisha na Biashara za wanyonge Tanzania
MLHSD	Ministry of Land Housing and Human Settlement Development
MOF	Ministry of Finance
MPI	Multidimensional Poverty Index
NBS	National Bureau of Statistics
NGO	Non-governmental Organization
OECD	Organization of Economic Cooperation and Development
PMORALG	Prime Minister Office Regional Administration & Local Government
RCT	Rice Council of Tanzania
R&D	Research and Development
RI	Rice Industry
RVC	Rice Value Chain
SACCOS	Saving and Credit Cooperative Society
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SH	Small Holder
SHF	Small Holder Farmer
SHP	Small Holder Processor
SHT	Small Holder Trader
STI	Science Technology and Innovation
SWOC	Strengths Weaknesses Opportunities Challenges
TAMISEMI	Tawala za Mikoa na Serikali za Mitaa

TDV2005	Tanzania Development Vision
TBS	Tanzania Bureau of Standards
TFDA	Tanzania Food and Drug Authority
WTO	World Trade Organization

LIST OF FIGURES AND TABLES

Figures

Figure 1. Area planted and yield of major cereal crops in the year 2012/13.

Figure 2. National production of paddy with time.

Figure 3. The RCT organizational structure.

Tables

Table 1. Production of paddy in various countries in the year 2012/13.

Table 2. Break down of cost implication for implementing the RCT strategic plan.

EXECUTIVE SUMMARY

This report presents the strategic plan (SP) of the Rice Council of Tanzania (RCT) for the period 2015-2019. The important features of the SP are summarized below.

1.0 BACKGROUND

Rice is the second most important food grain in Tanzania after maize (in year 2012/13, maize production was 5,356,000 tons and rice 2,194, 750 tons), is produced in 64 Districts and widely consumed in Tanzania. Paddy's cultivation, value addition, and trade has been and is contributing immensely to Tanzania's food and nutrition security, socio-economic development, and sometimes to the country's foreign exchange earnings and balance of trade. Tanzania produces various varieties of rice and some are diverse in appearance, taste, texture, and aroma, depending on the region and agro-climatic conditions. The major paddy growing regions include Shinyanga (Bariadi, Kahama and Maswa), Morogoro (Kilombero, Wami-Dakawa), Mbeya (Mbarali, Kyela, Kapunga), Mwanza and Rukwa. About 25% of the national rice production comes from two regions: Mbeya and Morogoro. The average annual production of paddy in the last decade was 1,770,000 tons (MAFC, 2015). For the year 2012/13, the production was 2,174,750 tons. The average national yield trend of paddy has shown a steady increase over the past seven years as follows: from 1.95 tons/ha in 2005/06, through 2.01 in 2010/11 to 2.36 tons/ha in 2012/13. The rice industry directly influences livelihoods of over two million people.

In the rice industry there are several opportunities including: potential increase in national demand with the 3% population growth; opportunities for paddy acreage expansion is emerging in the four Growth Corridors; expanding markets from local, regional and international food processing companies, institutional and international food buyers, tourism industry, and producers of animal, livestock, fish, and other feed and specialty products, e.g. rice oil, snacks, fortified milled rice products, etc. Nonetheless, the industry is facing several challenges including: Low efficiencies, productivity, and profitability; low prices/margins with significant seasonal variance; Low access and use of technology; the policy, regulatory and investment environments are still suboptimal; Inadequate access to low cost credit and innovative financial and insurance products and services; Partnerships levels, collaborative arrangements, coordination, and synergy among entities are sub optimal; Information asymmetry and data gap, that sometimes attract speculators and opportunists who take advantage of limited information between the respective actors in the Rice Value Chain (RVC); Technical and physical infrastructure upgrading and construction is suboptimal and adversely affecting supply chain processes and costs ; and Low rice market development and enforcement of regional agreements such as EAC's Common External Tariffs, and related trade barriers.

In the year 2011, the rice stakeholders established the Tanzanian Rice Partnership (TARIPA) to attempt to address the above issues, develop a partnership framework, and promote commercial initiatives to scale-up core rice value chain activities, including domestic and export rice market development. On June 16, 2014, TARIPA was transformed into a formal, all stakeholder inclusive, industry wide organization, the Rice Council of Tanzania (RCT), which is a legal entity, registered on June 16, 2014 under the Companies Act of 2002.

The RCT is composed of representatives from all sectors of the rice value chain: farmers, producer organizations, traders, service providers, financiers, millers, input suppliers, and consumer organizations like supermarkets. It is structured to assure that all regions in Tanzania are represented— geographical districts; beginning at the local level, each group of stakeholders selects a representative to be a member of the District level then to the RCT.

1.2 Rationale

On January 9, 2015, the RCT Board resolved to develop a strategic plan for Rice Council of Tanzania including a review of the Council's Vision and Mission.

The formulation of this strategic plan intends to inject momentum into the ten-month old RCT and enable it to play an effective consultative, coordinating, and supportive role to the rice industry stakeholders. Another aim is to enhance better partnerships among value chain actors and advance the interests of the rice industry towards a competitive sustainable growth.

1.3 Objectives

The following were the objectives for development of the Strategic Plan, as per terms of references:

- i. Review the organization's vision, mission and core values.
- ii. Conduct a SWOC analysis to understand the RCT's environmental context and in collaboration with stakeholders formulate objectives, strategies and activities.
- iii. Develop a strategic plan with an action plan for RCT.

1.4 Approach and Major Tasks

The preparation of the Strategic Plan involved the following approach that were based on the AIRF's Methodology to Strategic Plan Development:

- Briefing and deliberation with the Strategic Plan Task Team, RCT management and staff, and familiarization with RCT's operations and processes.
- Review of relevant internal RCT documents, and national, regional, and international policies, strategies, initiatives, and research publications related to rice industry development;
- Primary and secondary data collection using mixed methods, i.e. desktop research, interviews and visits.
- Holding a stakeholder retreat, that includes the Board, Management, and key staff to brainstorm the stakeholder needs, expectations, and to conceptualize the future of RCT that will be responsive to the latter and other emerging opportunities and challenges.
- Conducting an environmental scan and setting the strategic direction of RCT, including reviewing the vision, mission, core values, objectives, and implementation plan with budgeted priority activities; and
- Incorporating stakeholder recommendations in the draft strategic plan before preparing and submitting the Final Draft Strategic Plan to the Management and Board.

2.0 RESULTS

2.1. Situation Analysis

The situational analysis was conducted and involved the following analysis: Studying the historical

perspective of RCT, National policy and legal environments, SWOC, and Stakeholder analysis, and the results are presented in [Section 2](#) (SITUATION ANALYSIS).

Based on the recent historical perspective of RCT, guiding policies and legislation, SWOC and Stakeholder analysis, the following have been identified as critical issues that need to be addressed by RCT in the 2015-2019 strategic plan life cycle.

Critical issues:

1. **Enable RCT to adopt modern governance and management styles, administrative and organizational approaches, and coordination capabilities** to facilitate the increase in efficiency, performance, and profitability levels of the Rice Industry on a sustainable basis.
2. **Improve the quality, skills, commitment, and performance levels of the RCT staff**, through improving the working environment, technical backstopping/working tools, recruitment, training and retraining, and continually adjusting the remuneration package and incentives to market levels.
3. **Need for RCT to facilitate the Rice Industry's (RI) stakeholders to augment paddy production quantities and productivity, and to stimulate the accelerated upward movement of growth trends of Rice Value Chain (RVC) outputs.**
4. **Participate effectively and contribute in the formulation, review, and implementation of sound policy and regulatory frameworks, and improvement of rice business and trade environment** in line with the current and future Rice Industry's aspirations and needs (including facilitation and support of production, value addition, and trade, and lowering of impediments and disruptive elements)
5. **Strengthen the RCT to become the main information and service provider that will strategically position the Rice Industry and enhance its recognition and support among agricultural, industrial, and trade stakeholders** inside the country and internationally.
6. **Effectively support Rice Industry stakeholders to achieve their production, processing, trade and competitiveness goals through improved industry wide communication, trust, coherence, partnerships, private–public sector dialogue, and sharing of lessons and resources**, and enabling them to access appropriate services such as informational, technical, financial, marketing, trade, and business and infrastructural services.
7. **Enhance the capacity of the RVC entities and improve business and professional practices to increase the production volumes, quality, and value of rice and related diversified products to achieve income and food and nutrition security objectives.**
8. **Raising the skills and efficiency levels of the RVC entities** through training and sensitization, improved techniques, technologies, on-farm and post harvest management techniques, processing, and marketing. This will facilitate RVC entities to address productivity, marketing, and competitiveness issues, and emerging risks.
9. **Mobilization of resources to enable execution of the strategic plan**, and for the betterment of RCT performance. This includes soliciting/raising funds, membership subscription, proposal development, carrying out technical and business services, conducting commissioned studies, consultancy and advisory services, viable investments, and development partner support.
10. Need to ensure that the **gains from rising the RI performance and profitability are**

translated into improving incomes, quality of life, and to enhancing social provisions.

11. **Need to strengthen and forge new partnerships, collaborative arrangements, and networks.** with other local agricultural, processing, and trade value chains and regional and international Rice Industries to raise operational performance and effectiveness of RCT staff, and increase collaboration in tapping knowledge, technology, lessons and experiences from regional and international scenes. This includes liaising with other grains and cereals associations and organizations, and facilitation of joint activities where appropriate.
12. **Partner with stakeholders to ensure sustainable and green growth of the rice industry by taking into consideration and mainstreaming social, economic, and environmental issues** into plans, including climate change adaption and mitigation.
13. There are still issues of **gender discrimination and gender based violence** in major rice growing Districts, which are affecting the entrepreneurial spirit and business performance of individual women businesses and women groups.
14. **Need to strengthen environmental protection, climate change adaptation, and health and safety consciousness and mainstreaming** across the rice value chain (compliance to environmental care principles and health and safety standards).

The development of strategic plan will attempt to enable RCT to respond to selected critical issues and satisfy stakeholders, partners, and society needs, demands, and expectations.

3.0 STRATEGIC DIRECTION

3.1 Vision

A highly organized, profitable, sustainable and competitive rice industry in Tanzania and beyond.

3.2 Mission

To be the best engaging institution and disseminator of advisory, technical and growth enabling business services to all rice stakeholders to enable them achieve better performance, sustainability, and profitability.

3.3 Core values

The core values that will guide the way RCT goes about fulfilling its functions and operations will be:

- Good governance (Accountability, responsibility, transparency, and open participatory processes)
- Fairness, trust and equity
- Quality services and products
- Stakeholder engagement, cooperation and sharing
- Neutrality (non-political, non-religious)
- Environmental, health and safety consciousness.

3.4 Strategic thrusts

- i. Taking rice cross-industry thinking, performance and growth to another level.
- ii. RCT to play an effective consultative, coordinating, and supportive role to the rice industry stakeholders to facilitate increased investments, maximize the performance and competitiveness of the entire rice value chain. All the above to be achieved through

stakeholder engagement and inclusiveness; improvement of operating environment and efficiency; private-public partnership; mainstreaming national and international best practices; and improvement of profit margins, while ensuring compliance to environmental and health care and standards.

- iii. Enable and facilitate RVC stakeholders' capacity and capabilities to develop and grow.
- iv. Represent, advance, sustain, and broaden the interests of RCT members.
- v. Providing productivity and profitability enhancing technical and business advice and services for increasing quantities, quality, and value of rice and allied products produced.
- vi. Timely access to real-time and accurate information, data, and knowledge and technology.
- vii. Promote a shift to diversified, value added, high value rice allied products that will fetch higher margins.
- viii. Improved policy, regulatory, and business environments for increasing rice production, value addition, trade, and income.
- ix. Reduction of investment/project execution, market and other business risks (change of policy/strategies, political change, transparency and rule of law, and variability of macroeconomic conditions such as cost of credit, inflation, exchange rate fluctuations, etc).
- x. Enhancing RCT's and rice industry's visibility, stakeholder engagement and branding.
- xi. Forging partnerships and collaborative arrangements.
- xii. Social, economic, and environmental sustainability

3.5 Motto

“Mchele kwa lishe na kipato” (Rice for Health and Wealth)

4.0 STRATEGIC OBJECTIVES, STRATEGIES AND ACTIVITIES

The goals, objectives, strategies and activities were arrived at after a fore sighting exercise by the RCT stakeholders in Bagamoyo, in March 2015.

4.1 Goal and strategic objectives

The overall goal of this strategic plan is to strengthen the capacity and capabilities of RCT so that it may enable the rice industry to increase productivity, production, processing and trade of quality rice, and subsequently increase the profitability.

This will be achieved through the following strategic objectives:

Strategic Objective 1: To improve RCT s' governance, organization and coordination capacity, human resources management, working environment, and operations through capacity building by Dec. 2016.

Strategic Objective 2: To enable and support the rice industry to increase rice output by 20% by 2019 through an integrated package of assistance, including provision of innovative technical and business services, and evidence- and science-based advice.

Strategic Objective 3: To play a lead coordinating role through outreach/advocacy, Rice Industry's information and data management, development and dissemination.

Strategic Objective 4: To advocate for conducive policy, regulatory, business and

investment environments to support the growth of the rice industry as well as advocate for the implementation of regional policies and protocols, such as CET, through evidence based research, strengthening advocacy capacity and stakeholder dialogue by 2019.

Strategic Objective 5: To increase the resources levels of RCT to enable the implementation of its objectives and ensure sustainability through membership subscriptions, financial support from stakeholders and partners, and offering technical and business services at a cost by 2018.

Strategic Objective 6: To forge new partnerships, alliances, and networks, and maintain liaison with Government, Boards, groups, or other grains and cereals associations and organizations inside and outside Tanzania, and facilitate joint activities where appropriate through communicating RCT value proposition, soliciting joint project implementation, exchange of staff and resources, and other joined-up approaches.

4.2 Key strategies and activities

The strategies and activities that will lead to delivery of the set above objectives are presented in [Section 4](#).

5.0 IMPLEMENTATION PLAN

5.1 The implementation plan

The implementation management is presented in [Section 5](#).

Cost implication

The cost implication for implementing the RCT strategic plan in the period 2015-2019 amounts to TZS **23,676.15** million, with the following breakdown in [Table A](#), below.

Table A. Break down of cost implication for implementing the RCT strategic plan

No.	Objective	Cost, million TZS
1	To improve RCT's corporate governance, organization capacity, management of human resources, working environment, and operations.	3,877.85
2	To enable and support the rice industry to increase rice output by 20% by 2019.	14,790.00
3	To play a lead coordinating role through outreach/advocacy, Rice Industry's information and data management, and development.	2,783.30
4	To advocate for conducive policy, regulatory, business and investment environments to support the growth of the rice industry.	1,547.00
5	To increase the resources levels of RCT to enable the implementation of its objectives and ensure sustainability.	78.00
6	To forge new partnerships, alliances, and networks.	600.00
	TOTAL	23,676.15

The data calculated based on the exchange rate: TZS 1900=US\$1

Detailed costs for each activity are presented in [Annex II](#).

5.2 Key risks outlook

The salient risks that may be faced by RCT during the implementation of this SP are:

- Inability to recruit additional staff, working tools, and raise adequate funds in time may

undermine the implementation of the strategic plan.

- If the RCT agenda will not release perceived results, the rising enthusiasm about RCT among members and stakeholders will level off quickly and this may force RCT to stay in the state of doldrums for some time.
- Volatility and fall of price of rice and related potential fall of the targeted profitability may affect stakeholders' contribution and participation in RCT activities and related common rice industry plans.
- A major risk to RCT's performance and related rice industry's outlook comes from the weather. Poor rains (as in the case of Kapunga Cluster in Mbeya in March 2015) would not only exacerbate the performance of RCT members and stakeholders but would also hamper their growth, raising costs for businesses and, by extension lowering their support to RCT's projects.
- Low support and indifference among some RCT members resulting from not seeing tangible value in supporting RCT, e.g. insignificant changes in the business environment and leveling or drop in industry's performance and investments.
- Risk that efforts to raise RVC's cost-effectiveness and intensification/productivity growth can lead to labor shedding rather than job creation in the longer term in the rice industry.

The following are proposed to facilitate risk mitigation:

- i. RCT should assess Rice Industry's evolving exposure to country specific operational and business risks, using tools for in-depth analysis of the policy, legal and regulatory business environment.
- ii. RCT should continually identify and evaluate adverse policy, business, regulatory, and local and international rice production and other economic trends that may affect Tanzania's rice industry and RCT, to facilitate risk mitigation.
- iii. Forecast and assess the potential critical shortcomings and other factors of the rice industry's business environment that pose hidden barriers and costs to profitability and address them in collaboration with the Government and other actors.
- iv. RCT and business leaders in the Rice Industry (RI) should identify, evaluate, and anticipate comparative strengths and weaknesses in the key areas of RI and contextualize the rice industry's competitive forces and risks against regional and international peers and advise the stakeholders accordingly.
- v. RCT should devise a risk ratings system: From time to time, RCT, Government and other key stakeholders should forecast scenarios for RI's growth and impact of policy, regulatory and business environment (using set key industry indicators), and evaluate challenges/threats to doing business in the Rice Industry and address them before they pose major risks and losses to the industry's actors. To implement this, RCT should create a comprehensive and reliable database on RI, with information and data sourced and fully maintained from a network of businesses, government and multilateral contacts.
- vi. RCT should strive to gain key insights into the current and future direction of government and regional and international policies, strategies, legislation, regulations and interventions, which could significantly affect RI's development trend and business prospects, and advise the RI stakeholders.
- vii. RCT should build and exploit the benefits of an extended network of private and public sector sources, collaborators and partners inside and outside the country, including for risk

- management purposes.
- viii. There is need for RCT, RI's private and public leaders and other stakeholders to brainstorm on alternative labor and measures on how to create effective demand in other areas of the RVC or sectors or outside agriculture for labor that will be made redundant with proliferation of technologies and factors that will enhance efficiency and productivity. One of such alternatives is establishment and expansion of production of diversified, high value rice and allied products and their market development, e.g., food and feed products, nutraceuticals, rice oil, renewable energy sources from rice husks, production of organic, orthopedic mattresses, etc. Such areas may provide employment opportunities, sustainable revenue streams, and act as a refuge for excess labor in the RI.
 - ix. Development and expansion of other value chain opportunities, e.g. in the development of marketing infrastructure to enhance sufficient throughput rice products' quantities for export.
 - x. Sustain a constructive dialogue on constraints and challenges that are affecting the rice industry and reach a consensus on how to resolve them.

6.0 RECCOMENDATIONS

Funding of core operations

The most urgent activity for implementation of this strategic plan (SP) is the significant financial inflow of whichever kind to finance the implementation of critical issues such as recruitment of additional staff and procurement of office space and working tools. Financial inflows can only be attracted if the members and stakeholders are aware of RCT's value proposition and the benefits that can be accrued by supporting RCT activities, e.g. addressing constraints limiting potential development; gradual improvement of the investment options, performance or profitability resulting from RCT actions; and potential long term interventions that will generate growth and bright future perspective in the rice industry, etc.

Therefore it is recommended that RCT should first and foremost sell the Strategic Plan: Promote stakeholder ownership, contribution, and participation in the implementation of the strategic plan (SP) by launching the SP and making zonal and other presentations on the SP, e.g. to potential financiers.

Key issues for future: Operational issue

- i. Sell the Strategic Plan: Promote stakeholder ownership, contribution, and participation in the implementation of the strategic plan (SP) by launching the SP and making zonal and other presentations on the SP, e.g. to regional and District stakeholders and potential financiers.
- ii. Recruit and adequately compensate the requisite staff.
- iii. Procure office space and working tools to improve the work environment.
- iv. Develop and submit quality concept notes and proposals to members, potential funders, and partners to get resources for implementing key activities in the SP.
- v. Implement the SP in collaboration with internal and external stakeholders and partners, taking into consideration agricultural and other cross-sectoral policies, strategies, programs, interventions, and respective regional and international agreements.
- vi. Develop and implement a funds mobilization strategy.

- vii. Develop and deliver a communications strategy.
- viii. Develop and implement a partnership strategy.
- ix. Develop and implement a Rice Gender Strategy.
- x. Develop a business plan for the technical and business services to be provided by RCT.
 - i. Pursue the RCT vision by effectively engaging members and stakeholders and devise measures to address resistance to change.
 - ii. Closely monitor outputs, trends, and measure and evaluate change and impact of RCT activities, and address failures.

Policy and institutional issues

- i. RCT should dialogue and work with the Ministry of Agriculture, Food and Cooperatives and other line ministries and continue to develop/review the policies, legislation, and regulatory framework and ensure that the necessary institutions at the national, regional and local levels are in place, effectively manned and functioning, and adequately financed to facilitate the development of the Rice Industry and allied interventions, and to enhance infrastructure development and social provisions in areas dealing with rice.
- ii. In collaboration with NBS, MAFC-Statistics Unit, MITM-Marketing Div. LGAs, and business enterprises, continually collect, systemize, update and disseminate information and data on the Rice Industry.
- iii. Conduct/commission independent research, consult and solicit the views of stakeholders, and provide technical services to the rice industry actors, and make policy recommendations that inform decision makers in Government, enterprises, and society on matters pertaining to the rice industry's growth.
- iv. Establish a high level team/committee of highly skilled and knowledgeable cross-sectoral experts to conduct quarterly rice forecasts and advise the stakeholders accordingly.

Capacity building

The human and financial capacity at all levels of RVC should be enhanced; in particular, more financial resources should be allocated to enterprise development and extension services. Training programs in various fields should be organized for the rice value chain actors for example in participatory and sustainable approaches in their operations, training producer associations in good management practices, quality and safety management, marketing, and in the operation and maintenance of machinery and irrigation schemes. Additional training programs should also ensure that RVC actors are well versed in command and control and voluntary industry and public rules, regulations and procedures, and standards.

Technological use

- An information and data collection and dissemination program should be designed and implemented. This would facilitate the sharing and use of up to date knowledge and information for decision making e.g. in business planning, weather variability and production planning, investments planning, marketing and implementation of similar activities in the future. It is proposed that compiling information regarding the rice industry should be ICT based.
- RCT should encourage RI stakeholders adopt and use improved technologies, machinery, and innovations in RI processes to make considerable contributions to increased efficiency,

productivity and production and thereby reduce costs and enhance profitability. To achieve this requires regular communication and awareness raising, improved extension service, and training of RI's beneficiaries, men and women. The role in the local communities of women in achieving the tech-based results must be emphasized and awareness raising and training must be provided to women and youth to achieve improved gender equity.

Diversification

Facilitate the development and diffusion of nutritious rice and bio-fortified rice varieties that will allow consumers of rice to attain healthy and nutritious diets and enable the RI to benefit from production and value addition, and marketing opportunities. In addition, facilitate integrated approaches to improve food safety.

Other issues

Participatory approaches involving the Business community, Central Government, District councils, Communities, Development partners, NGOs, and other non-state actors should be adopted as the standard methodology for planning, designing and implementing all future RCT programs and interventions.

This strategic plan was prepared by:

G.R. Bamwenda and R. Abdallah

Agricultural Innovation Research Foundation

P.O. Box 70446, Dar es Salaam, Tanzania

Tel: +255754005656; +255684276737

Email: gratian.bamwenda@gmail.com &
roshan.abdallah@gmail.com

The SP development was supported by SERA Project, USAID and Rice Council of Tanzania.

1.0 INTRODUCTION

1.1 Background

1.1.1 Brief overview of the rice industry in Tanzania

For several decades, paddy has been one of the key crops that contribute immensely to Tanzania's food and nutrition security, socio-economic development, and sometimes to the country's foreign exchange earnings and balance of trade. Tanzania produces various varieties of rice and some are diverse in appearance, taste, texture, and aroma, depending on the region and agro-climatic conditions. As shown in Figure 1, the area under paddy's production ranks second after maize in terms of grains (in year 2012/13, maize production was 5,356,000 tons and rice 2,194,750 tons). The major paddy growing regions include Shinyanga (Bariadi, Kahama, and Maswa), Morogoro (Kilombero, Wami-Dakawa), Mbeya (Mbarali, Kyela, Kapunga), Mwanza and Rukwa. Paddy is also cultivated in the regions such as Coast (Rufiji), Lindi, Kilimanjaro (Lower Moshi), Tabora (Igunga), Manyara, Arusha, Dodoma, Iringa and Tanga. About 25% of the national rice production comes from two regions: Mbeya and Morogoro. The average annual production of paddy in the last decade was 1,770,000 tons (MAFC, 2015). The average national yield trend of paddy has shown a steady increase over the past seven years as follows: from 1.95 tons/ha in 2005/06, through 2.01 in 2010/11 to 2.36 tons/ha in 2012/13. It worth mentioning that there are some small to medium producers reaching yields of above 4 tons/ha.

Figure 1. Area planted and yield of major cereal crops in the year 2012/13.

Source: Agricultural Innovation Research Foundation, MAFC, 2014.

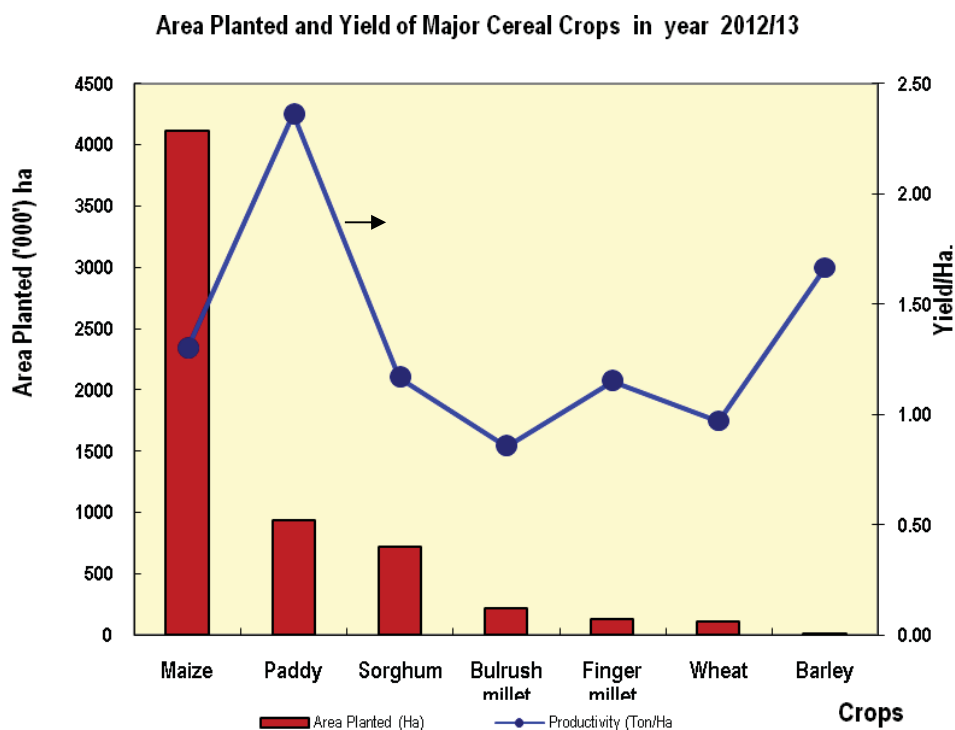


Figure 2 presents the trend of paddy production from 2005/06 to 2012/13 at the national level. Paddy production has generally increased from 1,238,560 tons in 2005/06 to 2,650,120 tons in

2009/10. It thereafter declined to 1,800,550 tons in 2011/12 and then started to increase to 2,194,750 tons in 2012/13. The average yield increased from 1.95tons/ha in 2005/06 to 2.36 tons/ha in 2013/14 (MAFC, 2015). The decline in the period 2009/10 to 2011/12 could be attributed to changes in the quantities and intensity of precipitation observed in the main rice growing regions in that period¹. The average annual production was 714,000 tons in the period 1989/1990 to 1999/2000 (results from the National Sample Census in Agriculture of 1994/95 show that the paddy production was 622,600 tons).

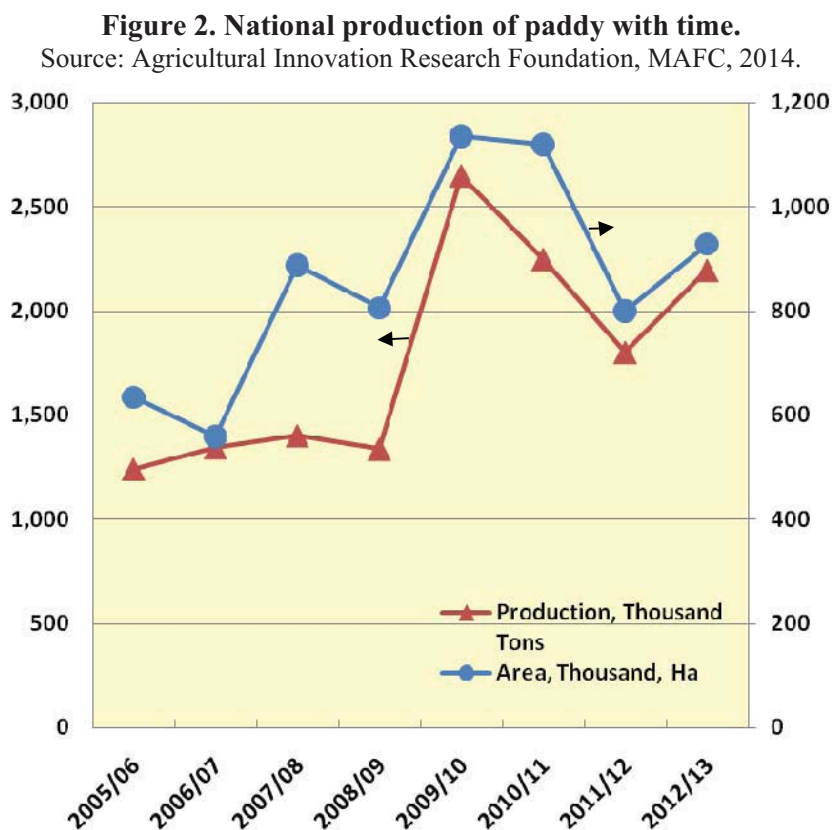
The increase in production noted in [Figure 2](#) may be attributed to a number of factors including: farmers/farmer organizations and business enterprises seeing a better value proposition in rice cultivation; improving access to affordable resources/finance for investment; improving mechanization and expansion of rice acreage; subsidizing the farmers for the cost of implements, fertilizer and seeds through the Government's voucher scheme; increased investments by medium to large scale producers; and reforms/review of the policy and business environment (e.g. Private Public Partnership Policy 2010, National Irrigation Policy, 2010, National Agricultural Policy 2013, National Rice Development Strategy 2009, National Biotechnology Policy 2010, Draft National Environmental Policy 2015, and ongoing formulation of requisite institutional framework and legal framework for implementation, e.g. Irrigation Commission Act, 2014, Cereals and Other Produce Act of 2009 that creates a new regulatory authority, the Cereal and Other Produce Regulatory Authority, etc). Others include: raising the agronomic and agribusiness capacity and technical capabilities of small entities in the rice value chain to cultivate and add value to rice in a commercial manner; efforts to formalize, strengthen and effectively coordinate the rice value chain's institutional framework and processes; increasing collective warehouse based marketing schemes; and attempts by the Government and other stakeholders to improve the physical and technical infrastructure in the rice sub-sector through increased investments, e.g., in research, development and dissemination of innovations and technologies, rehabilitation and construction of irrigation systems, delivery of electricity for value addition, land and water management (land use planning and rights issues), warehousing, and environmental management for sustainability purposes. In addition, opening up of EAC, South Sudan, Somalia, SADC, COMESA and other regional markets and improving trade facilitation processes are gradually improving the demand pull for Tanzania's rice.

Rice production systems in Tanzania are dominated by lowland, rainfed rice which constitutes a large segment of the production system. Others are upcoming lowland irrigated rice and upland rainfed rice. Paddy is produced by large estates and by smallholders; around 90% of Tanzania's rice production is done by small scale farmers. These farmers produce rice first for home consumption and sell the surplus directly to traders or indirectly through a miller or cooperative society. The sizes of rice farms range from 0.5 to 3 ha, with an average farm size of 1.3 ha (MAFC, 2015). Farmers grow a number of traditional varieties; these varieties have long maturity and yield is affected with irregular rainfall pattern and occurrence of pests which contribute to the yield decline. Small holder farmers spend on farms an average of 200 man-days/ ha. Most smallholder

¹Bamwenda G.R. 2011. *Policy Prescriptions for Potential Future Droughts and Food Insecurity in Tanzania*, PACN Congress on Agricultural Productivity, Water and Waste, United Nations Conference Centre, Addis Ababa, Ethiopia, 26 - 27 November 2011; Bamwenda G.R, Mashindano O., and Hangi M. 2013. *Promoting Agriculture-Climate Change Trade Linkages for East African Community*, CUTS International.

farmers dry their produce using sun energy and store their produce in traditional storage facilities *vihenge* (100-300 kg), outside their houses which sometimes results in losses due to destruction and contamination by pests and fungus².

Like for other crops, women constitute a sizable part (in some districts the main part³) of paddy production labor force (planting, weeding, harvesting, threshing, transportation, milling and packing). Paddy production may be among the leading sub-sectors that can offer large opportunity for women to be involved in and contribute economically to the income of the household through production and trading in emerging Districts such as Bukoba Rural, Misenyi, Karagwe, Ileje, and Nyasa.



A comparison of these data with leading neighboring and international paddy producing countries indicates that the yield, profitability per hectare, and revenue streams could be significantly improved. For example, the average yield in Bangladesh is about 4 tons per hectare, and in Brazil is 5 tons/ha (FAOSTAT, 2014). These data indicate that there is still ample room for increasing the paddy yield and quantities in Tanzania (see Table 1).

Upstream processes

The paddy from harvest some is kept for home consumption and the remaining part is sold to local

² Expanding Rice Production Project (ERPP), Environmental and Social Management Framework (ESMF), June 2014; and Integrated Pest Management Plan, MAFC, July 2014.

³Bamwenda G.R., Nzuki M., Mashindano, O., Hassan K. A., Mkai H., and Kizoka L.R., (2014). *The Assessment Study to Identify Institutional, Legal, Financial, Agricultural, Environmental, Natural Resources, and Gender Challenges Constraining Development in Nine Districts in Tanzania*, URT POPC, UNDP, and UNEP.

agents and traders (*madalali*) who transport and sell the rice to local market, local millers or into district and regional centers where the bigger millers operate (note that the breakage is between 20-30%, instead of below 10%, and causing substantial loss in quality). Little contract farming takes place in rice farming-trade continuum although there is sometimes forward selling *kuuzia shambani* for farmers who produce high quality aromatic rice. From districts/regions rice is hauled by road or railway to large urban areas, primarily Mbeya, Shinyanga, Mwanza, Makambako, Morogoro, Arusha, Moshi, Zanzibar, and Dar es Salaam, which are the principal markets in the country. In Dar es Salaam, which is the main market of rice in the country, the distribution and sale of rice is conducted by a network of brokers, wholesalers, middlemen, and retailers in formal and informal markets in Manzese, Tandika, Kariakoo, Mbagala, etc., who ensure that the product gets to the final consumer through *masoko*, *minada*, and *maduka*.

Table 1. Production of paddy in various countries in the year 2012/13.

Source: FAO Stats, 2014, MAFC

Country	Production, Tons	Average Productivity, Tons/Ha
China	203,290,000	6.7
Bangladesh	51,150,000	4.4
Myanmar	28,000,000	3.7
Brazil	11,758,663	5.0
Egypt	6,750,000	9.6
Madagascar	4,550,649	2.8
Tanzania	2,194,750	2.3
Uganda	212,000	2.2
Kenya	122,465	5.2

Price

The prices for the paddy vary much according to the season, region and the relation the farmer has with the buyer/broker, and distance/transportation and handling costs. For a bag of paddy with a minimum weight of 90 kg the farmer gets between TShs. 30,000 to 50,000, depending on the time in the season, quality, and bargaining and market dynamics. Sometimes the price may remain the same for varying weight, e.g. in the case of *Lumbesa*, at the disadvantage of the producer. Most of the small farmers sell their paddy at the peak of the season due to lack of adequate storage facilities, to cover credit costs and debts, and for pressing cash needs, and therefore cannot get better off season prices. The bulk price of rice is normally between USD 1,000 to 1300 per ton, depending on the region and season. The price reaches a maximum at around April and decreases thereafter as new rice from harvests enters the market (MITM, 2015). The price of a 90 kg bag of milled rice (Super) costs between TShs 110,000 and 135,000⁴. The retail price varies from TShs 1500 to 2200/kg. Normally, there is a decline in price during the harvest season; the decline in rice prices normally is good for consumers but it hurts producers. Therefore, it is important for the Government, RCT and stakeholders to deploy market instruments to balance tradeoffs, such as reducing the high costs associated with domestic transport and marketing, increasing storage capacity, as well as promoting exports of quality or organic local rice to lucrative markets.

⁴In the process of low tech milling the paddy about 30 percent of the weight is reduced and waved out in husks. Thus, a 90 kg of paddy leaves between 60-65 kg of milled rice.

Consumption

Rice is mainly cooked with water and oil or coconut milk and eaten with beans, meat and fish. The rice bran is used for feeding cattle, pigs and local breed's poultry, *kuku wa kienyeji*. Husks are used as a source of energy for cooking, for firing bricks, and bedding.

In Dar es Salaam, there are also medium and large exporters and importers of rice. The import of rice is negligible relative to the total import of other commodities, but during shortfalls substantial amounts of rice are imported, e.g., 62,139 tons in 2013⁵. Rice was mainly imported from Pakistan (88%), Vietnam (5.2%), India (3.03%), Singapore (2.42%), and USA (1.12%). Other minor importers are United Arab Emirates, China, Great Britain, South Africa, and Oman. Imports are done to enable consumers to obtain rice at affordable prices. The main export destination of Tanzania Mainland's rice is Zanzibar, Kenya, Uganda, South Sudan, Zambia, Comoros, Uganda, Congo, Rwanda, Burundi, and Malawi. A recent study by Monitoring African Food and Agriculture Policies (MAFAP) country report of August 2013 shows that during the period 2005-2009 Tanzania was a net importer of rice and producers received prices that were higher than those prevailing in international markets. It also revealed that there was protection that was not only due to the import tariff but also due to high costs at the port of Dar es Salaam. However, levels of protection decreased as the country eventually became a net exporter of rice in 2010. The issue of fair prices is the main concern of producers. At a recent stakeholder meeting organized by Oxfam, on March 20-21, 2015 in Kahama, most of the rice stakeholders advocated and demanded better prices for rice.

The national demand of rice is expected to increase substantially over the next decades as population grows and becomes relatively affluent, and as more people migrate to urban centers. The forecasted rice consumption is expected to increase from the current circa 1 million tons to about 3 million tons in 2030, when the population will be between 65 and 70 million (AIRF, 2014).

The future niche markets which may afford opportunities for access by Tanzania rice include the following: Local, regional and international food processing companies; Institutional and international food buyers; Humanitarian organizations, such as WFP; Food security agencies; Tourism industry; Producers of animal, livestock, fish, and other feed and Special products processors, e.g. semi-cooked microwavable foods, rice oil, snacks, fortified milled grain products, etc.

Employment

Paddy offers employment to between 1.5 to 2million people country wide. People work in the fields, milling, as brokers, wholesalers, middlemen of paddy and rice, and support services like research, input supply and extension services (MAFC, 2015). More specifically, in rural areas rice offers most of the employment in farm preparation, planting, weeding, on farm and post harvest pest management, harvesting, dehulling/threshing, transportation, storage management, distribution, and trading. Therefore, there are considerable opportunities and transactions involved in the rice value chain, making rice one of the valuable crops for stimulating enterprising and economic activity in various Districts. With improving technologies and methods (e.g. improved

⁵Imported rice is charged an import duty of 75%. However, when the government realizes that there is scarcity of rice, the import duty is waved

seeds Nerica 1,2,4,7 and WAB-450 that are early maturing, 50-60 days, and giving about 3.5 ton/ha), and dissemination and uptake of low water and agrochemicals using, high yielding, pest and drought resilient varieties and other related input factors, rice may be the most valuable food and cash crop that can touch many lives and many households in the country and play an important role in employment and wealth creation, food security, and economic livelihoods in the next four to five decades.

Furthermore, currently rice husks are used as an energy source for household use and firing of bricks but its application is still limited due to technological constraints. However, in the course of increased environment conservation the technology of producing energy from rice husks (e.g. briquetting or gasification) will most likely be popular. This will most likely create employment to youth and also reduce a number of trees that are cut for charcoal and firewood.

Research and Development and Extension

The Government is investing in research and development in rice breeding (high yield, tolerance to abiotic and biotic stress, and high water efficiency) and management of pests and diseases in its Agricultural Research Institutes in KATRIN Kilombero, Dakawa Mvomero, ARI Ukirigulu, ARI Ilonga, ARI Uyole, and SUA Morogoro (e.g. the new varieties of rice seeds released in May 2012 by KATRIN “Komboka,” and “Tai” are drought and disease resistant, and early maturing)⁶. Furthermore, the Government is supporting training institutions, KATC Moshi, Mkindo Training Center Morogoro, MATI Ilonga, to train extension officers and farmers in paddy production, management practices and post-harvest technologies, and processing. The Agricultural Seed Agency is mandated with paddy seed production and sale seed to companies and individual farmers, and TOSCI is mandated with paddy seed testing. In addition, there are other private companies dealing with seeds trade.

Stakeholder Forums

As to rice stakeholder forums, there are several formal and informal District forums that provide common forums and partnerships that ensure rice production and development activities are done appropriately, sustainably, and advocating for the farmers and groups to get a fair return. This includes Kilombero, Magu, Sengerema, Kwimba, Kahama, Bukombe, Kyela platforms, etc⁷. The apex body for rice industry in Tanzania is the Rice Council of Tanzania (RCT).

Other key local and international institutions dealing with rice industry's issues

There are other local and international institutions dealing with rice including: TIC, Agricultural Sector Lead Ministries, ASLM⁸, Ministry of Finance and Planning, LGAs, President's Office Planning Commission, NFRA, Cereals and other Produce Board, National network of farmer groups (MVIWATA), Associations and Cooperatives, Financial Institutions, SACCOS, Savings &

⁶*Development of KATRIN Road Map and Investment Plan, 2013; Abstracts, Second Rice Scientific Conference Morogoro, 15-18th July 2014 in Morogoro, Tanzania.*

⁷MAFC. 2011. Eastern African Agricultural Productivity Programme (EAAPP), List of Potential Rice Stakeholders and their Roles.

⁸ The current ASLMs include four ministries: the Ministry of Agriculture, Food Security and Cooperatives (MAFC); Ministry of Livestock and Fisheries Development (MLFD); Ministry of Industry and Trade (MIT); as well as the Prime Minister's Office – Regional Administration and Local Government (PMO-RALG).

Internal Lending Communities (SILCs), Fertilizers and agrochemical suppliers, Inputs and machineries suppliers, Agricultural Seed Agency (ASA), Cereals and Other Produce Board, TFDA, NBS, TBS, RUBADA, KATC, SAGCOT, ACT, TCIIA, FAO, IFAD, UNDP, TANRICE, IRRI, JICA, KOICA, African Rice, IITA, Aghakan Foundation (AKF), USAID, Irish Aid, DFID, RUDI, TOAM, RLDC, OXFARM, TANCERT, World Bank, NMB, and others.

1.1.2 Major issues in the rice industry

The major issues facing paddy cultivation in Tanzania are: i) low price , high annual variance in price, low return due to low productivities, which makes it difficult for the small scale farmers to realize benefits; ii) falling labor and land productivity due to use of poor technologies and low fertilizer application due to cost and attitude; iii) unreliable and variability of rainfall conditions and the periodic droughts; iv) low tech mills which affect the quality of rice produced (a substantial part is broken) and inadequate grading (most of the rice sold is not graded and quite often mixed with different origins and varieties and sometimes even with imported rice); v) imbalance in power and inequity in sharing of benefits between the grower and the buyer; and vi) inadequate knowledge and skills on better agronomic practices and post harvest management. Other issues include: poor water irrigation management; limited use of implements, machinery (tractors, power tillers, combined harvesters, planters, loaders and trucks), and modern storage facilities because of high investment costs; few rice farmer organizations and with low management and institutional capacity; difficult access to low cost credit; and inadequate marketing and market information on prices, quality, demand and supply, and logistics.

There are also issues of occupational health and safety, e.g. lack of use of protective gears during farm operations, processing (milling and packaging) which is likely to cause hazards to human health.

1.1.3 Establishment of Tanzania Rice Partnership (TARIPA) and the Evolution of Rice Council of Tanzania (RCT)

The Tanzanian Rice Partnership (TARIPA) was established in 2011, soon after the launch of SAGCOT, as a first step in developing the national rice value chain. Initially, TARIPA focused on developing the “Kilombero Rice Cluster” followed by the “Dakawa Cluster” in Mvomero District and the “Mbarali Cluster”. Partner meetings were conducted and TARIPA was presented at the World Economic Forum in Cape Town in May 2011 as the first cluster development under Southern Agricultural Growth Corridor of Tanzania, SAGCOT.

The main aims of TARIPA were to:

- i. develop a partnership framework to respond to rice value chain constraints and opportunities in a coordinated way;
- ii. build markets and small-scale farmer capacity to produce rice to improve national food security, expand domestic production, improve competitiveness and increase value addition;
- iii. scale-up core value chain activities to catalyze significant small-scale and large-scale farmer and agribusiness development in the rice sub-sector;
- iv. support commercial initiatives by building on ongoing plans and activities to scale up production, drive down costs and thereby create a competitive value chain;
- v. attract new partners to the overall rice development plan, the aim being to develop a

critical mass of partners within the rice cluster.

TARIPA started by working with the Tanzania Agriculture Partnership (TAP) and the FAO Southern Highlands' Food Systems (FAO SHFS) on a study of the rice sub-sector in Kilombero. In August 2011, at a three-day workshop, TARIPA partners discussed value chain constraints in order to lay out a road map for investments needed to develop the cluster. The result was the "Kilombero Rice Commodity Investment Plan", also called the "Kilombero Rice CIP". The Kilombero CIP objective was *'to increase income to the actors in the (rice) value chain so that poverty is reduced'* with five separate Investment Packages: (a) Marketing, (b) Production, (c) Processing, (d) Partnership, and (e) Infrastructure and Environment.

TARIPA's original function was to lend support to the concept of Rice Cluster Development under the SAGCOT initiative. It was initially "housed" within the USAID/FtF NAFKA project, with the idea of later transitioning it to the SAGCOT centre. Throughout the year 2012 and the first quarter of 2013, TARIPA was successful in providing information, linkages and coordination within the rice sector. TARIPA's roles under the NAFKA "umbrella" were:

- Information clearing house-used as a place where actors received and exchanged information;
- Partnership incubation-a place where partnerships were formed and encouraged;
- Informal- gatherings were conducted as needed and kept among actors;
- Loosely organized-there was no formal structure to guide involved actors;
- Cluster approach- the focus for TARIPA was on cluster development, e.g., Kilombero cluster; and
- Platform-involved actors used TARIPA to raise needs and get connected to others.

On April 2013, a TARIPA stakeholders meeting was held at Courtyard hotel and indicated key challenges in the rice industry as: Lack of reliable price/market data; Poor post-harvesting practice & inconsistent quality of supply, Inability to engage effectively with GoT and policy makers, and Operating costs (electricity, VAT on parts). The meeting concluded that there was a need to form a body which will address challenges and work on possible solutions on critical issues facing the rice sector in Tanzania. Participants also unanimous agreed to have an independent institution with its own structures rather than developing a 'rice chapter' in any of the existing organizations such as ACT or EAGC. A task force was formed and delegated to debate key issues and use the outcome of the meeting discussions as basis of starting to formulate a body and other TARIPA activities. Specifically to:

- Refine the vision, mission and objectives
- Agree on organizational model (cluster approach)
- Consider quick win-early activities, such as collaboration with the EAGC on data development or fostering other partnerships within rice sector

While the team was working on establishment of the above mentioned rice body, during the first quarter of 2013, the importation of CET exempt rice caused considerable disruption within the Tanzanian rice industry. Both the Government of Tanzania (GoT) and the private sector recognized the urgent need to develop a more cohesive industry environment. TARIPA was approached to assist in the development of a private sector led body for the Tanzanian rice industry. With the

assistance of the GATSBY foundation the TARIPA office began the process of evaluating the options of forming a private-sector driven body for the Tanzanian Rice Industry. This process stalled during the second half of 2013.

Extensive consultations revealed that the TARIPA / SAGCOT linkages had been neglected during the early stages of developing a rice body. Furthermore, it was highlighted that there was a lack of Tanzanian ownership and legitimacy. Further consultations with industry stakeholders revealed that: 1) all parties had agreed on the urgent need for some form of industry alliance, 2) that the Tanzanian private sector (within the rice industry) must demonstrate its commitment by taking on a leading and pro-active role and that NAFKA (TARIPA) would play a consultative and supportive role.

Linkages between the SAGCOT centre and private sector stakeholders were revitalized and the concept of forming a Rice Council of Tanzania, rather than an association began to take shape. Key stakeholders within the Tanzanian rice industry met in March 31, 2014 and agreed on the formation of a Rice Council of Tanzania. The importance of private sector involvement and commitment was strongly emphasized to ensure ownership and legitimacy. Recognizing the achievements of TARIPA, it was nevertheless decided to drop the concept of a loose partnership (TARIPA) in order to avoid confusion of roles, functions and legitimacy and focus on the development of a Rice Council of Tanzania. TARIPA's original mandate would become conceptualized within the operational plan of the Rice Council of Tanzania. The Rice Council of Tanzania is now a legal entity, registered on June 16, 2014 under the Companies Act of 2002, giving it recognition and legitimacy within the rice industry of Tanzania and with the Government of Tanzania.

1.2 Rationale

On January 9, 2015, the RCT Board resolved to develop a strategic plan for Rice Council of Tanzania including a review of the Council's Vision and Mission.

The formulation of this strategic plan intends to inject momentum into the ten-month old RCT and enable it to play an effective consultative, coordinating, and supportive role to the rice industry stakeholders. Another aim is to enhance better partnerships among value chain actors and advance the interests of the rice industry towards a competitive sustainable growth.

1.3 Approach

The preparation of the Strategic Plan involved the following approaches that were based on the AIRF's Methodology to Strategic Plan Development:

- Briefing and deliberation with the Strategic Plan Task Team, RCT management and staff, and familiarization with RCT's operations and processes.
- Review of relevant internal RCT documents, and national, regional, and international policies, strategies, initiatives, and research publications related to rice industry development;
- Primary and secondary data collection using mixed methods, i.e. desktop research, interviews and visits.
- Holding a stakeholder retreat, that includes the Board, Management, and key staff to

brainstorm the stakeholder needs, expectations, and to conceptualize the future of RCT that will be responsive to the latter and other emerging opportunities and challenges.

- Conducting an environmental scan and setting the strategic direction of RCT, including reviewing the vision, mission, core values, objectives, and implementation plan with budgeted priority activities; and
- Incorporating stakeholder recommendations in the draft strategic plan before preparing and submitting the Final Draft Strategic Plan to the Management and Board.

1.4 Organization of the Report

Chapter One provides a brief overview about the rice industry and RCT background in general. Chapter Two presents the Situational Analysis that includes the preparation of a Stakeholder Analysis and SWOC analysis. Chapter Three brings to light the Strategic Direction, including vision, mission, and core values that key RCT stakeholders and employees will commit themselves to follow during the implementation of the strategic plan. Chapter Four highlights the strategic issues and choices including objectives, strategies and activities. Implementation Management of the strategic plan is provided under Chapter Five. Chapters Six presents the Conclusion and Recommendations.

2.0 SITUATIONAL ANALYSIS

2.1 Policy environment

The future of RCT and attainment of its objectives will be influenced by several national, sectoral, regional and international policies and strategies. The following key policies, strategies and initiatives are expected to have significant influence on RCT in the forthcoming five year SP lifecycle.

National Strategy for Growth and Reduction of Poverty, NSGRP – MKUKUTA II

The NSGRP keeps in focus aspirations of TDVV2025 for high and shared growth, high quality livelihoods, peace, stability and unity, good governance, high quality education and international competitiveness. The thrust of the NSGRP is the following areas: Promoting and increasing utilization of modern farming technologies; Enhancing agro processing; Promoting food storage technologies; Promoting environmentally friendly farming technologies; Scaling up investments towards modernizing small, medium and large scale agriculture for increased productivity and profitability; *Promoting off-farm activities including small and medium size enterprises with particular emphasis on agro-processing*; Enhancing skills, apprenticeship and entrepreneurship training especially for the SMEs; and Increasing access to rural micro-financial services to farmers especially the youth and women.

In relation to rice industry, the NGRSP II targets: (i) increasing crop production to improve food security; (ii) maintenance of a strategic grain reserve of at least four months' supply; (iii) developing and promoting crop varieties adaptable to climate change; (iv) capacity building in farming systems; and (v) strengthening early warning and natural disaster response capacity. Efforts will be made to address these issues in this SP.

National Agricultural Policy (2013)

The Agricultural Policy (2013) envisages an agricultural sector that is modernized, commercial, highly productive and profitable and utilizes natural resources in a sustainable manner. The agricultural policy framework and the draft Agricultural Sector Development Strategy, ASDS-II 2013/14-2020/21 aim to create an enabling environment for improved productivity and profitability as the basis for poverty reduction through: (i) strengthening the institutional frameworks; (ii) creating a favorable climate for commercial activities; (iii) clarifying public and private sector roles in improving support services; (iv) developing input and output markets; (v) mainstreaming planning for agricultural development in other sectors; (vi) provision of smart targeted subsidies and strengthening of delivery services to enhance productivity and production levels; and (vii) training, reallocation and employment of skilled extension staff.

National Rice Development Strategy (NRDS)

The NRDS envisages transforming the existing subsistence-dominated rice sub-sector progressively into commercially profitable and viable production system and to double rice production by 2018 which would be achieved through:

- i. Improving rice production through better farmer access to improved varieties, and seed systems crop management practices and post harvest technologies, and better fertilizer marketing and distribution.
- ii. Introducing and adopting labour saving technologies to improve timeliness and efficiency of farm operations and support integrated soil fertility management in order to improve

- productivity of paddy in irrigation schemes.
- iii. Access to and maintenance of agricultural machinery and equipment.
 - iv. Irrigation and investment in water control technologies.
 - v. Ensure access to finance credit.
 - vi. Promotion of public private sector partnership in rice production, processing and marketing.
 - vii. Strengthening the capacity of public and private institutions responsible for research, extension and training in rice technology development and dissemination.
 - viii. Enhancing agro-processing and value addition.
 - ix. Strengthening collaboration and linkages between national, regional and international institutions involved in rice research and development.
 - x. Construction of ware houses for storage of paddy before milling.

National Irrigation Act 2013

The national Irrigation Act 2013 was formulated to give the country agriculture sector a new lease of life in terms of management of water and irrigation systems in the country and to address issues related to agricultural expansion and emerging issues such as shifting weather patterns (e.g. unreliable and unevenly distributed rains, water harvesting, storage, and use efficiency, etc)

Food and Nutrition Policy 1992

The Food and Nutrition Policy aims at addressing food security, protein and energy malnutrition, nutritional anemia, vitamin A deficiency, and iodine deficiency disorders through significantly increasing food crop production, food harvesting and preservation, food processing and preparation, food availability, distribution, and consumption, and food quality and number of meals.

RCT and the Rice Industry could contribute to this policy by enabling increased access to rice as an affordable and nutritious food grain (below TZS 1500/kg, Bamwenda et. al. 2014).

Kilimo Kwanza

Kilimo Kwanza and growth corridors are initiatives which came from a dialogue between the private sector and Government through the Tanzania National Business Council and other internal and external stakeholders. This initiative aims to transform Tanzania's agriculture into a modern and commercial sector. It emphasizes application science, technology and human resources to support agricultural transformation under its Pillar VIII, while Pillar IV emphasizes paradigm shift to strategic agricultural production. It proposes that the agricultural industry should enhance productivity and profitability through application of sound inputs and modern and cost effective mechanization and technological solutions and strengthening the implementation of the value chain approach so as to bring about the green revolution in Tanzania.

Sustainable Industrial Development Policy (SIDP)

The Sustainable Industrial Development Policy (SIDP), 1996 – 2020 (URT 1999) and its operationalization by the “Integrated Industrial Development Strategy” (IIDS) 2025 (URT 2009), recognizes that sustainable industrial development depends on the existence and performance of domestic investors. The policy further states: “that the government takes deliberate measures to promote indigenous entrepreneurial base through orientation of education policy and strategy to emphasize technical education and training including strengthening of vocational training and entrepreneurship”. It is clear from the foregoing that the success of the policy, to a large extent, will be reflected by the growth and expansion of SMEs which are a main focus under the current SP.

SME Development Policy (2003)

The SME Development policy aims at increasing the contribution of Small and Medium Enterprises (SMEs) to the Gross National Product and export earnings as it recognizes that the SME sector has the potential in creating jobs and contributing towards economic growth. SMEs currently contribute 35% to the GDP and 20 % of the total labor force. This SP envisions strengthening rural and urban SMEs through development of requisite enterprise development knowledge and skills, and provision of complete sets of technologies that can harness the viability and performance of SMEs.

National Micro Finance Policy (2000)

The policy was establishing as a basis for the development of a micro-finance system that will serve low-income households, smallholder farmers, and small and micro enterprises. Financing opportunities availed through implementation of this policy are going to be utilized under the SP in various ways, including the use of hire purchase by RCT's stakeholders of expertise and technologies organized through micro-financing institutions.

The National Environmental Policy (NEP, 1997)

Environment is heavily affected by agricultural activities and operations and outputs of enterprises working in the agricultural and agricultural lead sectors. RCT will endeavor to develop, implement and promote business and enterprise development models, operations, practices, and technologies which are friendly to the environment and with high eco- efficiencies to ensure appropriate environmental management for the improvement of the welfare of organizations and their long term sustainability and to ensure sound preparations for the green economic growth under the Sustainable Development Goals.

The National Research and Development Policy (2010) objective is to provide guidance and researched and evidence based advice to the public and private sector, policy and decision markers as well as development partners in addressing present and future national agricultural and socio-economic opportunities and challenges.

Big Results Now 2013

As part of its effort to transition the country from a low to a middle-income economy, starting with the 2013/2014 Financial Year, Tanzania, with support from Development Partners, is adopting a Big Results Now initiative, based on a model of development that has proven successful in Malaysia. BRN draws on the experience of Malaysia's Performance Management and Delivery. This comprehensive system of development implementation, described as a "fast-track people-centered growth 'marathon'" focuses on six priority areas articulated in the Tanzania National Development Vision 2025: education, agriculture, energy and natural gas, water, transportation, and mobilization of resources. BRN is expected to eliminate the "culture of business as usual" and needless confidentiality amongst official and officers serving the public that has hobbled efforts to move Tanzania forward. It focuses on performance planning and management, comprehensive cross sectoral monitoring and evaluation, and active engagement by participating entities to learn about development plans and provide input that will take into account transparency and efficiency as guiding concepts and will make the reduction of corruption to be of paramount importance.

RCT's constitution and current activities are well aligned to BRN concepts and implementation plans. This as an opportunity for RCT to devise and implement BRN related programs and projects and mobilize the requisite resources from the Government and other participating stakeholders.

Regional and international policies and programs

The RCT, although predominately private sector owned, fits well with the African Union's (AU's)

CAADP framework which recognizes agriculture as central to the alleviation of poverty and hunger and the attainment of the Sustainable Development Goals.

In addition, agricultural and rural and urban enterprise development involve the participation of regional and international initiatives for the reason of effectiveness, collaboration, exchanges and sharing of expertise and resources, and tapping knowhow, finances, and technology experiences from elsewhere. This SP will align RCT's mission and objectives to selected regional and international programs/organizations such as NEPAD's Comprehensive African Agricultural Development Program (CAADP benchmarks agricultural growth 6 per cent), SADC – CCARDESA, Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), EAC and Rural and Urban Enterprise organizations and supporting financiers and foundations. Focus of cooperation will be on strengthening organizational and management of enterprises to enhance performance and returns; human resource development; financing RCT's programs and activities; better access to improved agricultural technologies, knowledge and financial services; improved extension services through provision of working facilities such as transport, training of extension staff and farmers; skills in monitoring, evaluation and reporting. Other include: facilitation of associations and cooperatives in prioritizing, planning, implementation, coordination and harmonization of investments; use of innovative approaches such as Good agricultural Practices, Client Oriented Research and Development Approaches, Farmer Field Schools; development of marketing infrastructure and systems such as the warehouse receipt system; promotion of public and private investment; and diversification of farming systems and promoting diversification to non-farm activities.

The above policies, strategies and initiatives are an integral part of ongoing macro-economic and structural reforms that will have tremendous impact on agricultural, industrialization, and economic development and jobs and income generation and wealth creation.

2.2 Environmental scan

The internal and external environmental scans are performed so as to conduct an in depth analysis of the current situation in RCT, to predict potential future situations, and to analyze bridges and barriers that may influence the RCT's performance. It includes thinking and learning about the nature and impact of uncertain and important driving forces, etc. The environmental scan was conducted by using SWOC analysis and Stakeholder analysis. The results from the environmental scan of RCT are presented below.

2.2.1 SWOC Analysis

The results from the SWOC analysis are presented below:

STRENGTHS

- i. RCT is a private sector development organization which is continually demonstrating a focus towards the development of the rice industry, in line with its Constitution and key national policy documents such as National Rice Development Strategy 2009, and Agricultural Policy 2013.
- ii. RCT's Constitution is in place, although it may need to be updated to take into account the current and future realities.
- iii. There is a supportive environment and willingness of members and stakeholders to

- support the development of the institutional capacity of RCT
- iv. There are a good number of partners and organizations interested to participate and support specific activities conducted by RCT.
- v. Existence of assets such as transportation, work facilities, and equipment;
- vi. RCT has a network with stakeholders and collaborators who are interested in providing further cooperation.

WEAKNESSES

- i. Inadequate institutional capacity of RCT is the main weakness.
- i. Shortage of funds for operations and a lack of fund mobilization capacity.
- ii. Inadequate staff to effectively and efficiently implement RCT's Strategic Plan; has only two employees and will remain with only one from April 1, 2015 as the current ED contract ends.
- iii. Lack of office premises (currently hosted by NAFKA Project), working tools, and transportation.
- iv. Inadequate office equipment and supplies, transportation, etc, for optimal office performance.
- v. Direct financial and materials support from members still not forthcoming.
- vi. Heavy reliance on development partners for operational funding;
- vii. Inability to generate surplus funds for upgrading and modernizing RCT facilities and working tools, for future investment, and for human resources development;
- viii. Lack of expertise in almost all key areas that will be important in the future.
- ix. Inadequate institutional governance.
- x. Some stakeholders not understanding RCT's value proposition and unique selling proposition;

OPPORTUNITIES

- i. Almost exponential growth of national rice production and existing huge potential for investments and expansion of production, value addition, and trade.
- ii. High rice stakeholder commitment, e.g. continued Government efforts to support research and subsidies on fertilizers, construction of large irrigation schemes, improvement of environment for investments in rice production; development partners supporting market facilitation approaches and sharing investment costs
- iii. Inadequate coordination of the rice industry.
- iv. Low knowhow, technical and business capacity and skills of most of the entities in the rice value chain.
- v. Lack of reliable, timely and accurate information and data on production volume, storage capacity, stocks, and paddy prices.
- vi. Expanding domestic, regional, and international agricultural commodities markets, including rice.
- vii. Weak rice producer organizations, e.g. irrigation organizations, cooperative societies, saving and credit organizations, and producers and value adding and trade associations, which RCT may facilitate and support.
- viii. Existing and potential partnerships and collaborative arrangements.
- ix. Existing and emerging local, regional, and international policy implementation activities

and initiatives that are intended to contribute to the rice value chain and sub-sector growth, e.g. MKUKUTA III, Five Year Development Plan II, Agricultural Policy (2013), Big Results Now, National Climate Change Strategy 2014, NEPAD-CAADP, Tanzania Agriculture and Food Security Investment Plan (TAFSIP), private sector and PPP investments, and draft Sustainable Development Goals.

- x. Existence of favorable policies for rice and business development and ongoing reforms of national institutions, and sectoral policies, legislation, programs, and strategies for improving the efficiency and effectiveness in provision of public services, e.g. Agricultural Sector Development Strategy, ASDS-II 2013/14-2020/21, Agricultural Sector Development Program (ASDP-II), and Science and Technology and Innovation policy.
- xi. Most of consumed and exported rice goods are raw hence there is a need and business space for continuous, incremental improvement of value addition in the future.
- xii. Existence and growing local and international markets of safe, quality and specialty rice products;
- xiii. Opportunities emerging in the Growth Corridors (e.g. Tanga/Mwambani Corridor, Central Development Corridor, Uhuru/Tazara Corridor, and Mtwara Development Corridor, SAGCOT, and other agricultural and industrial development initiatives.

CHALLENGES

- i. Financing of RCT operations is the biggest challenge.
- ii. Weak advocacy: Most rice and agricultural stakeholders unaware of the RCT existence.
- iii. Attracting skilled and highly competent staff.
- iv. Urgent need to improve RCT's governance and improve human resources and technical and infrastructural capacities.
- v. Information asymmetry and data gap.
- vi. Weak sharing of knowledge and resources internally and capacity of RVC enterprises and organizations often not fully mobilized to the best advantage.
- vii. Low competitiveness of the rice industry and its stakeholders.
- viii. Frequently changing policy, and regulatory environments. Access to efficient and cost effective tools, practices, and technologies.

2.2.2 Stakeholder analysis

The analysis of main strengths, weaknesses, opportunities, challenges and needs of RCT's high interest stakeholders and key players was conducted to identify the opportunities, challenges, needs and expectations. Another purpose was to capture lessons and experiences that RCT may learn from and capitalize on, in this strategic planning cycle, to ensure closer collaboration and networking with these stakeholders in order to achieve its goals, vision and mission and bring about requisite impacts to the society and the nation. The results of the analysis are presented in [Annex 1](#).

2.3. Critical issues

Based on the above historical perspective of RCT, guiding policies and legislation, and SWOC and Stakeholder analysis, the following have been identified as critical issues that need to be addressed by RCT in the 2015-2019 strategic plan life cycle.

Critical issues:

1. **Enable RCT to adopt modern governance and management styles, administrative and**

- organizational approaches, and coordination capabilities** to facilitate the increase in efficiency, performance, and profitability levels of the Rice Industry on a sustainable basis.
2. **Improve the quality, skills, commitment, and performance levels of the RCT staff**, through improving the working environment, technical backstopping/working tools, recruitment, training and retraining, and continually adjusting the remuneration package and incentives to market levels.
 3. **Need for RCT to facilitate the Rice Industry's (RI) stakeholders to augment paddy production quantities and productivity, and to stimulate the accelerated upward movement of growth trends of Rice Value Chain (RVC) outputs.**
 4. **Participate effectively and contribute in the formulation, review, and implementation of sound policy and regulatory frameworks, and improvement of rice business and trade environment** in line with the current and future Rice Industry's aspirations and needs (including facilitation and support of production, value addition, and trade, and lowering of impediments and disruptive elements)
 5. **Strengthen the RCT to become the main information and service provider that will strategically position the Rice Industry and enhance its recognition and support among agricultural, industrial, and trade stakeholders** inside the country and internationally.
 6. **Effectively support Rice Industry stakeholders to achieve their production, processing, trade and competitiveness goals through improved industry wide communication, trust, coherence, partnerships, private–public sector dialogue, and sharing of lessons and resources**, and enabling them to access appropriate services such as informational, technical, financial, marketing, trade, and business and infrastructural services.
 7. **Enhance the capacity of the RVC entities and improve business and professional practices to increase the production volumes, quality, and value of rice and related diversified products to achieve income and food and nutrition security objectives.**
 8. **Raising the skills and efficiency levels of the RVC entities** through training and sensitization, improved techniques, technologies, on-farm and post harvest management techniques, processing, and marketing. This will facilitate RVC entities to address productivity, marketing, and competitiveness issues, and emerging risks.
 9. **Mobilization of resources to enable execution of the strategic plan**, and for the betterment of RCT performance. This includes soliciting/raising funds, membership subscription, proposal development, carrying out technical and business services, conducting commissioned studies, consultancy and advisory services, viable investments, and development partner support.
 10. Need to ensure that the **gains from rising the RI performance and profitability are translated into improving incomes, quality of life, and to enhancing social provisions.**
 11. **Need to strengthen and forge new partnerships, collaborative arrangements, and networks.** with other local agricultural, processing, and trade value chains and regional and international Rice Industries to raise operational performance and effectiveness of RCT staff, and increase collaboration in tapping knowledge, technology, lessons and experiences from regional and international scenes. This includes liaising with other grains and cereals associations and organizations, and facilitation of joint activities where appropriate.
 12. **Partner with stakeholders to ensure sustainable and green growth of the rice industry by taking into consideration and mainstreaming social, economic, and environmental**

issues into plans, including climate change adaption and mitigation.

13. There are still issues of **gender discrimination and gender based violence** in major rice growing Districts, which are affecting the entrepreneurial spirit and business performance of individual women businesses and women groups.⁹
14. Need to **strengthen environmental protection, climate change adaptation, and health and safety consciousness and mainstreaming** across the rice value chain (compliance to environmental care principles and health and safety standards).

The development of strategic plan will attempt to enable RCT to respond to selected critical issues and satisfy stakeholders, partners, and society needs, demands, and expectations.

⁹Bamwenda G.R., Nzuki M., Mashindano, O., Hassan K. A., Mkai H., and Kizoka L.R., (2014). *The Assessment Study to Indentify Institutional, Legal, Financial, Agricultural, Environmental, Natural Resources, and Gender Challenges Constraining Development in Nine Districts in Tanzania*, POPC, UNDP, and UNEP.

3.0 STRATEGIC DIRECTION

3.1 Vision

A highly organized, profitable, sustainable and competitive rice industry in Tanzania and beyond.

3.2 Mission

To be the best engaging institution and disseminator of advisory, technical and growth enabling business services to all rice stakeholders to enable them achieve better performance, sustainability, and profitability.

3.3 Core values

The core values that will guide the way RCT goes about fulfilling its functions and operations will be:

- Good governance (Accountability, responsibility, transparency, and open participatory processes)
- Fairness, trust and equity
- Quality services and products
- Stakeholder engagement, cooperation and sharing
- Neutrality (non-political, non-religious)
- Environmental, health and safety consciousness.

3.4 Strategic thrusts

- i. Taking rice cross-industry thinking, performance and growth to another level.
- ii. RCT to play an effective consultative, coordinating, and supportive role to the rice industry stakeholders to facilitate increased investments, maximize the performance and competitiveness of the entire rice value chain. All the above to be achieved through stakeholder engagement and inclusiveness; improvement of operating environment and efficiency; private-public partnership; mainstreaming national and international best practices; and improvement of profit margins, while ensuring compliance to environmental and health care and standards.
- iii. Enable and facilitate RVC stakeholders' capacity and capabilities to develop and grow.
- iv. Represent, advance, sustain, and broaden the interests of RCT members.
- v. Providing productivity and profitability enhancing technical and business advice and services for increasing quantities, quality, and value of rice and allied products produced.
- vi. Timely access to real-time and accurate information, data, and knowledge and technology.
- vii. Promote a shift to diversified, value added, high value rice allied products that will fetch higher margins.
- viii. Improved policy, regulatory, and business environments for increasing rice production, value addition, trade, and income.
- ix. Reduction of investment/project execution, market and other business risks (change of policy/strategies, political change, transparency and rule of law, and variability of macroeconomic conditions such as cost of credit, inflation, exchange rate fluctuations, etc).
- x. Enhancing RCT's and rice industry's visibility, stakeholder engagement and branding.
- xi. Forging partnerships and collaborative arrangements.

xii. Social, economic, and environmental sustainability

3.5 Motto

“Mchele kwa lishe na kipato” (Rice for Health and Wealth)

4.0 STRATEGIC OBJECTIVES, STRATEGIES AND ACTIVITIES

4.1 Introduction

This section highlights objectives, strategic options and potential activities that address issues, challenges, and competitive forces that will confront RCT in the period 2015-2019 (see Situation Analysis). The strategic options and activities were arrived at after a fore sighting exercise by the RCT stakeholders.

4.2 Goal, Strategic Objectives, Strategies, and Main Activities

4.2.1 Goal and strategic objectives

The overall goal of this strategic plan is to strengthen the capacity and capabilities of RCT so that it may enable the rice industry to increase productivity, production, processing and trade of quality rice, and subsequently increase the profitability.

This will be achieved through the following strategic objectives:

Strategic Objective 1: To improve RCT s' governance, organization and coordination capacity, human resources management, working environment, and operations through capacity building by December 2016.

Strategic Objective 2: To enable and support the rice industry to increase rice output by 20% by 2019 through an integrated package of assistance, including provision of innovative technical and business services, and evidence- and science-based advice.

Strategic Objective 3: To play a lead coordinating role through outreach/advocacy, Rice Industry's information and data management and development.

Strategic Objective 4: To advocate for conducive policy, regulatory, business and investment environments to support the growth of the rice industry as well as advocate for the implementation of regional policies and protocols, such as CET, through evidence based research, strengthening advocacy capacity and stakeholder dialogue by 2019.

Strategic Objective 5: To increase the resource levels of RCT to enable the implementation of its objectives and ensure sustainability through membership subscriptions, financial support from stakeholders and partners, and offering technical and business services at a cost by 2018.

Strategic Objective 6: To forge new partnerships, alliances, and networks, and maintain liaison with Government, Boards, groups, or other grains and cereals associations and organizations inside and outside Tanzania, and facilitate joint activities where appropriate through communicating RCT value proposition, soliciting joint project implementation, exchange of staff and resources, and other joined-up approaches.

4.2.2 The strategies and priority activities

This strategic plan builds on the issues undertaken by Tanzania Rice Partnership (TARIPA) and RCT in the 2014-2015 and current and potential issues, challenges, and opportunities that arose from the situation analysis. In addition, the proposed strategies and activities were developed and fine-tuned from the discussions with management, Strategic Planning Task Team, and Stakeholder Workshop, held in Bagamoyo in March 10-12, 2015, as to the nature of the needed changes to

propel RCT to the next level.

The aim of this section is to present the strategies and activities in the next five years so as to achieve the above set objectives, mission and vision. The activities were elucidated in a manner to ensure that RCT is a high performance, efficient and flexible organization that is able to meet its agreed operational results on a financially sustainable basis.

The strategies and activities that will lead to delivery of the set above objectives are presented below.

SO 1: To improve RCT's governance, organization and coordination capacity, human resources management, working environment, and operations through capacity building by December 2016.

Strategies

- i. Recruit, facilitate, accordingly compensate human resources and provide a conducive working environment and tools.
- ii. Establish ICT infrastructure and information management to facilitate communication efficiency.
- iii. Training, mentoring, and continual capacity building of staff to update their knowhow and to make them aware of emerging issues.

SO 2: To enable and support the rice industry to increase rice output by 20% by 2019.

Strategies

- i. Facilitate and support the Rice Industry entities to increase productivity, production and profitability through improved access to affordable input factors and skills.
- ii. Catalyze the RVC to adopt and use innovative and cost effective post harvest technologies, including adequate and quality warehousing.
- iii. Promote the production of high quality rice using Good Agricultural Practices and Good Processing/Manufacturing Practices in line with national, East African, and International production, value addition, and marketing standards and safety requirements.
- iv. Promote market oriented produce and demanded products and their trade

SO 3: To play a lead coordinating role through outreach/advocacy, Rice Industry's information and data management, development and dissemination.

Strategies

- i. Develop and implement a communication strategy.
- ii. Establish rice stakeholder platforms in all major rice producing districts by 2017 for improving stakeholder outreach, trust, and collective engagement.
- iii. Conduct independent research, consult and solicit the views of stakeholders, and provide technical services to the rice industry actors, and make policy recommendations that inform decision makers in Government, enterprises, and society on matters pertaining to the rice industry's growth.
- iv. In collaboration with NBS, MAFC-Statistics Unit, MITM-Marketing Division. LGAs, and business enterprises, continually collect, systemize, update and disseminate information and data on the Rice Industry.

- v. Establish a high level team/committee of highly skilled and knowledgeable cross-sectoral experts to conduct quarterly rice forecasts and advise the stakeholders accordingly.

SO 4: To advocate for conducive policy, regulatory, business and investment environments to support the growth of the rice industry.

Strategies

- i. Set out clear expectations on how the RCT intends to carry out its mandate/functions including objectives, processes, member responsibilities, and expectations of management.
- ii. Conduct research on various policies, legislation, regulations and other initiatives impacting negatively on the rice industry and disseminate to appropriate stakeholders for remedial action.
- iii. Convene policy dialogues and a biannual rice conference to deliberate on the developments, opportunities, and challenges facing the rice industry and solutions.
- iv. Advise and keep the Government informed on issues or events that concern or can be reasonably expected to be important (to the rice industry and related stakeholders) currently and in the future that are in the exercise of the responsibilities of the Government's MDAs, Agencies, LGAs, Parastatals, and other public entities.

SO 5: To increase the resources levels of RCT to enable the implementation of its objectives and ensures sustainability.

Strategies

- i. Establish a mechanism for membership subscription and fees
- ii. Liaise with development partners and other stakeholders for support in institutional capacity building (initial recruitment and maintenance of core staff, working tools, development of a communication strategy, business plan for technical and business support services, development of District level platforms, and ICT platform and Information Management).
- iii. Mobilize resources for rice industry development programs.
- iv. Establish a subsidiary business company(ies) under RCT.

SO 6: To forge new partnerships, alliances, and networks, and maintain liaison with Government, Boards, groups, or other grains and cereals associations and organizations inside and outside Tanzania, and facilitate joint activities where appropriate.

Strategies

- i. Participate in important events, conferences, and shows e.g. Saba Saba and Nane Nane, and East African, SADC, COMESA, NEPAD, and European Community, NAFTA, and ASEAN shows.
- ii. Develop beneficial strategic alliances with, Government, private sector entities, and national, regional, and international councils, institutions and organizations dealing with rice, capacity and capabilities building, rice enterprise development, and research and development.
- iii. Expand the working relationships with other commodity councils for sharing of lessons and experiences; joint lobbying/linking with funding institutions; joint activities and

program planning, implementation, monitoring and evaluation; sharing of resources, equipment, and investment in technical infrastructure and facilities; periodic joint meetings; and empowerment of stakeholders.

SO1: To improve RCT’s governance, organization and coordination capacity, human resources management, working environment, and operations through capacity building by December 2016.

Priority strategies and activities to be undertaken to achieve the objective

Strategy 1. Recruit, facilitate, accordingly compensate human resources and provide a conducive working environment and tools.

Governance

- Recruit a Program Officer Partnerships and Advocacy; Policy Advisor/Analyst; Fund Mobilization and Business Development Officer; Accountant; Administration and Human Resources Officer (including procurement and logistics); Receptionist and Administrative Assistant to ED, and a Clerk/Driver;
- Recruit an inclusive Board of Directors constituting of members with the requisite qualifications, skills, experience, and networks that may be valuable for RCT to implement the Strategic Plan;
- Develop/procure appropriate software and manuals to enhance the organizational and operational performance;
- Train/give an orientation program to the staff;
- Train the Board and Management in Leadership and Good Governance of a stakeholder led commodity-based Council;
- Facilitate Board, management and other meetings;
- Pay remuneration and benefits to staff;
- Cover the costs of the Board and other operational and business meetings;
- Pay for activities that are outsourced or out-contracted to other entities.
- Purchase technical infrastructure and transportation

Human Resources Management

- Prepare RCT capacity development plan; Conduct training needs assessment and ensure staff are trained on annual basis;
- Solicit resources and funds for training, mentoring, and continual capacity building of staff to update their knowhow and awareness of emerging issues;
- Include staff capacity development items and budget in each future RCT’s project technical and financial proposals;
- Procure a human resource management system and train HR how to use it effectively to align it to all RCT systems and operations.
- Staff recruitment and capacity building

Operations

- Annually review the SP and create an improved operational plan that establishes short and medium term action steps to enable RCT to efficiently and adequately carry out its mandate, set goals, and measurable results for which RCT will be held accountable, in line with changing business environment, existing and potential social and environmental considerations, and economic realities.
- Operate within the mandate, policies, approved budgets, and conduct a monitoring and evaluation and report the results.
- Develop and keep current the Governance Manual for the Board and Management.
- Ensure the delivery of annual reports, year- end financial statements, and annual assessments, other technical reports in timeframes are required by the Board, Funders,

Government, etc.

Strategy 2. Establish ICT infrastructure and information management to facilitate communication efficiency.

- Formulate ICT and other operational policies;
- Procure/upgrade software required for RCT operations;
- Procure a server/database and software;
- Generate and process data for all programs/projects and activities and ensure online access;
- Allocate a budget for hardware and software upgrade and maintenance;
- Purchase/subscribe band width from provider;
- Conduct capacity building to staff on ICT applications.

SO 2: To enable and support the rice industry to increase rice output by 20% by 2019.

Priority strategies and activities to be undertaken to achieve the objective

Strategy 1. Facilitate and support the Rice Industry entities to increase productivity, production and profitability through improved access to affordable input factors and skills.

- Enhance and support market oriented variety development to research institutions
- Link and develop marketing skills to qualified agro input suppliers with rice producers (improved seeds, fertilizers, pesticides and herbicides).
- Promote the utilization of agro mechanization (tractor, planter, combine harvester and rotary weeder).
- In collaboration with rice stakeholders impart good agricultural practices to rice producers including System of Rice Intensification
- Expand irrigated area through improvement of the existing irrigation schemes and promote rain water harvesting, storage and high efficiency use.
- Promote the establishment & growth of enterprises dealing with rice production inputs, implements, and machinery at Ward/Village levels in major & prospective rice growing regions.
- Consult and lobby the Government, private sector, & development partners to allocate adequate resources and invest in technical and physical infrastructure development in major rice growing Districts, particularly in large scale rain water harvesting, storage, & management, irrigation, power/energy (including renewables), construction and maintenance of feeder roads passable throughout the year, and environmental management.
- Identify potential areas that have weak access to extension and organize Mass Approach to Training for farmers.
- In collaboration with stakeholders, facilitate strengthening of capacity of small to medium farmers, value adding entities, and traders by organizing two or more training sessions annually on sustainable production processes (GAP, GMP), enterprise & organization development. & quality management.
- Solicit financial/funding institutions to allocate and provide low cost credit/funding on favorable terms to rice farmers, processors, and traders.

Strategy 2. Catalyze the RVC to adopt and use innovative and cost effective post harvest technologies, including adequate and quality warehousing.

- Identify and improve the existing post harvesting technologies to reduce post harvest losses.
- Identify post technology manufacturer and suppliers and linking them with rice producers.
- Promote quality storage facilities and equipments.
- Promote research for fortification of rice and use of fortified paddy varieties to enhance

nutrition value of rice.

Strategy 3. Promote the production of high quality rice using Good Agricultural Practices and Good Processing/Manufacturing Practices in line with national, East African, and International production, value addition, and marketing standards and safety requirements.

- Assist the familiarization and application of the rice standards to the rice stakeholders through workshops, meetings, and fairs.
- Mobilize and encourage farmers to produce agreed marketable variety to maintain quality of a targeted market.
- Promote the establishment of private, rice specific extension service hosted, trained and delivered by KATRIN.

Strategy 4. Promote market oriented produce and demanded products and their trade.

- Promote grading, quality packaging materials and branding
- Promote significant value addition to rice: Shift gradually from production and trade of bulk raw rice to diversified, value added, high quality rice and allied products and by products.
- From time to time conduct fore-sighting to address and change potential unproductive and disruptive market dynamics and other sensitive internal and external (regional and international) policy and regulatory practices, e.g. related to tariffs; taxes; standards, quality and safety requirements; and other competitive forces.
- Ensure equity and equality in distribution and sharing of incentives and benefits along the rice value chain.
- Facilitate the design and development of a structured rice market system.

SO 3: To play a lead coordinating role through outreach/advocacy, Rice Industry's information and data management, development and dissemination

Priority strategies and activities to be undertaken to achieve the objective

Strategy 1. Establish/strengthen platforms and enable them to function effectively.

- Identify current and potential major rice growing areas to be impacted by RCT, and where stakeholder platforms may be optimally established.
- Convene rice VC actors to elect representatives for the different chain nodes
- Develop information needs of the platforms (begin with Shinyanga, Morogoro, Mbeya, Rukwa, Manyara, Kilimanjaro).
- Develop, implement, and maintain platforms and enable them to effectively function.
- Develop a functional, dynamic website in Kiswahili and English, with integrated data on RVC entities from farm to end user, integrate it with androids, and launch it

Strategy 2. Enhance awareness, sharing of information and data, cohesion/trust and collaboration among RVC participants.

- Develop & implement a communication strategy
- Develop & implement a partnership strategy
- In collaboration with NBS, MAFC-Statistics Unit, MITM-Marketing Div., LGAs, and business enterprises, continually collect, systemize, update and disseminate information and data on the Rice Industry
- In collaboration with NBS, MAFC-Statistics Unit, MITM-Marketing Div., LGAs, and business enterprises, continually collect, systemize, update and disseminate information and data on the Rice Industry

- Establish a high level team/committee of highly skilled and knowledgeable cross-sectoral experts to conduct quarterly rice forecasts and advise the stakeholders accordingly.
- Organize an Annual General Meeting of members.

Strategy 3. Identify gaps and design, plan and provide technical and business services to RVC participants and related stakeholders.

- Develop a business plan for the technical and business services to and implement the plan with other stakeholders.

SO 4: To advocate for conducive policy, regulatory, business and investment environments to support the growth of the rice industry as well as advocate for the implementation of regional policies and protocols, such as CET as approved by EAC.

Priority strategies and activities to be undertaken to achieve the objective

Strategy 1. Establish a private-public forum for short and long term policy dialogue for the sustainable rice industry development and growth.

- Set out clear expectations on how the Council intends to carry out its mandate/functions including objectives, processes, member responsibilities, and expectations of management.
- Develop, write and publish evidence-based policy briefs with key messages on policy outcomes
- Liaise with the Prime Minister’s Office, and other private sector organizations for convening relevant brainstorming sessions.
- Advise and keep the Government informed on issues or events that concern or can be reasonably expected to be important (to the rice industry and related stakeholders) currently and in the future that are in the exercise of the responsibilities of the Government’s MDAs, Agencies, LGAs, Parastatals, and other public entities.
- Conduct/commission research/studies on various policies, legislation, regulations and other initiatives impacting negatively on the rice industry and disseminate findings to appropriate stakeholders for remedial action.
- Convene a biannual rice conference to deliberate on the developments, opportunities, challenges facing the rice industry and solutions.

Strategy 2. Get the approved CET implemented & ensure that there is no adverse change in CET.

- Produce position papers addressing burning issues in rice industry starting with the CET highlighting their effects on stakeholders, economy.
- Hold sessions and strategize with the representatives from members of the East African Grain Council.
- Establish regular dialogue with Prime Minister’s Office & Ministry of East Africa Cooperation.
- Follow-up implementation of agreed resolutions

SO 5: To increase the resources levels of RCT to enable the implementation of its objectives and ensure sustainability.

Priority strategies and activities to be undertaken to achieve the objective

Strategy 1. Establish a mechanism for membership subscription and fees.

- Identify the number/types of membership fees to be charged and set the rates of the

membership subscriptions and fees basing on membership categories and sizes. Draw lessons from other Councils and organizations, e.g. TAHA, EAGC, etc.

- Seek for membership approval on the types and rates of membership subscriptions and fees to increase ownership.

Strategy 2. Fundraise 30% of the SP budget by Dec. 2015 to enable smooth implementation.

- Launch the strategic plan & invite influential stakeholders and potential funders of key activities
- Identify institutional capacity and critical operations needs and potential funders.
- Liaise with members and development partners and other stakeholders for support in institutional capacity building.
- Develop and submit quality and valuable concept notes and stakeholder responsive proposals to potential supporting institutions and funders.

Strategy 3. Mobilize resources for rice industry development programs/projects, including PPP.

- Identify industry's challenges and potential funders.
- Develop, submit, and follow up concept notes/proposals.

SO 6: To forge new partnerships, alliances, and networks, and maintain liaison with Government, Boards, groups, or other grains and cereals associations and organizations inside and outside Tanzania, and facilitate joint activities where appropriate.

Priority strategies and activities to be undertaken to achieve the objective

Strategy 1. Enhance RCT's local and global exposure, brand equity, enhance collaborations with other entities to leverage exchange of knowhow, human resources, and to facilitate development of RCT's capacity and capabilities and reach.

- Participate in important events, conferences, and shows e.g. Saba Saba and Nane Nane, and East African, SADC, COMESA, NEPAD, and European Community, NAFTA, and ASEAN shows.
- Develop beneficial strategic alliances with, Government, private sector entities, and national, regional, and international councils, institutions and organizations dealing with rice, capacity and capabilities building, rice enterprise development, and research and development.
- Expand the working relationships with other commodity councils for sharing of lessons and experiences; joint lobbying/linking with funding institutions; joint activities and program planning, implementation, monitoring and evaluation; sharing of resources, equipment, and investment in technical infrastructure and facilities; periodic joint meetings; and empowerment of stakeholders.

4.3 Expected results

Effective implementation of these strategies and related activities will enable RCT to:

- Bring together and organize a critical mass of relevant stakeholders and resources to design, plan, and implement programs and activities that are valuable to the sustainable rice

industry's development and growth;

- Achieve critical mass in relevant areas where the rice based agenda can contribute to income generation, food security, poverty alleviation and environmental sustainability;
- Improve the relevance of RCT activities and interventions inside and outside the country;
- Complete the chain from analysis of rice industry needs through policy analysis and advise; improvement of regulatory and business environment; technology development, testing, adoption and implementation of innovations; and effective links to scaling up systems, platforms, and organizations that can help to leverage impact;
- Build synergy and tap into opportunities provided by institutions and organizations with knowledge, experience, mandates and resources that complement those of RCT;
- Promote positive policy, regulatory and business environment changes at different scales (local and global). In addition, to contribute to policy, institutional, and gender related transformations as appropriate to create conditions and practices that transform livelihoods and landscapes in rice growing areas;
- Incorporate the active participation of rice value chain actors in advancing environmental and natural resource management, thereby incorporating environmental knowledge, expertise, and related considerations into their systems and operations;
- Assure the long-term sustainability of the rice industry This includes leveraging innovations in water and land management, raw materials and energy efficient value addition processes, and infrastructural development for increased uptake by farmers, processors, traders, policy makers and the private sector through knowledge/technology-to-action frameworks; and
- Attain a meaningful division of labor and equitable sharing of benefits among different players in the rice value chain continuum.

5.0 IMPLEMENTATION MANAGEMENT

5.1 The implementation matrix

An implementation matrix for the period 2015-2019 has been prepared and is set out in [Annex II](#). It reflects the proposals of RCT management and staff, its Board of Directors and stakeholders, as well as the consultant’s findings set out in situation analysis. The following Sections follow the steps in the logical framework highlighting the key results and related activities. In terms of the layout of the logical framework, it is set out as Output, Objectively Verifiable Indicators, Activity, Milestone, Timeframe, as well as the related Inputs.

Cost implication

The cost implication for implementing the RCT strategic plan in the period 2015-2019 amounts to TZS **23,676.15** million, with the following breakdown in [Table 2](#), below.

Table 2. Break down of cost implication for implementing the RCT strategic plan

No.	Objective	Cost, million TZS
1	To improve RCT’s corporate governance, organization capacity, management of human resources, working environment, and operations.	3,877.85
2	To enable and support the rice industry to increase rice output by 20% by 2019.	14,790.00
3	To play a lead coordinating role through outreach/advocacy, Rice Industry’s information and data management, and development.	2,783.30
4	To advocate for conducive policy, regulatory, business and investment environments to support the growth of the rice industry.	1,547.00
5	To increase the resources levels of RCT to enable the implementation of its objectives and ensure sustainability.	78.00
6	To forge new partnerships, alliances, and networks.	600.00
	TOTAL	23,676.15

The data calculated based on the exchange rate: TZS 1900=US\$1
Detailed costs for each activity are presented in [Annex II](#).

5.2 The expected Key Rest

The projected key results areas in the RCT’s SP lifecycle in the period 2015-2019 are:

- i. Capacity building initiatives initiated by RCT increasing agronomic, value addition, and agribusiness knowledge and skill levels and technical capabilities of rice value chain actors stimulating increased acceleration of growth of performance, productivity, and income.
- ii. An effective and adequately functioning and sustainably performing rice value chain, with linked and collaborating actors and partners for synergies, is expanding production, processing, and marketing opportunities, addressing issues and facets from producer to end user, including increased access to knowhow, input factors¹⁰, productivity, production

¹⁰ Input factors refers to low cost finance, improved seeds, quality fertilizers, fertile land, irrigation and water management technologies, farm implements and technologies, research and extension services, warehousing infrastructure, and marketing facilitation.

- quantities and profitability¹¹.
- iii. Information asymmetry and data gap reduced through continually collecting, systemizing, updating and disseminating information and data on the Rice Industry in Tanzania. This is enabling RVC actors to know market needs and requirements, enhance their bargaining power, and to receive fair and equitable value.
 - iv. Policy, regulatory and business environment improving through reforms, transformations, and effective action steps by Government and other public organizations to the satisfaction of rice value chain participants.
 - v. Enterprising rice related businesses are established, growing, competing in all level markets, and accessing low cost finance and other resources through sustainable models, and generating income and profits for both the near future and long term sustainability.
 - vi. Issues of low and seasonal variance in the price of paddy and related challenges in profitability slowly being resolved.
 - vii. A critical mass is achieved in relevant areas where the rice based agenda is contributing to income generation, food security, poverty alleviation and environmental sustainability.
 - viii. The responsiveness and relevance of RCT and its activities and interventions inside and outside the country improving and being supported by stakeholders and partners.
 - ix. Technology and innovations development, adoption, use and up scaling increasing efficiency, cost effectiveness and competitiveness of operations across the RVC and leveraging impact in terms of profit.
 - x. Increasing opportunities for diversification to high value rice products and diverse market participation.
 - xi. Rice value chain actors adopting environmental care principles and sound environmental and natural resource management by incorporating environmental considerations into their plans, systems and operations, and as a result increasing resilience to climates change and abiotic and biotic stresses and risks.
 - xii. Improving equality and equitable sharing of benefits among different players in the rice value chain continuum.
 - xiii. Gender mainstreaming and integration augmented and increasing employment and income generating opportunities for women and youth, who are the population segments that hold the greatest leverage for future rice industry development.
 - xiv. Long term growth and sustainability of the rice industry is assured.

5.3 Governance Procedures

Leadership and good governance will be an important area of oversight for RCT and control of the performance and costs of the above activities so that the total RCT expenditures are within sustainable levels. The stakeholder workshop has made recommendations for RCT management, members of the Board of Directors, as follows:

- i. To begin with, the RCT management should comprise of a small team of 8 staff including the Executive Director (ED) for the delivery of RCT's overall strategy and objectives;

¹¹ **Effectiveness:** the extent to which the activity's objectives were achieved, or are expected to be achieved, taking into account their relative importance; **Sustainability:** the likely ability of an intervention to continue to deliver benefits for an extended period of time after activity completion; activities conducted by RCT and rice industry need to be environmentally as well as financially and socially sustainable.

Manager Programs and Business Development; Policy Advisor/Analyst; Fund Mobilization and Business Development Officer; Accountant; Administration and Human Resources Officer (including procurement and logistics); Receptionist and Administrative Assistant to ED, and a Clerk/Driver. The other functions such as Legal, Audit, Monitoring and Evaluation, etc., will be outsourced/ recruited on per needs basis. The management will work on agreed strategic objectives, strategies, activities, and other priority areas as mentioned in the strategic plan, and other beneficial reactive opportunities.

- ii. Recruit an inclusive Board of Directors with experienced individuals who can add value to RCT by helping the leadership to make key decisions, help in stakeholder relations/network development and resources mobilization, and ensure that RCT management is implementing sound corporate governance. a) Define the needs and skills set needed; b) establish criteria for selecting the Directors; c) Put together a role description and set clear expectations of the role; d) Recruit the Directors e) Create committees, e.g. Finance and Audit Committee; and f) expose the Board to RCT's business and operations.

The Board, will be an inclusive type, and will conduct oversight (administrative, operational, financial, performance, and sustainability controls) and act as an independent, advisory group to the RCT management and the rice industry. This includes formally or informally consulting with businesses, Government, rice value chain entities, research and training institutions, non-state actors, and other persons for enhancement of the performance of the rice industry. Other includes identifying existing and future critical issues, challenges and opportunities respecting the rice industry and proposing/advising solutions.

RCT is still in the infancy stage; it is less than one year old. Therefore is the Board should comprise of highly committed and passionate individuals, who are willing to commit their time, efforts, and resources to continually push RCT agenda to the next level and vigorously pursue achievement of RCT's objectives, mission, and vision. In the first phase of this SP cycle, the Board should perform its functions to jump start the implementation of the SP, while monitoring RCT's progress with both a bird's eye view and an ant's view.

Nine candidates with one or more of the following expertise, experience or representation are required: Large Scale Farmer/ Processors Large/ Trader Large, Farmers Small Scale; Processors Medium/Small; Financial Institution; Trader Small/Medium; Input Supplier Large Companies/Small-Medium; NGO rep; Research, Training Institutions, and Extension; and Services providers (supply chain entities, warehousing, etc). Other expertise may be invited to the Board meeting when need arises, e.g. trade, lawyer, agro- economist, market linkages, and capacity building services. A Governance Manual (including terms of reference) will be developed and kept current to guide the functioning of the Board, to ensure it meets the recruitment policy, it efficiently and effectively manages its affairs, is accountable and operates within its mandate, and to measure and monitor its performance whether the Board's mandate is being fulfilled.

The Board will meet 4-5 times per year, about 2-4 months or frequently if need arises, and in no event fewer than two times per year.

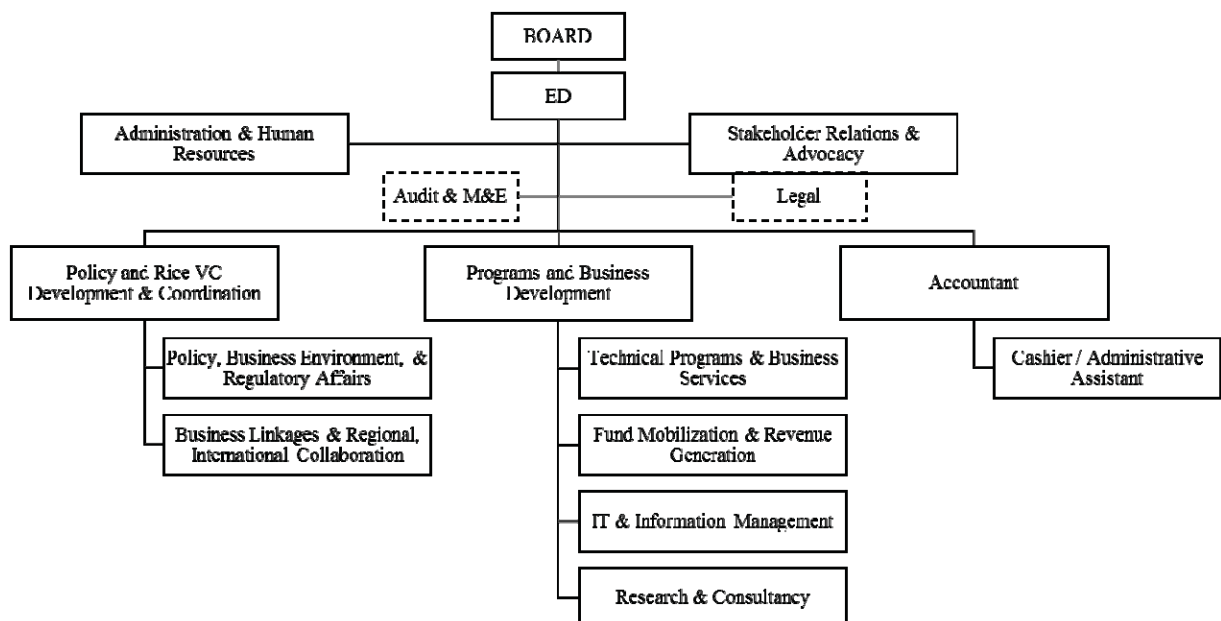
- iii. Train/give an orientation program to the staff and Board on RCT operational plans, good governance and accountability principles.

5.4 Organizational Arrangements

In order to implement the new set direction and strategic plan, RCT needs a functional organization structure. The new organization structure is presented in Figure 3. The new organization structure is designed to support the strategic priorities, allow the work flow and activities to ensure maximum and efficient utilization of RCT’s resources now and in the future.

Figure 3 will be updated with the recruitment of additional staff as RCT grows and its financial resources base improves.

Figure 3. The RCT organizational structure



5.5 Physical Resources Development and Management

Under the physical resource development and management, RCT will continue with planning, sourcing funds, and acquiring the following:

- i. Securing office space with sufficient room for the employees to be recruited, including a meeting room capable of accommodating about ten people.
- ii. Quality furniture.
- iii. Procurement of technical facilities and equipment.
- iv. Procurement of ICT facilities (website, computers/laptops, internet facilities, backup and recovery, Data Security, Data Backup, communication and other peripheral equipment, software, etc).

Software to be procured include: Microsoft Windows 10; Microsoft Office 2013; Data

Analysis and Statistics; Accounting and Invoicing software; Online conferencing/collaboration platform up to 20 participants; Antivirus Software; Monitoring and Evaluation, Stakeholder Relationship Management; and Project Management software.

- v. Procurement of a vehicle, e.g. a Toyota Land cruiser hard top.

The above technical and physical infrastructure will contribute to RCT's brand, capacity and efficiency by creating an enabling work environment for staff.

For the purpose of proper managing of equipment a ledger (both hard and electronic) will be opened for data storage. Some of the data which will be maintained include date of servicing, maintenance, costs of spares, service offered, etc. Well trained internal or out-contracted personnel will be used to operate, repair, and upgrade the equipment.

5.6 Funding and Financial Sustainability

5.6.1 Financial resource acquisition and management

RCT will develop a fund mobilization strategy for generating new sources of revenue. RCT will continue to solicit funds from members and other potential sources. Since the rice industry, agricultural development, capacity building and enterprise development will remain one of the core functions of the businesses, private sector, financial institutions, Government, and development partners and its outputs are considered as public goods, these entities will remain the main financiers. In addition, there is need for pursuing competitive grants because they foster competition amongst staff, thereby enhancing efficiency, and quality output and guaranteed flow of funds.

For effective mobilization and management of financial resources the following strategies will be considered.

- i. The primary source of funding of RCT activities will be RCT members, clients of RCT services, development partners, and collaborating partners.
- ii. Employment of competent fund mobilization and revenue generation officer who is conversant with fund mobilization and financial management practices/regulations at Government, private sector, associations/cooperatives, NGO, and development partner levels;
- iii. Recruitment of competent accounts staff and put in place competitive remuneration and other incentive packages;
- iv. Establishment of transparent mechanisms for disbursements, utilization and accounting of financial resources at all levels;
- v. RCT will contribute to formulation of national policies to create awareness to instill political will and commitment for financial resource mobilization for rice industry development, and related areas;
- vi. Installation/upgrade of modern electronic financial management software in order to simplify financial data management, flow, computing, and information sharing;
- vii. Make regular monitoring of program/ project implementation to ensure conformity with financial resource use plans, monitoring indicators, targets and funders' wants and aspirations;
- viii. Create awareness amongst RCT members, funders/financiers and other private sector

entities to ensure sustainable, long term financial support to RCT and industry stakeholders, e.g. through launching the SP, and continual reporting of the value proposition and outcomes;

- ix. RCT will establish a Consultancy Services and other Revenue Generating Activities Unit;
- x. RCT to establish linkage and collaboration with domestic, regional and international organizations for sharing of resources such as SAGCOT Centre, AU NEPAD, ASARECA, AGRA, RLDC, OXFARM, TIC, Local and international NGOs, USAID, JICA, KOICA, SNV, DANIDA, EUC, African Rice, IITA, Aghakan Foundation (AKF), DFID, Kilimo Trust, FAO, UNDP, UNCTAD, Research and Capacity Building Organizations, Academia/Universities, and others;
- xi. Efforts and time will be invested in developing concept notes, proposals, and bids for mobilizing funds from communities, emerging business enterprises/private sector, multilateral bodies, Grants from financial institutions such as Local Banks (TIB, Twiga Bank, Kilimo Bank), East African Development Bank (EADB), CFC, African Development Bank (AfDB) and World Bank, and other private foundations and philanthropic organizations such as Bill and Melinda Gates Foundation.

The above sources will ensure funding and financial sustainability aspects of RCT's operations as stipulated in the Implementation Matrix.

There are several assumptions here, which are reflected in the Implementation Matrix, and these include (i) RCT will have a strong and functional Board to advise management, help RCT secure additional funds using Board members networks and influence, and to oversee financial and operational, and investments issues; (ii) that RCT will have a visionary and committed leadership in the ED, and a committed and high performing management at all levels; and (iii) that substantial efforts and resources are invested in mobilizing resources, and lobbying for rice industry specific projects inside and internationally.

5.7 Monitoring and Evaluation

RCT will be accountable for how it uses its own, project funds, and private and public sectors' funds. It needs to demonstrate that investment in RCT activities is a good development investment, used effectively to make a difference to rice industry actors and represents good value for money. Effective planning, implementation, monitoring and evaluation of activities are important prerequisites for effective and quality outputs. The purposes of M&E is to track and assess the extent of use and effectiveness of project outputs and get feedback on adoption, impact of services, products, technologies, processes, and illustrate the results how they will be turned into outcomes and long lasting impacts, with minimal undesired effects. Information on resources acquisition, use and management, understanding project processes and the resultant delivery of outputs is necessary for effective decision making. This calls to have data/information capture templates for the next five years.

Initially, the M&E function will be outsourced to an external entity to monitor and evaluate activity performance, and to make sure RCT's results influence the decisions of leaders and management in rice industry's enterprises, policy makers and implementers, funders and the public at large. At a later stage, the M&E function in RCT will be established and improved by acquiring appropriate

M&E software that will be deployed to harmonize and aggregate M&E data from various operations and projects; to facilitate smooth flow of information and decision making; and to monitor progress towards each of the objectives.

As part of the stakeholder reporting, RCT will hold an AGM and a Biannual Rice Stakeholder Conference to share its outputs, to exchange ideas, and seek collaboration and support for the future activities.

5.8 Internal Financial Assets Audit

The Internal Financial Assets Audit for RCT expenditure will abide to the rules and directions of Government financial regulations (for Government, Public Organizations and Agencies, and LGAs' projects), as laid down in the Financial Regulations and Instructions developed by the United Republic of Tanzania. In the case of other private sector and development partner projects, their auditing systems may apply. The Accounts staff of RCT will ensure that all the necessary account codes are available. These will facilitate recording of all the transactions necessary for RCT expenditures.

Initially, annual internal and external audits will be outsourced to an external entity to enable the respective to ensure that RCT funds are being properly managed and effectively used. Both internal and external audits will control and appraise financial operations and verify financial statements and activity reports. They will provide assurance that the clients/stakeholders and funders that the resources are being used for the purposes for which they are intended. There will be both a financial audit and a performance audit. The audits will also enable the stakeholders to assess the overall financial situation and to match expenditure against agreed targets and reported achievements. The auditors will also provide advice on any modifications/improvements needed in the financial control procedures. Audit reports will be submitted to relevant organs within six month of the end of each year.

At a later stage, RCT will establish and strengthen the Audit and Monitoring and Evaluation Unit that reports to the ED. In addition, oversight will be conducted by the to-be-established Finance and Audit Committee of the Board.

5.9 Institutional and Legal Services

Legal Services play an important role in the process including drawing up and overseeing the enforcement of contracts. RCT is under obligation to act within the laws of the United Republic of Tanzania. Besides the National laws, RCT is expected to observe regional and international legal issues and effects arising from international and regional treaties and conventions affecting its services and products. In addition, RCT is expected to ensure that all techniques, practices, technologies and innovations developed by its projects and individual staff or in collaboration with others are protected and properly managed through an in house Intellectual Property Right policy and procedures.

5.10 Information Management and Communication Technology

Information is an institutional resource of critical importance for achieving the RCT's mission;

hence, effective information management should take place at all levels within an institution to support decision-making processes. Accordingly, RCT will develop and strengthen a system of information management, documentation and dissemination involving the acquisition of information resources for staff, organization of information for easy access and retrieval by users, and supporting staff to publish and disseminate their outputs. RCT will develop a communication and knowledge sharing strategy to ensure that project results reach their beneficiaries in a timely and effective manner. This includes establishment of an e-communication and dialogue platform to enable effective scaling-up of technical and business services, products, and innovations. This will enable project findings being well communicated to key stakeholders in order to achieve improved livelihoods and influence decisions making and utilization. Information management strategies will go hand in hand with employing state-of-the art related ICTs. It will also include: procurement/upgrade of software required for RCT operations (Office management and operations, Project Management, Accounts, Statistics, Data Security, Data backup, etc); Generating and processing data for the Rice Industry and all projects and activities and ensure online access; and procurement of a human resource management system.

The software to be procured are: Microsoft Windows 10; Microsoft Office 2013; Stakeholder Relationship Management, Project Management; Online conferencing/collaboration platform up to 20 participants); Data Analysis and Statistics; Procurement Management; Accounting and Invoicing; Antivirus Software. The procurement of these software are included in the Implementation Plan.

The effective ICT based promotion and marketing of RCT and stakeholder outputs and findings would strengthen cohesion and sharing, uptake, adaptation, adoption, and use of knowledge, technologies, best practices, and other innovations. Effective information management and communication should take place at all RI levels. Therefore, the current information and documentation services under RCT will be developed and strengthened into a system of information management, documentation and dissemination of outputs through establishing a database for all members and stakeholders, and establishment and implementation of stakeholder platforms (to begin with in Shinyanga, Morogoro, Mbeya, Rukwa, Manyara, and Kilimanjaro). At a later stage, an Information Management System will be developed and implemented.

Furthermore, RCT will encourage its stakeholders to join new ICT mobile platforms such as Mobile Kilimo for getting information on various issues, access to finance, procurement of inputs, and trade of goods.

5.11 Gender issues

The state of gender relations and equality in major rice growing regions is subpar. There are still certain adverse traditional and cultural practices that propel discrimination and violence against women including issues of lower years of school/training attendance in comparison to men, ownership and exploitation of input factors and resources, childhood marriages, abandonment of women and children, etc (Bamwenda GR, et. al, 2014). Therefore skills and economic empowerment of women to uplift their confidence, economic power and recognition in the society in the rice growing Districts is important.

In addition, a recent study has shown that MPI is observed to increase with a decrease in the proportion of land cultivated by women. Moreover, the regions with high poverty incidence (as indicated by Multidimensional Poverty Index, MPI) also have relatively smaller proportion of the land cultivated by women¹². This implies that the larger the land area women cultivate, relative to the land cultivated by men, the larger is the effect that women have on poverty reduction.

In view of the above and recognition of the need to address gender imbalances in the Rice Value Chain and harness the capacities, opportunities and empowerment of men, women and youth alike, there is a need to leverage the gender potential in rice development and to create synergies between rice and gender development goals, as per Women and Gender Development Policy 2000. It is therefore proposed to develop and implement a Rice Gender Strategy for the women and youth segment of the communities that hold the greatest leverage for rice development in the country.

The overall goal of this strategy is to increase the quality, efficiency and impact of RCT interventions, to address gender-specific needs and enhance the empowerment of women and young adults, and ensure that the outputs and outcomes reach and benefit as many women and youth as possible, thus helping to promote equality of opportunity and outcomes between women and men in the Rice Value Chain and Rice Industry.

5.12 Assumptions and risks

In putting this strategy into action and achieve the desired outcomes there are a number of assumptions and conditions which are conceived in planning the implementation. In case these assumptions hold otherwise there potential risks that may be faced. The following are the assumptions:-

- RCT stakeholders will be receptive, collaborative and supportive to the implementation of this strategic plan.
- Initial financial and other resources (human and infrastructural) are obtained by RCT in the short to medium term.
- Improved stakeholder communication, mobilization, and advocacy for their interests resulting in increased recognition and support for RCT.
- Knowledge, skills and performance levels of value industry stakeholders and their businesses are improving.
- Policy, regulatory, and business environment in favor of rice industry and agriculture holds through the 5th -6th phase Government.
- Raising price of rice and RVC profitability.
- Maintenance and increased cooperation and synergy between Government, farmer organizations, rice business enterprises and other rice value chain participants.
- Improving gender mainstreaming and integration in rice businesses, private and public interventions, District Development Plans, ASDPII, MKUKUTA III, FYDPII, and increased engagement and involvement of women and youth in the rice value chain processes and activities.
- The economic and market situation for rice shall not change adversely.
- Increased public budget allocation and development partner funding for the rice sub-sector

¹²Lokina R., Hepelwa, A., Selejio, O and Ngasamiaku, W. 2015. *Poverty-Environment-Gender Nexus Report for Tanzania*, MoF and POPC, April 2015

to address specific priority value and supply chain opportunities and challenges in rice growing areas, especially rice production, warehousing, and marketing infrastructure.

- Rice industry stakeholder organizations and platforms are established and organizational foundations are strengthened.
- NGO and other non-state actors support in the rice sub-sector is sustained.

Key risks outlook

In case the assumptions do not hold the salient risks that may be faced by RCT are:

- Inability to recruit additional staff, working tools, and raise adequate funds in time may undermine the implementation of the strategic plan.
- If the RCT agenda will not release perceived results, the rising enthusiasm about RCT among members and stakeholders will level off quickly and this may force RCT to stay in the state of doldrums for some time.
- Volatility and fall of price of rice and related potential fall of the targeted profitability may affect stakeholders' contribution and participation in RCT activities and related common rice industry plans.
- A major risk to RCT's performance and related rice industry's outlook comes from the weather. Poor rains (as in the case of Kapunga Cluster in Mbeya in March 2015) would not only exacerbate the performance of RCT members and stakeholders but would also hamper their growth, raising costs for businesses and, by extension lowering their support to RCT's projects.
- Low support and indifference among some RCT members resulting from not seeing tangible value in supporting RCT, e.g. insignificant changes in the business environment and leveling or drop in industry's performance and investments.
- Risk that efforts to raise RVC's cost-effectiveness and intensification/productivity growth can lead to labor shedding rather than job creation in the longer term in the rice industry.

The following are proposed to facilitate risk mitigation:

- x. RCT should assess Rice Industry's evolving exposure to country specific operational and business risks, using tools for in-depth analysis of the policy, legal and regulatory business environment.
- xi. RCT should continually identify and evaluate adverse policy, business, regulatory, and local and international rice production and other economic trends that may affect Tanzania's rice industry and RCT, to facilitate risk mitigation.
- xii. Forecast and assess the potential critical shortcomings and other factors of the rice industry's business environment that pose hidden barriers and costs to profitability and address them in collaboration with the Government and other actors.
- xiii. RCT and business leaders in the Rice Industry (RI) should identify, evaluate, and anticipate comparative strengths and weaknesses in the key areas of RI and contextualize the rice industry's competitive forces and risks against regional and international peers and advise the stakeholders accordingly.
- xiv. RCT should devise a risk ratings system: From time to time, RCT, Government and other key stakeholders should forecast scenarios for RI's growth and impact of policy, regulatory and business environment (using set key industry indicators), and evaluate challenges/threats to doing business in the Rice Industry and address them before they pose major risks and losses to the industry's actors. To implement this, RCT should create a comprehensive and reliable database on RI, with information and data sourced and fully maintained from a network of businesses, government and multilateral contacts.

- xvi. RCT should strive to gain key insights into the current and future direction of government and regional and international policies, strategies, legislation, regulations and interventions, which could significantly affect RI's development trend and business prospects, and advise the RI stakeholders.
- xvii. RCT should build and exploit the benefits of an extended network of private and public sector sources, collaborators and partners inside and outside the country, including for risk management purposes.
- xviii. There is need for RCT, RI's private and public leaders and other stakeholders to brainstorm on alternative labor and measures on how to create effective demand in other areas of the RVC or sectors or outside agriculture for labor that will be made redundant with proliferation of technologies and factors that will enhance efficiency and productivity. One of such alternatives is establishment and expansion of production of diversified, high value rice and allied products and their market development, e.g., food and feed products, nutraceuticals, rice oil, renewable energy sources from rice husks, production of organic, orthopedic mattresses, etc. Such areas may provide employment opportunities, sustainable revenue streams, and act as a refuge for excess labor in the RI.
- xix. Development and expansion of other value chain opportunities, e.g. in the development of marketing infrastructure to enhance sufficient throughput rice products' quantities for export.
- xx. Training/retraining, learning new skills, and shift to other professionals, rural franchises, and social enterprises, e.g. maintenance management, water and sanitation, economically viable renewable energy sources, environmental management, climate change resilience adaptation in the rice industry, etc.
- xxi. Sustain a constructive dialogue on constraints and challenges that are affecting the rice industry and reach a consensus on how to resolve them.

6.0 RECCOMENDATIONS

This section provides recommendations related to the way forward, as follows:

Funding of core operations

The most urgent activity for implementation of this strategic plan (SP) is the significant financial inflow of whichever kind to finance the implementation of critical issues such as recruitment of additional staff and procurement of office space and working tools. Financial inflows can only be attracted if the members and stakeholders are aware of RCT's value proposition and the benefits that can be accrued by supporting RCT activities, e.g. addressing constraints limiting potential development; gradual improvement of the investment options, performance or profitability resulting from RCT actions; and potential long term interventions that will generate growth and bright future perspective in the rice industry, etc.

Therefore it is recommended that RCT should first and foremost sell the Strategic Plan: Promote stakeholder ownership, contribution, and participation in the implementation of the strategic plan (SP) by launching the SP and making zonal and other presentations on the SP, e.g. to zonal/regional and District stakeholders and potential financiers.

Key issues for future

Operational issue

- i. Recruit and adequately compensate the requisite staff.
- ii. Procure office space and working tools to improve the work environment.
- iii. Develop and submit quality concept notes and proposals to members, potential funders, and partners to get resources for implementing key activities in the SP.
- iv. Implement the SP in collaboration with internal and external stakeholders and partners, taking into consideration agricultural and other cross-sectoral policies, strategies, programs, interventions, and respective regional and international agreements.
- v. Develop and implement a funds mobilization strategy.
- vi. Develop and deliver a communications strategy.
- vii. Develop and implement a partnership strategy.
- viii. Develop and implement a Rice Gender Strategy.
- ix. Develop a business plan for the technical and business services to be provided by RCT.
- iii. Pursue the RCT vision by effectively engaging members and stakeholders and devise measures to address resistance to change.
- iv. Closely monitor outputs, trends, and measure and evaluate change and impact of RCT activities, and address failures.

Policy and institutional issues

- v. RCT should dialogue and work with the Ministry of Agriculture, Food and Cooperatives and other line ministries and continue to develop/review the policies, legislation, and regulatory framework and ensure that the necessary institutions at the national, regional and local levels are in place, effectively manned and functioning, and adequately financed to facilitate the development of the Rive Industry and allied interventions, and to enhance infrastructure development and social provisions in areas dealing with rice.
- vi. In collaboration with NBS, MAFC-Statistics Unit, MITM-Marketing Div, LGAs, and business enterprises, continually collect, systemize, update and disseminate information and

- data on the Rice Industry.
- vii. Conduct/commission independent research, consult and solicit the views of stakeholders, and provide technical services to the rice industry actors, and make policy recommendations that inform decision makers in Government, enterprises, and society on matters pertaining to the rice industry's growth.
 - viii. Establish a high level team/committee of highly skilled and knowledgeable cross-sectoral experts to conduct quarterly rice forecasts and advise the stakeholders accordingly.

Capacity building

The human and financial capacity at all levels of RVC should be enhanced; in particular, more financial resources should be allocated to enterprise development and extension services. Training programs in various fields should be organized for the rice value chain actors for example in participatory and sustainable approaches in their operations, training producer associations in good management practices, quality and safety management, marketing, and in the operation and maintenance of machinery and irrigation schemes. Additional training programs should also ensure that RVC actors are well versed in command and control and voluntary industry and public rules, regulations and procedures, and standards.

Technological use

- i. An information and data collection and dissemination program should be designed and implemented. This would facilitate the sharing and use of up to date knowledge and information for decision making e.g. in business planning, weather variability and production planning, investments planning, marketing and implementation of similar activities in the future. It is proposed that compiling information regarding the rice industry should be ICT based.
- ii. RCT should encourage RI stakeholders adopt and use improved technologies, machinery, and innovations in RI processes to make considerable contributions to increased efficiency, productivity and production and thereby reduce costs and enhance profitability. To achieve this requires regular communication and awareness raising, improved extension service, and training of RI's beneficiaries, men and women. The role in the local communities of women in achieving the tech-based results must be emphasized and awareness raising and training must be provided to women and youth to achieve improved gender equity.

Diversification

Facilitate the development and diffusion of nutritious rice and bio-fortified rice varieties that will allow consumers of rice to attain healthy and nutritious diets and enable the RI to benefit from production and value addition, and marketing opportunities. In addition, facilitate integrated approaches to improve food safety.

Other issues

Participatory approaches involving the Business community, Central Government, District councils, Communities, Development partners, NGOs, and other non-state actors should be adopted as the standard methodology for planning, designing and implementing all future RCT programs and interventions.

Failure to Develop is Not Sustainable

7.0 ANNEXES

Annex I. Stakeholders Analysis

Table 3. The summary of priority needs, concerns, and needed actions/interventions in order to enhance rice industry's growth and competitiveness

Priority Areas/Needs	Major Issues/Concerns	Action/Intervention/Response Needed
Stakeholder/Actor:	Small holder rice farmers	
<p>1. Farm gate price of paddy is low.</p> <p>2. Paddy productivity and production have remained low for years.</p> <p>3. Rice to enhance food and nutrition security, income, and wealth.</p> <p>4. The rice industry's infrastructure deficit is a concern; a failure to make significant progress (in irrigation systems, water management during extended dry spells, electricity) would likely hold the small holder farmers back from reaching their significant potential</p>	<ul style="list-style-type: none"> • Fair and competitive farm gate rice prices, with low seasonal variance. • Inadequate production technical skills and farm business management and organization capacity. • Lack of farmers' access to knowledge, extension and other support services. • Poor crop husbandry and pest management practices. • Low Productivity across the RVC and high post harvest losses is reducing farmers' incomes substantially • Poor quality and high cost of improved seed varieties. • Unreliable quality and high cost of fertilizer and chemical inputs. • Lack of low cost agricultural credit and innovative financial products and services such as value chain • Financing, and medium to long term production, value add and trade finance for budding RVC enterprises. • High post-harvest losses due to poor harvesting, handling, lack of proper storage and transportation facilities. • Uncertain economic factors and decisions which negatively affect price of agriculture commodities and reduce farmer income (import of rice, over production). • Uncertain weather conditions. 	<ul style="list-style-type: none"> • Training and capacity upgrading. • Increase Government budget allocation to adequately trigger rice sub sector performance improvement. • Ensure comprehensive agricultural productivity enhancing packages are promoted in the extension services. • Facilitate access to inputs and technologies for post harvest management. • Promote business models that enhance productivity and win-win benefits to RVC actors e.g. producer schemes, warehouse receipt system. • Improve farm-level productivity through increased access to quality, weather resilient seeds as well as chemical inputs. • Strengthening the provision of quality public and commercial extension services-Initiate a Private Rice extension Service. • Promote and fund research and development into quality, high yielding, minimal water and fertilizer requiring varieties-by KATRIN. • Support effective pest and invasive management promotion. • Establish Ward/Village based financial services as well as facilitating linkages with Savings and Credit Cooperative Societies (SACCOS) / Savings and Credit Associations (SACAs), Microfinance Financial Institutions, Commercial Banks to assist farmers with credit for agricultural production. • Increase access to financial products that enable farmers to invest in technologies that minimize post harvest losses and enhance their links to rice value chain, and market the produce as groups/association/cooperative. • Facilitate adequate use of agronomic packages: Access to on-farm and post harvest technologies, techniques, and practices to reduce loses by a half. • Increase warehousing capacity in

Priority Areas/Needs	Major Issues/Concerns	Action/Intervention/Response Needed
		<p>major rice producing Regions/Districts.</p> <ul style="list-style-type: none"> • Improve direct market access and market information system. • Devise and implement climate change strategies and adaptation plans for rice industry. • Facilitate access to commercial risk and weather insurance products for crop failure due to weather variability, drought, and climate changed effects. • Promote production and processing of brown and organic rice according to international standards for quality and safety standards to get premium prices. • Promote sound environmental management through use of eco-efficient practices, GAP, and GMP.
Stakeholder/Actor:	Large scale rice farmers, processors, and traders	
<p>1.Ensure predictability of policy and regulations;</p> <p>2. Reduce tax burdens.</p> <p>3. Coordination and synergy among RVC entities is sub optimal.</p> <p>4. The uncertainty regarding the future business environment is partially jeopardizing large investment projects.</p>	<ul style="list-style-type: none"> • Uncontrolled produce cess levied by local government. • Limit unsubstantiated duty-free import and flooding of the market with cheap imported rice. Reason: It diminishes the incomes of players across the rice value chain, from small scale farmers, millers, local traders and processors to packers, and it discourages investments or to attract new investors to the industry. • The Common External Tariff (CET), originally introduced to protect a young and fledgling Tanzanian rice industry is not wholly implemented. • Comprehensive incentives for increased private sector investment in RVC are inadequate. This is needed to effectively implement the rice development commercialization agenda, as per NRDS • Increased access to regional and international markets. • Increase access to business and extension services, and skilled human resources. • Rising cost and need of diversity inputs (fertilizers, agro chemicals, improved seeds, implements). 	<ul style="list-style-type: none"> • Promote and encourage PPP investments. RVC investment opportunities should be elaborated and profiles promoted to potential investors by RCT. • Strengthen and ensure credibility and reliability of official rice market information & data. • Increase the pace of reforms of destructive taxes. • Agricultural land bank and related services should be implemented. • Private Sector Investment Protection measures should be ensured. • Agricultural Financial Services should be enhanced. • Promote small, medium to large-scale investments in the diversified, quality value added rice products to enhance RVC linkages with other industries and export markets, e.g. for snacks and feed. • Improve incentives for rice and allied products exports: facilitation of export of rice to increase incomes through regional and international trade. • Strengthen RCT to set up or revive public-private forum/platform for rice in regions/Districts for policy and business dialogue and coordination • Address importation of duty free rice products that distorts the price and market. • Strengthen and enforce quality and safety rice standards. • Establish a structured trading

Priority Areas/Needs	Major Issues/Concerns	Action/Intervention/Response Needed
		<p>systems and rice or grain commodity exchange</p> <ul style="list-style-type: none"> • Reduced cost of inputs. • Sustenance of EAC's CET. • Enabling business environment for large scale production. • Reduce taxes and tariffs • Improved linkages to international markets. • Ensure a well negotiated EPAs and WTO Doha Round with benefits to Tanzania's rice industry.
Stakeholder/Actor:	Processors	
	<ul style="list-style-type: none"> • Technical infrastructure (electricity, water, etc) is suboptimal. • Quality and standards enforcement is missing. 	<ul style="list-style-type: none"> • Promote dissemination, adoption and use of technologies that help improve processing and delivery efficiency to small - medium millers and women value adding groups. • Packaging technologies are not easily accessible. • Ensure sanctions are effectively implemented for non-adherence to standards by strengthening capacity of respective TBS, TFDA, and TANTRADE • Facilitate value chain partners to adapt standards and quality incentives and self-regulating mechanisms.
Stakeholder/Actor:	Traders	
<p>1. Technical and physical infrastructure upgrading and construction is lagging behind in strategic areas in the RVC which is lowering competitiveness.</p> <p>2. Need to establish mechanism and links in the rice trade to facilitate the competition of Tanzania export enterprises to compete in regional and international markets.</p> <p>3. Need of a domestic rice market development.</p>	<ul style="list-style-type: none"> • A poorly developed rice value chain with poor coordination, governance and weak market links. • Agricultural support infrastructure (storage, wholesale markets, mills and processing facilities) are inadequate for the mission of driving down supply chain costs. For instance, imported rice is much cheaper and far superior in quality than domestic rice because of differences in post harvest storage, processing and transport, and partly due to own Government subsidies. • Unpredictable business environment, frequent changes in trade policy and regulations. • Common External Tariffs are yet to be harmonized and other trade barriers are yet to be removed. • Ensure effective implementation Tanzania Rice Development Strategy's objectives of transforming the rice sector into a commercially viable production system, by making rice to be made more affordable to consumers (e.g. retail price below 	<ul style="list-style-type: none"> • Government should increase resources for investment in priority infrastructure upgrading projects geared at enhancing competitiveness. • Improve and significantly reduce infrastructure constraints that limit the size of the local and neighboring countries market so that farmers can access it economically. • Prioritize and promote infrastructure investments, particularly roads and railway, based on their impact in terms of improving market access and increasing rice farming viability. • Facilitate and negotiate favorable rice trade terms with neighboring countries Zambia, DRC, Mozambique, Comoro, Malawi, whose demand for rice is set to increase in the next decades with population and urbanization growth. • Facilitate conformance to standards and certification requirements. • Strengthen TANTRADE and other trade facilitating and supporting institutions, such as TPRI, PHS, TRA, etc. and reduce bureaucracy

Priority Areas/Needs	Major Issues/Concerns	Action/Intervention/Response Needed
	TShs 1500/kg), and making the country's rice exports more competitive in regional markets.	through increased use of ICT platforms and coordination in implementation of regulatory functions.
Stakeholder/Actor:	Input Suppliers	
	<ul style="list-style-type: none"> • Agro dealers support not optimal. • Strengthen the capacity of stockist's access to credit and business skills. 	<ul style="list-style-type: none"> • Establish Ward/Village based input supply services. • Promote proper use of inputs for increased production and productivity. • Build strong and economically viable supply chains to village level. • Need incentives to finance optimum applications of farm inputs.
Stakeholder/Actor:	RCT Employees	
<p>1. Only two staffs.</p> <p>2. Need of a conducive working environment and tools for efficient and timely delivery of services, and effective facilitation and coordination of the industry.</p> <p>3. Effective leadership, commitment, good governance and accountability by the Board, Management, and Staff.</p>	<ul style="list-style-type: none"> • Develop strategic and business plans. • Recruit and compensate additional staff. • Inadequate securing, properly allocating, utilizing, and accounting for resources due to staff and capacity constraints. • Enhance the capacity of staff through periodic training. • Lack of timely and trustworthy information and data. • Need to use technologies, such as ICT platforms in delivering services and stakeholder communication and coordination. 	<ul style="list-style-type: none"> • Develop a strategic plan and business plan for the technical and business services. • Mobilize adequate financial resources and ensure timely disbursement of funds for implementation of the strategic plan and allied RCT operations/activities. • Need working tools such as office space, technical facilities, transport, and financial and other resources to run RCT. • Enhance response to stakeholder needs by developing and delivering a communication strategy for accessing and delivery of accurate and reliable information and data on industry. • Strengthen advocacy and negotiations capacity. • Need to increase staff self-confidence, self efficacy and performance levels through capacity building/ training opportunities. • Ensure adequate remuneration, benefits, and rewards to minimize staff attrition. • Addressing cross cutting issues, including gender mainstreaming and prevention of communicable diseases. • Increase the number of partnerships and collaborating domestic and international organizations.
Stakeholder/Actor:	Training Institutions	
<p>1. Limited human, financial and resources.</p> <p>2. Outdated technical and physical training infrastructure.</p>	<ul style="list-style-type: none"> • Resources for training, recruiting and maintaining skilled and competent staff. • Financial resources to support training functions and maintenance of students (hostels, etc) 	<ul style="list-style-type: none"> • Increase the human, financial and physical resources. • Expand the training network to Ward level. • Increase the capabilities for developing and delivery of

Priority Areas/Needs	Major Issues/Concerns	Action/Intervention/Response Needed
3. Number of trainees increasing at a faster rate than available capacity.		<p>diversified range of different training courses, services, and acquiring excellent, up-to-date training materials and facilities.</p> <ul style="list-style-type: none"> Recruit and remunerate well skilled and experienced trainers.
Stakeholder/Actor:	Research & Development, and Extension Services	
<p>1. Resources for conducting quality research and support of public extension services.</p> <p>2. Working tools.</p> <p>3. Training & recruitment of young highly skilled researchers.</p>	<ul style="list-style-type: none"> Need to extend the coverage of professional, targeted extension service. Need to improve the work environment (e.g. by providing transport, computers, communication tools, and occupation health equipment and materials), basic work facilities (e.g. access to internet), compensation and benefits (attractive health insurance and pension schemes) to attract, motivate, and retain specialists/extensionists. Weak research-extension-farmer linkages leading to inadequate dissemination of research outputs. 	<ul style="list-style-type: none"> Need to harness research and development- to get improved and right seeds and planting materials for given agro-ecological zones, optimum agronomic practices, efficient irrigation, understand the likely effects of climate change on crop growing areas, and to develop practical climate change resilience adaptation strategies/measures. Need to improve the seeds and planting materials so that they can have attributes required by the processing and value adding industries and consumers (varieties that meet the needs of specific market segments that fit future customer tastes). Need to undertake irrigation water management studies in order to maximize crop water productivity for increased and well distributed crop production throughout the year and to develop and disseminate appropriate irrigation technologies suited for the smallholders growers in order to maximize crop productivity and distribution of harvesting period throughout the year. Providing accessible, affordable, and user friendly technologies to extensionists for transfer, adaptation and adoption by stakeholders. Designing and implementing an accountability mechanism for delivery by extension officers. Setting up farmer field schools and demonstration plots in strategic and accessible areas. Conducting feasibility and cost-benefit analysis for expansion of agricultural production in new areas and establishment of factories, the utility, long-term benefits, and spillovers. Strengthen the capacity of private and public organizations 'capacity for seed production and delivery systems.
Stakeholder/Actor:	Women and Youth	
	<ul style="list-style-type: none"> Raising the awareness and 	<ul style="list-style-type: none"> Empower women and youth's

Priority Areas/Needs	Major Issues/Concerns	Action/Intervention/Response Needed
	<p>understanding youth and women on the opportunities in the RRVC and how to grab them.</p> <ul style="list-style-type: none"> • Increased access to gender-disaggregated data on the rice industry development and growth. • Developing and dissemination of combined and joined-up approaches to facilitate and technically and financially empower women and youth in rice production, value addition, and trade. • Improving freedom and capacity to participate in decision making and industry activities and make a sizeable income. • Identify, address, change or modify behavior, customs that discriminate against women and hinder women and women groups' progress in rice businesses. 	<p>knowhow wise to uplift their skills, knowledge, confidence, economic power to fully participate in TVC processes and activities to make beneficial and equitable gains and income.</p> <ul style="list-style-type: none"> • Empower women to be financially independent to safeguard their rights and improve their production performance to enable them to fulfill their potential by increasing opportunities for technical and financial capabilities development and entrepreneurship training to build agro-entrepreneurial ability and self-employment and diverse market participation to supply local and distant markets. • Reform traditional and cultural practices and violence against women that limit their contributions, acquiring of input factors, and advancement and growth in the rice industry.
Stakeholder/Actor:	Farmer organizations / Produce-based groups (irrigators organizations, Tanzania Small Farmer's Group Network (MVIWATA), etc)	
<p>1. Inadequate management, organizational and agribusiness capacity.</p> <p>2. Inadequate funding to effectively run operations and investments.</p> <p>3. Low business ethics, lack of trust, limited compliance to contract, agreements, and regulations by certain members.</p>	<ul style="list-style-type: none"> • Poor capital base • Failure to deliver quality and cost-effective services to members • Unstable membership. • Low level of autonomy due, in some cases, to external interference. • Capacity building and empowerment of rice producer, processors, and trade organizations to render more effective advice and support services to members and to equitably and sustainably participate in the RVC. • Improvement of agronomic and agribusiness skills for improvement of efficiency, productivity, and profitability. • Limited access, suitability and cost of finance: The majority of the actors in the RVC have limited sources of financing for investment which hinders the growth of certain nodes/processes and industry. • The farmers in position of inferior bargaining position and getting low farm gate prices. • Weak producer groups: Producer groups/associations are weak and not able to effectively engage and dialogue with other RVC actors on issues that affect them. This limited capacity hinges on two levels one on civic expression while the other lies on the knowledge and skills in 	<ul style="list-style-type: none"> • Strengthen the capacity and capabilities, institutional arrangements, and governance model of producer groups/organizations. • Enable small holder farmers and small and medium scale processors, and traders to access appropriate and affordable financial services. • Training to build management and organizational capacity, appropriate business attitude and acumen, and build trust and greater understanding amongst members for effective collaboration. • Training on how to conduct profitable business transactions in the RCV. • Promote use of mechanization and uptake of technologies to enhance productivity and expansion, and competitiveness. • Enhance the skills set and make rice production, processing, and trade attractive to youth. • Promote exchange visits to draw on experiences and lessons from elsewhere.

Priority Areas/Needs	Major Issues/Concerns	Action/Intervention/Response Needed
	<p>agronomy, post harvest handling and marketing. These factors imply that limited skills will compound in poor yields, quantities, quality; and inability to comply with standards requirements, which translates into low productivity and low profitability.</p>	
Stakeholder/Actor:	Business support organizations / Private Sector Service Providers (ACT, TCIA, CTI, etc)	
<p>1. Strengthening of capacity for influencing policy and regulatory framework.</p> <p>2. Inadequate funding.</p>	<ul style="list-style-type: none"> • Significant dependence on public sector and donor financial support. • Present principally in major urban centers; need to expand to District level. • Inadequate membership and efficacy. 	<ul style="list-style-type: none"> • Strengthen the capacity for lobbying for policy, regulatory and business environment and effective contribution to formulation and implementation of regional and international agreements. • Extension of network and increase in membership at District level. • Support to enhance technical and managerial skills. • Address sustainability challenges.

Annex II. Implementation Plan

Table 2. Implementation Plan for RCT's Strategic Plan 2015-2019

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
Objective 1. To improve RCT's corporate governance, organization capacity, management of human resources, working environment, and operations.						
Strategy 1. Recruit, facilitate, accordingly compensate human resources, Board, and provide a conducive working environment and tools.						
ED compensated. Manager programs & business development recruited and compensated. Other additional staff recruited & compensated. Orientation training made. Outsourced jobs conducted. <i>(Compensation refers to: medical insurance costs, bonuses, promotion, transport allowance, communication allowance, & inflation's considerations)</i>	Compensate ED, and recruit additional 7 staff, pay salaries, benefits, and outsource Audit, M&E functions	Conducted. Compensation. No. of employees recruited. Jobs outsourced.	May 2015- Dec 2019	Board & Mgt	2,231.2	
Training mentoring and capacity building for staff conducted.	Train, mentor, and continually build capacity of staff to update their knowhow and awareness of emerging issues (either through soliciting resources/funds or scholarships)	No. of Training mentoring and capacity building sessions	2015-2019	Mgt	90	
Board recruitment, orientation, and meetings and reporting made	Recruit the Board, hold meetings 3x annually, cover costs of meetings, and do reporting for 4.5 years	No. Of Board meetings held, reporting	2015-2019	ED, Mgt	270	
Office space rented, and working tools procured	Procure office space, utilities, & security for 55 months	Paid rent and utilities	2015-2019	Mgt	165	
	Procure basic furniture, technical facilities (computers, photocopy, etc), accessories	Procured furniture, technical facilities, accessories	2015	Mgt	30	
	Vehicle	Vehicle	2016	Mgt	155	
	Vehicle fuel, insurance, licenses, & maintenance costs	Fuel & maintenance costs for 55 mo	2015-2019	Mgt	110	
	Travel in the country and out of the country to forge & nurture partnerships & attend and contribute to meetings	Meetings attended & value generated	2015-2019	Mgt	345.95	

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
Strategy 2. Establish ICT infrastructure and information management to facilitate communication efficiency.						
	Procure appropriate software, peripheral equipment, make upgrades, purchase internet, train staff & Procure stationery and other materials	Software, materials, equipment procured	2015-2019	Mgt	164.4	
Subtotal					3,875.05	

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
Objective 2. To enable and support the rice industry to increase rice output by 20% by 2019.						
Strategy 1. Facilitate and support the Rice Industry entities to increase productivity, production and profitability through improved access to affordable input factors and skills.						
Production and productivity increased	Enhance and support market oriented variety development to research institutions	Number of rice variety developed, adopted and used by stakeholders	2016 to 2019	RCT, National and International Research institutions	180	Government, AGRA and Bill Gate Foundation, USAID, JICA, KOICA DANIDA and SNV
	Link and develop marketing skills to qualified agro input suppliers with rice producers (improved seeds, fertilizers, pesticides and herbicides)	Agro inputs accessed, adopted and used by farmers	2016 to 2017	RCT, Agro input dealers, Government, TOSC, TFRA,	200	RCT, Government, Oxfam, USAID, JICA, KOICA DANIDA and SNV
	Promote the utilization of agro mechanization (tractor, planter, combine harvester and rotary weeder)	Agro machinery is accessed and utilized by number of rice farmers	2016 to 2020	Government, SUMA JKT and Agro machinery companies, Agriculture Input Trust Fund and Financial Institutions	150	NMB, ADB,
	In collaboration with rice stakeholders to impart good agricultural practices to rice producers including System of Rice Intensification	-Number of farmers imparted with GAP knowledge -Quantity and quality rice produced	2016 to 2019	RUDI, RCT, Government, NGOs KPL,	500	RCT, Government, Oxfam, USAID, JICA, KOICA DANIDA and SNV, Kilimo Trust

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
	Expand irrigated area through improvement of the existing irrigation schemes and promote rain water harvesting, storage and high efficiency use.	Irrigated area increased base on 2015 data Water harvesting structure developed.	2016 to 2019	MoFP, Irrigation Commission, Ministry of Water , Oxfam, USAID, JICA,	10,000	RCT, Government, Oxfam, USAID, JICA, KOICA DANIDA and SNV, Kilimo Trust.
	Consult and lobby the Government, private sector, & development partners to allocate adequate resources and invest in technical and physical infrastructure development in major rice growing Districts, particularly in large scale rain water harvesting, storage, & management, irrigation, power/energy (including renewables), construction and maintenance of feeder roads passable throughout the year, and environmental management.	Amount of resources and invest in technical and physical infrastructure development	2016 to 2020	RCT, Government , USAID, JICA	10	Government , USAID, JICA
	In collaboration with stakeholders, facilitate strengthening of capacity of small to medium farmers, value adding entities, and traders by organizing two or more training sessions annually on sustainable production processes (GAP, GMP), enterprise & organization development. & quality management.	No. of training sessions held annually	2016 to 2019	Rice farmer associations / groups, platforms, Tanzania Small Farmer's Group Network (MVIWATA)	600	RCT, MAFC Business Community, Capacity Building Partners
	Solicit financial/funding institutions to allocate and provide low cost credit/funding on favorable terms to rice farmers, processors, and traders.	No of banks and micro finance institutions providing loans to RVC entities	2016 to 2019	RCT, LGAs, Community, Capacity Building Partners RCT, LGAs, Business community	30	Commercial Banks, Microfinance Institutions (MFIs), Savings and Credit Cooperative Societies (SACCOS) / Savings and Credit Associations (SACAs), EADB, AfDB, MAFC
Strategy 2. Catalyze the RVC to adopt and use innovative and cost effective post harvest technologies, including adequate and quality warehousing.						

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
Post harvest technology promote and improved	Identify and improve the existing post harvesting technologies to reduce post harvest losses	Post harvesting technologies identified, improved and utilized	2015 to 2019	Government, AGRA, Swiss Development Cooperation, Manufacturers and RCT	100	Government, Swiss Development Co., ROCKFELLOR and Financial Institution
	Identify post technology manufacturer and suppliers and linking them with rice producers.	Manufacturer technology identified and linked to the end users	2015 to 2016	Government, RCT, NGOs and Development partners	50	Government, AGRA and Development Partners
	Promote quality storage facilities and equipments	Quality storage facilities and equipments are accessed and utilized	2015 to 2020	RCT, SIDO, NGOs and Government	75	ROCKFELLOR Foundation, Financial Institution and Government (BRN)
Fortified paddy varieties researched, produced, adopted, adapted and used	Promote research for fortification of rice and use of fortified paddy varieties to enhance nutrition value of rice.	Fortified paddy varieties produced, adopted, adapted and used	2017-2019	RCT, KATRIN, SUA, MAFCARI, IRI	2000	MAFC, BMGF, IFPRI, IRI, & other research supporting organizations
Strategy 3. Promote the production of high quality rice using Good Agricultural Practices and Good Processing/Manufacturing Practices in line with national, East African, and International production, value addition, and marketing standards and safety requirements.						
High quality rice which meet national and international standards is produced	Assist the familiarization and application of the rice standards to the rice stakeholders through workshops and meeting	Rice standards are available and applied by the end users	2015-2020	RCT, TBS, TFDA, EAGC and NGOs, MITM, GIS	50	Government, NGOs and Development Partners
	Promote market oriented produce and products using e-platforms such as M-Kilimo, E-Learning M-Microfinance which are in existence and managed by ESRF in the districts, and other e.g. M-Sokoni.	Demand driven products are identified, produced and marketed	2015-2020	RCT, Traders, Consumers, Producers	50	Development partners, Government, NGOs, Traders
	To mobilize and encourage farmers to produce agreed marketable variety to maintain quality of a targeted market.	Farmers mobilized, and supply common rice products for a targeted market	2015-2020	RCT, NGOs, Government, Traders	150	Government (BRN), development partners, traders and NGOs
	Promote the establishment of private, rice specific extension service (initially hosted, trained and delivered by KATRIN and other volunteering Large Scale Producers.	Rice specific extension service established and operating	2017-2019	RCT, KATRIN, Medium-Large Scale Producers.	5	RCT, Training Institutions, KATRIN, Medium-Large Scale Producers, other Capacity Developing Partners

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
Strategy 4. Promote market oriented produce and demanded products and their trade.						
Market oriented produce and products promoted	Promote grading, quality packaging materials and branding	Rice produce and products are graded, packed, branded and marketed	2015-2020	SIDO, Traders, Ministry of Trade, Financial Institutions, Manufacturers and Suppliers and TBS	100	Government, Traders, Financial institutions, MITM, GIS, UNCTAD, WTO
	Establishment of structured rice market system	Structured market system established and applied	2015-2019	Government, EAGC, Development partners, NGOs, Traders and producers, TWLB	200	RI business community, Traders, Financiers, Development partners, Government.
	Promote significant value addition to rice: Shift gradually from production and trade of bulk raw rice to diversified, value added, high quality rice and allied products.	No of product diversification and market development efforts	2015-2019	RCT, Traders, producers, SIDO, Research Institutions (TIRDO), TBS, TFDA, TFNC	50	Traders, Financial institutions, MITM
	Ensure equity and equality in distribution and sharing of incentives and benefits along the rice value chain	No. of fair trade certifications	2016-2019	RCT, Fair Trade Certifying Cos. MAFC, MITM	40	RCT, Businesses, Traders, Partners promoting fair trade
	From time to time conduct foresighting to address and change potential unproductive and disruptive market dynamics and other sensitive internal and external (regional and international) policy and regulatory practices, e.g. related to tariffs; taxes; standards, quality and safety requirements; and other competitive forces.	No of sessions	2015-2019	RCT Members, Invited experts	250	RCT, RVC entities
Subtotal					14,790	

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
Objective 3. To play a lead coordinating role through outreach/advocacy, Rice Industry's information and data management, and development						
Strategy 1. Establish/strengthen platforms and enable them to function effectively.						
Cluster chapters of RCT identified and agreed	Identify current and potential major rice growing areas to be	Draft list of cluster areas	By 30 th May 2015	RCT Mgt	2	RUDI

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
	impacted by RCT, and where stakeholder platforms may be optimally established					
	Set criteria for selecting cluster areas	List of criteria for cluster selection				
	Select cluster areas for intervention	Cluster area identified				
RCT membership database developed	Sensitize rice value chain actors about benefits of joining RCT	Filled membership application forms	By 30 th Sept 2015	RCT Mgt	30	FSDT, SERA Project
	Recruit fresh members	Number of fully subscribed new members	On-going	RCT Mgt		
	Profile and Map members	Profile and mapping report	On-going	RCT Mgt		
	Create data base of members	Database of members	By Dec 30 th 2015	RCT Mgt		
RCT representatives for each node elected	Convene rice VC actors to elect representatives for the different chain nodes	List of elected members	By Mar 2016	RCT Mgt	100	SNV Tanzania, NMB, Kilimo Trust
ICT platforms developed & operationalized	Develop information needs of the platforms (begin with Shinyanga, Morogoro, Mbeya, Rukwa, Manyara, Kilimanjaro)	List of information needs	By 30 th Aug 2015	RCT & current partners	0.5	
	Develop ToRs for service provider	ToRs	By 30 th Sept 2015	RCT Mgt	0	N/A
	Advertise for & recruit service provider	Advert & recruited company	By 30 th Oct 2015	RCT Mgt	0.8	
	Develop ICT platforms	ICT platform fully operational	By June 2016	RCT Mgt, Service provider	100	
	Pilot platform					
	Operationalize platforms and enable them to effectively function.					
	Maintain platforms					
Develop a functional, dynamic website with integrated data on RVC entities from farm to end user, integrate it with androids, and launch it					15	
Strategy 2. Enhance awareness, sharing of information and data, cohesion/trust and collaboration among RVC participants.						
Awareness, sharing of	Develop & implement a	Communicatio	2015-2016	RCT,	640	SERA

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
information and data, cohesion/trust and collaboration among RVC participants improving gradually	communication strategy	n strategy document		Consultant		project, Kulim Trust
	Develop & implement a partnership strategy	Partnership strategy document	2015-2016	RCT, Consultant	215	
	In collaboration with NBS, MAFC-Statistics Unit, MITM-Marketing Div, LGAs, and business enterprises, continually collect, systemize, update and disseminate information and data on the Rice Industry	Quantity and quality of information & data collected, collated, and systemized	2015-2016	RCT, NBS, MAFC-Statistics Unit, MITM-Marketing Div, LGAs, and business enterprises,	600	
	Conduct/commission independent research, consult and solicit the views of stakeholders, and provide technical services to the rice industry actors, and make policy recommendations that inform decision makers in Government, enterprises, and society on matters pertaining to the rice industry's growth.	Research and studies reports. No of sessions/policy recommendation made to stakeholders	2015-2016	RCT, members, & other partners	450	
	Establish a high level team/committee of highly skilled and knowledgeable cross-sectoral experts to conduct quarterly rice forecasts and advise the stakeholders accordingly.	Quarterly rice forecasts made and advise given	2015-2016	RCT, Business Enterprises, ACT, TCIIA, MAFC, MITM, TANTRADE, Common Fund for Commodities, EUC, AGRA, WB	180	
	Convene policy dialogues	Number of policy dialogues held	2015-2016	RCT Mgt & RCT Board members	150	
	Organize AGM with showcasing	Attendance lists & Minutes	Annually, 2016-2019	RCT Mgt & members	250	
Strategy 3. Identify gaps and design, plan and provide technical and business services to RVC participants and related stakeholders.						
Business plan developed and technical and business services offered at a cost	Develop a business plan for the technical and business services to and implement the plan with other stakeholders	Business plan document	2016	ED	50	
Subtotal					2783.3	

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
Objective 4. To advocate for conducive policy, regulatory, business and investment environments to support the growth of the rice industry as well as advocate for the implementation of regional policies and protocols, such as CET as approved by EAC.						
Strategy 1. Establish a private-public forum for short and long term policy dialogue for the sustainable rice industry development and growth.						
Policy dialogue continuing and helping the development of the rice industry and its prioritization in policy implementation	Develop, write and publish evidence-based policy briefs with key messages on policy outcomes	No of policy briefs	2015-2019	ED, Policy analyst	200	
	Liaise with the Prime Minister's Office, and other private sector organizations for convening relevant brainstorming sessions.	No of sessions held	2015-2019	Policy analyst	9	
	Advise and keep the Government informed on issues or events that concern or can be reasonably expected to be important (to the rice industry and related stakeholders) currently and in the future that are in the exercise of the responsibilities of the Government's MDAs, Agencies, LGAs, Parastatals, and other public entities.	No of advisories	2015-2019	ED, Policy analyst	48	
	Conduct/commission research/studies on various policies, legislation, regulations and other initiatives impacting negatively on the rice industry and disseminate findings to appropriate stakeholders for remedial action.	No of studies published and disseminated	2015-2019	ED, Policy analyst	450	
	Convene a biannual rice conference to deliberate on the developments, opportunities, challenges facing the rice industry and solutions.	No of conferences held	2016-2019	ED, policy analyst	300	
Strategy 2. Get the approved CET implemented & ensure that there is no adverse change in CET.						
	Produce position papers addressing burning issues in rice industry starting with the CET highlighting their effects on stakeholders, economy.	No. of position papers	2015-2019	ED, policy analyst	200	
	Hold sessions and strategize with the representatives from members of the East African Grain Council.	No of sessions held	2015-2019	ED, policy analyst	150	
	Establish regular dialogue with Prime Minister's	No of dialogues	2015-2019	ED, policy analyst	5	

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
	Office & Ministry of East Africa Cooperation.					
	Follow-up implementation of agreed resolutions	No of resolutions effectively implemented	2015-2019	ED, policy analyst	5	
Strategy 3. In collaboration with stakeholders develop and implement strategies, plans and interventions for harnessing the capacities, opportunities and empowerment of RVC entities, men, women and youth alike.						
	Develop and implement a Rice Gender Strategy	Rice Gender Strategy doc.	2015-2019	ED, policy analyst, manager programs	30	
Subtotal					1,547	

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
Objective 5. To increase the resources levels of RCT to enable the implementation of its objectives and ensure sustainability.						
Strategy 1. Establish a mechanism for membership subscription and fees.						
Fund raising initiatives progressing	Identify the number/types of membership fees to be charged and set the rates of the membership subscriptions and fees basing on membership categories and sizes. Learn lessons from other Councils and organizations, e.g. TAHA. Seek for membership approval on the types and rates of membership subscriptions and fees.	Number/types of membership fees identified and lessons learned from other organizations.	May- June 2015	ED. Fund mobilization officer, Programs manager	7	
Strategy 2. Fundraise 30% of the SP budget by Dec. 2015 to enable smooth implementation.						
	Launch the strategic plan & invite influential stakeholders and potential funders of key activities	Launching the strategic plan held.	July 2015	ED, Board, other staff, stakeholders	15	
	Identify institutional capacity and initial critical operations needs and potential funders.	Institutional capacity and initial critical operations needs and potential funders identified.	May 2015	ED. Fund mobilization officer, Programs manager, Accountant		
	Liaise with members and development partners and other stakeholders for support in institutional capacity building.	No of meetings held with partners and funder and number of commitments made.	June 2015	ED. Fund mobilization officer, Programs manager, Accountant	3	

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
	Develop and submit concept notes/proposals to potential funders	No of concept notes/proposals developed, submitted and followed up	June 2015	ED, Fund mobilization officer, Programs manager, Accountant	7	
Strategy 3. Mobilize resources for rice industry development programs/projects, including PPP.						
Report on critical short to medium term challenges/constraints and potential solutions proposed	Identify industry's challenges and potential funders.	Report	June 2015	ED, Manager programs	1	
	Develop, submit, and follow up concept notes/proposals.	No of concept notes and proposals	2015-2019	ED, Manager programs	60	
Subtotal					78	

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
SO6. To forge new partnerships, alliances, and networks						
Strategy 1. Enhance RCT's local and global exposure/brand, enhance collaborations with other entities to leverage exchange of knowhow, human resources, and to facilitate development of RCT's capacity and capabilities and reach.						
RCT attending and contributing at important events, conferences, and shows	Participate in important events, conferences, and shows e.g. Saba Saba and Nane Nane, and East African, SADC, COMESA, NEPAD, and European Community, NAFTA, and ASEAN shows.	No of events attended	2015-2019	ED, Administration & Human Resources, Manager programs, Stakeholder relations & Advocacy	150	
RCT value proposition understood and RCT brand is enhanced	Develop beneficial strategic alliances with, Government, private sector entities, and national, regional, and international councils, institutions and organizations dealing with rice, capacity and capabilities building, rice enterprise development, and research and development.	No. of beneficial strategic alliances developed and nurtured	2015-2019	ED, Administration & Human Resources, Manager programs, Stakeholder relations & Advocacy	250	
Exchange of knowhow, staff and resources and joint projects are being conducted with other organizations	Expand the working relationships with other commodity councils for sharing of lessons and experiences; joint lobbying/linking with funding institutions; joint activities and program planning, implementation,	No of working relationships and joint projects	2015-2019	ED, Administration & Human Resources, Manager programs, Stakeholder relations & Advocacy	200	

Output	Activity/Action Steps	Verifiable Indicators	Period	Lead & Partners	Budget, million TZS	Sources of funds
	monitoring and evaluation; sharing of resources, equipment, and investment in technical infrastructure and facilities; periodic joint meetings; and empowerment of stakeholders					
Subtotal					600	

Annex III. Stakeholder Workshop Participants

	Names.	Organization/Status.	Address / Email	Telephone / Cell
1	Abel Lyimo	RUDI (Rural and Urban Development Initiatives) - DSM Economist - CEO	P. O Box 78741, DSM	0754 288151
2	Pal O. Stormorken	CEO Yara Tanzania Ltd DSM	Hailie Selassie Road 142 DSM	0767 232408
3	Julius Wambura	Food processor –FHABO Founder. DSM. Chief Operations Officer.	P.o. Box 22557 DSM frabho@yahoo.com	0784 411818
4	Sebastian Sambuo	Marketing Manager	RUDI DSM sambuo@yahoo.com	
5	Rachel Agambo	Kilimo Trust (PHD) – Agriculturist, Head of Tanzania Kilimo Trust DSM	P. O. Box 71782, Kampala, Uganda.	
6	Chris Maongezi	KPL	P.o. Box 23394 Dsm	0769 112233
7	LuhendeMalija	Director Small Farmers Association Shinyanga Rice farmer Representative	P.O.Box 113 Shinyanga luhendem@gmail.com	0752 139727
8	Raphael Swilla	Mbeya Rice farmers Representative, Chairman to Mbeya Federation.	P.O.Box 331,Chimala, Mbeya swillaraphael@gmail.com	0754 746101
9	RenaldaKimaro	Development practitioner, Policy Analyst– RCT ED	P.O. Box 105659 DSM/76662 DSM	0764244722
10	Winnie Bashagi	Agriculture& Rural Development specialist	P.O. Box 105659 DSM/76662 DSM	0754865664
11	William George	ANSAF Project Coordinator Agribusiness	agribuse@ansaf.or.tz	0687968661
12	Geoffrey Kirenga	CEO SAGCOT	SAGCOT CENTRE geoffrey.kirenga@sagcot.com	0756480069
13	Henry Lisanga	Rudi trade officer.	Kilombero	0715055937
14	NtimiMwakinyuke	Kilombero Rice Farmers Apex AKIRIGO.	ntimi62@gmail.com	0255 686 720 772
15	Kennedy Kirenga	Advisor, AMBERICO	Mbarali kirengakennedy@yahoo.com	0759 019861
16	StephanoMpangala	Oxfam -Rice Value Chain Coordinator – Shinyanga	mpangalas@gmail.com	0255 713161799
17	Mujawamariya, Gaudiose	AfricaRice DAR ES SALAAM	G.Mujawamariya@cgiar.org	
18	NkoriKibanda	KATRIN - Ifakara	ARI-KATRIN, Private Bag, Ifakara katrin@iwayafrica.com nkibanda2000@yahoo.com	0784 419 422
19	UpendoMndeme	Agricultural Seed Agency	P.O.Box 364, Morogoro, Tanzania firmin.mizambwa@gmail.com	+255 (0) 787 515162
20	Daniel W. Mashelle	Associations Morogoro	Morogoro danewilbs@yahoo.com	0712 033 190
21	Kelvin Remen	Policy Analyst Tanzania Horticultural Association	Kanisa Road, House No 49 P. O. Box 16520 Arusha, Tanzania kelvin.remen@tanzaniahorticulture.com	+255 755 191901
22	Gratian Bamwenda	Consultant	Agricultural Innovation and Research Foundation, AIRF, P.O. Box 70446, Dar es Salaam, gratian.bamwenda@gmail.com	+255 754 005656

	Names.	Organization/Status.	Address / Email	Telephone / Cell
23	Marialyce Muthcler	CoP	SERA Policy Project	
24	Alex Mkindi	Senior Policy Advisor	SERA Policy Project	
25	Josephat Kanyunyu	SERA, Communications and Capacity Building Specialist	SERA Policy Project josephat.kanyunyu@tzsera.com	
26	Edith Lazaro	Policy Analyst	SERA Policy Project	

This strategic plan was prepared by:

G.R. Bamwenda and R. Abdallah
Agricultural Innovation Research Foundation
P.O. Box 70446, Dar es Salaam, Tanzania
Tel: +255754005656; +255684276737
Email: gratian.bamwenda@gmail.com &
roshan.abdallah@gmail.com

TANZANIA RAPID RICE SECTOR MARKET ASSESSMENT REPORT



SUBMITTED TO
USAID SERA PROJECT
MAY 2015

STUDY PERIOD AND TEAM

RAPID MARKET ASSESSMENT PERIOD

- PHASE I : 22nd - 31st March, 2015
- PHASE II : 12th – 18th April, 2015

TEAM MEMBERS

- Noah Mkasanga-Statistician Ministry of Industry and Trade
- Edith Lazaro-Research Associate SERA Project
- Aneth Kayombo-Policy Analyst SERA Project
- Winnie Bashagi-RCT Executive Director –Deputy Team Lead
- Isaac Tallam -Independent Consultant – Team Lead

TABLE OF CONTENTS

LIST OF ABBREVIATIONS AND ACRONYMS.....	3
BACKGROUND AND RATIONALE FOR THE ASSESSMENT	4
INTRODUCTION, OBJECTIVES AND EXPECTED OUTPUTS.....	5
a. Introduction	5
b. The Objective Market Assessment.....	5
c. Expected Outputs and Deliverables:.....	5
GLOBAL AND REGIONAL PERSPECTIVE ON RICE TRADE.....	6
a. Global Perspective:.....	6
b. East Africa Perspective	7
c. Tanzania Perspective.....	9
SURVEY DESIGN AND METHODOLOGY.....	11
RAPID ASSESSMENT RESULTS, DISCUSSIONS AND FINDINGS	12
CHALLENGES FACING THE RICE INDUSTRY	28
RECOMMENDATIONS & WAY FORWARD.....	29
REFERENCES AND ANNEXES.....	31

LIST OF ABBREVIATIONS AND ACRONYMS

BRN	Big Results Now
DRC	Democratic Republic of Congo
DSM	Dar es Salaam
EAC	East African Community
ETG	Export Trading Group
FAOSTAT	Food and Agriculture Organization Statistics database
GoT	Government of the United Republic of Tanzania
JICA	Japan International Cooperation Agency
LGA	Local Government Authority
MAFC	Ministry of Agriculture Food Security and Cooperatives
MIS	Market information System
MIT	Ministry of Industry and Trade
MT	Metric Tons
NAFAKA	USAID Feed the Future Staples Value Chain project
NFRA	National Food Reserve Agency
RAS	Regional Administrative Secretariat
RCT	Rice Council of Tanzania
RUDI	Rural Urban Development Initiative
SAGCOT	Southern Agriculture Growth Corridor of Tanzania
SARO 5	Rice Variety
SERA	USAID Feed the Future Policy project
SIDO	Small Industries Development Organization
TRA	Tanzania Revenue Authority
TZS	Tanzania Shillings
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

BACKGROUND AND RATIONALE FOR THE ASSESSMENT

In 2013 the Government of Tanzania allowed duty-free rice imports from Asia without following the East African Community procedures. This action disrupted the market and led to trade disputes in the region. The private sector did not anticipate the allowance of duty-free imports and has concluded that better organization and communications with the Government is needed.

As a result, rice stakeholders formed and formally registered the Rice Council of Tanzania Limited (RCT) to spearhead, coordinate and lobby the activities of the rice industry in Tanzania as an apex body.

The overall objectives of Rice Council of Tanzania (RCT) are:

- To effectively influence policy decision makers in the government of Tanzania on matters that effect the rice value chain
- To convene multiple actors from across the rice value chain to address critical rice value chain challenges
- To strengthen rice sector's cohesion and capability as required to develop a commercially successful value chain
- To facilitate partnership development amongst members and other actors
- To facilitate sharing of rice sector specific information to strengthen commercial business

In 2014, Tanzania recorded a surplus of grains production. It was then reported that public National Food Reserve Agency (NFRA) and private warehouses were filled to capacity with Rice stocks. With no place to store the surplus grains and that harvested stocks was being stored on the ground in some regions. In addition, there was conflicting and unreliable data on quantity and location of stocks and the varieties of rice available in the market.

The Rice Council Tanzania (RCT) in an effort to better understand the private sector rice stocks held in Tanzania, rice imports, and the varieties and price points of major urban markets carried out a rapid assessment of the Rice Sector in high potential purposely select regions' during the month of March and April 2015. The main objective was to develop a database of Rice sector basic stock information to help RCT develop an informed policy position and to engage in future dialogue with the Ministry of Agriculture Food Security and Cooperatives (MAFC). The responsible government Ministry mandated with Agriculture policy issues and Food Security concerns. To accomplish this task, the RCT with support from USAID SERA project conducted a rapid assessment of the private sector rice stocks in major markets and warehouses in the key rice production and consumer areas of Tanzania.

INTRODUCTION, OBJECTIVES AND EXPECTED OUTPUTS

a. Introduction

The Tanzania SERA Policy Project assists the Government of Tanzania (GOT) and the private sector to enable broad-based, sustainable transformation of the agriculture sector through policy reform. The project facilitates and supports partnerships such as SAGCOT, conducts policy analysis, research, advocacy, and legal work in support of policy reform and builds capacity of the private/public sectors and advocacy organizations. SERA Project also provides institutional and individual capacity building support to public and private sector institutions. Support for private sector institutions and advocacy organizations targets critical stakeholders in the policy reform process.

b. The Objective Market Assessment

The overall objective of the rice sector market assessment was to collect information and data that could support and enable the Rice Council of Tanzania undertake informed policy dialogue with Government of Tanzania in creating value to their members and to delivering on its mandate.

Specific objectives:

The Specific objectives of the rapid assessment of the rice sector market were:

- To conduct a rapid market assessment of the rice sector to obtain information to be used for supporting policy dialogue between the RCT and Government of Tanzania
- To provide a snapshot of the location and quantities available in major rice growing areas - Mbeya, Iringa, Morogoro, and Shinyanga Regions;
- To reveal the stocks in major markets- Dar es Salaam, Arusha, Kilimanjaro, and Mwanza
- To conduct a review of the import data available from Tanzania Revenue Authority (TRA)

c. Expected Outputs and Deliverables:

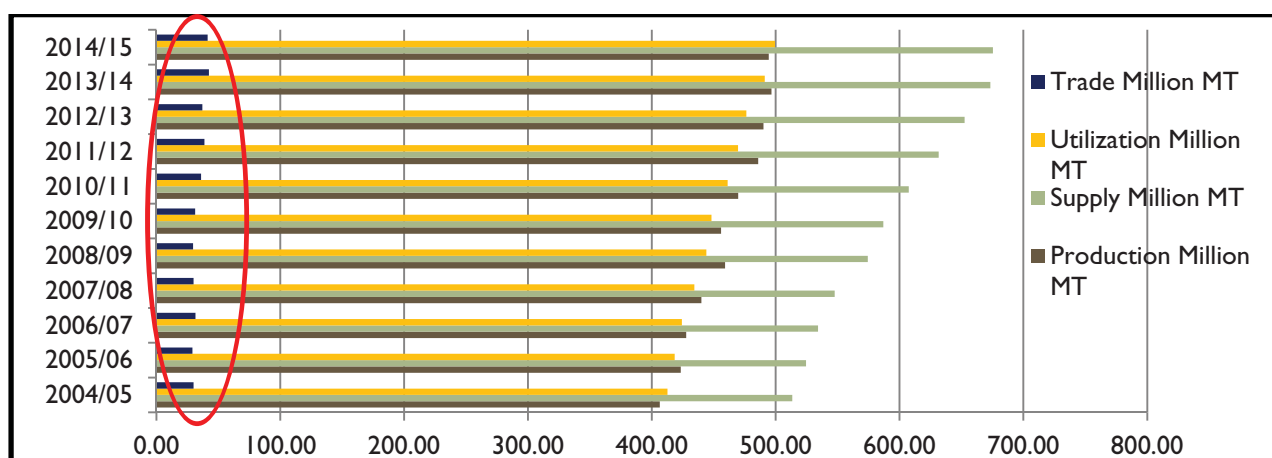
- Activity work plan
- A brief report on progress of the assessment
- A draft policy brief on the status of private sector rice stocks in Tanzania.
- A study report.
- A fact sheet summarizing the findings in figures in tables, graphs and charts,
- Presentation to the Board Members of RCT and SERA project.

GLOBAL AND REGIONAL PERSPECTIVE ON RICE TRADE

a. Global Perspective:

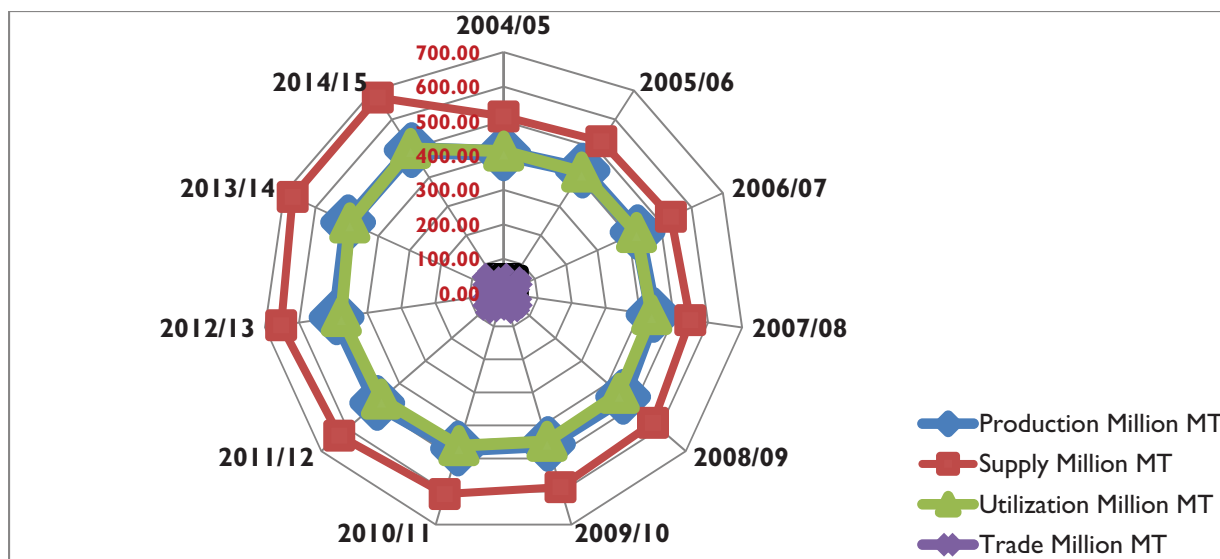
Year	Production	Supply	Utilization	Trade
	Million MT	Million MT	Million MT	Million MT
2004/05	406.38	513.40	412.64	29.94
2005/06	423.41	524.56	418.49	29.12
2006/07	427.73	534.15	424.25	31.60
2007/08	439.97	547.67	434.39	30.05
2008/09	459.13	574.34	444.02	29.59
2009/10	455.95	586.90	448.11	31.31
2010/11	469.72	607.48	461.24	36.08
2011/12	485.94	631.55	469.56	38.74
2012/13	490.11	652.47	476.37	37.16
2013/14	496.63	673.35	491.19	42.39
2014/15	494.37	675.34	499.39	41.34

Source: FAOSTAT



Source: FAOSTAT

Production data refers to the calendar year of the first year shown, while Rice production is expressed in milled terms. Supply data is equal to production plus opening stocks. However, trade data refers to exports based on a January/December marketing season for rice, while consumption or disappearance is defined as domestic utilization plus exports for any given season. The major Rice exporters are India, Pakistan, Thailand, the United States, and Vietnam.



Source: FAOSTAT

Inference:

Above analysis illustrates that, in the global scenario rice stocks available for trade are very limited at 5-6% over the past 10 years. The general trend is countries produce and consume almost everything releasing very little to satisfy global trade needs. Given this scenario it is advisable for governments in importing countries to invest more on overall production but most important and urgent is research to increase yield rates.

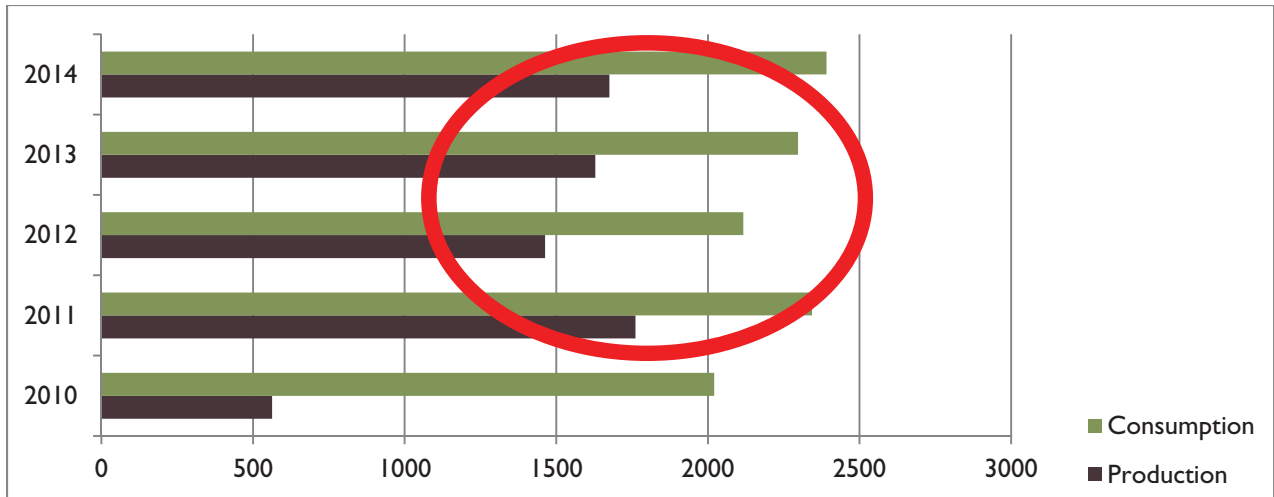
b. East Africa Perspective

Production	2010	2011	2012	2013	2014
Kenya	57	73	81	97	79
Tanzania	320	1,484	1,189	1,327	1,386
Uganda	142	151	138	147	150
Rwanda	44	53	55	58	60
EAC	563	1761	1463	1629	1675

Source: USDA data

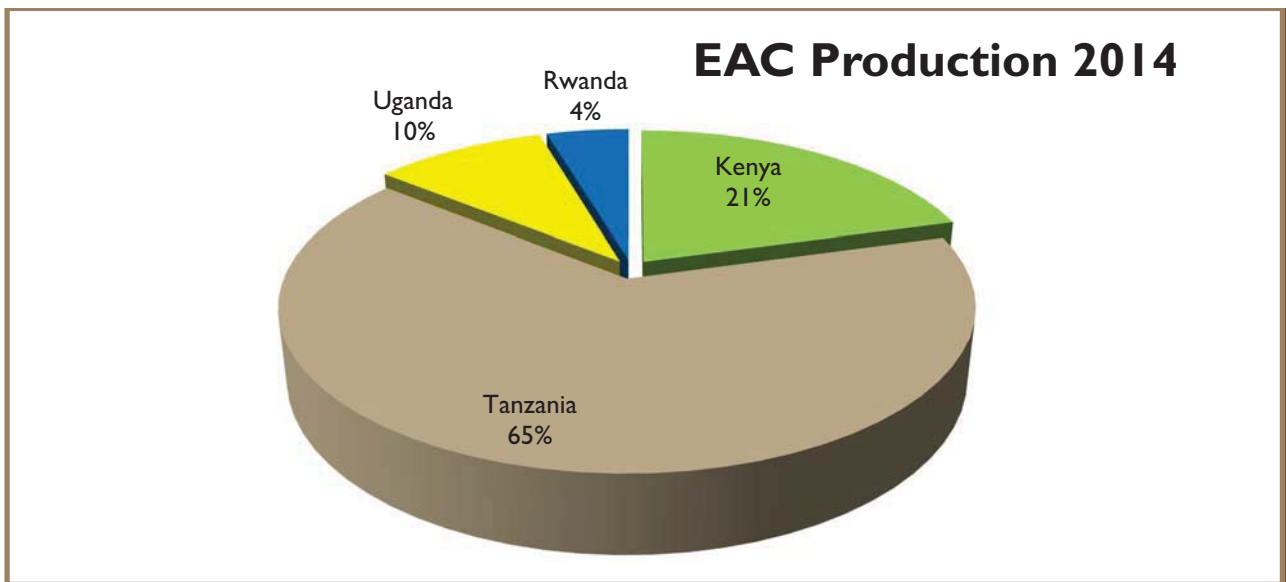
Consumption	2010	2011	2012	2013	2014
Kenya	400	450	455	475	495
Tanzania	1360	1584	1359	1497	1556
Uganda	182	216	188	227	230
Rwanda	79	93	115	98	110
EAC	2021	2343	2117	2297	2391

Source: USDA data



Source: USDA data.

It is evident from above figure, that the region cannot meet its own rice requirements and imports to bridge the deficit gap. However, Tanzania is by far the major producer and consumer of Rice in the region.

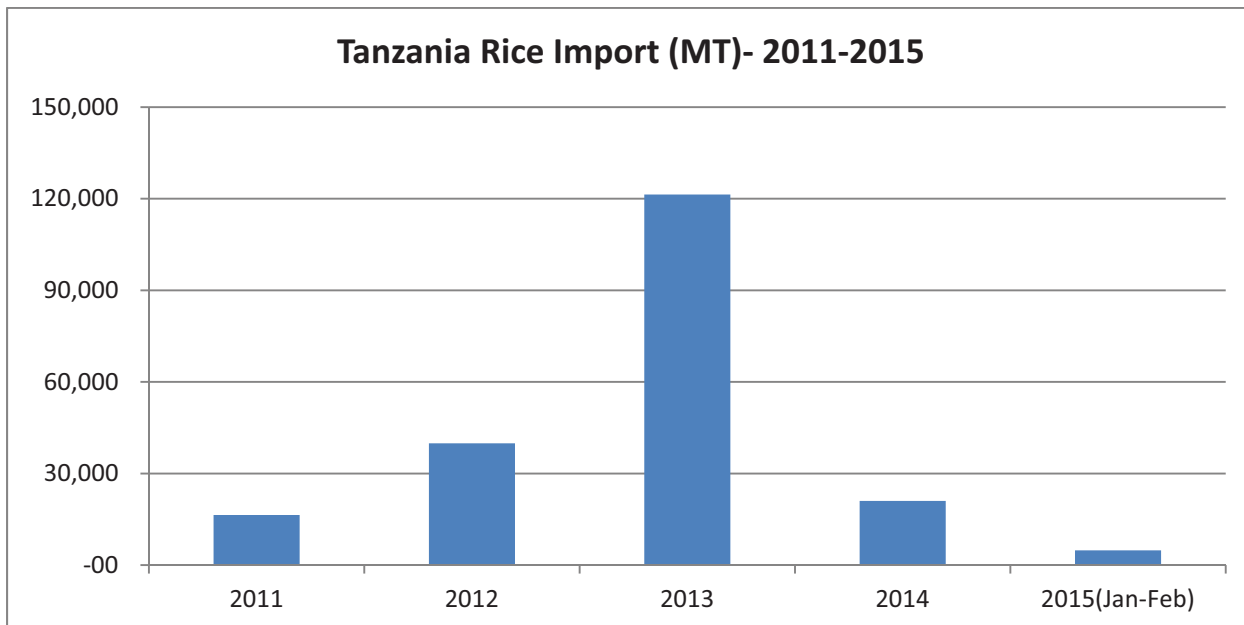


Source: USDA data

Tanzania produces over 65% of rice in EAC and has the highest consumption per capita than all the other EAC countries.

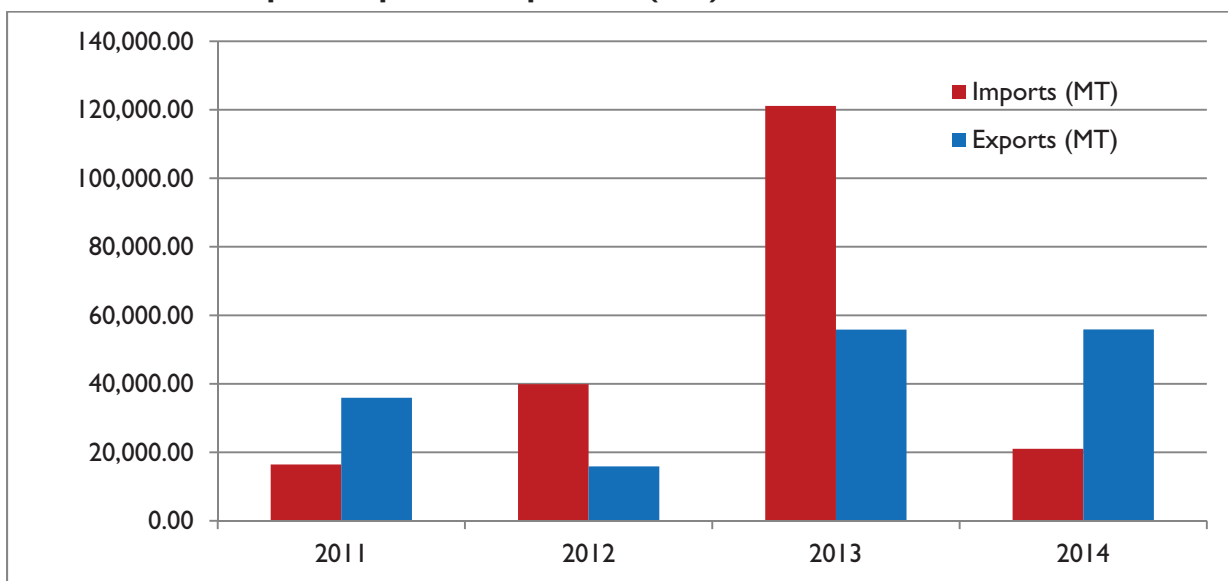
c. Tanzania Perspective

Import/Export scenario

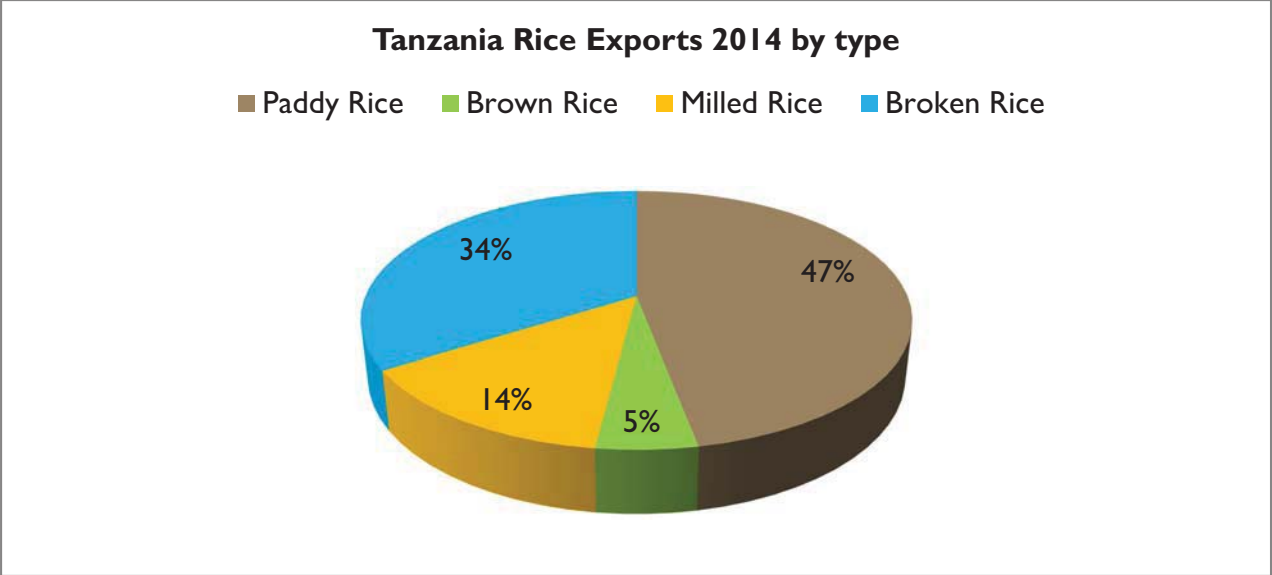


Source: Tanzania Revenue Authority (TRA)

Tanzania Rice Import Export Comparison (MT)



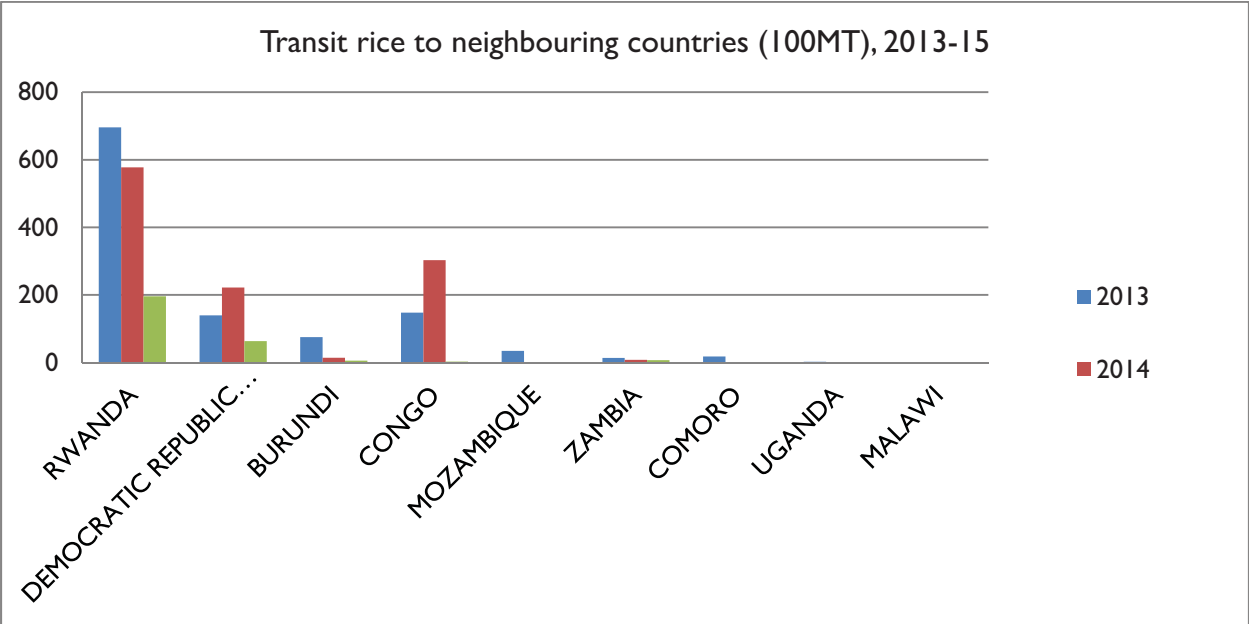
Export Import data - Source: Tanzania Revenue Authority (TRA)



Source: Tanzania Revenue Authority (TRA)

In 2014, Tanzania exported 47% of its rice production in the form of paddy rice, 34% in the form of broken rice, 14% in milled rice form and balance 5% in milled brown rice form. This means Tanzania needs to invest more in value addition for its farmers to reap more value at the farm level by selling milled rice instead of paddy rice.

TRANSIT RICE TO NEIGHBOURING COUNTRIES THROUGH TANZANIA



Source: Tanzania Revenue Authority (TRA)

SURVEY DESIGN AND METHODOLOGY

The study was conducted for the duration of 4 weeks and divided into two phases.

Phase 1: March 22nd – 31st, 2015 – covering Central to Southern Highlands of Tanzania.

Phase 2: April 12th – 18th, 2015 – covering Lake Zone and Northern Tanzania.

The break was occasioned by Easter holidays.

Study area selection criteria:

- High rice producing regions
- Large rice consuming regions
- Large rice trading regions

The study team identified 16 districts spread across 9 regions of Tanzania. Key stakeholders in the study area were identified prior to the field visits.

Overall a total of 250 primary interviews were conducted with key stakeholders mainly, rice farmers, millers, traders, processors and agricultural officers.

No	Region	District/ Specific location
1	Morogoro	Morogoro Markets
		Mvomero
		Kilombero
2	Iringa	Iringa Municipal
3	Njombe	Makambako
4	Mbeya	Mbarali
		Kyela
		Mbeya Municipal
5	Shinyanga	Shinyanga
		Kahama
6	Mwanza	Mwanza Municipal
7	Arusha	Arusha Municipal
8	Kilimanjaro	Moshi
9	Dar Es Salaam	Dar es Salaam markets(Tandale and Tandika)
		Dar es Salaam private warehouses
		National Food Reserve Agency (NFRA)

Specific tasks of the market assessment:

The study team initially designed and pre-tested the questionnaires and other tools for stock taking and production assessment in the field. However, when the team got to the field the

questionnaires was unsuccessful utilized. The team then redesigned/revised data capture tools to fit the scenario in the field. The main reason being the respondents don't keep records and therefore was difficult to get data on stocks held over the past two years.

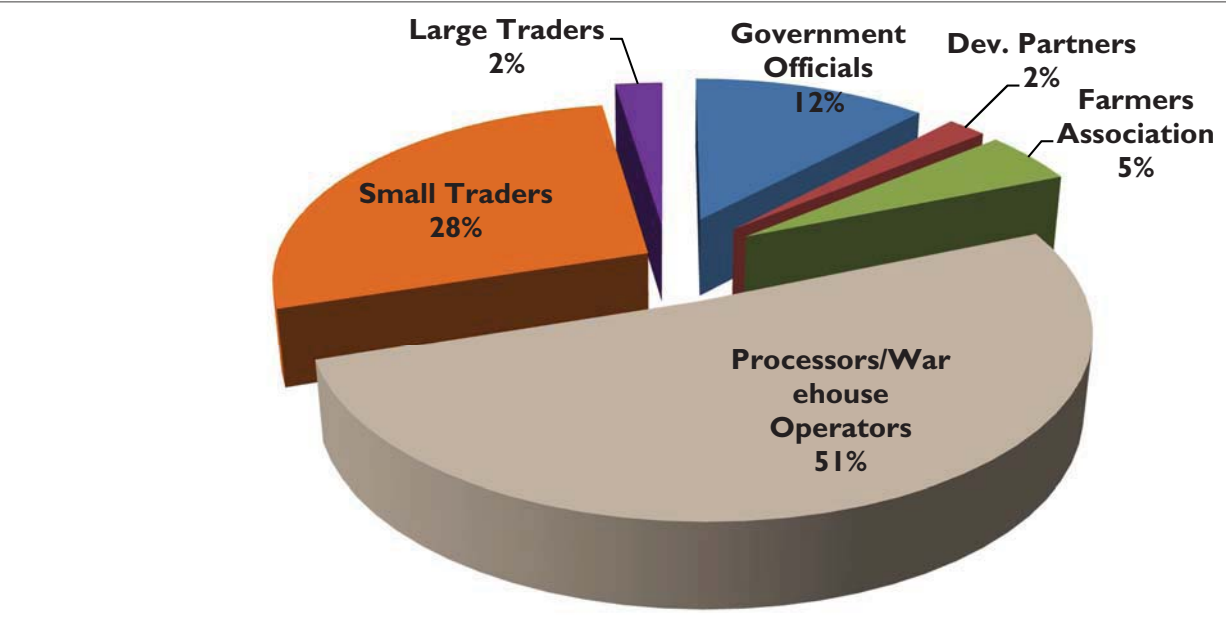
The team also made prior appointments with key stakeholders namely the warehouse operators, local government officers, rice producers, traders, warehouse operators and processors.

Arrangements were also made to collect import and export data from Tanzania Revenue Authority and historical price data from the Ministry of Industry and Trade (MIT)

RAPID ASSESSMENT RESULTS, DISCUSSIONS AND FINDINGS

Assessment Results:

Below chart represents the distribution of survey respondents across the country. Showing majority of those interviewed were mainly processors and warehouse operators at 51% while small traders interviewed accounted for 28%.



Source: Survey data



The survey team witnesses Rice blending (local and imported) while collecting data in Shinyanga.

Discussion

The general observation and discussions in the survey areas:

The Regional Agriculture officers and the Local Government Authorities only keep records pertaining to estimated production and total area under production. They do not have data on available stocks in their districts.



Loading Rice to trucks: in Mlandege – Iringa



Igurusi Market Mbarali - Mbeya

MOROGORO REGION

The focus in Morogoro region was to visit Regional Agriculture office, Local government Administration, Morogoro Municipal, Mvomero and Kilombero districts.

The team managed to assess and observe stocks in Dakawa irrigation scheme & Municipal markets. The team observed that stocks had dwindled considerably due to its proximity to Dar es Salaam consumer market. They however spotted a lot of imported and blended rice stocks at the Markets, Wholesale shops and Mills visited.

Overall a total of 11 millers out of 21 millers were visited within Morogoro municipal and these reported a total of 599.1 tons of rice stocks.

The wholesale price of rice in the warehouses visited varied from Tzs. 1,300.00 – 2,000.00 per kilogram depending on the rice grade, where ungraded was cheaper while graded rice fetched a higher price.

All warehouses visited had no historical data on stocks and confirmed that they do not keep any kind of stock records.

Main varieties traded in Morogoro region are: super and saro-5 majority of these varieties are sourced locally from Morogoro districts of Ifakara, Dakawa, Turiani, Kilombero and Mvua. Others are sourced from far regions like Shinyanga and Mbeya.

Observations:

- Shinyanga rice hitherto considered low quality is now winning markets because of the long grain size and organic nature.
- Generally, consumers in Morogoro prefer super variety because of its aroma but farmers cultivate Saro-5 (a semi-aromatic variety) because it is a high yield variety (3.3 - 4 mt/ha) and drought resistant benefits.
- Most millers do not grade their rice and are not aware of the quality and grading parameters.
- Regional and district agricultural and trade officers admitted there is lack of stocks and storage capacity data and the methods of collecting such data is not clear at the grass root.
- It was observed that there is mixing of imported rice with local rice at milling and at retail shops.
- Most of the millers were also farmers and their warehouses were stocking their own rice and other farmers' rice.

Challenge encountered by the team:

- Lack of data to fill the tools earlier developed.
- Limited time to explaining what is RCT to reduce suspicious of the team to the respondents.
- Most respondents were not willing to share information for fear that data shared might be used by TRA for tax purposes.
- Heavy rains made it difficult to conduct some of the interviews.

Key areas visited in Morogoro Municipal and Mvomero District:

Meetings with NAFKA project staff and RUDI focal person.

RUDI confirmed that they collect data from their beneficiaries only. RUDI revealed that their farmer groups are sold out since November 2014 and have no stocks.

At the Water User's Association in Dakawa (UWAWAKUDA) in Mvomero district, the management revealed that farmers keep their own stocks at home or in private warehouses around the village. The team was informed that there are 9 warehouses in the village with stocks. The team asked the management to follow up and report the data.

Visit to Morogoro Municipal market revealed availability of 6mt. The market traders informed that they were buying in small quantities from millers and selling per demand. Consumers are also buying from nearby millers.

Team meeting with a rice wholesale trader in Morogoro town selling imported Pakistan rice branded *KASUKU* Pakistan Rice. Confirmed he had 10mt in store selling at Tzs 62,000 per 50kg bag (Tzs 1,240.00 per kg). Observed, that local traders buy from this wholesaler imported rice to blend with local rice.

IRINGA REGION:

In Iringa region the teams focus was on Iringa Municipal stocks, Regional agriculture office data and other stakeholders information on rice stocks situation.

Here it was reported that there's still plenty of rice stocks in the villages namely; *Pawaga*, *Idodi* and *Madibira* with new crop expected by mid-April.

The team visited *Mashine tatu* warehouse and recorded a small stock of 3-5mt. At *Mlandege* the team conducted a focused group discussion involving millers, farmers and traders with support from RUDI staff. The group has 15 warehouses with storage capacity of 25,000 - 30,000mt per facility and each is equipped with milling machine. Paddy here is stored in bags and each weighed 130 – 150 Kilograms with a turnout of approximately 60% milled rice.

The team witnessed trucks offloading paddy stocks from Madibira village. Main market for rice in Iringa is Dar es Salaam, Zanzibar, Comoro, Arusha and Dodoma.

Stakeholders visited have requested a meeting with RCT to air their concerns to the Government especially the issue on imported rice.

Outcome of the focused group discussions:

- Farmers reported that market for their rice was their biggest challenge. Most of them reported to holding huge stocks of paddy in their warehouses with new harvest expected in May.
- They questioned why farm implements price were higher in Tanzania but cheaper in the nearby countries (Malawi and Zambia).
- They want answers why rice is taxed twice by the local government (crop cess charged on paddy and also on rice)?
- Mlandege traders respondents complained about the existence of imported rice which is threatening their rice business hence requested the RCT to raise their voices and ensure that its entry is stopped.
- They acknowledged the existence of RCT and wanted RCT to convene a meeting with them so they can convey their concerns.

NJOMBE REGION

In Njombe region, the team visited Makambako. Here they met three (3) traders who have warehouses with a total capacity of 3,256 MT with current stocks of 484MT. These traders' source stocks mainly from Mbarali in Mbeya region. Their main markets are Njombe, Songea, Tanga and Dar es Salaam. The prevailing market price at Makambako was Tzs 1,400.00 – 1,600 /kg while farm gate price for paddy was Tzs 100,000 per 100kg bag.

Observation:

It was reported that -during 2013/14 National Food Reserve Agency (NFRA) started buying paddy at a price of Tzs. 80,000 per 100kg bag of paddy. Before NFRA intervention, the prices were around Tzs. 40,000 – 50,000.00 for 100kg bag of paddy thus NFRA intervention benefited farmers.

Most traders buy paddy at harvest season (April – May) and hold the stocks for release in February – March when prices are high. The main mode of transaction used by traders and farmers is bank transaction and cash.

Complaints:

- Makambako traders complained of NFRA and ETG competition for local procurement and market.
- High taxation with TRA, therefore affecting cost of spares & electricity

MBEYA REGION

The team visit to Mbeya region started with a courtesy call at the Regional Administrative Secretariat offices (RAS) followed by meetings at Regional Agricultural office with Regional Irrigation/Agronomist who is also head of the Big Results Now (BRN) unit in Mbeya.

The team was given a snapshot of rice in Mbeya, with supporting historical data on production and acreage in the region.

The team realized that rice is cultivated in virtually all districts in Mbeya region with leading ones being Mbarali, Kyela and Busokelo districts.

Mbeya Municipal

Have numerous small millers and 2 large millers. Small traders are aware that export permits can be issued by regional authorities however, they complained of cumbersome export requirements, time taken to get export permit and corruption on export permits.

There is evidence of informal export to Zambia and Malawi.

While in Mbeya municipality, the team visited SIDO Mwanjelwa cluster, traders operate here under an association called “*Umoja wa Wauza Mchele*” (The Association Rice Sellers), they have a total of 18 milling machines with over 3,000 farmers and traders operating in the area.

The team visited two (2) large millers namely; Wella highland millers and Raphael group limited. Wella millers have a storage capacity of 10,000 MT and their current stock is 12MT while the Raphael group has a storage capacity of 20,000MT and their current stock is at 8,000MT.

The team also visited other small millers at *Mbalizi* who have a combined storage capacity of 10,000MT and a current stock of 6,920 MT.

Kyela district

Paddy stocks are available. The challenge is the multiple taxation totaling up to (Tzs. 6,500 - 9,000/- per bag of 100Kilograms rice), frequent power cuts and poor road infrastructure an example being the road to Ipinda.

Mbarali district

Mbarali is the main rice producing area in Mbeya, it is a relatively dry area most of its rice production is dependent on Irrigation. The team recorded stock 51,383 MT of rice in Mbarali with a combined storage capacity of 67,025MT. The team noted existence of many Warehouses and also new under construction indicating anticipation of increased production.

Most of the rice in Mbarali is sold to Dar es Salaam, Tanga, Songea, Njombe, Mbinga, Mtwara, Congo, and Zambia.

In 2013/14 season NFRA bought paddy from Mbarali. Though they did not pay promptly farmers were happy because the farm gate price was higher than what private traders were offering. In fact, the quantity purchased was relatively small compared to overall production.

The team noted that there's still plenty of last season stocks in Mbarali than anywhere else visited which might pose storage space challenge for the new crop harvest. The new harvests have started coming in *Ubaruku*, farmers reported 100MT and the *Kapunga* rice investor also reported to 150MT

In Mbarali most millers and warehouses interviewed keep records and easily availed their stock data and storage capacity. Even stock movements were easy to get in Mbarali.

Mbarali is home to one of the largest rice production investors in the country namely Kapunga rice farm managed and run by Export Trading Group (ETG). Kapunga Rice farm offers assistance to its out growers on farm operations but does not support with storage facilities. The out growers lease storage space in the nearby mills and other storage facilities.

While still in Mbarali district, the team visited *Ipatagwa* association and noted that farmers own weeding machines, planters and combine harvesters donated by JICA and Ministry of Agriculture. This is the only visited smallholder farmers group which has mechanized their production processes.

The team also observed an organized trading system in the region at *Igurusi* Rice Market. This is one stop marketing system which aspires to harmonize the quality of rice and its prices.

Other observations:

- In Mbeya town JICA has donated machines to youth that use rice by-products (husks) to produce briquettes (firewood -compressed rice husks); they packed in bags and are sold at Tzs. 7,000.00 per bag.
- The team noted that Brown rice is being produced in Mbarali depending on the market demand.
- Packaging of paddy in warehouses and mills is in 150Kilograms bags. This is hazardous to the carriers and against the newly gazette East Africa Standards.
- Rice is measured using bucket assumed to weight 20Kilograms.
- Mbeya rice is reported to be sold mainly to Dar es Salaam, Tanga, Songea, Njombe, Iringa, DRC, Comoro Zambia, Malawi, Zanzibar



Offloading Paddy from farmers to warehouses and drying rice and weighing using buckets

FINDINGS AND OBSERVATION FROM THE LAKE AND THE NORTHERN ZONES:

This was the second phase of the assessment and was conducted from April 12th – 18th, 2015. Like in the first phase, it involved meeting face to face with traders, farmers, millers, warehouse operators, government officials and other stakeholders.

The second phase focused on visits to Shinyanga, Kahama, Mwanza, Arusha, Kilimanjaro and Dar es Salaam (DSM) regions.

Generally, stocks in the northern zone were relatively lower than in Southern region.

SHINYANGA REGION

The team started off with a courtesy call at the Shinyanga Regional Administrative office and to Kahama administrative office as well. Three districts in Shinyanga region were visited namely; Shinyanga Rural, Shinyanga Municipal and Kahama district.

Shinyanga Rural:

There are over 20 warehouses cum milling stores all concentrated at Tinde and Didia milling centers. Stocks recorded in Shinyanga rural totaled 171.58MT against available storage capacity of 5,100MT with recorded prices ranging from Tzs. 1,290.00 – 1,800.00 per Kilogram.

New harvest had started coming in, ironically newly harvested rice was selling cheaper than old stocks. On inquiry, the team was informed that newly harvested rice cook slowly and still has high moisture content thus is expected to continue losing weight before it achieves desired moisture content.

Common varieties being sold in Shinyanga are; *Kalamata*, *Mabayenge*, *Super* and *Rangi Mbili*. SARO 5 is not popular here as it requires fertilizer and is relatively shorter thus not suitable for the growing area in Shinyanga because of excess water in the irrigation pans.

The rice in this region is mostly sold to Dar es Salaam, Arusha, Dodoma, Bukoba, Uganda, Kenya, Rwanda and DRC.

Shinyanga Municipal

Shinyanga municipal has 16 warehouses and mills all are concentrated at Ibinzamata milling center. Total available stock for Shinyanga Municipal was 108.2 MT against a total storage capacity of 2,850 MT. Prices range from Tzs.1300 -1600 per Kg. Major sources of paddy and rice for Shinyanga municipal are; Shinyanga rural, Tabora, Singida and Mpanda.

Observations:

The team observed a significant amount of imported rice in Shinyanga Municipal. Traders openly admitted to blend local with imported rice. The team even witnessed blending ongoing. The traders' argument for blending is that mixing local and imported rice helps lower the price for consumers and that it gives aroma to imported rice. The team was informed that influx of 2013 rice imports was still visible till November 2014.

At Tinde traders were observing paddy quality during purchasing from farmers by crudely de-husking or crushing small portions of the paddy in between their palms and have blocked imported rice coming in the area because they believe it will distort local rice prices.

Most of the rice traders interviewed are reluctant to trade outside the district and in the region. They are afraid of being conned by other businessmen thus limiting themselves to district markets only. There is clear need for capacity building from RCT to enable traders access a wide in-country and regional markets.

Traders requested for a Rice price platform or Market Information portal where they can access daily prices so as to make informed price decisions and choices. This would further stabilize rice prices in the country. RCT can consider developing an MIS portal in future to compliment Ministry of Industry and Trade price data collection efforts.

Challenges:

The Local government's authority by laws demand that millers must own fire extinguishers in their milling facilities which should be accompanied with a valid fire license normally costing TZS 20,000/= which must be renewed on an annual basis, this by any standards is too high for small millers.

Traders complained of being charged double crop cess for the same commodity Tzs. 1000/- for a bag of paddy and once milled charged another Tzs. 1,000 for a bag of milled rice. This has forced traders to use the bigger bags of 140-150Kilograms referred to as "Lumbesa" because

the cess charges are administered based on the number of bags and not the weight. To the contrary porters complained that these heavy bags are detrimental to their health and is also against East African Standards which specifies that packaging of agricultural commodities should be in 50 Kilograms bags. This practice is therefore contravening the local and international labor laws.

Kahama district:

The Rice sold and consumed in Kahama is sourced from Mpanda, Geita, Sumbawanga and Kahama-Msalala. Mpanda was reported to have the largest stock available. The price range from Tzs. 1400 -1500 per Kg, the team noted there is a good market for broken rice there in the town being sold at Tzs. 1,200.00 per kg.

While in Kahama, the team met with Mama Mageuzi a successful female rice trader operating three (3) warehouses and four (4) milling machines. Her milled rice is mostly exported to Uganda, Rwanda and Burundi, with some being sold in the domestic market mainly to Arusha and Moshi.

MWANZA REGION

The team started with a courtesy call at the Regional office and to collect regional rice production data. While at the Regional office the team met the PHS (Plant and Health Services) officer to get information on export of rice to other countries in the region.

Plant Health Services officer in Mwanza was unaware of export permit decentralization. PHS reported that there are no record of imported rice coming in Mwanza from Kenya and Uganda side. The team thus concluded that imported rice in Mwanza came from Dar es Salaam.

Visit to Mwanza municipal market revealed that there was plenty of imported rice in the market and the team even witnessed a truck offloading bags of imported rice in the market. Rice exports through Mwanza port destined to Uganda were noted. However, the records at PHS office showed a decrease in exports in 2014 compared to 2013.

ARUSHA REGION

The team visited Regional office, City Council office and the markets within Arusha city. Though visits across the other regions informed that Arusha is a good market of most rice producing districts, contrary to this notion the team found very little stocks, limited and poor storage in Arusha.

Understandably, Arusha is generally not a major rice producer. Rice for sale is sourced from outside Arusha region mainly from Magugu (Manyara), Kahama, Shinyanga, Mbeya, Morogoro, Tabora and Mpanda. The Rice price in Arusha was high at Tzs. 1,800 – 2,200 per kilogram prompting traders to complain of relatively low business as their rice is expensive compared to

other regions in the country. Truly most traders were idle in the market with no customers to serve.

The main rice selling markets in Arusha are; Soko kuu, Kilombero and Ndovu all these markets are under poor conditions and are prone to roof leakages and pests. In Kilombero market there were 170 small scale rice traders with a total of 300bags of 100Kilograms each. The traders reported that they lack sufficient capital and organization to enjoy economies of scale and the power of many when sourcing stocks.

Traders also complained about being overcharged crop cess in some districts like Kahama where it was reported to be 5000/bag of 100Kilograms while in Shinyanga and Arusha Municipal crop cess charges is Tzs. 1000 per bag of 100Kilograms. The other challenge reported was payment of double crop cess from rice source district and at the destination district.

KILIMANJARO REGION

The team paid a courtesy call to Acting Regional Administrative Secretary of Kilimanjaro region in Moshi town. The also met the Head of Economic and Production sector who informed them that, the government facilitate farmers to increase rice production through the JICA supported improvement of irrigation infrastructure project. Activities under the project include building the capacity of farmers to add value of their paddy rice through milling and packaging so as to sell milled rice. Another key activity involves making charcoal briquettes using rice husks. JICA has given two regional staff scholarship to go to Japan for training on briquette machines fabrication. So, that the machine fabrication technology is transferred to Tanzania.

Rice farmers in Kilimanjaro cultivate SARO 5 and on average have attained a yield of 5.5 MT /ha but in lower Moshi they have already reached 6.5 Mt/ha.

Rice price in Lower Moshi ranged between Tzs.1200-1400 per kg and at Moshi Municipal the price was TZS 1,300.00 -1,900.00 per kg. Recorded stocks were 124.45MT against an installed storage capacity of 557MT.

DAR ES SALAAM MARKET

The team visited Tandale and Tandika markets. The Tandika market is well organized with improved storage facilities. Traders here play broker role (No commodity and price risk position). The brokers charge Tzs. 20 - 30 per kilogram for storage and brokerage commission. Traders and farmers from outside Dar es Salaam are scared of trading in these markets, because they have limited knowledge of the brokerage system that mainly involves delivering the rice to the markets and wait for the payments only.

Overall Tandale market is better organized; the market traders here buy and pay farmers directly for their deliveries unlike in Tandika where brokerage is the norm. Tandale storage facilities need to be improved.

NATIONAL FOOD RESERVE AGENCY (NFRA)

NFRA procure and store emergency food stock to the tune of 150,000mt that should suffice addressing a food disaster for three (3) months period regarded enough to order and secure food imports from abroad. NFRA also does stock re-cycling and stock release to stabilize food prices in the market. The team paid a courtesy call to NFRA - Chief Executive Officer Mr. Walwa. Through the meeting the team was informed that during 2014/2015 season NFRA for first time piloted on paddy rice procurement in an effort to stabilize market prices and to offer farmers an alternative market. NFRA had planned to buy 10,000MT for the pilot but only received 4,000MT. The entire quantity was sourced from Mbarali district only. They plan to sell the paddy rice stocks to the market soon and hopefully replenish depending on market conditions.

Available Rice Stocks, Storage Capacity, Minimum and Maximum Prices in the Districts Surveyed

	District	Available stocks (MT)	Storage Capacity (MT)	Minimum Price/kg	Maximum Price/kg	Average Price/kg
URBAN MARKETS	Iringa Municipal	24,400.00	40,000.00	1,100.00	1,900.00	1,500.00
	Mbeya Municipal	8,620.80	58,507.00	1,300.00	2,000.00	1,650.00
	Morogoro municipal	1,048.43	3,145.00	1,300.00	2,000.00	1,650.00
	Shinyanga Municipal	1,497.00	9,590.00	1,300.00	1,600.00	1,450.00
	Mwanza	206.50	25,850.00	1,200.00	1,700.00	1,450.00
	Arusha	105.20	140.00	1,700.00	2,200.00	1,950.00
	Dar Es Salaam	50,700.00	260,000.00	1,500.00	2,000.00	1,750.00
PRODUCTION ZONES	Makambako	440.00	3,700.00	1,400.00	1,600.00	1,500.00
	Kyela	458.20	1,780.00	1,400.00	1,500.00	1,450.00
	Mbarali	51,142.80	68,625.00	1,300.00	1,500.00	1,400.00
	Mvomero	2,980.32	21,856.00	1,900.00	2,000.00	1,950.00
	Shinyanga Rural	383.48	5,100.00	1,290.00	1,800.00	1,545.00
	Kahama	1,215.00	93,630.00	1,400.00	1,500.00	1,450.00
	Moshi	124.45	557.00	1,300.00	1,900.00	1,600.00
	Kilombero	2,428.00	20,146.00	-	-	-
	NFRA	2,400.00	6,000.00	-	-	-
Total		148,150.18	618,626.00			

Source: Survey Team data

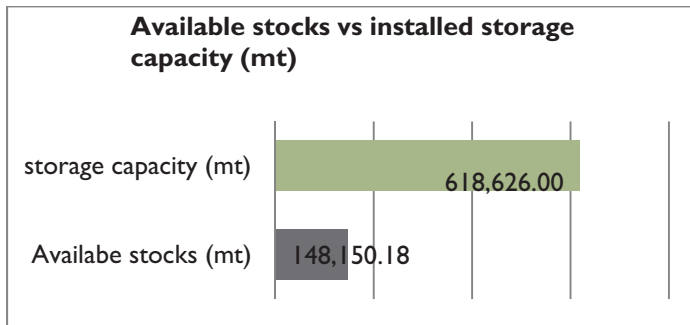


Survey team inspecting stocks in Shinyanga

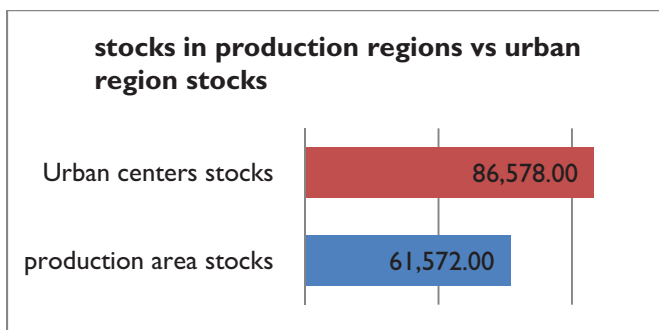
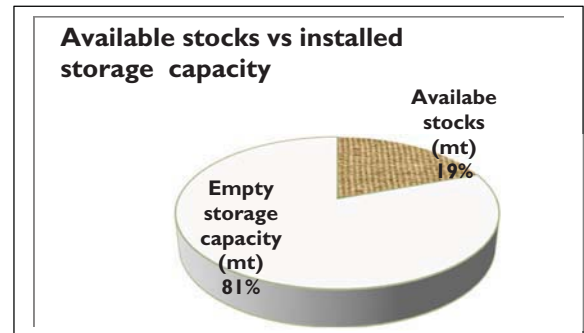


Rice Milling and warehouse in Lower Moshi – Kilimanjaro

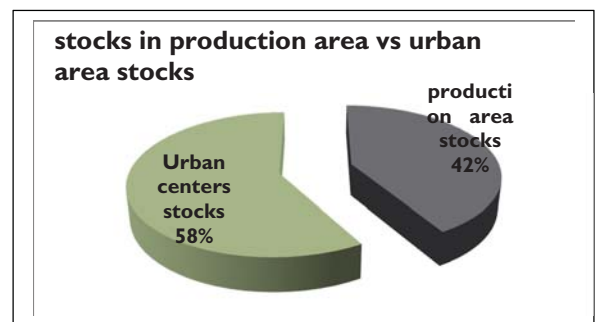
AVAILABLE RICE STOCK AND STORAGE CAPACITY ANALYSIS



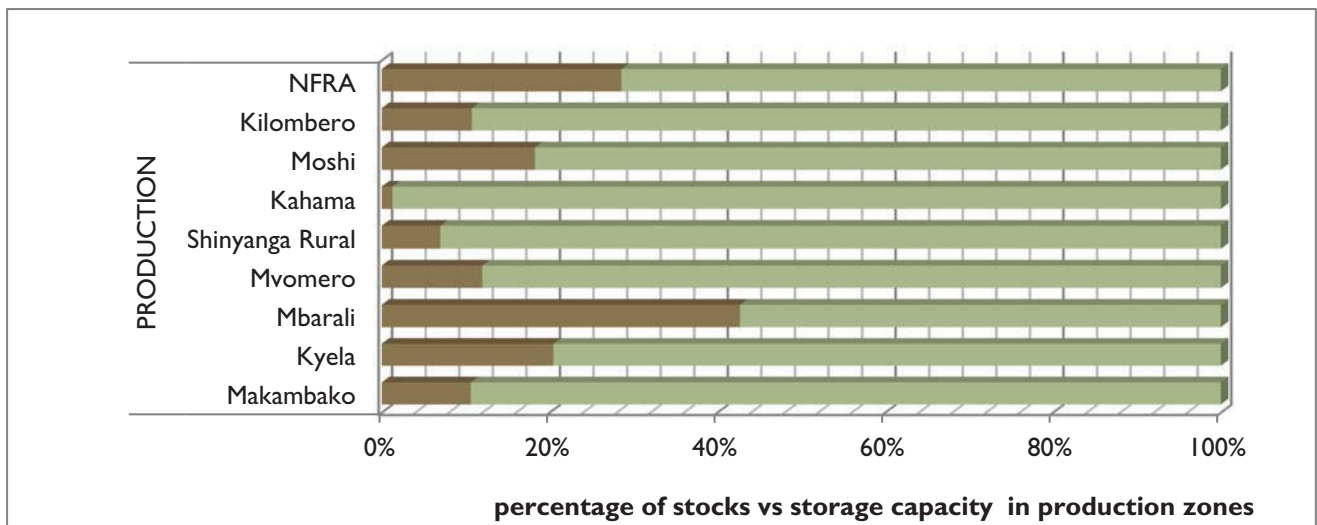
Source: Survey data



Source: Survey data



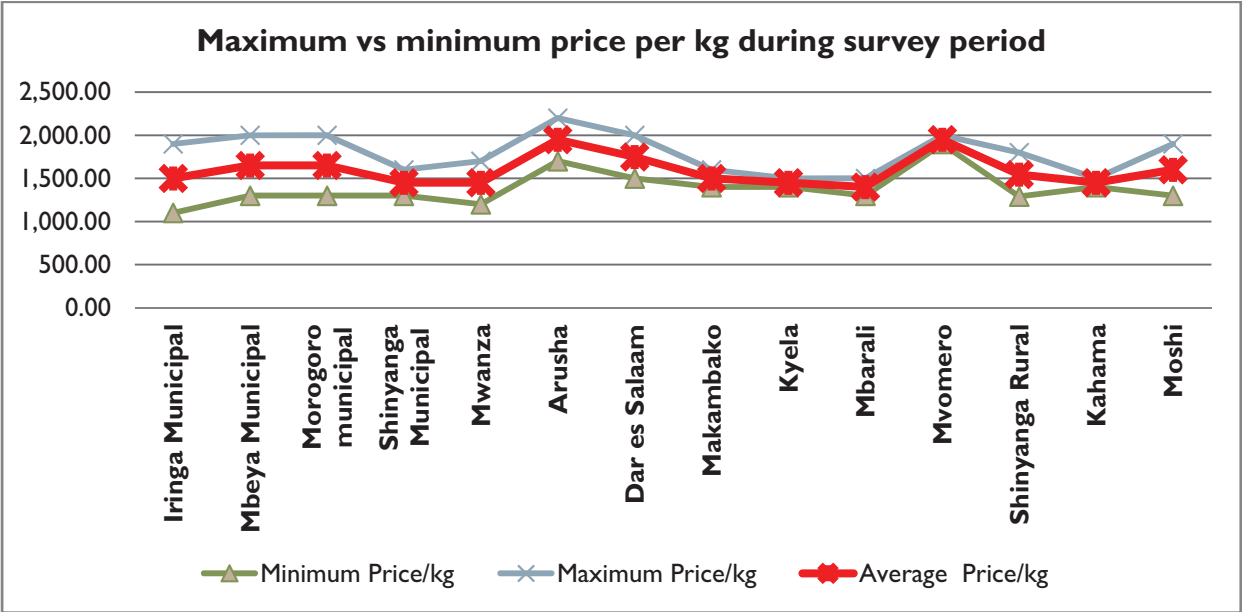
From above analysis, the general trend is quite normal (approx. 20% stocks available overall) given the timing of the assessment. The fact that most of the warehouses are almost empty (81%) is a clear testimony that it's off season and the storage facilities are being prepared for the new harvests. Likewise majority of stocks are in urban warehouses (58%) confirms the rice has been moved from production origin to consumer market locations.



Source: Survey team data

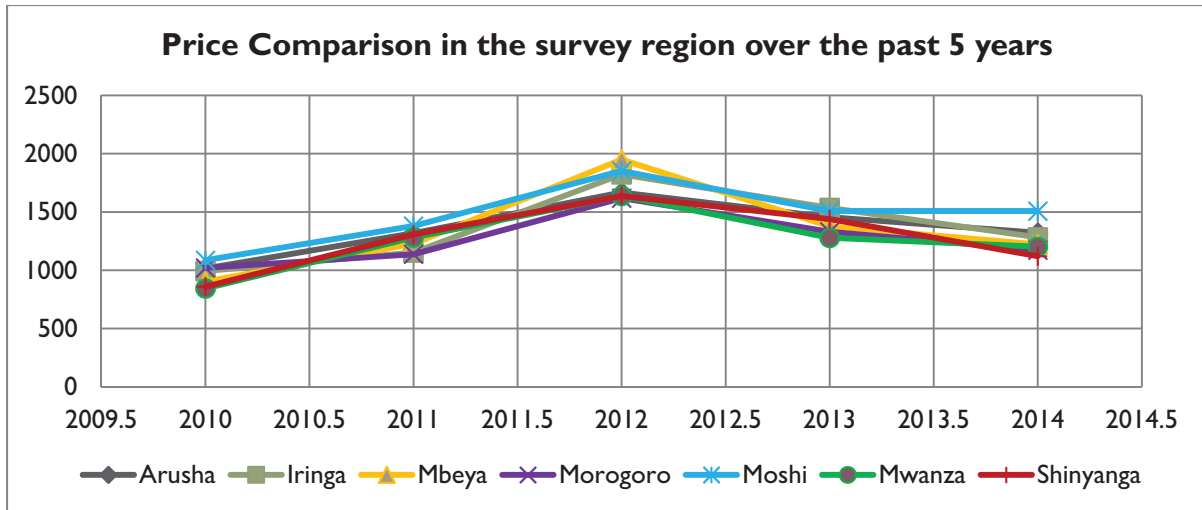
From the analysis it shows that there are very limited stocks at the production regions compared available space. The stores are generally empty as most of them have low stocks an average of 20% while 80% capacity is idle. This is typical of off-peak season.

PRICE TREND IN SURVEY DISTRICTS



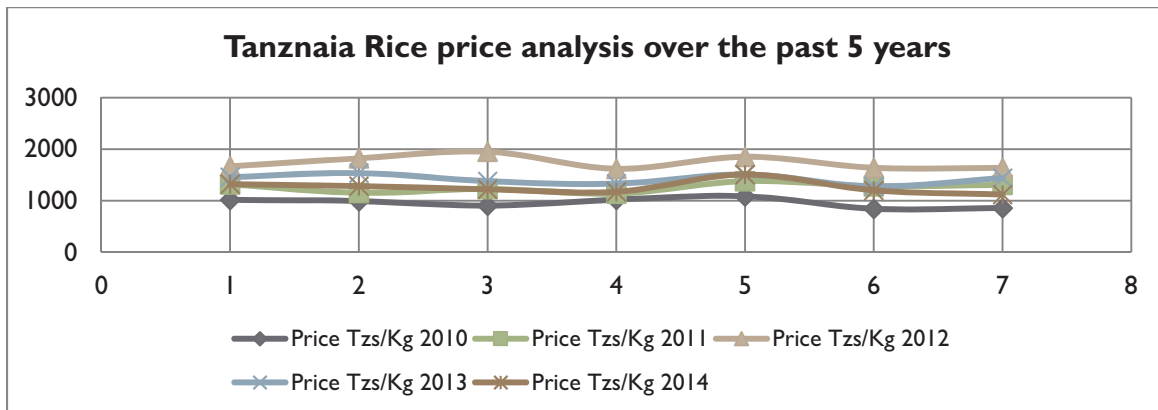
Source: Survey team data

The highest prices were reported in Arusha and Mvomero in Morogoro region while the lowest were in Iringa, Shinyanga and Mwanza region. However prices are generally range bound within the average price of Tzs 1,500 – 2,000 per kilogram across the country. The price differentiation can be attributed to quality and variety differences.



Source: Ministry of Industry and Trade Tanzania

From above price trend analysis, it is evident year 2012 witnessed highest prices across the country with Mbeya witnessing highest price for the first time. Interestingly, Mbeya is the key Rice producing region in Tanzania.



Source: Ministry of Industry and Trade Tanzania.

Above graph, shows that the year 2012 had the highest price compared to the other years over the past 5 years. However, 2010 recorded the lowest prices. While in 2013 and 2014 the prices were generally average.

CHALLENGES FACING THE RICE INDUSTRY

- **Imported Rice:** Affecting local rice market and causing price and quality distortion of local rice through rice blending and repacking as though its local rice. Impact of imports where traders claimed that, Makambako used to trade a lot of rice with Zanzibar in the past; currently the Zanzibar market is mostly consuming imported rice.
- **Electricity:** Frequent power cut resulting in downtime and the high cost of power is a serious constraint to the growth of the rice industry in Tanzania. An example is the closedown of an ultra-modern milling and storage facility donated by JICA in Lower Moshi of Kilimanjaro region.
- **Unreliable rains:** Majority of Rice production systems in Tanzania is on rain fed. Therefore with unreliable rains it results in reduced water discharge into the irrigation infrastructure I systems therefore impacting on overall production and quality of paddy output. Furthermore Climate change has affected water availability for irrigations e.g. In Lower Moshi there is 1100 hectares potential for paddy production but not all is being utilized due to inadequate water discharge. Also following the *vuli* season poor performance in the bimodal rainfall areas (Shinyanga, Mwanza, Arusha and Kilimanjaro) paddy production this year will most likely be lower for some fields were not planted.
- **Farmer taxation in Kyela and Ipinda:** A major challenge impacting directly on the rice farmer. Farmers are charged cess at harvest (from farm to household storage) and again when marketing or during transportation to processing plant/warehouse.
- **Crop cess tax vary between districts,** where it ranges from Tzs 5 – 30/kilogram (In Mbeya it is Tzs 5.00, in Magugu Tzs 20.00 and Morogoro is Tzs 30.00 per kg) worse still in Arusha traders are charged at point of entry resulting into double taxation.
- **Poor road infrastructure:** Causing delays in delivery of paddy or milled rice to the market, likewise it discourages traders from accessing such areas due to poor state of road infrastructure.
- **Quality and grade awareness:** there is no observation of standards by the traders in handling, weighing and packing of Rice across the country. In Mbeya most of the small traders use buckets for measuring/weighing rice grain. E.g. a bucket is considered 20Kilograms therefore 5 buckets is considered 100Kilograms in polypropylene bags. Furthermore, 100kg bags are mainly used in Tanzania against the East Africa Standards recommendation of 50Kilograms polypropylene bags.
- **Poor or lack of Extension services -** Rice traders complained of poor extension services provided to farmers leading to production of poor quality rice that have adversely

impacted the rice market as it result in high percentage of broken rice. It was also observed that milling machine operators in all location do not use protective gear.

- Lack of good post-harvest practices in terms of drying & storage of rice continues to affect the quality of rice produced by smallholder farmers and consequently impact the market for their rice.
- Small rice traders claim there's still restriction to rice export outside the country even though the ban has been lifted since 2013. They informed that getting the permit is mired with bureaucracy and involves paying bribes and time. Worse still one may not be allocated the quantity applied to be allowed to export. So they resort to informal ways of exporting to Zambia and Malawi.

RECOMMENDATIONS & WAY FORWARD

- **Capacity Building:** Collective marketing and adoption of grades and standards
- **Create Awareness about RCT** and its services. RCT needs to be supported to show case its value to the industry stakeholders. Specifically if RCT can develop a business strategy that endears itself to the stakeholders they will be able to seize the role of industry champion across all spheres of the rice value chain.
- There need for **increased investment in value addition** in the rice value chain. The farmers need to benefit through value addition instead of selling their produce in paddy form instead of milled rice which has better returns than paddy rice. RCT should advocate for increased investment in storage and value addition.
- **Advocacy on Taxation:** Address the issue of triple taxation at the farm level
- **Structured Trading system;** Promote use of warehouse receipts systems so as to attract the financial sector into financing agriculture trade and therefore improve on post-harvest challenges and market access
- Promote adoption of **New Technologies:** Planting, Weeding and Harvesting.
- There an urgent need for concerted effort in **data collection** especially on Prices, Stocks, Consumption, Production, Imports and Export data.

REFERENCES

- USDA. *Foreign Agricultural Service: Production, Supply and Distribution*. 22 May 2015. Internet Source. 22 May 2015. <<http://l.usa.gov/lcjo17M>>.
- Africa Rice 2009. Increasing investment in Africa's rice sector, annual report. <http://www.dfid.gov.uk/r4d/PDF/Outputs/Warda/AfricaRice-AnnualReport-2009.pdf> AGRA-JICA CARD: 2008. Initiative for doubling rice production in Africa.
- CFC Rice sector development in East Africa, March 2012, desk study prepared by European Cooperative for Rural Development (EUCORD).
- MAFSC 2009. National Rice Development Strategy, Ministry Of Agriculture Food Security. http://www.riceforafrica.org/downloads/NRDS/tanzania_en.pdf
- FAOSTAT - *World Rice Market Report 2015*



USAID
FROM THE AMERICAN PEOPLE



FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

ASSESSMENT OF TANZANIA'S FOOD SECURITY EARLY WARNING SYSTEM

SEPTEMBER 2014

This document was produced for review by the United States Agency for International Development (USAID/Tanzania) by the USAID Feed the Future SERA Policy Project, Contract Number 621-C-00-11-00003-00. .

ASSESSMENT OF TANZANIA'S FOOD SECURITY EARLY WARNING SYSTEM

Contract 621-C-0-11-00003-00

USAID Feed the Future Sera Policy Project

Implemented by:

Booz Allen Hamilton

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Table of Contents

Table of Acronyms	iii
Acknowledgements	v#
Executive Summary	1#
Introduction	6#
1.1 Objectives of Assessment	6
1.2 Methodology	6
1.3 Outline of Report	7
2. Overview of MUCHALI	8#
2.1 Stakeholders	8
2.2 Objectives	8
2.3 MUCHALI Process	10
2.4 Current Status	11
3. An inventory of relevant Information Systems	13#
3.1 Introduction	13
3.2 NBS Data Collection Activities	14
3.3 Agriculture Routine Data System (ARDS)	19
3.4 MAFC - Department of Food Security	22
3.5 Tanzanian Meteorological Agency (TMA)	23
3.6 Ministry of Industry and Trade (MIT)	25
3.7 Ministry of Health (MOH)	26
4. SWOT Analysis for MUCHALI	28#
4.1 Introduction	28
4.2 Strengths	28
4.3 Weaknesses	29
4.4 Threats/Limitations	32
4.5 Opportunities	33
5. Assessment of MUCHALI Tools	42#
5.1 Food Deficit Council Questionnaire	42
5.2 Village Questionnaire	43
5.3 Household Questionnaire	44
5.4 Summary	47
Summary of Conclusions and Recommendations	48#
Annex A: Questionnaires referred to in the report	52#
A1: ARDS Annual Questionnaire	52
A2: ARDS Quarterly Questionnaire	58

A3: ARDS Monthly Questionnaire.....	60
A4: MUCHALI District Council Questionnaire	63
A5: MUCHALI Village Questionnaire	79
A6: MUCHALI Household Questionnaire	86
Annex B: List of Respondents.....	95#

Table of Acronyms

ARDS	Agriculture Routine Data System
CMTD	Committee for Management of Targeting and Distribution
CPI	Consumer Price Index
CRS	Catholic Relief Services
CSI	Coping Strategy Index
DALDO	District Agricultural and Livestock Officer
DMO	Disaster Management Department
DO	District Officer
FAMS	FAO Agro Marketing System
FAO	Food and Agricultural Organization
FBM	Food Basket Methodology
GDP	Gross Domestic Product
HBS	Household Budget Survey
HMIS	Health Management Information System
IPC	Integrated Phase Classification
IT	Information Technology
LGA	Local Government Authority
LGMD2i	Local Government Monitoring Database
LINKS	Livestock Informational Network and Knowledge System
MAFC	Ministry of Agricultural, Food Security, and Cooperatives
MCDGC	Ministry of Community Development, Gender, and Children
MIT	Ministry of Industry and Trade
MLFD	Ministry of Livestock and Fisheries Development
MOH	Ministry of Health
MOW	Ministry of Water
MUAC	Middle Upper Arm Circumference
MUCHALI	Mfumo wa Uchambuzi wa Uhakika wa Chakula na Lishe
NADA	National Data Archive
NBS	National Bureau of Statistics
NGO	Non-Governmental Organization
NPS	National Panel Survey
NSCA	National Survey Census of Agriculture
NVDI	Normalized Vegetation Distribution Index
PC	Personal Computer
PFPF	Preliminary Food Production Forecast
PMO	Prime Minister's Office
RRS	Routine Reporting System
SACCO	Savings and Credit Cooperative Organization

SMS	Short Message Service
TANDREC	Tanzania Disaster Relief Coordination Committee
TFNC	Tanzania Food and Nutrition Council
UCC	University Computing Centre
VAEO	Village Agricultural Extension Officer
WAEO	Wade Agricultural Extension Officer
WFP	World Food Program
WRS	Weekly Reporting System

Acknowledgements

Grateful thanks are due to the members of the MUCHALI Framework who provided most of the information contained within this assessment. The Study Team would also like to thank the District Authorities of Morogoro Rural and Mvomero for giving of their time, as well as the staff of the Ministry of Agriculture, Food Security Department and of the Disaster Management Department of the Prime Minister's Office who both facilitated the work.

Executive Summary

This assessment was designed to review the current food security assessment process in the context of the MUCHALI¹ framework, and to identify that framework's information needs and the gaps in the information currently available. The work was undertaken by a four person team with specific expertise in food security, food access, skills development and data management systems, who undertook a comprehensive assessment of all aspects of the MUCHALI process including its objectives, procedures, constraints and resources. The work took place from June 26 to July 23 2014.

MUCHALI is a multidisciplinary operational framework designed to provide actionable knowledge to stakeholders in food security. It does not exist as a government department in its own right, but operates on the basis of cooperation amongst the various stakeholders who allocate the resources that allow the MUCHALI framework to function. In its original design, MUCHALI was expected to undertake situation analysis (especially the real-time updating of current and projected food and nutrition conditions), intervention analysis, decentralization support, information management, operational support and additional research when needed. Nevertheless current resources are inadequate to support the comprehensive activities described above. Instead MUCHALI oversees a twice-yearly process of data collection and analysis by cooperating stakeholders. This process results in the generation of actionable knowledge in the form of Integrated Phase Classification (IPC) data for each District that is presented in report form for onward circulation both to stakeholders and to other agencies (including other Ministries and Donor agencies). As of July 2014, MUCHALI has yet to undertake a 2014 assessment due to the limited availability of resources. This assessment is usually completed in March.

Part of the reason for the limited scope of activities of MUCHALI lies in the delay in its formalization as an institutional entity rather than the ad-hoc assembly of stakeholders interested in food security that it currently represents. Until such formalization has occurred, the MUCHALI framework will lack a single dedicated source of finance and remain exposed to external influences.

An inventory of those information systems that collect data relevant to MUCHALI highlighted the wealth of data that could be available to support food security assessments provided that the systems were functioning reliably. The inventory included the MAFC local government monitoring and food security information systems as well as NBS data collection exercises

¹ The name MUCHALI is derived from the Swahili phrase: "Mfumo wa Uchambuzi wa Uhakika wa Chakula na Lishe", meaning "System for the analysis of food security and nutrition"

including the Household Budget Survey and National Panel Survey, Ministry of Industry and Trade market information systems, the Ministry of Health's Health Monitoring Information System and the Tanzanian Meteorology information collection and dissemination systems.

A brief assessment of strengths and weaknesses of each system showed that those systems that collected data most relevant to MUCHALI were not sufficiently reliable for the data to be used for regular food security assessment. In a number of cases, shortcomings were ascribed to resource limitations. While this clearly is a contributory factor, the inventory also demonstrated that other data collection systems experiencing similar resource constraints were nevertheless able to collect and analyze data with a high degree of reliability. It was evident that such systems benefited from a strong sense of participation by those collecting the data as well as direct interaction between the data collectors (at District level) and data users (at national level). This was less evident in those systems in which compliance was not so high (typically 20%-80%).

Rather than develop another parallel system within MUCHALI to collect much of the same data that is already (at least theoretically) being collected, it might be more appropriate to strengthen the existing data collection systems and to provide access to either entire or selected databases to the MUCHALI personnel. This would provide benefits not only to MUCHALI but also to other stakeholders collecting this data. Opportunities for the strengthening of appropriate systems (especially the Local Government Monitoring Database, LGMD2i) can be found in the training of staff to ensure a greater sense of ownership of and responsibility for food security data as well as training in computer maintenance to ensure that existing hardware can remain fully functional and unaffected by malware.

A SWOT analysis for MUCHALI revealed that the framework is comprehensive in nature including a wide range of disciplines in the composition of its stakeholders. This not only provides the potential for a balanced and holistic assessment of food security and the derivation of equally balanced recommendations as to required responses, but also promotes the dissemination of a single assessment of national food security levels, thus minimizing any confusion as to the level of response required. The framework generates reports using the Integrated Phase Classification (IPC), a universal system that allows comparison with situations in other countries. The reports are well accepted within Government. MUCHALI framework is co-chaired by the PMO and the MAFC Food Security Department. The PMO Disaster Management Department provides administrative oversight and the MAFC provides technical oversight. This structure allows for direct delivery of technical issues to the decision making body (TANDREC) for action. The fact the PMO DMD is the secretariat of TANDREC also allows close monitoring of whatever responses TANDREC may consider necessary.

On the other hand, the inclusive nature of the MUCHALI framework is not as strong as might be expected in that some members are active more as individuals than as representatives of their respective Ministries. The study team found that overall, the broad-based expertise residing within MUCHALI was not fully exploited. Moreover the study team found that there was little

feedback generated by the MUCHALI outputs that required other stakeholders to react to village-level food insecurity situations.

One key concern is the fact that the MUCHALI process selects Districts for assessment based primarily upon production criteria collected in the Preliminary Food Production Forecast (PFPF). Using the results of the PFPF results overlook food sufficient districts that may yet contain significant numbers of poor households that cannot afford to access food from the market. A significant proportion of households do fall into this category (i.e. food insecure within food sufficient districts) and run the risk of being overlooked by the MUCHALI process. The national MUCHALI team may be asked to review districts not identified in the preliminary forecast on a case-by-case basis, this process lacks a methodology and consistent approach.

The use of the IPC system to classify District level food insecurity is another concern voiced by stakeholders, some of whom felt that they were not sufficiently familiar with that process to contribute usefully towards data analysis.

The data collection process is an intensive, obliging team member to work long hours to enter data, which may of itself compromise data quality. An assessment of the tools used suggests that while the three MUCHALI questionnaires allow the construction of a detailed picture of the food security situation in the specific villages assessed, they do not contribute very effectively towards an overall assessment of food security levels within a given District. Key limitations of the MUCHALI process include a limited capacity to reflect differences in food security arising from differences in livelihood within a District.

Most important however is the lack of formal recognition of the MUCHALI framework. Until MUCHALI can be formalized it can be expected to continue to face resource constraints, lack the capacity to formally interact with other Government agencies and remain exposed to external influences and political motives.

The above constraints notwithstanding, there are a number of opportunities open to MUCHALI that if realized, could significantly enhance the effectiveness of the framework. These include the implementation of the Food Basket Methodology, which can be used to select Districts for subsequent assessment on the basis of food accessibility. The data exists at a Regional level to allow monthly monitoring of food basket costs, and if this proves useful, further refinement in terms of District level pricing and the more accurate description of local diets may be feasible.

In addition, the use of existing datasets would provide MUCHALI with much of the data required to make sound determinations of food security levels, provided that those datasets could be strengthened to the point at which they could be considered consistent and reliable. This report considers options for such strengthening, including refresher training and the generation of feedback as well as the alleviation of financial constraints.

Nevertheless, even when given access to reliable data on production, prices, and nutrition, MUCHALI would still face gaps in the knowledge required to properly assess food security

levels. To complete the picture, a small volume of additional data would be required. This might include the frequency of coping strategies, the level of food stocks in markets and households as well as the levels of livestock production and other indicators. Using recent technologies that are now currently available in Tanzania it would be possible to collect and transmit such data from each village by mobile phone, using an SMS/PC interface.

In addition to the above, it would be quite feasible to introduce the use of more robust operating systems such as Ubuntu and Open Office that are freely available as open source systems. Not only are these systems more stable and resilient, but they are also highly cost effective, especially since both operating systems and software are freely available on a continuously updated basis. Training on the use and maintenance of the environment can be provided to build capacity for users, end users would experience little difficulty in switching to the new operating system and such training would be required mainly by IT staff.

Overall, it was apparent that the levels of performance of MAFC information systems could be enhanced through a combination of enhanced motivation through training and feedback, and technical capacity development. Appropriate programs would need to be initiated and maintained at the national level in order to achieve the increase in District level performance required to support the MUCHALI framework.

To achieve best results of the food insecurity analysis it is important that MUCHALI members should have a sound knowledge of IPC classification and of data collection procedures. Discussions with stakeholders revealed that only a small number of members felt competent to discuss and develop conclusions for IPC classification to be included in the final MUCHALI recommendations. In view of this the team recommends refresher training in IPC classification procedures to be provided to the experienced members before going to the field as well as providing comprehensive training to new members.

Additional training needs were identified at the grass roots level including training designed to enhance the sense of local ownership of the information management systems, as well as fostering an understanding of the principles and significance of food security analysis.

An assessment of the tools used by MUCHALI data collectors determined that much of the data gathered by District and village level questionnaires could in principle be extracted from other information management systems, if these were functioning properly. Data elicited for the household questionnaire was more specific, but was not always readily extrapolated to the wider District. Many of the questions in the household questionnaire were of limited relevance to District food security although they did help to construct a valid assessment of the food security situation in the three villages visited in each District.

The small number of villages visited in each District (three) compromised the accuracy of the assessment procedure. While it is recognized that this has been due to resource constraints, it might nevertheless have been more effective to source a smaller volume of key data from a

more widely dispersed selection of households. The report provides suggestions as to such key indicators.

The assessment concludes with a summary of conclusions and options for development. Overall it is concluded that the existing situation provides considerable opportunities for improvement. Ideally, this would be through the strengthening of the existing data collection systems within MAFC, MoH, MIT and NBS, in conjunction with the collection of a limited additional dataset at the village level using SMS technology. This would allow MUCHALI to monitor food security levels in villages across all Districts on an on going basis, thus fulfilling the original expectations of the system.

Introduction

1.1 Objectives of Assessment

The primary objective of this assessment was to review the current food security assessment process in the context of the MUCHALI framework, and to identify the framework's information needs and the gaps in the information currently available. This required the study team to identify, inventory and assess data collection systems that were both internal and external to the Ministry of Agriculture, Food Security, and Cooperatives (MAFC). All aspects of these systems were to be assessed including:

- information flows.
- system hardware and software.
- location of data sources.
- Processes of updating and maintenance.

On the basis of these assessments, the study team was required to identify the strengths, limitations, opportunities and gaps/weaknesses in the systems that are operational at present and to determine their current and potential relevance to the MUCHALI framework. Finally the team was to consider and recommend ways in which the existing data management systems might be revised to meet the needs of MUCHALI, including the feasibility of introducing the Food Basket Methodology into the MUCHALI Framework and the training that would be required in order to allow the MUCHALI Framework to operate most effectively.

1.2 Methodology

To address the objectives outlined above, a four person team with specific expertise in food security generally, food access, skills development and data management systems, undertook a comprehensive assessment of all aspects of the MUCHALI process including its objectives, procedures, constraints and resources. The assessment included the following:

- Introductory meeting with all key stakeholders to sensitize them to the assessments anticipated methodology and needs
- Intensive review of MUCHALI survey tools and reports, as well as other documents relating to the MUCHALI process.
- Comprehensive review of all relevant data collection systems that are currently capturing data that might be useful to MUCHALI, as well as those systems that might not be directly relevant, but which could serve as examples of potentially effective data collection technologies that might be adopted by MUCHALI.
- Interviews with all key MUCHALI stakeholders.
- Interviews with District Council officers collecting, analyzing and submitting data from the field.

- Interviews with agencies operating data collection systems, including those technically responsible for system maintenance.
- Wrap-up work shop to allow stakeholders to comment on the validity of findings and to make corrections as necessary.

The work was undertaken on the basis that observations and recommendations should be provided as much as possible by the stakeholders themselves so that the final report should reflect the stakeholders own assessment of the food security information systems.

Field work took place from June 26 to July 23 2014. A list of respondents is provided in Annex B.

1.3 Outline of Report

This report contains six chapters. The first, this introduction briefly explains the objectives of the assessment and the methodology used to undertake it, as well as the overall outline of the report. The second chapter provides a basic description of the MUCHALI framework including its key stakeholders, institutional framework, objectives and the processes used to assess food security. The third chapter presents an inventory of all data collection systems that are relevant to food security assessment including those operated by the Ministry of Agriculture, Food Security, and Cooperatives (MAFC) as well as others such as the Health Management Information System (HMIS) operated by the Ministry of Health and other external systems. The inventory considers for each system, the type of data collected, frequency of collection and the level (village, ward, District or Region) at which data is initially aggregated. The efficiency and effectiveness of each system is also assessed. The fourth chapter contains a SWOT analysis of MUCHALI, outlining the strengths of the framework as well as its weaknesses, threats and limitations and noting especially, the opportunities for strengthening the framework through a combination of simplified data collection, skills development and the deployment of a food basket methodology to enhance district selection. Chapter five provides an assessment of the tools currently used to collect data by the MUCHALI teams. A summary of all recommendations is provided in the sixth chapter.

Annex A contains copies of all questionnaires and report forms that the study team were able to assess. Annex B lists the respondents interviewed during the course of this assessment.

2. Overview of MUCHALI

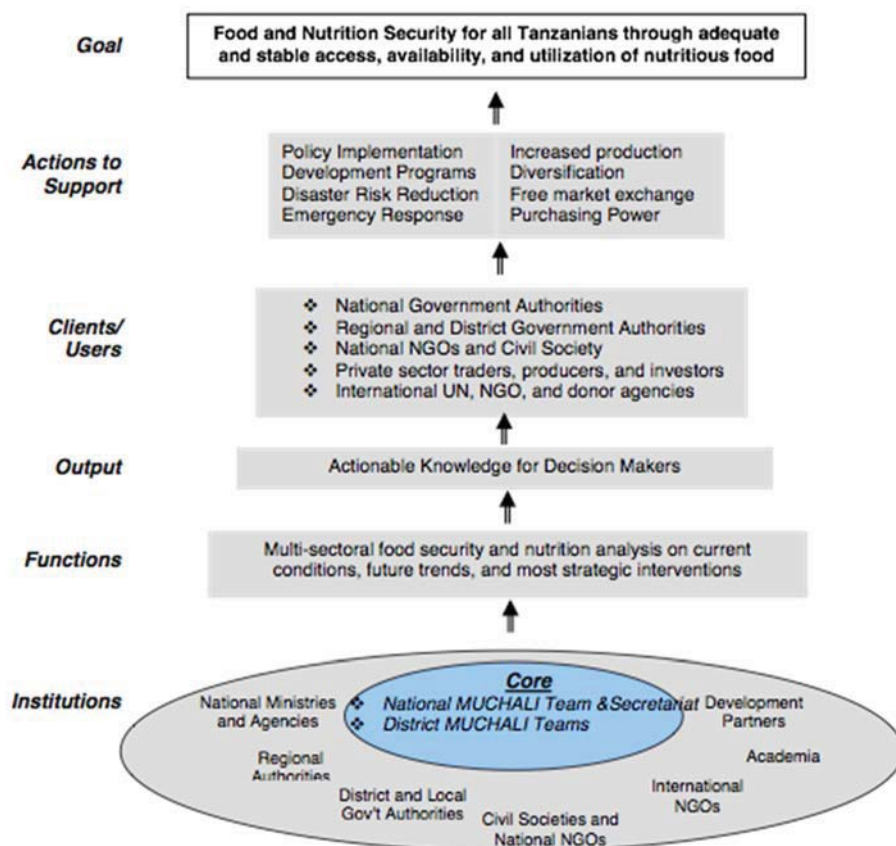
MUCHALI is a multidisciplinary operational framework designed to provide actionable knowledge to stakeholders in food security. MUCHALI does not exist as a government department in its own right, and divides leadership and core financing between the Co-Chairs, PMO-DMD and MAFC.

2.1 Stakeholders

MUCHALI incorporates all of the stakeholders that are directly or indirectly affected by food security information, including: MAFC, the Prime Minister's Office (PMO), TFNC, WFP, FAO, UNICEF, and FEWS NET. Non-Governmental Organizations (NGOs) include World Vision, Oxfam, Care and CRS. Other stakeholders include the National Bureau of Statistics (NBS), the Ministry of Water and Irrigation, the Ministry of Community Development, Gender and Children and the Tanzanian Meteorological Agency (TMA). The Ministry of Industry, Trade and Marketing is not consider a key stakeholder/partner.

2.2 Objectives

MUCHALI is intended to provide actionable knowledge to its clients, i.e. stakeholders and the TANDREC committee that is responsible for the approval of relief activities.



The intended functions and outputs of MUCHALI are illustrated in Figure 1

In its original design, MUCHALI was expected to undertake a wide variety of functions including data analysis within different frameworks that were multisectoral, multi temporal and multi scaled and would cover nutrition, the conceptual pillars of food security, and livelihoods analysis as well as risk analysis. Thematic areas for analysis would include: Key indicator monitoring, early warning, seasonal and emergency assessments, policy analysis, strategic project design, disaster risk reduction, capacity building, the underlying causes of food security and emerging issues.

The MUCHALI Secretariat was expected to focus on situation analysis (especially the real-time updating of current and projected food and nutrition conditions), intervention analysis (providing strategic advice on most effective, efficient, and sustainable interventions), decentralization support (providing technical and institutional capacity building to Regions and LGAs), information management, operational support and such additional research as might be needed.

The multidisciplinary nature and wide remit of MUCHALI, was intended to reflect the complexity of food security analysis, but it is evident that current resources are inadequate to

support the comprehensive data collection and analysis framework described above. Instead MUCHALI oversees a twice-yearly process of data collection and analysis by cooperating stakeholders. This process results in the generation of actionable knowledge in the form of Integrated Phase Classification (IPC) data for each District that is presented in report form for onward circulation both to stakeholders and to other agencies (including other Ministries and Donor agencies).

2.3 MUCHALI Process

The MUCHALI process has normally taken place twice each year, first in April/May and subsequently in September/October. The timing reflects the reactive nature of a process that is primarily based upon the identification of production deficits and their implications for food security within selected districts. The process is comprised of four stages as indicated in Figure 2 below.

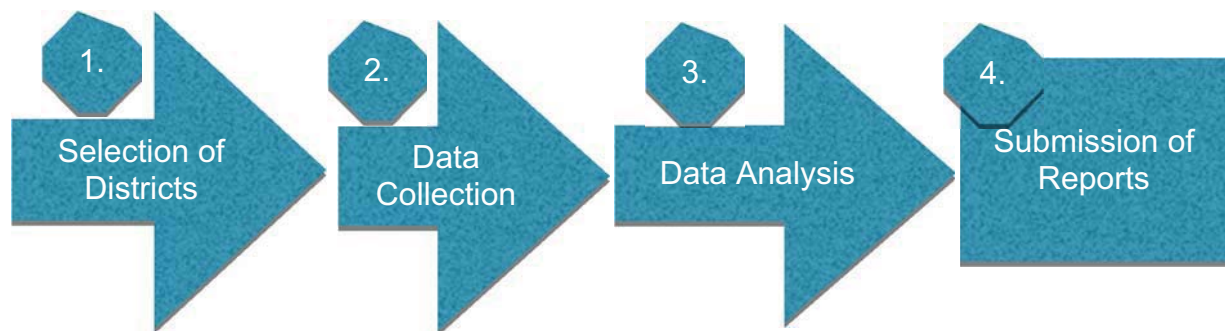


Figure 2: Schematic of the MUCHALI Process

Selection of Districts

The selection of Districts for assessment by the MUCHALI teams is based upon input from different stakeholders, including the TFNC, MAFC, TMA and NBS, but is predominantly determined by the results of the Preliminary Food Production Forecast (PFPP) undertaken by the crop monitoring and early warning unit within the MAFC. The PFPP results in the generation of production data for each of the main crops which is then converted into kgs of maize equivalent and compared with the calorific requirements of the District population. Those Districts in which production is 70% below estimated requirement form the preliminary selection for further assessment.

The PFPP is not the exclusive determinant of Districts for selection. Other stakeholders may provide additional information regarding nutritional deficiencies or other factors that may suggest a District should be subject to further assessment. This additional input is discussed by the stakeholders and a final list of Districts is drawn up based upon all available relevant information, although it is the per capita production of food (in maize equivalents) that is the primary selection criterion.

Data Collection

Data collection is undertaken by 30-40 teams of experts seconded from stakeholder institutions. Teams comprise four or five experts selected from different institutions to provide as broad a range of expertise as possible. Each team is expected to cover two Districts on average over a twelve-day period, although some will cover one large District and some will cover three small ones. Within each District a broad range of data is collected at both the household and village level (see Annex A). This is recorded in hard copy and later transferred to Excel spreadsheets for subsequent analysis. A brief qualitative assessment of the food security situation is also appended to each questionnaire. The data collection exercise takes approximately two weeks.

Data Analysis

Once data has been collected, it is transferred to Excel spreadsheets for subsequent cleaning and analysis. The analysis takes approximately two weeks, during which, the analysts assess the results of key questions in order to place each village in the appropriate category of each of the different IPC indicators. The assessment is not wholly objective, but may require discussion, weighting of responses and/or reversion to the qualitative notes that accompany each hard copy questionnaire before a final categorization is made.

Once villages have been categorized on the basis of the household data, the results are extrapolated across all villages falling into the same category of deficiency within the District. This allows the generation of data concerning the numbers of food insecure households at two different levels and the quantification of the appropriate emergency food response. Further information is generated on a qualitative basis regarding the factors contributing to food insecurity in specific Districts.

Submission of Reports

The results derived from the data analysis are used to inform recommendations regarding immediate food security initiatives and longer term development and policy needs. These outputs of the MUCHALI framework are brought before the TANDREC committee for consideration and action as appropriate. TANDREC is chaired by the Permanent Secretary of the PMO and the DMD acts as its secretariat. This allows the DMD to bring the recommendations to TANDREC, to codify that committee's response and to undertake the monitoring and evaluation of the actions mandated by TANDREC.

MUCHALI reports are also used by NGOs in the design of their programs, including the selection of intervention areas and activities.

2.4 Current Status

At the time of writing, MUCHALI has yet to undertake a 2014 assessment due to the limited availability of resources. MAFC funds to cover MUCHALI come from vulnerability budget line. The vulnerability line item also supports the Preliminary Food Production Forecast (PFPF). The

needs vary from year to year, making it difficult to know in advance the budget requirements. The MUCHALI team creates the budget for each assessment period based on the number of districts identified for the MUCHALI process, this includes labor, transportation, per diem and other costs. This makes the activity difficult to plan and budget in advance. At times the PMO-DMD has provided 60% of the financing for MUCHALI assessment through the disaster management budget line item. In addition, the MUCHALI Process includes the FAO IPC, this is funded by the FAO.

Stakeholders who participate within the framework are well cognizant of the many different aspects of food insecurity; however, assessments that do take place continue to be focused primarily upon those Districts that have experienced a production deficit, and the responses tend to be limited to the provision of relief maize, either free or at a subsidized price and/or the provision of planting seed. As such, MUCHALI has yet to fulfill the potential inherent in its initial design. It does not yet undertake real time situational analyses, neither does it undertake intervention analyses or any of the other key functions that were expected of it.

Part of the reason for the limited scope of activities of MUCHALI lies in the delay in its formalization as an institutional entity rather than the ad-hoc assembly of stakeholders interested in food security that it currently represents. Until such formalization has occurred, the MUCHALI framework will lack a consistent source of finance and will likely rely on donor support for logistics and IPC analysis. Nevertheless, it may be possible for MUCHALI to undertake a more comprehensive assessment of food security across a greater number of districts with an increased frequency by making use of existing data sets and available technology. In the remainder of this report, those data sets are examined and the options for their utilization by MUCHALI so as to allow the provision of real time ongoing situational analysis, as originally envisaged are considered in more detail.

3. An inventory of relevant Information Systems

3.1 Introduction

This section describes those systems that capture data relevant to MUCHALI. Questionnaires or report formats for each system have been included (where possible) in Annex A. The description of each system is followed by a brief assessment of its strengths and weaknesses and of its relevance to MUCHALI. The recommendations that follow each subsection are directed specifically to the strengthening of the MUCHALI process.

TABLE 3.1: MAIN SOURCES OF DATA PERTINENT TO FOOD SECURITY

Institution	Activity	Frequency	Data Collected	Resolution
NBS	Calculation of CPI	Monthly	Retail prices of 244 items including food basket components	Regional markets
	National Panel Survey	Every 2 yrs	All aspects of livelihood including income, expenditure and diet, collected from a preselected and panel of households.	Dar es Salaam, Zanzibar, Urban, Rural.
	National Sample Census of Agriculture	Every 5 yrs	Production, yield, input usage, income, assets, extension, irrigated area, mechanisation	
	Household Budget Survey	Every 5 yrs	Household income and expenditure	Mainland, Urban, Rural Dar es Salaam
	GDP Calculation	Every Year	Income from different activities/livelihoods	Regional
MAFC (ARDS)	LGMD2i	Monthly, Quarterly, Annually	Data on production, markets, food security, crop and livestock health, Activities, Visitors, Weather,	Village and Ward level data aggregated at District and Regional levels

TABLE 3.1: MAIN SOURCES OF DATA PERTINENT TO FOOD SECURITY

Institution	Activity	Frequency	Data Collected	Resolution
MAFC (Dept. of Food Security)	FSQ1	Twice per year		District summary of village-level data
	WRS1-5	Every two weeks		District summary of village-level data
	RRS1	Monthly		District summary of village-level data
MIT	LINKS	Monthly	Prices of Livestock and Meat	53 TAMISEMI or MAFC markets
	FAMS	Monthly	Wholesale staple crop prices. Retail vegetable prices	Regionally important markets
TMA	Synoptic Weather Data System	Every 30 minutes	All aspects of weather	Electronic from 27 stations
	Agricultural Weather data	Every 10 days	Rainfall, temperature	Phone/SMS/Em ail - 13 stations
MoH	Dispensary and Health Center records	Monthly	Births deaths, vaccinations, diseases and child growth statistics	Dispensary and Health centre records entered at District level.

3.2 NBS Data Collection Activities

The NBS undertakes a number of different surveys with different frequencies and at different levels of resolution. Those relevant to food security include:

- Monthly assessment of CPI
- National Panel Survey (every two years)
- Household budget survey (every five - eight years)
- National Sample Census of Agriculture (every five -eight years)
- Annual assessment of Regional GDP

NBS used a range of hardware and software to facilitate its data collection, processing and communication. Specifically, the hardware used includes Desktops, laptops, available to all staff dealing with data in the National and Regional offices. More, there is central server located in the heard quarter used to centrally process and share data. Software used by NBS includes MS Excel and SPSS for data collection and processing. Staff receive training on the use of such software. Further, the data is shared through the TDATA database developed using the National Data Archive (NADA) open source software developed by the World Bank. Uploading of data to the database is facilitated by another open source application, Nesstar Publisher software. This is an XML format application which structure information to be shared on the web or to be exchanged between software systems.

Communication of data and reports from districts, regional, and headquarters is enabled the internet. Emails are used for this purpose. Connectivity is available offices; however, modems and internet cafes are used in-case of connectivity interruption.

With the exception of the monthly assessment of CPI, none of the data is collected with a frequency that would be sufficient to provide useful input to an early warning system. Nevertheless, the survey does provide useful information on household characteristics (such as household composition, diet, assets, income levels and expenditure patterns) that could be expected to be held constant over the medium term and which can therefore be used to support analyses such as the FBM and inform food security assessments.

Monthly assessment of CPI

This is undertaken through the collection of retail prices in at least three markets in each Region during the first week of each month, additional weight is given to Dar es Salaam where each District is treated as a Region. Food prices are recorded on a per kg basis and those products sold in bundles, e.g. vegetables, are purchased and weighed. Data is entered into a protected spreadsheet at Regional offices and sent by email to the NBS national offices for compilation.

Strengths

The data collection process employs a small number of trained staff who can be expected to be consistent in their assessment of prices, especially with regard to the recognition and appropriate treatment of outlying data. The data entry process is well controlled and reinforces that consistency, (although one instance was noted where the price of cooking oil had varied by a factor of five suggesting that the data cleaning process had not flagged the use of different units). The process is comprehensive, considering the prices of more than 50 different foods whenever these are available in the market. Information is dispatched for national compilation on a timely basis, so that monthly price information could be readily accessed if required.

Weaknesses

The small sample size (3 markets per region) precludes the use of the CPI data for direct District level analysis, although it may support conclusions drawn from other analyses, and may serve as a general flag of reduced food access within a region.

Relevance

The monthly CPI data is of limited relevance to the identification of food insecure Districts, but can support general analyses. Similar data is collected by the MIT for a more limited, but critical range of food crops.

National Panel Survey (NPS)

The NPS has been conducted for two rounds and follows the livelihoods of individuals from an original number of 3,265 households, of which 2,063 were from rural areas². The NPS uses trained enumerators to collect information on a wide range of topics including agricultural production, non-farm income generating activities, consumption expenditures, and a wealth of other socio-economic characteristics. Rural households were drawn from villages selected on a random basis with probability proportional to size, within four strata (Dar es Salaam, Zanzibar, Urban and Rural). Regions were not used as substrata so that rural data can be expected to be clustered according to population density, i.e. not distributed evenly across Regions. Nevertheless, the original sample size was selected to be representative of the major agro-ecological zones (NBS 2013) and raw data has been aggregated at the Regional level to develop regional food baskets. Provided the limitations of the dataset are recognized, regionally aggregated results could be used to support preliminary analyses of food accessibility.

Strengths

The data collected in the NPS is comprehensive and is one of only two sources of detailed information on household incomes and food consumption. As such it is critical to an understanding of household food security needs and responses. The data can be used to reinforce that collected by the HBS, which although more regionally representative, only takes place every five years. The use of trained enumerators to collect the data provides some confidence that the inputs and consequent results of the analyses are accurate.

Weaknesses

Although raw data can be aggregated regionally, the survey is not undertaken on a regionally representative basis. Moreover, the NPS is undertaken in four quarterly surveys that track different households in each quarter. It is thus difficult to resolve seasonal variations in diet or other variables from local variations. Finally, the data collection and analysis process takes more than one year so that the NPS cannot be used for the identification of seasonal food insecurity

Household Budget Survey (HBS)

The HBS is undertaken every five- eight years (1991, 2000/1, 2007, 2011/12) over the course of a year, during which households are visited monthly to assess a wide range of variables

² The number was increased to 3,924 in the last round of NPS, of which 3168 could be tracked from the previous round. (NBS 2013).

including: Education and health status; Expenditures and consumption; Ownership of consumer goods and assets; Housing structure and building materials; Access to services and facilities including water and sanitation; Economic activities and employment; Tourism; Ownership of non-farm businesses; and Agricultural activities. The HBS covers more than twice the number of respondents³ of the NPS and generates results for the mainland, Dar es Salaam, other urban areas and other rural areas disaggregated by income quintiles. Data is collected by trained enumerators who are supervised by NBS staff. Results from the last HBS are anticipated shortly.

Strengths

The size of the survey relative to that of the NPS suggests that although data was not collected on a Regional basis it should again be possible to aggregate raw data at the Regional level to provide Regionally meaningful information on household income and food consumption, including seasonal variations in both. Comprehensive data is thus generated at a Regional level which can be used to support food security analyses. Moreover, the data can be triangulated with the NPS data to increase the frequency with which food security variables (especially food consumption and income levels) can be assessed. The larger size of the HBS generates more robust data than the NPS. The use of trained enumerators to collect the data provides some confidence that the inputs and consequent results of the analyses are accurate.

Weaknesses

The main weaknesses of the HBS data from a food security perspective are first that the frequency of surveys is low and irregular, (ideally such surveys are conducted on a five-year basis). Secondly, the sample size limits the resolution so that conclusions are most valid within strata at the national, and Regional level. Both constraints are largely due to limited human and financial capacity. Given these parameters, the HBS does provide data that can be useful in analyzing access to food on a monthly basis at the regional level.

Relevance

The relevance of the HBS to food security assessment lies in its measurement of income and its assessment of expenditure, including the proportion of income spent on food and the quantification of the food items that are purchased, so as to allow the construction of food baskets for different levels of income that would support analyses of food accessibility. (NB, In household income and an expenditure survey, “purchased” food is normally taken to include the food that has been grown by the household itself, since the consumption of own production represents an opportunity cost to the household.)

Taken in conjunction with the NPS data, the HBS allows the development of an understanding of household consumption patterns at different income levels over different regions, including especially the proportion of income spent on food and the different components of diet. This can be particularly useful to the derivation of food basket costings (see Section 4.3)

³ (10,186 households in 2011-12)

National Sample Census of Agriculture

The National Sample Census of Agriculture (NSCA) takes place at approximately five-year intervals. The census is a comprehensive assessment of all smallholder production including both crop and livestock data (areas planted of each crop, numbers of different classes of livestock, yields and production as well as smallholders' productive assets. Large-scale agriculture is subject to a similar census that includes an assessment of mechanization and irrigated areas. Together, the two surveys provide a complete overview of the state of the agricultural sector. Data is collected by enumerators at the household level and is aggregated by District, by Region and nationally.

Strengths

The key strength of the NSCA is its comprehensive nature covering all aspects of agriculture throughout all Districts. The NBS uses a statistically valid sampling procedure and the results are robust and meaningful at the District level. Once the data has been analyzed, it can provide useful insights into the productivity and nature of the agricultural sector, including comparative assessment of the productivity of households in different Districts that can reflect vulnerability to food insecurity.

Weaknesses

The main weakness of the NSCA is its limited frequency and the delay in processing of data. These factors limit the relevance of any data related to food security since by the time the data has been analyzed, most food security crises have passed. A national-level census is usually both costly and logistically complex and it is commonly deemed impractical to undertake such an exercise with more than a five-year frequency.

Relevance

Despite its low frequency, the NSCA can indicate the proportion of households that are not able to produce enough staple crops to meet their annual needs. These are the households that are in principle vulnerable to food insecurity if their overall level of income is insufficient to purchase the shortfall. NSCA data includes those factors contributing to chronic food insecurity, including inadequate holding size, limited availability of labor and poor environment (infertile soils or inadequate or erratic rainfall). The NSCA can thus contribute to an assessment of the probability of food insecurity due to the limited accessibility of food. Moreover the high sampling frequency allows this data to be analyzed at the District level, nevertheless, due to the relatively low frequency with which the NSCA is undertaken, its overall relevance to MUCHALI has remained limited.

NB. The NBS is soon to begin annual "agricultural sample surveys" which will estimate national and regional production on the basis of an area-based sampling technique (as opposed to a pan-national survey). This exercise should allow the estimation of production to a known level of accuracy. It is distinct from the NSCA and potentially more accurate than the annual compilation of DALDO data from which current production estimates are derived.

Estimation of GDP

The NBS gathers data to support the estimation of national GDP. This data is gathered annually at the Regional level, using questionnaires that are circulated to different enterprises in each District. Between 30 and 50 questionnaires are sent out. Different questionnaires are designed to measure the productivity of different enterprises. The response rate is 80%. The responses are compiled at the Regional level and allow the estimation of Regional GDP, including the calculation of the contribution of each of the main sectors to total GDP.

Strengths

The exercise is conducted on an annual basis and should provide a robust estimate of national GDP, including both Regional and sectoral contributions.

Weaknesses

GDP calculations are invariably open to error, especially when the value of consumed own production makes up a significant proportion of the agricultural component.

Relevance

Although the estimation of income is a key element of the analysis of food accessibility, since consumed own production makes up a significant proportion of rural GDP, the usefulness of quintile estimates of rural GDP as a proxy for different levels of rural income is limited at best. The GDP estimation process is thus of limited relevance to MUCHALI.

3.3 Agriculture Routine Data System (ARDS)

TABLE 3.2: ARDS DATA REPORTING

Monthly	Quarterly	Annually
Weather	Village food situation	Village population and number of households
Crop health	Farmers groups/SACCOs	Irrigation
Planted area, production and yield	Extension services	Contract farming
Crop prices (retail)	Biological control measures	Machines of agriculture and livestock production
Livestock health, meat inspection data	Irrigation	Extension services (Farmer Field Schools)
Livestock slaughtered,	Soil erosion	Inputs used
Livestock products (milk, hides etc)	Area cultivated and means of cultivation	Livestock population
Achievements and challenges		Livestock infrastructure
Visitors		Rangelands

TABLE 3.2: ARDS DATA REPORTING

Monthly	Quarterly	Annually
		Pasture
		Area covered by TV, radio, and telecoms

Source: MAFC

The ARDS system has been developed primarily for administrative purposes, especially monitoring and evaluation. Nevertheless it contains much data that is relevant to food security, especially the information that is collected on an annual, quarterly and monthly basis through the improved Local Government Monitoring Database (LGMD2i). (Table 3.2).

The system comprises an MS Access database. This is designed to be accessed at the District level, but is currently maintained manually using information compiled at the District level that is sent to MAFC headquarters for uploading. Hardware associated with this system include desktops and laptops used by staff in the headquarters and at District offices.

The Village Agricultural Extension Officers (VAEO) and Ward Agricultural Extension Officers (WAEO) collect data monthly at the village and ward levels. The data is collected on paper forms that are delivered to the District (Annex A). At the District level, data is aggregated and submitted to a national database - LGMD2i - held on a central server within MAFC offices in Dar es Salaam where it can be accessed and aggregated by District, Regional and National offices as required.

Data is also submitted quarterly and annually by Districts to Regions (see Table 3.2) and after scrutiny and approval are submitted onward to the National level with the same frequency. This information is of limited usefulness to MUCHALI due to the low reporting frequencies.

Strengths

Coverage and resolution - The ARDS is designed to collect data from every village and could therefore achieve a high degree of geographic resolution, as well as a (theoretically) 100% coverage of all production.

Frequency - the monthly frequency of data collection is adequate to provide early warning of changes in food security levels provided that there is no delay in the transmission of data once it has been collected. If monthly indicators suggest an evolving food security crisis, additional more frequent (weekly) coverage may be necessary to monitor developments.

Standardization - data is entered electronically at the District level into the central database via forms presented over the Internet. Input is therefore of a standardized format and

Speed - data entered at the District level could theoretically be immediately available throughout the LGMD2i system. This would allow for immediate analysis and response within a time frame appropriate to food security needs.

Support - the ARDS LMGD2i system has been supported first by USAID and then by JICA as well as the MAFC budget. There is ongoing commitment to strengthen and refine the system within the context of the decentralized data network. The presence of an IT specialist at each District should allow for ongoing system upgrading and maintenance as necessary.

Weaknesses

Manpower and Resources - there is a shortage of VAEOs within the country, coverage may fall to less than 70% in a given District. WAEOs are then required to provide the data from villages in their ward. WAEOs and District Extension Officers report that they have limited resources to collect data or to verify VAEO reports due to the limited availability of transport and a lack of paper and printer cartridges with which to prepare the monthly data entry sheets.

Low priority ascribed to reporting - officers at the District level are required to compile the individual village and ward reports in an Excel spreadsheet before the aggregate information can be entered into the LGMD2i. Only about 70% of District reports are entered into the LGMD2i in any given month. This is reportedly due to the pressures of work upon District Officers, who are not always able to complete the exercise on time, but it does mean that the LGMD2i database is substantially incomplete.

Connectivity - the LGMD2i relies upon Internet connectivity for its effectiveness. That connectivity is not always available. Under such circumstances, District Officers are expected to compress the consolidated Excel spreadsheet into a zip file and send it to the national office by email - travelling to the nearest available site that collects to the internet to do so. This work-around is apparently not always effective.

Central database functionality - the central database that is key to the LGMD2i is not currently functional and has been subject to operational problems throughout the last year. This has compromised the effectiveness of the system.

Relevance to MUCHALI

The LGMD2i contains data reported by District on a monthly basis including food prices and production levels as well as weather information. This information is critical to two key aspects of food security (availability and access). Only information on utilization and reliability is missing in order to provide a basic understanding of food security levels in each District. Thus, when fully operational the LGMD2i could provide MUCHALI with regular and timely information that would considerably enhance the assessment of food security not only as a snapshot, but also on an ongoing basis.

Currently the MUCHALI framework does not rely upon the LGMD2i database. Instead, it collects much of the same information through separate systems. The first is the MAFC - Dept. of Food

Security's own data management system (see section 3.3) and the second is MUCHALI itself. Much of the information collected by either system should already be held within the LGMD2i.

3.4 MAFC - Department of Food Security

In addition to the data collection system required to support M&E, MAFC collects data for the purposes of early warning and food security assessment. Three types of exercise are routinely conducted. The first of these is a Preliminary Food Production Forecast (PFPF), which is normally undertaken immediately after harvest in June. The PFPF requires teams from the MAFC food security department to visit the field to assess production levels through a process based upon sampling, previous reports and weather data. Based on the estimates of production, levels of sufficiency are derived for each District through the conversion of staple crop volumes to "maize equivalents" and comparison of these with estimated population requirements. Districts can then be labeled as "surplus", "adequate" or as being of different levels of deficiency. The results of the PFPF form the basis of the MUCHALI process and are the major criteria used to identify the Districts for further assessment.

In addition to and in support of the PFPF, data is collected at the District level and submitted to the national food security office of MAFC once every two weeks and monthly and seasonally. Data collected once every two weeks is entered into five separate forms as follows:

- WRS1: Target and actual: planted area and production (or estimated production) for each food crop.
- WRS2: Crop growth stages and impacts of drought (if occurred) including numbers of wards and villages affected.
- WRS3: Incidence of pests and diseases for each crop including number of villages and wards affected and effect of control measures.
- WRS4: Food availability by crop, including market prices (maxima and minima), sources of food and stocks available to traders
- WRS5: Rainfall amounts and dates.

This data is collected throughout the season by village and Ward extension officers and compiled at the District level into Excel spreadsheets. The completed spreadsheets are sent by email to the national MAFC headquarters.

Data is also collected on a monthly basis on form RRS1. This is completed at the District level on the basis of information supplied by village and ward officers. It is a detailed form that covers the availability of food, livestock and water as well as other data related to production and markets.

Finally data is collected towards the end of each growing season on form FSQ1. This covers a number of randomly selected villages in each district. The level of coverage was initially 3,000 villages across all Districts (i.e. approximately 20 villages per District). It covers food and livestock availability, income, crop hazards, and livestock disease as well as other factors

affecting production. Data is collected and held at the District for assessment by the MAFC PFPF team during the course of the crop forecasting exercise. This data formed the basis of the PFPF.

In all cases, data is entered into the MAFC system at the District level using Excel spreadsheets. That data is based upon written reports from village and ward level extension officers which must be aggregated by the DALDOs prior to data entry. The spreadsheet data is submitted by email to the national office, where it can be assessed on an individual District basis.

Strengths

The MAFC food security system collects data from each village and can theoretically achieve a high degree of resolution. Key production data is collected every two weeks so that potential shortfalls in production can (again theoretically) be identified in a timely fashion. Much of the data that is collected is common to that entered into the LGMD2i system so that additional LOE required for actual data collection is minimal. Moreover, the system covers prices and income as well as production, so that levels of access can also be assessed.

Weaknesses

Apart from the shortage of manpower noted in section 3.3 above, the main weakness of the system is its requirement for the aggregation of data at the District level and subsequent communication to the national MAFC Dept. of Food Security Data aggregation poses methodology problems (related specifically to the averaging of results from different sized villages) as well as technical problems (requiring access to laptop or PC) as well as requiring additional level of effort from already overstretched DALDOs. Communication requires a functional Internet connection in order to submit the Excel spreadsheet data, which is not always readily available. These constraints reduce the level of compliance in terms of data submission and staff within the MAFC Food Security Department report that only 20-30 percent of all Districts submit regular reports to the national database.

Relevance

The data collected by the MAFC Food Security system provides all of the information necessary to assess both the availability and price of the staple foods as well as the food security levels of individual villages. The information reported on forms WRS1-5 and RRS1 provide most of the information required for the ongoing monitoring of food security levels. It is only the nutritional aspect of food security that is not captured by the MAFC Food security system. If this system was fully functional it could replace much of the MUCHALI village level assessment and might reduce the resource requirements of the overall MUCHALI exercise as well as providing a more timely indication of developing food insecurity situations.

3.5 Tanzanian Meteorological Agency (TMA)

The TMA collects weather data from a number of different weather stations of different degrees of complexity. 27 Synoptic weather stations measure a wide variety of variables, which are electronically transmitted every 30 minutes to the National Centre. In addition 13 agro-meteorological stations collect data on temperature, rainfall, soil water, soil temperature and pan evaporation rates. These 40 stations contribute to the decadal bulletins issued by the TMA.

The data is transmitted every ten days, verbally by phone from the various Districts where the weather stations are located. In addition, the TMA accesses satellite data for rainfall anomalies and Normalized Vegetation Density Index (NVDI). These are calibrated against existing weather station data to generate monthly maps of rainfall anomalies. Finally, the TMA also collects data on crop and pasture condition as well as groundwater availability. This information is sourced from the DALDOs of each of the 40 Districts that submit weather data.

TMA data is reported as seasonal forecasts (every four months) as well as monthly and decadal reports. TMA uses a range of hardware and software to facilitate data collection and sharing. The hardware includes satellite linkage technology, desktops, laptops, and servers. Landline and mobile phones are also used to source information from various stations. The software includes the windows operating system environment, MS Excel, Geospatial Water Requirement Satisfaction Index Version 3 (GeoWRSI V3), and websites accessing Normalized Difference Vegetation Index (NVDI) data. The TMA is connected internationally to NOAA via the Internet. In addition the TMA operates an SMS weather information system that will push brief text alerts by SMS to registered mobile phone users. This is used to warn of rapidly developing weather systems to fishermen and others on the water as well as to registered farmers.

Strengths

The key strength of the TMA data reporting system appears to be its reliability. All 40 weather stations are actively canvassed by phone every 10 days so that the incidence of missing data records is low. The use of SMS allows the TMA to reach weather data users in a timely fashion. The use of satellite data provides national coverage with at least District-level resolution that can be calibrated against synoptic or agro-meteorological station data. Overall, the TMA is able to collect and disseminate useful data with both accuracy and reliability

Weaknesses

The primary weakness of the TMA data system is the level of resolution that is possible using only 40 weather stations. Although the calibration of satellite data allows wider coverage and greater resolution, this is limited to rainfall anomalies that can be calibrated against rain gauge data, but is not possible for NVDI data.

The data collection process is effective, but relies upon manual data collection over mobile phones. This requires a specific minimum level of effort to complete every month. The technology exists to automate the collection and analysis of data submitted by SMS (especially since the TMA is using that same technology to disseminate information), but this is not being done, apparently because of the costs involved. The costs might be reduced if the TMA were to install a direct connection to the mobile phone network instead of accessing through a modem.

Relevance

The information collected and analyzed by the TMA can be used to support the PFPF. Although there are only 40 weather stations reporting, (i.e. less than the number of Districts in the country), when combined with the satellite mapping, the decadal rainfall data can also be used to strengthen MUCHALI estimates of production at the District level. The crop, livestock and

pasture condition data could also be used by MUCHALI, but is collected more widely through the MAFC LGMD2i and Food Security systems.

It is perhaps as an example of a simple yet effective data collection system that the TMA has the greatest relevance to MUCHALI. The TMA have demonstrated that given adequate manpower resources, reliable and accurate data can be collected and disseminated using mobile phone technology.

3.6 Ministry of Industry and Trade (MIT)

The Ministry of Industry and Trade collects weekly price data for both crops and livestock and publishes them through a web-accessible database. Livestock information is collected as part of the Livestock Information Network and Knowledge System (LINKS). The system is developed using the .Net framework and is hosted at the University Computing Center (UCC). LINKS can run from any hardware. Currently, office desktops and laptops are used to run the system. LINKS allows data input using MS Excel as well as mobile phone SMS. Accordingly, the system receives data on a weekly basis from 53 of the 369 livestock markets, including both livestock prices and sale volumes. Price data is available to producers and traders through an on-demand SMS system.

FAO Agro Marketing System (FAMS) is another system that collects crop prices. The system is developed using MS Access and runs on the MS Windows environment. Data is collected and uploaded manually into the system. Wholesale prices of maize, rice, beans, sorghum, millet, cassava, wheat, and Irish potatoes are collected weekly on Monday, Wednesday and Friday. Retail prices are collected monthly during the first week of each month. Prices of agricultural inputs are also collected on a monthly basis and entered into a central MS Access database. In the past, information recorded by Agricultural officers was sent by mail to Dar es Salaam but this process has now been accelerated through the use of SMS. The information is linked to the Internet and can be accessed on demand by SMS and through the Internet.

Strengths

Both LINKS and FAMS provide accurate and up-to-date prices. Staff are regularly trained and motivated and the data is consistent and reliable. Data can be accessed directly by mobile phone at any time. The collection of volume data as well as price allows price data to be weighted if required (so as to reduce the impact of extreme prices on thin markets).

Weaknesses

The MIT data is representative of a limited number of markets and is reported only at Regional level. The information is stored in a database that is not linked to any other system (such as the MAFC database). Independent analysis of price data by a third party requires transcription from the web interface. The web-based FAMS interface was not accessible at the time of the study and although it has been known to be operational at other times, it is clearly not yet 100% reliable.

Relevance to MUCHALI

The LINKS and FAO data provide useful indications of monthly price trends at a Regional level. This contributes to a sound understanding of trends in the accessibility of food, although it does not permit the identification of districts at risk of food insecurity. Nevertheless, the MIT price data can be used to provide early warning of a crisis, and as a basis for the assessment of districts at risk.

3.7 Ministry of Health (MOH)

The MOH collects data on a monthly basis from each village using the Health Management Information System (HMIS). This is based upon the records collected at each dispensary and health center using preprinted books that are updated on a daily basis. The records are then entered monthly into the HMIS at each Health Centre using a web-based interface that allows information to flow directly to the MoH. Information can be automatically analyzed on a District or Regional basis. Not all Health Centers have Internet access, in which case, record books are brought to the District offices and the data is entered there. There is a window for data entry of 10 days from the end of each month.

Hardware used to operate the system, includes desktops and laptops. However, being a web-based application, the system is accessible on any platform including mobile devices. Currently, the system is operated on MS Windows environment. The system has been operational since 2009, although as of July 2014, the web-based HMIS had only been in place for one year.

Strengths

The key strength of the HMIS is the speed with which information is transmitted from the village to the national level (i.e. within one month). There is no District or Regional level aggregation or approval of the data, which is entered directly from the records into the system and can be subsequently analyzed by parties at any level. This facilitates a rapid response in the event of a crisis such as disease epidemic.

The HMIS is funded under a specific budget line (including co-funding from a donor “basket fund”, which helps to ensure that dedicated resources are available to enter the data in a timely fashion.

The system is based upon mobile outreach as well as referral data. Staff attempts to reach each village once per month so that a high level of coverage and accuracy is achieved. Geographic coverage of dispensaries is also quite high (the District of Morogoro rural contains 35 dispensaries and 8 Health Centers). Thus it is possible to obtain village level data if necessary, although the results are statistically more robust at the District and Regional levels.

Stakeholders reported that the system could be operated objectively without political interference.

Weaknesses

The number of MOH staff is limited so that it is not always possible to reach each village on a monthly basis. Staff skills are also limited (e.g. it was reported that the weighing of children is

not always accurate) and additional training will be required before nutritional data can be treated with confidence.

When health centers do not have access to the Internet, the data entry process becomes more cumbersome and requires the physical transfer of record books to the District office. At this point data entry can become a bottleneck requiring extra resources (in the case of Morogoro, five people were employed every month to enter the data from the 35 dispensaries and 8 health centers).

Health information is regarded as sensitive so that access to the HMIS data is restricted. This means that although village-level health statistics could in principle be made available to MUCHALI, in practice the MUCHALI teams are obliged to undertake their own primary data collection (by collecting 100 MUAC measurements per village).

Relevance

The key area of relevance to MUCHALI is the collection of one nutritional indicator (weight for age) that is included on the yellow growth cards used to monitor the growth of each child under the age of five, and recorded in Dispensary record books. Weight for age is a useful indicator of malnourishment, but does not permit the assessment of stunting or allow differentiation between acute and chronic food insufficiency. Fortunately, new growth cards, formatted to allow the recording of height for age, have recently been introduced. The new dataset will allow the more accurate estimation of the incidence of stunting, wasting and underweight children. Nevertheless, training in the measurement of height will be required (particularly for children under the age of two, who are measured lying down) before the data can be used with confidence.

Summary

There is a wealth of data that is being regularly recorded by different institutions in support of their individual activities. In some cases there is duplication of actual data collection (especially with regard to prices) and in others, a duplication of reporting of the same data. Nevertheless, MUCHALI could benefit directly from the data that is being collected, provided that collection was consistent and reliable. This is not always the case.

Rather than develop another parallel system within MUCHALI to collect much of the same data that is already (at least theoretically) being collected, it might be more appropriate to strengthen the existing data collection systems and to provide access to either entire or selected databases to the MUCHALI personnel. This would provide benefits not only to MUCHALI but also to other stakeholders collecting this data.

4. SWOT Analysis for MUCHALI

4.1 Introduction

This chapter considers the strengths, weaknesses and limitations/threats to MUCHALI, followed by a more detailed discussion of opportunities for its strengthening.

4.2 Strengths

The multidisciplinary nature of food security is well reflected in the MUCHALI framework: Stakeholder composition reflects a wide range of disciplines including health and nutrition, crop production, marketing and income generation, water and sanitation as well as meteorology. The data collection tools cover all aspects of food security, including availability, access, utilization and reliability, and the outputs are wide ranging in nature, including recommendations for the quantification and targeting of direct assistance as well as recommendations for development and policy. The comprehensive nature of the MUCHALI framework provides the potential for a balanced and holistic assessment of food security and the derivation of equally balanced recommendations as to required responses. The inclusivity of the MUCHALI process might also be considered to be important in that it allows those institutions that are mandated to effect change on the ground the opportunity to participate in the assessment of need.

The corollary of this multidisciplinary nature is that the MUCHALI framework represents the single national assessment of food security that is based upon a consensus of stakeholder investigations. This avoids the confusion that could otherwise be generated by conflicting reports and thereby promotes a concise response from both government and donors.

The use of the IPC classification to frame the food security information produced by MUCHALI is in line with SADC procedures and allows comparisons to be made both nationally and internationally with other food security situations and responses.

The MUCHALI framework is well established within Government as a reliable source of information and its recommendations are generally accepted.

The fact that the MUCHALI framework is co-chaired by the PMO and MAFC food security Department ensures that issues can be brought directly to the decision making body (TANDREC) for action. Furthermore, the fact the PMO DMD is the secretariat of TANDREC allows close monitoring of whatever responses TANDREC may consider necessary. Thus the PMO acts both as the conduit for recommendations and the monitor of responses. This potential feedback arrangement could help MUCHALI to observe the impact of its recommendations and to refine its strategies accordingly.

4.3 Weaknesses

Limited Feedback and interaction with members: The inclusive nature of the MUCHALI framework is not as strong as might be expected in that some members are active more as individuals than as representatives of their respective Ministries. This was evident from discussions with MUCHALI members from the Ministry of Community Development, Gender and Children (MCDGC), NBS and MoW. In these instances, the study team was told that the expertise residing in these institutions was not called upon in the MUCHALI process.

In practice, the study team found that there was little feedback generated by the MUCHALI outputs that had called upon the institutions to react to village-level food insecurity situations. Thus although the MCDGC might have an important role in community-based behavioral change to improve nutrition, no activity had been provoked in this area by MUCHALI reports. Similarly MoW staff reported that there had been no direct feedback from the MUCHALI process to their Ministry, although they hoped that following the inclusion of the PS. MoW is on the TANDREC Committee, this might change in the future. The TFNC reported one incident where following the MUCHALI report, they had been mandated to conduct further assessments in a number of Districts where malnutrition had been evident, but indicated that the report did not affect their activities on a routine basis.

The study team found that overall, the broad-based expertise residing within MUCHALI was not fully exploited. Stakeholders that took part in the District-level MUCHALI assessments and in the subsequent analyses were rarely called upon to contribute advice specific to their unique disciplines and while the IPC classification did refer to all aspects of food security, the predominant response arising from the reports was to address the availability of food.

Inadequate coverage of Insecure Households: Although the MUCHALI reports are the only regular assessment of food security, they do not cover all those in need. The fact that the MUCHALI process selects Districts for assessment based primarily on production criteria results in the omission of food sufficient districts that may yet contain significant numbers of poor households that cannot afford to access food from the markets. Such households are characteristically restricted to small land holdings and/or have limited labor capacity so that they are unable to produce the surplus that other households in the area are able to achieve. As a result, they are dependent upon the market to meet some part of their food needs. If they are unable to generate enough income from agricultural labor and/or off-farm activities, then they will become food insecure. Significant proportions of households do fall into this category (i.e. food insecure with in food sufficient districts) and run the risk of being overlooked by the MUCHALI process.

This is not to say that such households are always ignored. District selection under MUCHALI can be triggered by factors other than insufficient food production, notably high levels of malnutrition (as indicated by low weight for age scores) and political influence can both cause food sufficient districts to be assessed by MUCHALI, but such occurrences are reportedly exceptional. While such food insecure households may not benefit from MUCHALI

interventions (free or subsidized food), food insecure households that are identified by village level officers and reported to the Districts may yet benefit from District level interventions such as the provision of poultry or support to other income generating activities, so that they may not always go entirely unsupported.

Nevertheless, there is a distinct, (but not yet quantified possibility) that a significant number of poor households in food sufficient Districts are unable to remain food secure throughout the year, and that the needs of these households will not be addressed through the MUCHALI process.

Generation of the IPC classification: The IPC classification is the result of a process designed to summarize a range of different indicators. The indicators vary in their nature and cannot readily be compared on a quantitative basis (e.g. percentage food self sufficiency, stunting and poverty gap are all key indicators, but a high score for one indicator does not offset a low score in another). This makes it difficult to design a simple formula or flow chart that would result in the objective assimilation of all available data into a simple classification.

The solution to this dilemma is the use of the “Delphi Method⁴” whereby informed experts in each of the disciplines that are fundamental to the matter under consideration (in this case, nutrition, crop production, household income and expenditure, and markets) take the available data and make independent comments and estimates of the expected outcome. The independent estimates are shared anonymously amongst all the experts, who then adjust their initial estimates in the light of their peers’ estimates and comments. These second estimates and associated comments are then again shared anonymously resulting in a third estimate. Experience indicates that with each round of the process, estimates converge until a general consensus is reached. This may take as many as five or six rounds, but is more often achieved in two or three.

Key aspects of the process are that the contributions of the experts should be anonymous - so as to remove the impact of emotional argument and that the process is conducted on an iterative independent basis so that the final conclusion is not a result of predetermination and compliance, but of careful and objective consideration.

The Delphi method has a potential role in two stages of the MUCHALI process. Not only in the final derivation of the IPC classification for each District, but also in the initial pre-selection of Districts for assessment.

In practice, neither stage could realistically be considered to be Delphi methodology. In the first case, the pre-selection of Districts for assessment is dominated by the use of production data drawn from the PFPF, and is also subject to political influence. In the second case, there is no anonymity or attempt to work on an independent and iterative basis. Rather a “broad

⁴ The Delphi method belongs to the subjective-intuitive methods of foresight. Delphi was developed in the 1950's by the Rand Corporation, Santa Monica, California, in operations research.

consensus” is achieved through a round table discussion. This will often be effective, but is prone to subjective influence. The resultant IPC classification thus lacks the consistency that would allow meaningful comparisons with other countries.

Resource Constraints: Although MUCHALI currently enjoys the joint support of both MAFC and the PMO, it is consistently short of funds. In addition, several elements of the MUCHALI process are dependent on external stakeholder. This is especially true of the field assessments that have previously occurred twice each year. MUCHALI must use volunteers seconded from its member institutions. For the most part, such volunteers provide their own laptop computers and their own transport. These constraints mean that all data is entered into Excel spreadsheets, which are accessible to all data collection teams (as opposed to more complex data analysis programs such as SPSS). The same constraints also limit the number of villages that can be visited to no more than three per district. (This would appear to be one of the greatest weaknesses of the MUCHALI information management system. The selection of only three villages to supply data that is used to determine the relief response for a whole District is a process that is open to error. It is recommended that this aspect of the MUCHALI process should be reconsidered and that if field assessments are to be carried out on a twice-yearly basis, then less data should be collected from a larger number of villages.)

The MUCHALI Data collection tools: These include District and village level questionnaires as well as a household questionnaire. These tools are assessed in detail in section 5. The District and village level questionnaires contain much data that should already be recorded by other systems (although the level of compliance is in fact often less than 30%). Household questionnaires, while comprehensive do not allow for District wide extrapolation of responses. Overall, it would appear that the MUCHALI tools have developed to overcome the shortcomings of existing data capture systems, and to paint a detailed picture of the food security situation in specific villages. The efficiency of the process could be increased significantly if the other databases (especially LGMD2i and HMIS) were both functional and accessible, while shorter, more focused household questionnaires might allow more villages to be assessed.

MUCHALI Team members’ capacity: Team members indicated that not all were well versed in the data analysis procedures, especially in the use of the IPC classification. The amount of training given to new team members is limited to one day and most learn “on the job” from more experienced colleagues. This can result in different interpretations of questions and especially in different IPC classifications being produced from the raw data.

From another perspective, the simple capacity of team members to conduct the surveys allotted to them appears inadequate. The complaint from team members that they were obliged to work late into the evenings to complete their data entry into Excel spreadsheets from paper questionnaires was commonplace, and it is evident that the MUCHALI exercise is pushing the limits of what the team members can physically achieve. Under such circumstances, the risk of poor quality data will almost certainly increase.

Political Interference: Food security is politically sensitive and any process that assesses food security will be liable to experience political interference. Although the MUCHALI framework is well established as the central authority on food security and associated responses, it is nevertheless vulnerable to political interference both in the selection of Districts for assessment and in the targeting of beneficiaries by the CMTD. It remains a weakness of the MUCHALI system that it is sometimes obliged reactively to assess Districts that have not been judged to be deficient in food production, and that it has limited control over the eventual distribution of the food aid that it might have recommended.

4.4 Threats/Limitations

Lack of Formal Recognition: The greatest threat/limitation facing MUCHALI at present is the fact that the framework has not been formalized, but instead exists only as an association of institutions that have a common interest in the assessment of food security levels throughout the country. The lack of formal recognition means that MUCHALI has no dedicated budget and relies on funds from multiple sources. In addition there is no fixed ratio of budget support from sources. At times the PMO-DMD supported the MUCHALI process 60% through the disaster management budget line item; the MAFC supported 40% of the MUCHALI cost as part of the vulnerability budget line item. This line item also supports the PFPF process. A shortage of funds from the MAFC was sighted as the reason for delays in 2013 and 2014 in both the PFPF and MUCHALI processes.

The absence of signal-dedicated resources might also prevent some donor institutions from supporting MUCHALI as a concept that cannot be identified with a single responsible institution. This results in financial constraints that lie at the heart of many of the weaknesses of the MUCHALI assessment process. Lack of institutionalization means that the budget for MUCHALI is unpredictable in amount and timing, the current delay in the 2014 MUCHALI assessment being a direct result of such uncertainty of funding.

It is recommended that the MUCHALI framework should be formalized immediately as an agency falling under the aegis of the PMO. This would recognize both the importance of the assessment process as well as its multifaceted nature (including not only production, but also trade, and sanitary and dietary practices).

Limited capacity to reflect differences in livelihoods: The MUCHALI process is theoretically sensitive to differences in livelihood (using the definition of livelihood associated with the Household Economy Approach). This means that the MUCHALI analysis and response might vary for areas that differ significantly from each other in terms of the dominant livelihood pattern (livelihood zones), even when these areas lie within the same District. While the MUCHALI methodology does recognize differences associated with livelihood zones, in practice, the frequency with which villages are sampled does not allow for a representative sample from each livelihood zone, especially if there are more than two zones in a District. This means that differences in food security derived from differences in livelihoods are not well reflected by the current methodology.

The livelihood zone mapping and profiling exercise that is expected to be carried out in the next twelve months may result in an improved understanding of rural households' economic activities and choices. Nevertheless it is unlikely to influence the effectiveness or efficiency of the MUCHALI process unless a much higher village sampling frequency can be achieved.

4.5 Opportunities

Feasibility of integrating the Food Basket Methodology (FBM) into MUCHALI

While the MUCHALI process is currently triggered mainly by production deficits at the District level, there exist significant numbers of households in adequate or even surplus production Districts who remain food insecure because they are unable to access food, even though it might be available in the market. These households are often chronically food insecure by virtue of poverty, although in some cases, it is the impact of increasing prices that results in inadequate access to food. A methodology that can assess the accessibility of food adds a useful dimension to the MUCHALI analyses. Indeed, this aspect of food security is considered in the MUCHALI Household questionnaire, but does not feature in terms of District selection. It is at that point in the MUCHALI assessment process that the Food Basket Methodology (FBM) might play a useful role in highlighting those Districts in which the accessibility of food is a direct cause of food insecurity.

Brief description of the FBM: The food basket methodology provides a way to measure the cost of a typical food basket and can be compared to per capita income to estimate access i.e. the ability of a household to buy food. The food basket composition is derived from survey results:

First, calorie shares of 17 major foods or food groups in regional diets were estimated using survey results from the 2010/11 Tanzania National Panel Survey (NPS), (Cochrane, D'Souza, and Christensen, 2013). Next, using standard measures of calories per kilogram, the composition of a food basket containing these 17 foods (plus other food items with below 15% of the basket share which were not yet identified) that would provide 2137 calories per day was estimated in terms of kg of each component. These quantities were then multiplied by monthly retail prices to give a monthly cost of the food basket.

The ratio of the food basket cost to per capita income provides a measure of access that can be tracked as price and income data are updated. Rising prices of key foods decrease access in a given region and can serve as a trigger pointing the need for more in-depth investigation into the conditions of the region.

Rationale of the FBM and what it could bring to MUCHALI: The FBM allows the food basket cost to be calculated over time to measure food security trends. If timely price data can be obtained, this method can provide early warning of an impending food crisis. Monitoring changes in food costs relative to consumer's purchasing power can provide feedback on the effectiveness of government food security policies and the efficiency of marketing systems.

Something that will bring an alarm to MUCHALI concerning the regions with high cost of their food basket. Furthermore, this method relies on data that are already available and avoids the high cost of primary data collection.

Practical implementation: FBM can be applied at the regional level on monthly basis to measure the cost of food basket for all regions. By doing so MAFC-DFS will be in a position of monitoring the trend of food basket costs on a monthly basis. If there is a sudden price spike in an urban center, there are likely to be similar spikes in nearby rural areas. Monthly retail price data is already being collected by the Ministry of Industry and Trade. This information could serve as a trigger to initiate a more in-depth assessment of conditions in the region. Thus while following each production season MUCHALI receives names of the districts likely to be vulnerable due to food deficit, it would be possible to also assess food basket costs (FBC) by region on an ongoing basis. A significant increase in the regional FBC, would trigger further clarification from the officers in those regions that appear to have problems of accessing their food basket. This would allow the identification of Districts which might have been left out by preliminary production forecast but might nevertheless be vulnerable due to inadequate food access, so that the MUCHALI team could add these districts to those requiring further assessment.

Data to calculate a monthly FBC at the regional level is already available from NBS retail prices and NPS calories share as well as Regional GDP per capita data. District level data is not as readily available and some additional data collection will be necessary to allow District level FBCs to be calculated. The additional data requirements are summarized in Table 4.1.

TABLE 4.1: ASSESSMENT OF DATA REQUIREMENTS

Type of data	Specifications	Source	Descriptions	Time to collect data	Time to analyse and write a report
Retail prices for food item used in food basket	Detailed prices of specific foods I.e. price of fish as fresh, dry, sardines etc.	NBS	<ul style="list-style-type: none"> • Three markets average at regional level. • Retail price used to compile CPI. • Available at the end of each month. 	Monthly, second week of month.	Second and third week of each month.
Calorie intake for each food in the basket	<ul style="list-style-type: none"> • Per capita consumption in a specific regions i.e maize. • Calories conversion factor. 	NPS FAO	<ul style="list-style-type: none"> • NPS is revised every two years. • FAO data on calories per kg of food items. 	After compilation of the NPS of a given year.	
Income data	<ul style="list-style-type: none"> • Annual Regional per capita GDP at current market prices. 	NBS	<ul style="list-style-type: none"> • Used as proxy of annual per capita income. 	Around April of the followed yea.r	

Source: Study Team Investigation

While the FBC can currently be calculated for the “average” household in a region, it will be useful if the calorie share data can be refined to reflect the diets of poor households that are nevertheless food secure. The diets of such households will more accurately reflect the choices made by households facing food insecurity than those of average households that may contain more luxury items and less low cost staples. It is important to recognize that while the FBC is one half of the food access equation, household income levels form the other half, and a reduction in household income can be equally instrumental in reducing access to food. Such reductions may occur as a result of a fall in cash crop prices or as a reduction in labor opportunities, which may often reflect crop profitability as well. The FBM can be helpful in identifying Districts at risk due to inadequate food access, but this tool can become even more useful when combined with updated estimates of changes in household income, as may be derived from the Household Economy Approach (HEA).

Technical opportunities to improve efficiency

The MUCHALI process appears to have been developed independently of existing data management systems. MUCHALI makes little use of the data gathered by LGMD2i, HMIS or even the food security systems using report forms WRS1-5 and RRS1. Instead, it would appear that the MUCHALI process is obliged to make regular resource-intensive forays to food insecure villages in order to make good the data collection deficiencies that characterize the operation of these other systems. This is a duplication of systems and effort. The MUCHALI process could be rendered more efficient and timely at a reduced overall cost if it were able to source some of its information needs on a reliable basis from other databases. This section considers the requirements for such synergies to be practicable.

Development of synergies with the LGMD2i, HMIS and food security data collection systems: Taken together, these systems can provide regular (monthly) information on prices, production and nutrition that is almost enough to obtain a sound understanding of the food security situation in each village. Additional information on conflict and coping strategies as well as income levels would, in conjunction with the LGMD2i, HMIS and food security data, allow an assessment of the food security situation at the village level that would be sufficiently detailed to derive recommendations for an appropriate response for consideration by TANDREC. If the additional information were also collected on a regular basis, then it would be possible for MUCHALI to provide effective monitoring of all the dimensions of food security on an almost continuous basis (i.e. monthly) as opposed to the twice-yearly assessments that have taken place in the past.

For such a synergistic arrangement to be possible, it is necessary to:

- a) Develop the LGMD2i and food security data collection procedures to the point where they can be considered consistently reliable.
- b) Allow MUCHALI representatives access to the HMIS database
- c) Collect some additional information at the village level on a regular basis.

Each of these aspects is considered in turn below.

Access to Existing Data: The level of performance of the LGMD2i data collection system leaves room for improvement, even more so that of the food security information management system. Yet the information that is collected by these systems is of critical importance and can have a substantial impact on the lives of the communities from which the information is drawn. Nevertheless, District Officers report that the level of compliance in terms of village-level reporting is rarely more than 80%, citing a lack of resources (especially stationary and transport) as the key constraint to performance. The response (in the case of LGMD2i) has been to emphasize the need for an adequate allocation for the system within each District budget, and there is some evidence that when funds have been made available to facilitate supervision, performance has improved considerably⁵. Nevertheless, other systems, notably the HMIS, TMA and NBS data collection systems also face significant resource constraints and yet are able to achieve a level of performance that is close to 100%. This would suggest that resource constraints are not the only factor to be considered.

It was evident to the study team that at the national level it is considered that ownership of both the LGMD2i and food security systems is at the District level⁶, and that problems need to be resolved at that level. On the other hand, District Officers themselves place less emphasis upon these data collection systems and prioritized the immediate reporting requirements of the District Council above the LGMD2i and food security data collection systems. When asked why the national systems' requirements were of lower priority, respondents quoted the classic situation of "urgent requests" taking priority over the "important requests".

The limited investigations of the study team suggest that the effectiveness of the two existing reporting systems might be enhanced if District Officers could be motivated to place greater emphasis upon the collection of the required data. An increased frequency of motivational training on the one hand, and of feedback on the other⁷ would encourage District Officers (DOs) to develop a greater sense of ownership of the data and the systems themselves.

It was also evident that a lack of technical capacity was frequently a stumbling block to the effective operation of both databases. In one case, the single computer that was available to connect to the Internet was so corrupted with viruses that it was effectively unusable. In another instance, although the Internet can be widely accessed through "tethered" mobile phone linkages to laptops, the technique was not used and instead, DOs explained how they were obliged to travel for half an hour or more to other offices that had computers with online access in order to upload data. In both cases, it would appear that greater technical capacity

⁵ One District Officer noted that performance was initially 90%, but fell to 30% as resources were depleted, but that he was able to reestablish a level of 80% when a block grant was made available.

⁶ One MAFC officer described the situation as one in which the Districts were "custodians" of the data while the MAFC was the "user" of the data.

⁷ In one district, the DO reported that they had received no feedback for three years "not even when we did not enter the data"

(including the development of protocols and discipline in both on-line browsing and the use of USB flash drives) would significantly enhance the effectiveness of both systems.

Most of the existing systems from which MUCHALI could source data operate in the MS Windows environment. The advantage of this environment is its universality, such that limited training is needed to learn how to use the system, as most of the users are familiar with the environment. Nevertheless, this environment is very much prone to malicious software, especially viruses that can take over computers and use their Internet access for unauthorized purposes rendering the network either extremely inefficient or effectively useless.

It would be quite feasible to introduce the use of more robust operating systems such as Ubuntu and Open Office that are freely available as open source systems, and which (by virtue of their relatively small market share) are much less prone to viruses or other malicious software. Not only are these systems more safe, but they are also highly cost effective, especially since both operating systems and software are freely available on a continuously updated basis. Sophisticated database programs, including one similar to SPSS (PSPP) are available as well as basic office management programs. Training on the use and maintenance of the environment can be provided to build capacity for users, although end users would experience little difficulty in switching to the new operating system and such training would be required mainly by IT staff.

Overall, it was apparent that the levels of performance of both LGMD2i and the food security database could be enhanced through a combination of enhanced motivation through training and feedback, and technical capacity development. Appropriate programs would need to be initiated and maintained at the national level in order to achieve the increase in District level performance required to support the MUCHALI framework. Without continual national level input, it is unlikely that adequate District level performance will be sustained.

Access to HMIS: Nutritional information is a key indicator of for security and is well recorded through the HMIS. The growth cards that are completed for all children under five contain weight for age data and height for age will shortly also be recorded. Nevertheless, all data recorded by dispensaries and Health Centers is held on a confidential basis and the statistics are not available to MUCHALI members. It would be necessary for one individual within MAFC for security to be granted access to the database in order to extract the weight and height for age data on a regular basis or for the Ministry of Health to extract the data itself and to supply it to the MAFC Food Security in a form that would allow analysis by village. Currently the MUCHALI team is obliged to collect nutritional data through MUAC time-consuming measurements. Regular access to the HMIS would replace this process.

Sourcing Additional Data: Given consistent and reliable LGMD2i and food security data, together with nutritional data from the HMIS, MUCHALI would still need some village level data in order to develop a comprehensive assessment of food security in each village. A limited number of key indicators are all that is required and it is recommended that the following be

sent to MUCHALI (once it has been formalized as an institution) by the village level agricultural officers:

- Area planted for each of the four main crops (coded to allow for rapid data entry).
- Normal yield and expected/estimated actual yield for each crop.
- Numbers of sheep and goats and cattle in the village.
- Condition of sheep and goats, cattle and poultry (scale from 0 - decimated to 10 - thriving, for each).
- Proportion of households experiencing food insecurity last month⁸.
- Price of 4 main staples (coded and in TZsh/kg).
- Prices of shoats, mature steers and poultry.
- Supply of food in shops (0-empty to 10-fully stocked)⁹.
- Amount of food in households (0-stocks fully depleted - 10 stocks full)⁴.
- Net number of migrants out of the village in the last month⁵.

One possible mechanism by which such data could be efficiently transmitted would be through the use of mobile phones and SMS. Such a system is already being used to collect data from farmers working irrigated land with Tanzania. Information is submitted on a weekly basis by farmers using simple SMS responses to a small number (10) of questions that are automatically received and analyzed by a central computer that is linked to the mobile network. In this case, the analysis allows an officer within MAFC to assess the state of rainfall, planting, availability of seed and other key production parameters on a weekly basis in each of the areas in which the program is operating. In the case of MUCHALI, the ten illustrative indicators listed above would be submitted on a monthly basis as text messages sent by the agricultural officers working at village level to a MUCHALI computer. The regular information, when combined with data on production, prices and nutrition that can be extracted from existing databases, would provide MUCHALI with an ongoing (monthly) assessment of the food security situation in each village.

The analysis of all such data from all sources would be time consuming to be practicable. The analysis could be streamlined by using the SMS data as triggers for further analysis. E.g. if in a given village, the proportion of households experiencing food insecurity rose above a certain level, and/or if the supply of food in shops fell below a certain level, or if prices rose by more than a given percentage compared with the previous month, then that village would be flagged for further assessment in which all sources of data would be considered. It is possible that recommendations for an appropriate response could be developed on the basis of that analysis and that in only a small proportion of cases would it be necessary to undertake field visits to verify the situation.

⁸ This data is currently collected quarterly by village and the frequency would need to be increased to monthly.

⁹ This data is not yet collected and would be additional to the existing data collection requirements.

Summary: It is suggested that, given increases in the effectiveness of existing databases, access to the HMIS, and the collection of a small amount of additional data submitted to MUCHALI by SMS, the overall assessment process could be shifted from a twice-yearly assessment of selected villages, to an ongoing assessment of all villages. This would allow analyses to be correlated with livelihood zones and would result in a greater degree of responsiveness at a reduced overall cost. This recommendation can only be effective if MUCHALI can be formalized so that an institution could exist to own and operate an SMS/computer system to receive and analyze the data.

Skill Development and Motivation

Training of MUCHALI members: To achieve best results of the food insecurity analysis it is important that MUCHALI members should have a sound knowledge of IPC classification and of data collection procedures. Through discussions with stakeholders we were informed that all MUCHALI members attended IPC training level one but very few completed level two. To be able to attain IPC level one and become an IPC analyst, a participant is required to attend scheduled training as well as take part in at least one country Acute Food Insecurity Analysis Workshop. This is similar to the activity that is held in Dodoma after field data collection. In principal only a small number of members have felt competent to discuss and develop with conclusions for IPC classification to be included in the final MUCHALI recommendations. In view of this the team recommends refresher training in IPC classification procedures to be provided to the experienced members before going to the field as well as providing comprehensive training to new members. This recommendation is based on the findings that capacity of MUCHALI members to use IPC tools and procedure varies. From discussions it appeared that MUCHALI members from MAFC, PMO DMD, and TFNC seems to be more conversant with IPC than members from MOW, MCDGC and MLFD.

A refresher course held every year before field activity would provide an opportunity to enhance understanding of the IPC tools. It would also motivate members to increase their performance in data collection, data inputting and cleaning before analysis. It would also provide an opportunity to ensure that all data collectors understood the purpose and context of each of the questions in the three questionnaires, thus avoiding idiosyncratic interpretations of potentially ambiguous questions.

Grass root training: Regional and District staff play an important role before actual assessments in specific villages is conducted. They are required to fill questionnaires as well as provide detailed information to provide basis for selecting acute and moderate villages for assessment. A proper introduction of the process and tools are required. This might be in a form of one-day orientation of key staff that will be taking part in the assessment activity. National MUCHALI teams should plan in advance in collaboration with respective districts to conduct orientation.

Nevertheless, the issue of grass root training goes beyond the MUCHALI process, as it exists at present. If the opportunity to take advantage of existing data sets is to be realized, then there will be a strong need for grass root training to ensure a high degree of compliance in terms of

data collection and submission at the village and District level. Observations suggest that ownership of the information systems at the District level is weak. Nevertheless, national officers seek to make use of this data on a regular basis and indeed, MUCHALI could become much more effective if it too could rely upon information that is already (at least notionally) collected at the village and District levels.

It is recommended that a stronger sense of local ownership of the information management systems should be developed by the holding of regular refresher courses. Course materials would cover the basic principles of food security analysis, data collection and submission as well as fall back procedures (e.g. mobile phone tethering) in the event of technical malfunctions. Courses would include instruction on computer management and hygiene, protection against malware, backup procedures, updating of software and up and downloading of data as well as hardware maintenance (in the event of erratic electrical supplies). The purpose of such courses would be two-fold. On the one hand, they would impart specific and relevant information that could enhance performance, but equally importantly, when held on a regular basis, they would help to develop a sense of familiarity with and ownership of the information management systems. To this end it is equally important that District and village level officers should receive regular feedback on their inputs and be provided with the results of analyses whenever possible. It would also be helpful to create opportunities for their suggestions regarding the information management systems to be expressed and incorporated when appropriate.

At village level the assessment team will work closely with village/ward extension workers and CMTD. Moreover the CMTD plays a critical role in the eventual distribution of relief if that is necessary. Hence proper orientation of these stakeholders is essential. The MUCHALI framework should have the capacity to train especially CMTD members in the principles of food insecurity and the responses required to ensure that the most vulnerable receive assistance. District and Village level officers could develop a specific training program within MUCHALI for implementation as part of the process of fostering ownership of the food security information and response systems.

MUCHALI Guide Lines: Guidance on how to undertake each step of MUCHALI is recommended to achieve best results of the process. In view of this the team suggests MUCHALI guidelines should be prepared highlighting important main steps such as planning field activities, conducting orientation, data collection, inputting, cleaning, analysis and conclusions and recommendations. The document will act as a reference guide for every member. Guidelines should state major stakeholders and their roles and how to incorporate district teams.

Procedures and Training Materials: It was noted that few MUCHALI members and even fewer officers at District or village levels had access to literature outlining procedures, operation manuals or training guides. The wide accessibility of the Internet represents an opportunity to place such materials on line in pdf format for easy reference. This will also allow such materials to be updated easily.

5. Assessment of MUCHALI Tools

In the field, MUCHALI teams use four tools to assess food security namely:

1. The Food Deficit Council Questionnaire
2. The Village Questionnaire for Council with Potential Food Production Deficit
3. The Household Questionnaire for Council with Potential Food Production Deficit
4. Mid upper arm circumference (MUAC) measurement of children.

Each of these tools is used as part of a process designed to identify with increasing specificity, those areas in which food insecurity is evident and the causes of that food insecurity. They are assessed from the perspectives of effectiveness below (sample questionnaires - for October 2012/13 - are given in Annex A4-6).

5.1 Food Deficit Council Questionnaire

All Councils that have been identified as potential food production deficit areas complete this questionnaire. It categorizes all villages in the District as:

- experiencing acute food production deficit in both crops and livestock, (defined as being 0-30% of normal food production), or,
- experiencing moderate food production deficit in both crops and livestock, (defined as being 31-60% of normal food production), or,
- having produced adequate food in both crops and livestock, (defined as being 61% and above of normal food production).

Two villages are selected for further assessment from the first category and one from the second category (some respondents noted that in the past, one village from the third category had also been selected but recently resource limitations had curtailed this practice).

It is the listing of potential villages for further assessment that is the most important output of the Council Questionnaire. Nevertheless, considerable additional data is also collected, including the Council population, numbers of wards and villages, rainfall performance, as well as staple crop, cash crop, livestock, and fish production for the current season and previous four seasons, and monthly market prices for three main crops, and for livestock and fish for the current season and previous four years.

In addition, the questionnaire assesses the availability of water for human and livestock consumption, the condition of pasture, livestock migration and disease, the availability of agricultural services, child morbidity and mortality, coping strategies, interventions and conflict issues.

Much of the population, production and marketing data should be already stored within the LGMD2i database, or collected through the WRS1-5 and RRS1 report forms, but interviews with MUCHALI stakeholders suggested that these are not always available or reliable. Similar information is also collected through the village level questionnaire.

The usefulness of some other data collected is limited by its generality. In particular, rainfall characteristics can be expected to vary from village to village within the District as will access to water and morbidity and mortality levels. Data collected at a District level will have only limited relevance to village level food security, and it would be better to collect this data through the village level questionnaire. In fact some of the questions are repeated at the village level (including rainfall and access to water), rendering these questions in the Council questionnaire largely redundant.

The questionnaire does identify the occurrence of coping strategies and conflicts, and records the wards where these have occurred. This is useful additional data that can help the MUCHALI teams pinpoint specific food security issues.

Nevertheless, the questionnaire's main function appears to be in the identification of villages for further assessment. It does so within the context of three questions. Additional locational data is provided through two questions that assess coping strategies and conflict issues, but none of the other questions in the questionnaire provide any other information as to where a particular level of production, price, disease or migration might have varied from normal. Rather, the information is all generalized across the District.

As such, much of the District Council Questionnaire appears to be largely redundant and could be reduced in its scope to the identification of villages at risk through the questions relating to productivity, coping strategies and conflicts, with the addition of two further questions to identify those villages where food prices had significantly increased above normal, and those where incomes had fallen significantly below normal.

It is also unfortunate that the MUCHALI teams/District officials are obliged to provide so much data (in terms of price, productivity and population) that should have already been collected, analyzed and stored under the existing ARDS and food security data collection systems. The effective maintenance of and subsequent access to these other systems would allow the LOE incurred by MUCHALI to be substantially reduced.

5.2 Village Questionnaire

The village questionnaire is applied to three villages in each Council, as detailed above. Selection is in principle random, but logistical constraints may influence the final choice of villages for assessment. The questionnaire covers much of the same ground as the District questionnaire, including population, rainfall performance, crop, livestock and fish condition, production and prices (recorded for only two years), as well as availability of agricultural services, coping strategies and conflict issues. In addition the village questionnaire investigates

coping strategies and migration into and out of the village in greater detail than the District questionnaire.

The village level questionnaire does not cover child or adult morbidity or mortality or any other aspects of nutrition. Nevertheless, at the village level, middle upper arm circumference (MUAC) measurements are taken for 100 children while the village and household questionnaires are being administered. This allows a more detailed understanding of the immediate situation as regards nutrition, but it would be helpful if village level data could be accessed from the HMIS to support these observations.

The village level questionnaire collects data that (as with the District Council questionnaire) should be available from the ARDS, LGMD2i and Food Security databases. In that regard, it represents a duplication of effort, which is deemed necessary due to the unreliable nature of the other two databases. It might be more useful in the long term to support these existing data collection processes than to develop a third parallel system.

The information collected by the village level questionnaire helps to determine the broad extent of food insecurity and to determine the coping strategies that are being employed. It also makes reference to conflict, which can be both a direct and indirect cause of food insecurity but it draws no causal link between whatever conflict may exist and the food security status of the village. In this, and in other aspects of the village and household questionnaires, it is evident that the MUCHALI process relies upon the subjective interpretation of the team members in the field. Those conducting the interviews are obliged to draw their own inferences from the questions to determine which of the many factors assessed lie at the root of whatever degree of food insecurity has been determined.

5.3 Household Questionnaire

The Household Questionnaire is applied to 12 households in each of two food deficit villages and to 12 households in one village that the council considers to be facing a moderate food deficit. The questionnaire covers many aspects of food security and when applied to the three villages that are assessed, a comprehensive picture of their food security situation can be constructed. Nevertheless a rigorous assessment of the questionnaire revealed:

- Questions that appear to generate duplicate and/or conflicting results.
- Questions that may result in different responses according to the way in which the question is interpreted.
- Questions that generate responses that are beyond the capacity of households to answer accurately.
- Questions that are retrospective.
- Questions that elicit information of little or no direct value to the final analysis.

The following comments should be read in conjunction with the questionnaire itself, (see Annex A 5.)

- Duplicate or conflicting responses: In 2013, 554 of the 840 households surveyed (66%) reported that they experienced food insecurity during 2012/13 market year (Question 4), yet 769 (92%) of households were able to specify the month during the same period (2012/13 market year) when they had run out of food (Question 8 line 2). The fact that the latter response was 39% higher than the former diminishes the value of both results. It might be better to link the two questions so that a single response of direct value could be obtained (e.g. “If your household ran out of food in 2012/13 market year, what was the month when this occurred?”).

Question 18 asks whether prices in August 2013 were higher or lower than prices in the previous August. Such questions require a good sense of recall and responses are often inaccurate. Thus out of the 70 villages assessed, 38 responded with a clear consensus (i.e. an obvious majority indicating either that prices had gone up or down, or had not changed during the last year), but in 32 villages (46%), the number of households indicating that prices had risen was almost the same as the number suggesting the opposite. Since retail price data is collected at the village level in the course of data collection for both LGMD2i and WRS-5, it might be more efficient to make use of existing data rather than to rely upon conflicting household responses.

- Responses dependent upon interpretation: Questions 3 and 4 are open to varying interpretations. Thus Question 3 asks if the food production situation for the household was surplus, sufficient or deficit, but what constitutes a “surplus” is unclear. A household producing a commercial surplus of a key staple may yet be deficient in its production of pulses, vegetables or meat, (indeed the probability any household being completely self sufficient in food production is quite low). Nevertheless, a household producing a commercial surplus of a single crop, the sales of which would generate sufficient cash to purchase all other food needs might well consider it to be a “surplus” producer.

Thus while the response to Question 3 might help to gain a general understanding of a household’s level of food security in its broadest sense, unless the terms “surplus”, “sufficient” and “deficit” are clearly defined and consistently used by all respondent households, the value of the responses is limited. Similarly, Question 4 asks if the household ran out of food, but it is not clear whether or not this refers to own production, or includes both own production and whatever food the household might be able to purchase. Although the range of potential responses to the next question (Question 5) suggests that the response should include both own production and purchased food, lacking a clear definition of the context, responses to this question will vary according to the interpretation of the respondent.

Responses to Question 15 can be informative, but only if the context (in terms of level of sufficiency from own production is known). A household that spends 50% of its income on food might be food secure if total income includes the implied income from

own production consumed at home. (Food comprises 56.1% of the cash and non cash purchases that are used to calculate the Tanzanian CPI¹⁰), but a household that produces two thirds of its food needs and then spends 50% of its cash income on additional food - so that food purchases constitute roughly 75% of its income - is very probably food insecure.

- Responses beyond capacity to answer: Question 27 asks households to estimate the amount of water in liters consumed by the household. MUCHALI team members noted that few respondents understood the concept of volumetric measurement in liters and that the results obtained were almost meaningless.
- Questions that are retrospective: Question 5 considers coping strategies and is potentially highly informative. A Coping Strategy Index (CSI) has been developed¹¹ that provides an objective assessment of food insecurity from responses similar to those of Question 5. The CSI requires that strategies should be rated and the frequency of each activity should be recorded in order to derive a numerical index that can be used to compare different situations. When used together with nutritional, price and production data, the CSI can provide the final information required to obtain a definitive assessment of food insecurity. Nevertheless, Question 5 is retrospective in nature, considering the coping strategies employed during the previous marketing season. This provides little information about the nature or severity of current or anticipated food insecurity levels. Questions 6 and 7 are similarly retrospective and while they contribute towards an understanding of the circumstances in the village, they do not provide information regarding current food security levels. In fact only questions 3, 8, 18, 19, 20, 21, and 22 relate to current food security conditions (i.e. 1/3 of all questions asked). The reminder contributes to an understanding of the general circumstances of the village.
- *Questions of limited value to the analysis:* Question 2 (c) asks the number of people in the household. The significance of this question is limited unless it can be compared with that household's income generating capacity as determined by the number of household members who can contribute to income generation, the area of land available for cultivation and livestock and fishing capacity. While the latter two aspects of income are assessed, the first two are not, so that the response to Question 2 (c) lacks the context necessary for it to be meaningful.
- *Summary:* Overall, the household questionnaire provides a comprehensive overview of the historical and current circumstances of the village being assessed, and as such it can result in an accurate assessment of anticipated food security levels in that village. Nevertheless, the extent to which the results obtained can be extrapolated to other

¹⁰ CPI Summary Referenced: July 2014 - available at <http://www.nbs.go.tz>

¹¹ Maxwell D & Caldwell, R. 2008: The Coping Strategies Index: A tool for rapid measurement of household food security and the impact of food aid programs in humanitarian emergencies - Field Methods Manual - Second Edition: January 2008

villages is limited. Given that a District may contain well over 100 villages, interventions based upon the assessment of only three, are liable to substantial error in terms of both volume and targeting. It would be better to restrict questions to a shorter list of key essentials covering nutrition, CSI, food production and prices, and to access growth-monitoring data rather than rely upon MUAC measurements. These changes would allow the teams to cover a larger number of villages making the results more representative of the District as a whole.

5.4 Summary

MUCHALI teams make a considerable effort to collect the data necessary to assess food security levels in the villages that they visit. Nevertheless, much of the data should be available in existing databases. If these were functioning effectively, or MUCHALI could obtain the necessary access, (e.g. to LGMD2i and/or HMIS), then the work of the teams could be reduced. This would allow the teams to achieve broader coverage and to obtain more representative results. The household questionnaire in particular could be redesigned to contain only basic information that directly affects food insecurity, with greater emphasis on nutrition, coping strategies and prices as well as production.

An important component of the Council and village questionnaires are the assessment of the impact of conflict. This is often ignored as a cause of food insecurity, but can be extremely debilitating, not only to refugees and internally displaced people, but to all those whose production may be vulnerable to destruction or theft.

Summary of Conclusions and Recommendations

The concept of a MUCHALI framework is well founded. Given the multifaceted nature of food insecurity, it makes sense to develop a framework that brings together all stakeholders in order to develop holistic and sustainable solutions to food security problems. Nevertheless, that same multifaceted nature of food security implies that a considerable volume of different types of data should be accurately and regularly monitored if all aspects of the problem are to be fully understood.

There are two main options for the collection of such data, either to make use of existing information systems, or to develop a parallel system that would collect the different types of data specifically required by MUCHALI. A third option would be to make use of existing systems, supplemented by the limited collection of data specific to MUCHALI.

This study found that existing information systems can provide a substantial part of the data required by MUCHALI on a regular basis, but that some datasets are only partially reliable. As a result, MUCHALI has been obliged to collect its own data in order to be able to make useful recommendations to TANDREC. Nevertheless, without adequate financial resources, MUCHALI is obliged to limit its data collection to two annual exercises that are restricted almost exclusively to those Districts in which a potential food deficit has been identified. Moreover, the sampling frequency within those Districts is not enough to draw satisfactory conclusions as to the food security conditions of all villages.

This has meant that MUCHALI has been unable to fulfill the roles originally identified for it, especially the most important role of ongoing situational analysis. Instead, it has been restricted to occasional situational analysis in food deficit areas, using the limited data that it has been able to collect itself.

Given the national importance of food security and the potentially important role of MUCHALI in identifying and analyzing food insecurity situations, it is recommended that a number of opportunities should be realized with regard to data collection procedures and information systems management. Nevertheless, it is critical both to the success of these initiatives and to the ongoing development of the MUCHALI framework, that it should be formalized as an institution that can both formally interact with other Government agencies and have dedicated human and financial resources. Until this happens MUCHALI will continue to face resource constraints, lack the capacity to formally interact with other Government agencies and remain exposed to external influences and political motives.

MUCHALI will remain dependent upon external resources and the support of volunteers seconded from other institutions. Such an arrangement cannot allow for the ongoing

monitoring of food security on a pan-national basis. The absence of formalization effectively precludes the development of consistent and reliable information systems that are underpinned by formal procedures. Instead, MUCHALI is obliged to rely upon voluntary agreements with stakeholders that provide little comfort of reliability or consistency.

While the following opportunities for change may be realized even in the absence of the formalization of MUCHALI, it should be accepted that the chances of success would be substantially greater if such formalization were to occur.

Over-emphasis upon production deficit as the cause of food insecurity: The MUCHALI assessments take place primarily in those Districts that have been reported to be experiencing a food production deficit. It is important to recognize that many households experience food insecurity in the presence of adequate food supplies that remain inaccessible to those households by virtue of poverty. The current procedure followed by MUCHALI is indeed sensitive to issues of food accessibility, but that aspect is only assessed once the Districts for assessment have been determined. In other countries, an emphasis upon production alone has been estimated to omit 45% of food insecure households from relief responses.

The opportunity exists to broaden the scope of food security assessment through a greater understanding of food accessibility as provided by methodologies such as the Food Basket Methodology that consider the costs of appropriate diets on a Regional basis. Adequate information exists to begin the implementation of the FBM on an ongoing, monthly basis and hence to determine the costs, level of effort and benefits of the FBM in highlighting incipient or actual food insecurity in different Regions and Districts. If the FBM is judged to be useful, it can be refined through the collection of District level price data as well as the development of diets that are more appropriate to the poorest food secure households.

Vulnerability to political influence: It was frequently reported to the study team that MUCHALI was obliged to react to claims of food insecurity made outside of the MUCHALI monitoring framework by District officials who did not necessarily understand the actual situation on the ground. Such claims highlight the lack of an ongoing monitoring system that would otherwise allow MUCHALI to be proactive in responding to food insecurity situations rather than being obliged to react and gather the necessary data on an ad hoc basis. The recommendations outlined below can be expected to result in the capacity to be more proactive so that objective responses can be made before the situation might become politicized.

Use of existing databases: A wealth of data exists in parallel databases operated by MAFC, MOH, and MIT as well as NBS. There is an opportunity for MUCHALI to develop an ongoing pan-national monitoring system that would allow it to fulfill its original primary mandate of “ongoing situational analysis” through the development of linkages with these parallel information systems. Nevertheless, the following issues will require attention if this opportunity is to result in access to reliable data:

- *Increased feedback and participation:* The level of compliance within existing MAFC information management systems varies from 20% to 80%. This has been regarded primarily as an issue of limited resources and previous assessments¹² have correctly emphasized the need for adequate resource availability. Nevertheless, motivation and ownership of these systems at the District level is also limited. This has resulted in immediate requests taking priority over important issues such as compliance with the data collection and entry protocols. A higher level of feedback from those at national level using the data, as well as the fostering of a greater sense of ownership of the system through regular refresher training courses and attention to District level suggestions for system operation and maintenance would help to increase the level of compliance and reliability of data from these systems.
- *Increased technical capacity:* Much of the existing technology that is available at District level is compromised through malware and there is little awareness of the procedures necessary to prevent such situations or of potential workarounds using alternative technologies such as mobile phones. All those involved in the use of computer technology that access the Internet or who use flash drives should be trained in the procedures necessary to prevent the spread of viruses and other malware. IT staff should have access to updated security software for virus removal.
- *Use of open source software:* While there is commercial software available to undertake both data management and system sanitization, it is expensive and (because it is so widely used) a focus of virus attacks. Open source software, such as the Ubuntu operating system, the Open Office office management suite and PSPP data management software is much less prone to malware. Moreover, it is freely available and regularly updated. This can reduce the cost of purchasing a functioning a PC or laptop by 60%.
- *Access to confidential information:* The HMIS remains inaccessible to MUCHALI, yet it contains useful information that can identify areas of food insecurity. The potential exists for MUCHALI to obtain limited access to a limited data set without compromising the national health record. This would allow ongoing monitoring of nutritional issues.

Ongoing collection of additional data: Given consistent and reliable LGMD2i and food security data, together with nutritional data from the HMIS, MUCHALI would still need some village level data in order to develop a comprehensive assessment of food security in each village. Recent advances in technology now provide the potential to access such data on a regular basis without significant cost or LOE. A limited number of key indicators are required and could be transmitted to MUCHALI by Village and District agricultural officers on a monthly basis using an SMS/PC system. Such a system is already being implemented by MAFC working with farmers on irrigated land in Tanzania.

¹² Project for Capacity Development for the ASDP Monitoring and Evaluation System Phase 2:Progress Report (3): June 2014

The existing MUCHALI process: A number of issues were identified with regard to the MUCHALI process as it is currently implemented. The following key points were identified where opportunities for increased efficiency might exist

- *MUCHALI assessment sample size:* The selection of only three villages to supply data may be insufficient to determine the relief response for a whole District accurately. If field assessments are to be carried out on a twice-yearly basis, then less data should be collected from a larger number of villages if an accurate assessment of the food security situation is to be obtained. Under current circumstances, it is possible to misinterpret the situation on the ground. Respondents suggested that it is only through experience and the use of other informal data sources to triangulate the results that an accurate IPC classification can be derived.
- *MUCHALI questionnaires:* Much of the data to be entered into the District and Village level questionnaires could be drawn from existing databases if these were fully functional. The household questionnaire contains more detailed information that cannot be accessed elsewhere. Nevertheless, while the questions do allow the development of a comprehensive picture of the situation within a given village, not all of the data translates readily to other villages, some is historical and other parts are conflicting. A simplified dataset could generate as much useful information and given adequate motivation, could be collected by village agricultural officers on a regular (monthly) basis. This would allow MUCHALI to monitor food security on a wider and ongoing basis, in keeping with the original concept.
- *Training needs:* MUCHALI members frequently noted their need for further training in two areas, first in the use of the assessment tools, but more importantly in the application of the IPC process. There is an opportunity to refine and enhance the IPC results from the MUCHALI process by providing further refresher training in the IPC system to all MUCHALI members.

Overall, the study team noted that the information systems implemented by MUCHALI are less than perfect. Nevertheless the existing situation provides considerable opportunities for improvement. Ideally, this would be through the strengthening of the existing data collection systems within MAFC, MoH, MIT and NBS, in conjunction with the collection of a limited additional dataset at the village level using SMS technology. This would allow MUCHALI to monitor food security levels in villages across all Districts on an ongoing basis, thus fulfilling the original expectations of the system.

Annex A: Questionnaires referred to in the report

A1: ARDS Annual Questionnaire

PRIME MINISTER'S OFFICE - REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PMO-RALG)
ANNUAL AGRICULTURAL SECTOR REPORT FORMAT

Revised September 2013

Name of Village/Ward:

Name of Extension Officer:

Month: _____ Financial Year: _____ Date of Submission: _____

To be submitted to WAEO before the end of each year by VAEO. To be submitted to DALDO within first week of the following year by WAEO.

NOTE:

- 1) If your village/ward do not produce the crop / livestock products or do not have the machinery/infrastructure in question, write "0". (zero)
- 2) If the item exists in your village/ward, write the best estimated number.
- 3) Otherwise, leave the cell blank.
- 4) Use National Standard Measurement in each table where needed.
- 5) Read the instruction in each table carefully before writing.

1. Introduction, Basic Information of Village/Ward

	Male headed household	Female headed household	Total	Number of household engaging in agriculture
Number of Household				
	Male	Female	Total	Population engaging in agriculture
Population				

2. Number of Smallholder Households Participating in Contracting Production and Out-growers Schemes

	Contracting Production (i)			Out-growers scheme (ii)		
	Number of household involved (iii)	Number of Contractors Involved (iv)	Major Products (v)	Number of household involved (vi)	Number of Contractors Involved (vii)	Major Products (viii)
Crop						
Livestock						
Fishery						

Note

- i) Contracting production is defined as a partnership between smallholder household/group and an agribusiness company for the production of commercial products detailed in formal contract.
- ii) Out-growers scheme is defined as a partnership between smallholder household/group and an agribusiness company for the production of commercial products that may not involve formal contracts.
- v, viii) Write the names of major products.

3. Irrigation

3.1 Irrigation scheme

Name of the Scheme (i)	Name of water source (e.g. Rufiji river) (ii)	Potential Area (ha) (iii)	Area under Improved irrigation (ha) (iv)	Season irrigated (1=Both rainy and dry season, 2=Only rainy season, 3=Only dry season)	Status of the scheme (1=Good, 2=Acceptable, 3=Need repairment, 4=Not known)	Number of members in Irrigation Organisations (IO)		Number of farmers using irrigation infrastructures (both members and non members of IO)	
						Male	Female	Male	Female
Improved scheme									
Traditional scheme									

Note: (iii) "Irrigation potential area" means the total area of the scheme which has been brought under irrigation and which can be planned for irrigation on the basis of water availability.

(iv) "Area under irrigation" is the area developed for irrigation within the scheme.

4. Machines and other Agricultural, livestock and Fishery machines

This section refers to the machines/equipment which are basically stationed in your village. The machines which farmers rent from other villages are not included.

4.1 Number of agricultural, livestock and fishery machines

Type of machines/Equipment	Working		Not Working		Reason for not working
	Individually-owned	Group-owned	Individually-owned	Group-owned	
Tractor					

Power Tiller					
Combine harvester					
Mower					
Bailer					
Feeder					
Drinker					
Milking Machine					
Chillers					
Electric Meat Cutter					
Patrol Boat					
Fishing Boat with Engine					
Fishing Boat without Engine					
Others					

Note: Write the number of machines which are owned by either individual or group. Those owned by the Government or institutions (private companies) are regarded as group-owned.

4.2 Number of Agricultural Implements

a) Machinery Drawn (Tractors /Power Tillers)

Type of implement	Working	
	Individually-owned	Group-owned
Harrow		
Planter		
Disk plough		
Sub-soiler		
Weeder		
Boom Sprayer		
Ripper		
Rake for Hay Making		
Trailer		
Others		

b) Animal Drawn (Draught Animals)

Type of Implement	Working	
	Individually-owned	Group-owned
Harrow		
Planter		
Moldboard plough		
Sub-soiler		
Weeder		
Ripper		
Ridger		
Cart		
Other		

4.3 Number of Hand Operated Implements

Hand hoes	Spray pump (Plant/ Livestock)	Flaying Knives	Flaying Nets	Branding Iron*	Others (specify)

Note: *For Livestock identification

4.4 Number of Agro-processing Machines

Type of Machine	Working		Not Working		Reason for not working
	Individually-owned	Group-owned	Individually-owned	Group-owned	
Milling Machines					
Dehulling Machines					
Oil Extractor					
Kernel Opening					
Pulperies					
Ginneries					
Shelling					
Hay Making Machines					
Dairy Products Processing Machines					
Hatching Machines					
Meat Processing Machines					
Hides and Skins Processing Machines					
Meat Vans					
Milk Vans					

Ice Making Machines					
Fish Product Processing Machines					
Others (specify)					

Note: i) Count the number of machine in a factory or plant.

ii) Write the number of machines which are owned by either individual or group. Those owned by the Government or institutions (private companies) are regarded as group-owned.

5. Extension Services 5.1 Farmers Field School (FFS)

Purpose of FFS (i)	Number of Field School	Number of Farmers Started		Average Duration (days)	Number of Farmers Completed		Number of Villages Covered	Number of Farmers who applied the techniques learned	Remarks
		Male	Female		Male	Female			
Crop									
Livestock									
Fishery									
Purpose of FFS (i)	Number of Field School	Number of Farmers Started		Average Duration (days)	Number of Farmers Completed		Number of Villages Covered	Number of Farmers who applied the techniques learned	Remarks
		Male	Female		Male	Female			
Marketing and Processing									
Others									

6. Input Use

6.1 Inorganic Fertilizer

Type of Fertilizer	Annual requirement	Amount used per year (ton)	Remarks
SA			
CAN			
UREA			
TSP			
DAP			
NPK 10:10:10			
NPK 25:5:5			
NPK 6:20:18 / 10:18:24			
NPK 4:17:15			
NPK 17:17:17			
MRP (Minjingu Rock Phosphate)			
MOP			
Others (specify)			

Note: The amount of fertilizer includes those used for preparation of grazing area.

6.2 Agro Chemicals

Type of Chemicals	(Generic or Trade) Name of Chemicals	Unit (kg/ litre)	Amount used per year	Remarks
A: INSECTICIDES				
A: INSECTICIDES				
A: INSECTICIDES				
A: INSECTICIDES				
A: INSECTICIDES				
B: FUNGICIDES				
B: FUNGICIDES				
B: FUNGICIDES				
B: FUNGICIDES				
B: FUNGICIDES				
C: HERBICIDES				

C: HERBICIDES							
C: HERBICIDES							
C: HERBICIDES							
C: HERBICIDES							
D: RODENTICIDES							
D: RODENTICIDES							
D: RODENTICIDES							
D: RODENTICIDES							
D: RODENTICIDES							
E: AVICIDES							
E: AVICIDES							
E: AVICIDES							
E: AVICIDES							
E: AVICIDES							
F: Others							
F: Others							
F: Others							
F: Others							
F: Others							

Note: Write about the most common brand (trade) names in each category.

6.3 Improved Seeds

Type of Crops	Annual Requirement for the reporting year (kg)	Name of Improved Variety	Amount used in the reporting year (kg)		Remarks
			Quality Declared Seed	Certified seed	
Maize					
Maize					
Maize					
Maize					
Maize					
Paddy					
Paddy					
Paddy					
Paddy					
Paddy					
Beans					
Beans					
Beans					
Beans					
Beans					
Sorghum					
Sorghum					
Sorghum					
Wheat					
Wheat					
Wheat					
Sunflower					
Sunflower					
Sunflower					
Others (Specify)					

Note: Write the names of the most common varieties of improved seeds for each crop.

7. Livestock population

Type of Animal	Number of indigenous	Number of Improved		Total	Total Registered
		Meat	Dairy		
1. Cattle					
Bull*					
Cow**					
Steer***					
Heifer****					
Male Calf*****					
Female Calf					
Ox					
Unknown					
Sub Total Cattle					
2. Sheep					
Male Sheep					
Female sheep					

Unknown					
Sub total Sheep					
3. Goat					
Male Goat					
Female Goat					
Unknown					
Sub Total Goat					
4. Others					
Pig					
Water Buffalo					
Donkey					
Horse					
Camel					
Dog					
Cat					
Rabbit					
5. Avian	Number of Indigenous	Broiler	Layer	Total	
Chicken					
Duck					
Turkey					
Guinea Fowl					

Note: Count all livestock population EXCEPT those owned by large scale farmers (who have more than 50 head of cattle, and/or more than 100 head of sheep/ goats/pigs, and/or more than 1000 chickens/turkeys/ducks/rabbits, and who have permanent stations/farm, use machines such as milking machine, drinker, etc., practice commercial farming (with modern facilities) and usually have title of the land they own).

* Bull is mature uncastrated male cattle used for breeding.

** Cow is mature female cattle that has given birth at least once.

*** Steer is castrated male cattle over 1 year of age.

**** Calf is young cattle under 1 year of age .

8. Livestock Infrastructure

Type of Infrastructure	Working	Not working	Number Required	Number of Registered	Reasons for not working
Slaughter House *					
Slaughter Slab **					
Butcher					
Hide and Skin Banda					
Permanent Crash					
Charco					
Water Trough					
Cattle Dip					
Dog Dip					
Spray Race					
Hatchery ***					
Milk Collection Centre					
Auction Market					
Godown					
Others (specify)					

Note: * Slaughter house is defined as a facility where animals are slaughtered to carcasses (no processing).

** Slaughter slab is defined as a flat concrete floor where animals are slaughtered in an open air.

*** Hatchery includes a facility for producing on day chicks of any size.

9. Grazing land

Type of Animals (i)	Number of Animals (ii)	Total Grazing Land in the Village (ha) (iii)	Utilized land (ha) (iv)	Total Demarcated Area (ha) (v)	Total Area Leased (ha) (vi)
Cattle					
Goat					
Sheep					
Donkey					

Note:

(ii) Number of animals in the grazing land.

(iii) Total area available for grazing.

(iv) Area actually used for grazing.

(v) Area officially leased to individuals or groups by village and certified by Ministry of Land.

10. Pasture

10.1 Improved Pasture

Number of farms / plots	Area (ha)	Seed Production (kg)	Amount of Hay Bales/Bundles produced (Hay*)	Remarks

* One bale of hay is about 20kg.

10.2 Crop Residue

Type of crop	Amount of Hay Bales/Bundles produced	Area of Farms/Plots Grazed in Situ (ha)	Remarks

* One bale is about 20kg.

11. Dissemination of Agricultural Information (TV, radio and telecommunication)

11.1 TV and Radio station

Name of TV Station Available	Number of villages covered
TBC	
ITV	
Star TV	
Local, specify:	

Name of Radio Station Available	Number of villages covered
Radio 1	
TBC Taifa	
Radio Free Africa	
Local, specify:	

If the LOCAL radio or TV station air any program on agriculture/ livestock, please write.

Name of station	Name of program	Frequency (time in a week)	Type of information

11.2 Telecommunication

Name of telecommunication company	Number of villages covered
Sasatel	
Tigo	
TTCL	
Vodacom	
Airtel	
Zantel	
Others, specify	

A2: ARDS Quarterly Questionnaire

PRIME MINISTER'S OFFICE - REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PMO -RALG)
 QUARTERLY AGRICULTURAL SECTOR REPORT FORMAT (VILLAGE/WARD)

Revised September 2013

Name of Village/Ward :

Name of Extension Officer:

Quarter: _____ (Month: _____ Up to _____) Financial Year: _____ date of Submission:

To be submitted to WAEO before the end of each quarter by VAEO. To be submitted to DALDO within first week of the following quarter by WAEO.

NOTE:

- 1) If your village/ward do not produce the crop / livestock products or do not have the machinery/infrastructure in question, write "0". (zero)
- 2) If the item exists in your village/ward, write the best estimated number.
- 3) Otherwise, leave the cell blank.
- 4) Use National Standard Measurement in each table where needed.
- 5) Read the instruction in each table carefully before writing.

1. Village Food Situation

	Check one	Remarks
Good		
Average		
Bad		

Describe food situation in this quarter

Number of household with no food	Number of household with insufficient food	Number of household with enough food	Number of household with excess food

2. Farmers groups/Associations

2.1 SACCOS

Number of SACCOS	Number of Members				Amount of Loans (Tsh)				
	Individual members		Group *	Total	Crop	Livestock	Fishery	Marketing	Total
	Male	Female							

Note: * A group should be counted as one member.

2.2 Other Farmer groups

Type of Associations/Groups	Number of Associations/ Groups	Number of Members			Total number Registered	Total number with Bank Account
		Male	Female	Total		
Crop	Production					
	Processing					
	Marketing					
Livestock	Production					
	Processing					
	Marketing					
Fisheries	Production					
	Processing					
	Marketing					

3. Extension Services

3.1 Training of farmers through the methods other than FFS

Topic of Training	Total number of farmers trained		Total number of Farmers Trained		Training method	Training providers	Remarks
	Male	Female	Equal or Less than one week	More than one week			
Crop							
Livestock							
Fishery							

Marketing and Processing							
Irrigation							

4. Plant health

4.1 Biological Control Measures

Type of disease	Type of Crop	Control Measures	Area Controlled (ha)	Number of Households involved	Comments

5. Irrigation

5.1 Crops harvested under irrigation

Type of Crops harvested under irrigation	Planted area (ha) (i)		Yield (ton/ha) (ii)		Production (tons) (iii) = (i) x (ii)	
	Rainy season (iv)	Dry season (v)	Rainy season (vi)	Dry season (vii)	Rainy season (viii)	Dry season (ix)

Note:

(iv) (vi) (viii) Rainy season - Write planted area (ha), yield (ton/ha), and production (ton) for each crop harvested under irrigation during rainy season in the irrigation scheme.

(v) (vii) (ix) Dry season - Write planted area (ha), yield (ton/ha), and production (ton) for each crop harvested under irrigation during dry season in the irrigation schemes.

6. Soil Erosion

Type of Erosion (i)	Name of Village(s) Involved	Area Destroyed (ha)	Type of Control Measures	Area Controlled (ha)	Remarks

i) Write the names of erosion using an English term.

7. Area Cultivated by Village/Ward and Means of Cultivation

7.1 Short Rains Season (Vuli)

	By Tractors/power tillers (ha) (i)	By Draught Animals (ha) (ii)	By hand hoes / hand (ha) (iii)	No tillage (ha) (iv)	Total Area (ha) (v) = (i)+(ii)+(iii)+(iv)
Cultivated					
Planted					
Weeded					
Harvested					

Note : Do not double - count if the same land is cultivated more than once in one season.

7.2 Rainy Season (Masika)

	By Tractors/power tillers (ha) (i)	By Draught Animals (ha) (ii)	By hand hoes / hand (ha) (iii)	No tillage (ha) (iv)	Total Area (ha) (v) = (i)+(ii)+(iii)+(iv)
Cultivated					
Planted					
Weeded					
Harvested					

Note : Do not double - count if the same land is cultivated more than once in one season.

A3: ARDS Monthly Questionnaire

PRIME MINISTER'S OFFICE-REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PMO-RALG)
MONTHLY AGRICULTURAL SECTOR REPORT FORMAT (VILLAGE/WARD)

Revised September 2013

Name of Village/Ward: _____
 Name of Extension Officer: _____ Telephone Number: _____
 Month: _____ Financial Year: _____ Date of Submission: _____
 To be submitted to WAEO before the end of each month by VAEO. To be submitted to DALDO within first week of the following month by WAEO.

NOTE:
 1) If your village/ward do not produce the crop / livestock products or do not have the machinery/infrastructure in question, write "0". (zero)
 2) If the item exists in your village/ward, write the best estimated number.
 3) Use National Standard Measurement in each table where needed.
 4) Read the instruction in each table carefully before writing.

1. Introduction

1.1 Weather Condition

a) Rainfall: Write the number of days it rained, and the amount of rainfall.

Number of days	Amount of rain (mm)	Comments (Much, Average, Little, no rain)

Note

- If there is a rain gauge in your station, please write amount of rainfall in millimeters in the second column.
- If there is no rain gauge in your village, skip the second column and fill in the third column.

1.2 Disaster:

Please describe about the disaster (drought, flood, hunger, plant/livestock diseases etc.) if it occurred in this month.

1.3 Achievement and Challenges

Please summarize your output of main activities, and any comments in agricultural sector in this month.

Achievement:

Challenges / Problems :

2. Target, Implementation and Crop Prices

Before filling in this section, please read the note at the end of the table. Annual target should be written only in July and left blank for the other months.

Please refer "List of Crops" attached separately and add key crops not listed in the first column which are produced in your LGA.

Implementation of seasonal crops

Name of the Crop	Annual Target			Implementation			Market price	Remarks
	Planted Area (ha) (i)	Productivity (ton/ha) (ii)	Expected Production Qty (ton) (iii)=(i)x(ii)	Planted Area (ha) (iv)	Productivity (ton/ha) (v)	Production Qty (ton) (vi) =(iv)x(v)	(Tsh / Kg)	
Maize								
Paddy								
Sorghum								
Bullrush millet								
Finger millet								
Cassava								
Swee potatoes								
Irish potatoes								
Beans								
Cow pea								
Sweet Banana								
Cooking Banana								

Note:

- Annual target for planted area should be set at the beginning of a fiscal year (in July).
- Annual target for total production should be set at the beginning of a fiscal year (in July).
- Planted area is accumulated planted area from July to the end of the reporting month.
- Production quantity is accumulated production from July to the end of the reporting year.

3. Plant Health and Chemical Control

Name of pests/Disease (i)	Name of the crop Affected (ii)	Severity (Large, Medium, Small) (iii)	Affected Area (iv)	Number of Villages Affected (v)	Pesticide Applied (vi)	Amount used (vii)	Unit (Kg or Litre) (viii)	Number of Villages served (ix)	Number of House hold served (x)	Area Rescued (ha) (xi)	Comments (xii)
Total											

i) Write the name of pest/disease that broke out during this particular month.

ii) Write the name of a crop that has been attacked by pest/disease. (use one row for each crop).

iii) Select the severity of the crop disease/insects based on the affected area (large: greater than 50%, medium: 10%-50%, small: less than 10%)

iv) Write the name of the pesticides that is applied the most.

v) Area rescued is estimated based on the number of households served.

4. Livestock Slaughtered

Type of Livestock	Total number slaughtered (This Month)	Average retail price kg (Tsh)
Cattle		
Sheep		
Goat		
Pig		
Chicken (Local)		
Chicken (improved)		
Others		

5. Meat Inspection

Name of Place for Slaughter/ Inspection	Type of Animal (i)	Number of Animals affected (ii)	Condemnations	
			Reasons for Condemnations (iii)	Number of cases (iv)

i) Write the names of animals (e.g.. cattle, sheep, goat, pigs) which were condemned.

ii) Write the number of animals condemned corresponding to the animals in column (i).

iii) Use one row for each **disease/condition** in each animal type. If there are more than one reasons, use different rows and leave the preceding columns blank.

iv) Write the number of cases for each reason of condemnations.

6. Livestock Products

6.1 Milk

Type of product	Whole milk (This Month)
Milk - Indigenous Cattle (litre)	
Milk Dairy Cattle (litre)	
Cheese (kg)	
Butter (kg)	
Ghee (kg)	

6.2. Hide and Skin

Type of Product	Unprocessed (piece) (This Month)		Processed (piece) (This Month)	Remarks
	Dry suspended	Dry salted	Wet Blue	
Hide				
Skin				

7. Livestock Health

7.1 Medication

Type of livestock	Type of disease	Number Affected	Number Treated	Number Recovered	Number Died	Treatment/Medicine Applied

7.2 Dipping, Spraying and vaccination

Type of Livestock	Number Dipped	Medicine Applied	Number Sprayed	Medicine Applied	Number vaccinated	Vaccine Applied

7.3 Livestock Service

Type of Livestock	Cutting hoof	Castration	AI	Cutting Horn	Branding	Cutting tail	Cutting teeth	Cutting bill/beak
Cattle								
Goat								
Sheep								
Pig								
Chicken								
Duck								

* Please write the number of services cumulative from July.

List of Crops													
Nä.	Sub category	Items											
1	Cereals	Maize	Paddy	Sorghum	Bulrush Millet	Finger Millet	Wheat	Barley					
2	Roots and Tubers	Cassava	Sweet Potato	Irish Potato	Yam	Coco Yam							
3	Industrial Crops	Seed Cotton	Tobacco	Coffee	Tea	Pyrethrum	Cocoa	Rubber	Wattle	Sugar cane	Jute	Sisal	Cashew nut
4	Oil Crops	Sunflower	Simsim/ Sesame	Groundnut	Palm Oil	Coconut	Soya Bean	Castor Oil Seed	Jatropha				
5	Pulses	Cow Pea	Pigeon Pea	Green /Black Gram (Choroko)	Garden Pea	Chick Pea/ Lentil	Bambara	Bean					
6	Spices	Ginger	Black Pepper	Coriander	Cinnamon	Turmeric	Vanilla	Chilli Pepper	Clove	Garlic	Cardamom	Paprika	
7	Vegetables	Cucumber	Mushroom	Cauliflower	Cabbage	Amaranthus	Spinach	Chinese Cabbage	Tomato	Eggplant	Onion	Sweet Pepper	Carrot
		African Eggplant	Black Night Shade (Mhafu)	Kale	Leek	Swiss Chard	Okra						
8	Fruits	Sweet Banana	Cooking Banana	Mango	Pawpaw	Orange	Tangerine	Guava	Apple	Pineapple	Avocado	Water Melon	Lemon
		Lime	Plum	Pear	Passion Fruit								
9	Flowers	Rose	Chrysanthemum	Carnation	Aster	Gypsophylla	Ginger rose	Helianthus					
10	Others	Rosella											

A4: MUCHALI District Council Questionnaire

DISTRICT COUNCIL QS



Jamhuri ya Muungano wa Tanzania

Mfumo wa Uchambuzi wa Uhakika wa Chakula na Lishe
(MUCHALI), Tanzania

Food Security Assessment for the 2012/13 Market Year from the *Masika/*
Msimu Season (2011/12)

August-September 2012

Questionnaire for Council with Potential Food Production Deficit

Completed by:	
Date:	

Checked by:	
Date:	

Region

Council.....

A. COUNCIL POPULATION

1. Record the population of the Council.

Total population of Council		Number of Wards and Villages in the Council	
		Total Number of wards	Total Number of Villages
M	F		

2. Indicate the general livelihood system of the Council: *Tick only one.*

Predominantly Agricultural	Predominantly Agropastoral	Predominantly Pastoral	Predominantly Fishing	Predominantly Peri-urban	Predominantly Other (specify)

B. RAINFALL PERFORMANCE

3. Indicate the type of rainfall regime for the Council. *Tick only one.*

Bimodal	Unimodal

4. Assess the general performance of the 2011/12 *Masika/Msimu* rainfall season and normally in the council.

(a) *On-set (beginning of rainfall)*

(b) *End of rainfall*

	Normal	2011/12 <i>Masika / Msimu</i> season		Normal	2011/12 <i>Masika / Msimu</i> season
Month and week			Month and week		

(C) Rainfall amount: Tick appropriate box.

Amount	Above normal	Normal	Below Normal

(d) Rainfall distribution for adequate crop growth: Tick appropriate box.

Distribution	Good	Bad	Very bad

(e) Rainfall distribution (area coverage): Tick appropriate box.

Coverage	Good	Bad	Very bad

C. FOOD SECURITY SITUATION

5. What percentage does the *masika/msimu* season crop production contribute to total annual food supply in the Council?

For Unimodal Rainfall Councils ask and complete this part only

Timeline (Season)	Percent
<i>Msimu</i> Average (normally)	
<i>Msimu</i> 2011/12 Season	

For Bimodal Rainfall Councils ask and complete this part only

Timeline (Season)	Percent
<i>Masika</i> Average (normally)	
<i>Masika</i> 2011/12 Season	

6. In the Table below, record food and cash crops produced in the *Msimu* or *Masika* seasons in the Council. For cash crops, list the main three. Ha=Hectares Planted, MT=Metric Tons (Ask this for Unimodal or Bimodal Rainfall Council)

Crop	2007/08		2008/09		2009/10		2010/11		2011/12	
	Ha	MT	Ha	MT	Ha	MT	Ha	MT	Ha	MT
Maize										
Sorghum										
Paddy										
Bulrush Millet										
Finger Millet										
Wheat										
Cassava										
Sweet Potatoes										
Round Potatoes										
Bananas										
Beans										
All Peas										
Groundnuts										
Cash Crops (List the main 3 crops)										

(C) Rainfall amount: Tick appropriate box.

Amount	Above normal	Normal	Below Normal

(d) Rainfall distribution for adequate crop growth: Tick appropriate box.

Distribution	Good	Bad	Very bad

(e) Rainfall distribution (area coverage): Tick appropriate box.

Coverage	Good	Bad	Very bad

C. FOOD SECURITY SITUATION

5. What percentage does the *masika/msimu* season crop production contribute to total annual food supply in the Council?

For Unimodal Rainfall Councils ask and complete this part only

Timeline (Season)	Percent
<i>Msimu</i> Average (normally)	
<i>Msimu</i> 2011/12 Season	

For Bimodal Rainfall Councils ask and complete this part only

Timeline (Season)	Percent
<i>Masika</i> Average (normally)	
<i>Masika</i> 2011/12 Season	

6. In the Table below, record food and cash crops produced in the *Msimu* or *Masika* seasons in the Council. For cash crops, list the main three. Ha=Hectares Planted, MT=Metric Tons (Ask this for Unimodal or Bimodal Rainfall Council)

Crop	2007/08		2008/09		2009/10		2010/11		2011/12	
	Ha	MT	Ha	MT	Ha	MT	Ha	MT	Ha	MT
Maize										
Sorghum										
Paddy										
Bulrush Millet										
Finger Millet										
Wheat										
Cassava										
Sweet Potatoes										
Round Potatoes										
Bananas										
Beans										
All Peas										
Groundnuts										
Cash Crops (List the main 3 crops)										

7. In the Table below, record food and cash crops produced in the Vuli seasons in the Council. For cash crops, list the main three. Ha=Hectares Planted, MT=Metric Tons (Ask this for Unimodal or Bimodal Rainfall Council)

Crop	2007/08		2008/09		2009/10		2010/11		2011/12	
	Ha	MT	Ha	MT	Ha	MT	Ha	MT	Ha	MT
Maize										
Sorghum										
Paddy										
Bulrush Millet										
Finger Millet										
Wheat										
Cassava										
Sweet Potatoes										
Round Potatoes										
Bananas										
Beans										
All Peas										
Groundnuts										
Cash Crops (List the main 3 crops)										

8. Indicate the general availability of different kinds of food crops in Council markets. Tick only one cell for each crop

Below normal	Normal	Above normal	Below normal	Normal	Above normal	Below normal	Normal	Above normal	Below normal	Normal	Above normal
Crop: maize			Crop: cassava			Crop: sorghum & millet			Crop: rice		
Crop: bananas			Crop Beans/pulses			Crop: other					

9. List all villages in the Council, which are currently experiencing acute food production deficit (both crops and livestock), from the 2011/12 *msimu/masika* season (0-30% of normal food production). Record the village category according to the following criteria of livelihood systems: 1=Predominantly Agricultural; 2=Predominantly Agropastoral; 3=Predominantly Pastoral; 4=Predominantly Fishing; 5=Predominantly Other (e.g., Periurban, Mining, etc). Write the number in the "livelihood system" column.

No.	Livelihood System	Division	Ward	Village	Total Village Population	No. of HHs in the village	Main cause of food shortage
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

No.	Livelihood System	Division	Ward	Village	Total Village Population	No. of HHs in the village	Main cause of food shortage
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

10. List all villages in the Council, which are currently experiencing moderate food production deficit (both crops and livestock), from the 2011/12 Msimu/Masika season (31-60% of normal food production). Record the village category according to the following criteria of livelihood systems: 1=Predominantly Agricultural; 2=Predominantly Agropastoral; 3=Predominantly Pastoral; 4=Predominantly Fishing; 5=Predominantly Other (e.g., Periurban, Mining, etc). Write the number in the "livelihood system" column.

No.	Livelihood System	Division	Ward	Village	Total Village Population	No. of HHs in the village	Main cause of food shortage
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

11. List all villages in the Council, which produced adequate food from the 2011/12 msimu/masika season (61% and above of normal food crop and livestock production). Record the village category according to the following criteria of livelihood systems: 1=Predominantly Agricultural; 2=Predominantly Agropastoral; 3=Predominantly Pastoral; 4=Predominantly Fishing; 5=Predominantly Other (e.g., Periurban, Mining, etc). Write the number in the "livelihood system" column.

No.	Livelihood System	Division	Ward	Village	Total Village Population	No. of HHs in the village	Main cause of food shortage
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

12. For the current *acute food deficit villages*,
- o What are the short-term and long-term strategies the Council is doing to address the problem?
 - o What other short-term (in the coming three months) and long-term measures or interventions is the Council recommending to address the problem?

(Note: The interventions include those for livestock, such as pasture, water-tanks, vaccines, etc)

Current Interventions by the Council		Recommended Measures	
Short-Term (next 3 months)	Long-Term	Short-Term (next 3 months)	Long-Term

Ask question 13 if planting materials are recommended. Do not suggest or solicit this response.

13. If drought tolerant planting materials (seeds, cassava cutting, sweet potato vines, etc.) are recommended for the coming season in the assessed areas, complete the following table.

Type of planting material required	Months when required	Names of villages/Wards (attach a list of villages if can't fit here)

D. FOOD SECURITY SITUATION – LIVESTOCK PRODUCTION

14. Describe the current livestock conditions for each Ward in your Council; compared to normal. Tick the appropriate box.

No.	Name of Division	Name of Ward	Cattle			Sheep			Goats			Poultry		
			Better than normal	Normal	Worse than normal	Better than normal	Normal	Worse than normal	Better than normal	Normal	Worse than normal	Better than normal	Normal	Worse than normal
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														

15. Describe the current conditions of pasture, water for livestock and for human use in each Ward in the Council compared to normal. Tick the appropriate box.

No.	Name of Division	Name of Ward	Pasture			Water for livestock			Water for Human Use		
			Normal	Bad	Worse	Normal	Bad	Worse	Normal	Bad	Worse
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											

No.	Name of Division	Name of Ward	Pasture			Water for livestock			Water for Human Use		
			Normal	Bad	Worse	Normal	Bad	Worse	Normal	Bad	Worse
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											

16. Describe the general conditions of water for human use in the Council. Tick one box for each category.

Condition	2011/12		Normally	
	Yes	No	Yes	No
Sufficient				
Clean				
Safe				

17. Comment on other conditions of water for human use in the Council (for example, malfunctioning bore holes, silting, broken taps, contamination...)

1.
2.
3.

18. Comment on water availability for livestock in the Council: For example, dried ponds, silting, etc.....

1.
2.
3.

19. Are there any unusual migrations of livestock in and outside the Council this year?

a) Livestock coming in: Tick only one answer in the box.

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

b) Livestock going out: Tick only one answer in the box.

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

If the answer is "No" IN QUESTION 19 a) and b), skip questions 20 and 21.

20. If the answer is "Yes" in question 19 a) above, give reasons for coming in:

1.
2.

21. If the answer is "Yes" in question 19 b) above, give reasons for going out:

1.
2.

22. Record levels of livestock products in the Council.

Type of Product	2007/08	2008/09	2009/10	2010/11	2011/12
Beef (metric tons)					
Lamb/Mutton (metric tons)					
Goat meat (metric tons)					
Pork (metric tons)					
Chicken meat (metric tons)					
Milk (in '000' litres)					
Eggs (in '000')					
Hides (Pieces)					
Skins (Pieces)					
Ghee ('000'litres)					

23. Indicate the types and numbers of livestock in the Council in the following Table

	Current Number	Number sold in past three months	Number slaughtered in past three months	Number died in past three months	Cause of death	Codes:
						Disease1 Lack of pasture2 Lack of water3 Other (specify)4
Cattle						
Sheep						
Goats						
Poultry						
Pigs						
Other (Specify)						

24. Have there been any outbreaks of livestock disease(s) in the past three (3) months (May to July 2012) in the Council? Tick only one answer in the box.

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

If the answer is "No" in question 24, skip question 25

25. If the answer is "Yes" in question 24, name the disease(s) and prevalence in the Council

Name of the Disease	Species Affected	Number Affected	Number Died

26. If the Council is predominantly pastoral/agropastoral, describe the current general availability of milk in the Council, compared to normal.

More than Normal	Normal	Less than Normal	Give reasons for the change of situation if different from a normal year (eq. Disease outbreaks, poor pasture and livestock condition, etc)

27. Indicate the availability of different agricultural/livestock services in the Council

Type of Service	Availability		% Coverage in the Council	Remarks
	Yes	No		
Agricultural extension services				
Livestock extension				
Seed sellers				
Crop drugs sellers				
Fertilizers sellers				
Tractor hire/services				
Crop markets				
Livestock drugs sellers				
Public livestock vaccines				
Dips/spays				
Livestock markets				

E. FOOD SECURITY SITUATION – FISH PRODUCTION

28. Indicate the main source(s) of fish in the Council markets

Source	Yes		No
	Ticked	% of source	
Ocean (within Council)			
Lake (within Council)			
River/pond (within Council)			
Outside Council			

29. If fish sources are within the Council, record production in the Table below

Type of Product	2007/08	2008/09	2009/10	2010/11	2011/12
Fish (Metric Tons)					
Value (Tsh)					

30. Compare the availability of fish in markets in the past three months (May to July 2012) in the markets compared to normal

More than Normal	Normal	Less than Normal	Give reasons for the change of situation, if different from a normal year

F. FOOD SECURITY SITUATION – MARKET CONDITIONS

31. Record the average prices of maize and two other main food crops in the Council (Tsh) for 2012, 2011, 2010, 2009 and 2008.

Crop	Unit of Measure (Kg)	2012												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Maize	Kg													
	Kg													
	Kg													

Crop	Unit of Measure (Kg)	2011												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Maize	Kg													
	Kg													
	Kg													

Crop	Unit of Measure (Kg)	2010												
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Maize	Kg													
	Kg													
	Kg													

Crop	2009												
	Unit of Measure (Kg)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maize	Kg												
	Kg												
	Kg												

Crop	2008												
	Unit of Measure (Kg)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maize	Kg												
	Kg												
	Kg												

32. Comment on road conditions and physical access to markets of food crops in the Council

1.
2.
3.

33. Record the average prices of livestock and fish in the Council (Tsh) for 2012, 2011, 2010, 2009 and 2008.

Type	2012												
	Unit of Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cattle	Each												
Sheep	Each												
Goat	Each												
Chicken	Each												
Pig	Each												
Fish	Kg												
Other (specify)													

Type	2011												
	Unit of Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cattle	Each												
Sheep	Each												
Goat	Each												
Chicken	Each												
Pig	Each												
Fish	Kg												
Other (specify)													

Type	2010												
	Unit of Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cattle	Each												
Sheep	Each												
Goat	Each												
Chicken	Each												
Pig	Each												
Fish	Kg												
Other (specify)													

Type	2009												
	Unit of Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cattle	Each												
Sheep	Each												
Goat	Each												
Chicken	Each												
Pig	Each												
Fish	Kg												
Other (specify)													

Type	2008												
	Unit of Measure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cattle	Each												
Sheep	Each												
Goat	Each												
Chicken	Each												
Pig	Each												
Fish	Kg												
Other (specify)													

34. Comment on road conditions and physical access to livestock markets in the Council

1.
2.
3.

G. FOOD SECURITY SITUATION – MORBIDITY AND MORTALITY

MORBIDITY OF CHILDREN

35. Record the current prevalence of the following diseases in the Council.

Disease	U5 Prevalence (Number of cases recorded)	Total Council Prevalence (Number of cases recorded)
Diarrhea		

Anaemia		
Malaria		
URTI		
HIV		
Other		

36. Record the vaccination coverage for children aged 0-59 months in the Council.

Type	Coverage % in the Council
BCG	
DPT	
Polio	
Measles	
Vitamin A	

MORTALITY RATE¹

37. Record mortality rates in the Council. Please specify the formula used in the box below.

Formula

38. Maternal and Child deaths:

Child Mortality Rate reported ²	
Maternal Mortality Rate reported ³	
Crude Mortality Rate (CMR) ⁴	

39. What are the main causes of deaths among children aged 0 – 59 months in the Council (list and rank causes in order of severity)?

Rank	Cause of death
1	
2	
3	
4	
5	

H. OTHER COPING STRATEGIES

40. Have there been any unusual migrations of people in and outside the Council over the last three months (May to July 2012)?

a) People coming in: Yes.....No.....

Yes	
No	

b) People going out: Yes.....No.....

¹ Mortality rate is typically expressed in units of deaths per 1,000 individuals per year
² The Child Mortality Rate is the number of deaths of children less than five years old per 1,000 live births
³ The Maternal Mortality Rate is the number of maternal deaths per 100,000 women of reproductive age in the same time period
⁴ Crude Mortality Rate (CMR) = Total deaths/10,000 people per day

Yes	
No	

If the answer is "No" IN QUESTION 40 a) and b), skip questions 41 and 42.

41. *If the answer is "Yes"* in question 40 a) above, give reasons of people coming in the Council:

1.
2.
3.

42. *If the answer is "Yes"* in question 40 b) above, give reasons of people going out of the Council:

1.
2.
3.

43. Have there been any unusual sales of livestock in the Council in the last three months (May – July 2012)?

Yes	
No	

44. *If the answer is "YES"* in question 43 above, indicate the type of livestock sold most, in which Wards were predominant and reasons for selling.

Species of Livestock Sold Most	Wards where Sales are Predominant	Reasons for Selling

I. INTERVENTIONS

45. Have there been any food security related interventions during the current market year (2012/13)?

Yes	
No	

46. *If the answer is "Yes"* in question 46 above, complete the table below.

No	Type of intervention	Number of Villages	Number of Beneficiaries	Source	Implementing agent
1					
2					
3					
4					
5					

J. CONFLICT ISSUES

47. Are there any incidences of tensions/conflicts in the Council, (for example, land use or water use between crop producers and livestock keepers)?

Yes	
No	

48. If the answer is "Yes" in question 47, describe the type and impact of the conflict.

Type of Conflict	Impact			Wards experiencing the conflict
	High	Mild	Low	

Contacts for Council Staff who filled the Questionnaire

Name	Position/Title/ Department	Contacts		Signature
		Telephone	Email	

Thank you for your cooperation

A5: MUCHALI Village Questionnaire

VILLAGE QS



Jamhuri ya Muungano wa Tanzania

Mfumo wa Uchambuzi wa Uhakika wa Chakula na Lishe (MUCHALI), Tanzania

Food Security Assessment for the 2013/14 Market Year from the
Msimu/Vuli/Masika Season (2012/13)

October 2013

Village Questionnaire for Council with Potential Food Production Deficit

Completed by:		Checked by:	
Date:		Date:	

Region _____ Council _____ Ward _____ Village _____

A. GENERAL CHARACTERISTICS

1. Food security category of the village (from the Council): *Tick only One.*

VILLAGE CATEGORY: 1 = Acute 2 = Moderate 3 = Normal

2. General livelihood system of the Village (obtained from the Council Questionnaire):
Tick only one.

Predominantly Agricultural	Predominantly Agropastoral	Predominantly Pastoral	Predominantly Fishing	Predominantly Other (peri-urban)

3. Record the current village population and number of households.

Population				Number of Households
Male	Female	Under 5	Total	

B. RAINFALL PERFORMANCE

4. Assess the general performance of the 2012/13 Msimu/Vuli/Masika seasonal rainfall in the village compared to normal.

(a) On-set (beginning of rainfall)

	Normal	2012/13
Month		
Week		

(b) End of rainfall

	Normal	2012/13
Month		
Week		

(c) Rainfall amount: *Tick appropriate box.*

Amount	Above normal	Normal	Below Normal

(d) Rainfall distribution for adequate crop growth: Tick appropriate box.

Distribution	Good	Bad	Very bad

C. FOOD SECURITY SITUATION

5. List types of main food and cash crops grown in the village during the *msimu/vuli/masika* season. How does the 2012/13 *msimu/vuli/masika* season production of these crops fair in comparison with the 2011/12 *msimu/vuli/masika* and normal?

Crops Normally Grown in the Village	Comparison 2012/13 to:					
	2011/12 Production Year			Normal Production Year		
	Below	Same	Above	Below	Same	Above
1						
2						
3						
4						
5						

6. What is the normal beginning of harvest (month) for the main food crops grown in this village?

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

7. What is the condition of water for human use this year and normally?

Condition	This year 2013		Normally	
	Yes	No	Yes	No
Sufficient?				
Clean?				
Safe?				

8. Which period of the year, do households in this village face challenges of getting safe and clean water for human use? Tick all that apply.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

D. LIVESTOCK AND FISH PRODUCTION, PASTURE AND WATER CONDITIONS

9. How do you describe the current conditions of livestock in the village? Tick the appropriate box.

Type	Condition and Reasons			
	Above Normal	Normal	Below Normal	Reasons if different from Normal
Cattle				
Goats				
Sheep				
Poultry				
Other (specify)				

10. Describe the current conditions of pasture and water for livestock in the village. Tick the appropriate box.

Pasture			Water for Livestock		
Normal	Bad	Worse	Normal	Bad	Worse

11. Indicate the numbers of livestock in the village.

	Current Number	Number sold since July this year	Number slaughtered since July this year	Number died since July this year	Cause of death	Codes: Disease1 Lack of pasture2 Lack of water3 Other (specify)4
Cattle						
Sheep						
Goats						
Poultry						
Pigs						
Other (Specify)						

12. Describe the current general availability of milk in the village compared to normal. Tick only one (Tick not applicable in villages where milk is not important).

	Not applicable	More than Normal	Normal	Less than Normal	Give reasons for the change of situation if different from a normal year
Milk availability					

13. Has there been any unusual migration of livestock in and outside the village in the last one month?

		Yes	No
a	Livestock coming in		
b	Livestock going out		

If the answer is "No" in Question 13a and 13b, skip questions 14 and 15.

14. If the answer is "Yes" in question 13a above, give reasons for coming in the village.

-
-

15. If the answer is "Yes" in question 13b above, give reasons for going out of the village.

-
-

16. How do you describe the availability of crop and livestock services in the village?

Type of Services	Availability		% Coverage in the Village	Remarks
	Yes	No		
Agricultural extension services				
Livestock extension				

Seed sellers				
Crop drugs sellers				
Fertilizers sellers				
Tractor hire/services				
Crop markets				
Livestock drug sellers				
Public livestock vaccines				
Dips/sprays				
Livestock markets				

17. Name the most deadly diseases of livestock and number of deaths it caused in the village since May 2013.

Name of the Disease	Species Affected	Number Affected	Number Died

18. Where do villagers get fish (source)? Tick all that apply.

Source	Yes		No
	Tick	% of supply	
Ocean (in village or nearby village)			
Lake (in village or nearby village)			
River/pond (in village or nearby village)			
Outside village			

19. If the village is predominantly fishing, describe the current general fish supply compared to normal. Tick only one.

Above Normal	Normal	Below Normal	Give reasons for the change of situation if different from a normal year

E. FOOD PRICES AND MARKET CONDITIONS

20. What is the current average prices of three major food crops in the village (Tsh) compared with the same time last year?

Type of Food Crop	Unit (dede, kilo, etc)	Prices (Tsh)	
		Aug 2012	Aug 2013

21. What is the current prices of three major livestock and fish in the village (Tsh) compared with the same time last year?

Type of Livestock	Unit of Measurement	Prices (Tsh)	
		Aug 2012	Aug 2013
	Each		
	Each		

	Each		
Fish	Kg		

22. Is there a shop/kiosk in this village where people buy staple food?

Yes	
No	

23. Is there a market (Mnada) place in this village or nearby where households go to trade?

Yes	
No	

24. If the answer is "No" to question 23 above, what is the distance to the nearest market (mnada)?

..... kilometers

F. COPING STRATEGIES

25. Are there unusual (extreme) coping strategies currently being employed by households experiencing food deficit in the village?

Yes	
No	

If the answer is "No" in Question 25 above, skip question 26.

26. If the answer is "Yes" in question 25 above, what are those unusual (extreme) coping strategies currently used by households experiencing deficit in the village?

1.
2.
3.

27. Have there been any unusual migrations of people in and outside the Village over the last three months (May-July)?

	Yes	No
People coming in		
People going out		

If the answer is "No" in Question 27 above, skip questions 28 and 29.

28. If the answer is "No" in question 27 above, give reasons of people coming into the village:

1.
2.

29. If the answer is "No" in question 27 above, give reasons of people going out of the village:

1.
2.

30. Has there been any unusual sale of livestock in the village in the last three months (July-August 2013)?

Yes	
No	

If the answer is "No" in Question 30 above, skip question 31.

31. *If the answer is "No" in Question 30 above, indicate the type of livestock sold most and reasons for selling.*

Type of Livestock Sold Most	Reasons for Selling

G. SOURCES OF INCOME IN THE VILLAGE

32. Indicate source of cash income for households in the village.

	Source	Percent of Population Engaged			
		None	Less than Half	Half	More than Half
1	Sale of food crops				
2	Sale of cash crops				
3	Sale of horticultural crops				
4	Sale of livestock				
5	Sale of fish				
6	Agricultural labour (on farm)				
7	Sale of livestock products				
8	Livestock labour (e.g. herding, milking...)				
9	Non-farm labour (porter)				
10	Waged/salary				
11	Handcrafts (baskets/mats)				
12	Mining (kokoto, chumvi, madini...)				
13	Remittance				
14	Sale of charcoal				
15	Sale of firewood				
16	Tailoring				
17	Mama Lishe				
18	Kiosk/shoop				
19	Machinga				
20	Sale of timber				
21	Mason				
22	Carpentry				
23	Brick making				
24	Local brew				
25	Sale of water				
26	Sale of honey				
27	Sale of wild foods (vegetable/fruits)				
28	Begging				
29	Other (specify)				

H. CONFLICT ISSUES IN THE VILLAGE

33. Are there any tensions/conflicts in the village (for example, land use, conflict between crop producers and livestock keepers or resource utilization)?

Yes	
No	

If the answer is "No" in question 33 above, skip question 34.

34. If the answer is "No" in question 33 above, describe the type and impact of the conflict to the village.

Type of Conflict	Impact			Wards experiencing the conflict
	High	Mild	Low	

Contacts of Village Leaders

No.	Name	Position / Title	Contact Details

Thank you for your cooperation

A6: MUCHALI Household Questionnaire



HOUSEHOLD QS...

Jamhuri ya Muungano wa Tanzania

Mfumo wa Uchambuzi wa Uhakika wa Chakula na Lishe (MUCHALI), Tanzania

Food Security Assessment for the 2013/14 Market Year from the Masika/
Msimu Season (2012/13)

OCTOBER 2013

Household Questionnaire for Council with Potential Food Production Deficit

Completed by
Date

Checked by
Date

Region

Council.....

Division.....

Ward

Village.....

VILLAGE CATEGORY: Acute; Moderate; Normal (Tick only one box)

A. HOUSEHOLD CHARACTERISTICS

1. Indicate the wealth status of this household (*obtained from the village officials/key informants*): Tick only one box

Resource Weak	Middle	Better Off

2. Indicate the general description of the household

a) Sex of Head of Household. Tick only One Box	Female		Male	
	None	Primary	Secondary	Post Secondary
b) Education level of Head of Household. Tick only One Box				
c) Total number of persons eating from the same pot in this household (HH size). Probe and write the number (e.g. 7)				

B. FOOD SECURITY SITUATION OF THE HOUSEHOLD

3. What is the food production situation for your household from the 2012/13 production year, and what was it last year and normally. **Tick only one for each category.**

2012/13 Production Year			2011/12 Production Year			Normally		
Surplus	Sufficient	Deficit	Surplus	Sufficient	Deficit	Surplus	Sufficient	Deficit

4. During the previous 2012/13 market year (last year), did your household run out of food before this year’s harvests (from both *vuli* and *masika* or *msimu* season)? **Tick only ONE.**

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

If the answer is “No” IN QUESTION 4, skip question 5.

5. **If the answer is “Yes”** in question 4 above, how did your household cope with the shortfall? **Tick all that apply. Probe for remarks**

Options	Tick	Remarks
Sold more livestock than normal to buy food	<input type="checkbox"/>	
Worked for food	<input type="checkbox"/>	
Borrowed food	<input type="checkbox"/>	
Got food aid (free food distribution)	<input type="checkbox"/>	
Begged food	<input type="checkbox"/>	
Bought food at subsidized prices	<input type="checkbox"/>	
Received food gifts	<input type="checkbox"/>	
Reduced the number of meals per day	<input type="checkbox"/>	
Reduced the size of meals	<input type="checkbox"/>	
Changed the composition of meals	<input type="checkbox"/>	
Changed to less preferred foods	<input type="checkbox"/>	
Consumed wild foods	<input type="checkbox"/>	
Stopped children from going to school	<input type="checkbox"/>	
Migrated temporarily from the village	<input type="checkbox"/>	
Other (specify).....	<input type="checkbox"/>	

6. Did your household receive seed assistance for planting in the 2012/13 production year?

Yes	
No	

If the answer is "No" IN QUESTION 6, skip question 7.

7. **If the answer is "Yes"** in question 6 above, what types of seed did you receive and when?

Type of seed (e.g. sorghum)	Kg received	Month received

8. In the current 2013/14 market year, which month "**before the next harvest**", will your household start facing food shortages and how does it compare to last year and normal? **Tick one month only for each.**

Period	Month												
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
This 2013/2014 market year													
Last 2012/13 market year													
Normally													

C. LIVESTOCK PRODUCTION

9. Does your household own any livestock?

Yes	
No	

If the answer is "No" IN QUESTION 9, skip question 10.

10. **If the answer is "Yes"** in question 9 above, complete the following Table.

Type	Current Number	Number sold since July this year	Number slaughtered since July this year	Number died since July this year
Cattle				
Sheep				
Goats				
Poultry				
Pigs				
Other (Specify)				

D. FISH PRODUCTION

11. Does your household own any fishing vessels/gears?

Yes	
No	

12. **If the answer is "Yes"** in question 11 above, please state on number and type of fishing vessel/gears available.

.....

.....

.....

E. INCOME SOURCES FOR HOUSEHOLD

13. What are the **four main sources** of cash income from all household members (including spouse and eligible children)? **Tick only four from the list and rank those four main sources in order of importance: 1=first most important, 2=second most important and 3=third most important and 4=fourth most important.**

	Source	Tick and Rank the main 4
1	Sale of food crops	
2	Sale of cash crops	
3	Sale of horticultural crops	
4	Sale of livestock	
5	Sale of fish/Dagaa	
6	Agricultural labour (on farm)	
7	Sale of livestock products	
8	Livestock labour (e.g. herding, milking...)	
9	Non-farm labour (porter)	
10	Waged/salary	
11	Handcrafts (Baskets/mats)	
12	Mining (kokoto, chumvi, madini...)	
13	Remittance	
14	Sale of charcoal	
15	Sale of firewood	
16	Tailoring	
17	Mama/ lishe	
18	Kiosk/shop	
19	Machinga	
20	Sale of timber	
21	Mason	

22	Carpentry	
23	Brick making	
24	Local Brew	
25	Sale of Water	
26	Sale of Honey	
27	Sale of wild foods (vegetables/fruits)	
28	Begging (omba omba)	
29	Others (specify).....	

14. Can you **now** easily get work (agricultural, livestock or non-farm) in this village or neighbouring areas?

Type of work	Within		Outside	
	Yes	No	Yes	No
Agricultural labour				
Livestock labour (e.g. herding, milking, collecting pasture...)				
Fishing related activities				
Non-farm labour				

F. HOUSEHOLD EXPENDITURE AND MARKETS

15. What proportion of your total income obtained last month did you spend buying **STAPLE** food?

0% (none)	25% (quarter)	50% (half)	75% (three quarters)	more than 75%

16. Are nearby market/shop supplies of required **STAPLE** food commodities for your households adequate?

Yes	
No	

17. **If the answer is "No" IN QUESTION 16** above, what is the distance (in kilometers) from your household to the nearest market/shop?**Kilometers.**

18. In general, how do prices of basic food commodities this August 2013 compare to August last year (2012) and normally?

	Above	About the same	Below
August 2012			
August Normally			

19. Which of the following items did your household spend money on **last month**? Tick and rank the three items on which you spent the most: 1="first item on which you spent most", 2=Second item spent the most; 3=third item spent the most.

July 2012		
Item	Tick	Rank
Food		
Education		
Medical services		
Veterinary Drugs		
Firewood/charcoal		
Kerosene		
Transport		
Soaps, Detergents		
Water		
Other (Specify, e.g. tobacco, alcohol)		

G. DIETARY DIVERSITY

20. How many meals did **children (under five)** in your household eat yesterday; and last month? How many meals do they normally eat?

Yesterday				Last Week/month			Normally			Remarks
1	2	3 or more		1	2	3 or more	1	2	3 or more	

21. How many meals did **adults** in your household eat yesterday; and last month? How many meals do they normally eat?

Yesterday				Last Week/month			Normally			Remarks
1	2	3 or more		1	2	3 or more	1	2	3 or more	

22. Since last week/month
(a) Has the composition of meals in your household changed?

Yes	
No	

If the answer is "Yes" IN QUESTION 22(a) above, how has it changed (e.g. eating more of less preferred foods)?.....

(b) Has the size of meals in your household changed?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

If the answer is "No" IN QUESTION 22(b), how has it changed compared to normal? **Tick only one**

Less than Normal	More than Normal
<input type="checkbox"/>	<input type="checkbox"/>

23. Did you or anyone else in your household **yesterday, during the day and or at night**, eat the following foods?

[Read the list of foods. Write "1" (one) in the box on the right if anyone in the household ate the food in the "food group". Write "0" (zero) in the box on the right if no one in the household ate the food the "food group"].

Indicate the source of the food using "source code". See source code numbers at the bottom of the Table. Note one food group can have more than source...

0	Food Group	Type of Food	"0" if not "1" if yes	Source Code (1-8)
1	Cereals	Any: ugali, bread, chapatti, rice, noodles, biscuits, or any other foods made from millet, sorghum, maize, rice, wheat...etc?	__	__
2	Roots and tubers, and plantains	Any round/sweet potatoes, yams, cassava, matoke or any other food made from roots or tubers, or plantains?	__	__
3	Vegetables	Any vegetables?	__	__
4	Fruits	Any fruits?	__	__
5	Meat, poultry, offal	Any beef, pork, lamb, goat, rabbit wild game, chicken, duck, or other birds, liver, kidney, heart, intestines or other organ meats?	__	__
6	Eggs	Any eggs?	__	__
7	Fish and fishery products	Any forms of aquatic life including finfish, or shell fish (fresh, dried or fried fish), fish meals etc.?	__	__
8	Pulses, legumes, nuts	Any foods made from beans, peas, lentils, or nuts?	__	__
9	Milk and milk products	Any cheese, yogurt, milk or other milk products?	__	__
10	Oil/fats	Any foods made with oil, coconuts, fat, or butter?	__	__
11	Sugar/honey	Any sugar or honey?	__	__
12	Other (specify)...	Any other foods, such as condiments, coffee, tea?	__	__

Source codes	1 = Own production	5 = Purchases
	2 = Worked for food	6 = Food assistance
	3 = Borrow	7 = Exchange (Bartering)
	4 = Gift	8 = Hunting/fishing/gathering

H. WATER, SANITATION AND HEALTH

24. Which type of toilet facility is used by your household members? **Tick only one.**

None	Household Latrine	Communal Latrine

25. What is the main **current** source of water for your household? What is the **normal** source? **Tick only one for each source.**

Timeline	Protected sources (e.g. Tap water, "kisima")	Unprotected sources (e.g. "ponds")
Current		
Normally		

26. How long does it **currently and normally** take to access water from the source for your household? *Record time in hours and/or minutes.*

	Hours	Minutes
Current		
Normally		

27. Estimate how many litres of water does your household use per day (for all household needs such as cooking, laundry/ washing...).....litres.

Name of head of household interviewed (If interested)

Name	Contacts	
	Telephone	Email

Thank you for your cooperation

Annex B: List of Respondents

	Names	Institution	Phone	Email
	Nyanchege Nanai	PMO DMD	0784210707	konyonanai@yahoo.com
	Ombaeli Limweli	MAFC-DFS		
	Shija Msikula	Oxfam GB	0779600991	smsikula@oxfam.org.uk
	Abdalla E. Temba	MLFD	0764735743	aetemba2000@yahoo.co.uk
	Dr. Vedasto Rutachokozibwa	MWANZO BORA	0784860786	vkasomi@gmail.com
	Geofrey Rwiza	FEWSNET RM	0713299435	grwiza@fews.net
	Isack B. Yonah	TMA	0754816238	yonah002@yahoo.com
	Sylvester Chasimba		0759591200	sylgster2000@yahoo.com
	Geoffrey S. Chiduo			
	Debora Charwe			
	Maria Ngilisho	TFNC	0754696783	mngilisho@gmail.com
	Catherine Kimalando		0688426300	ketik69@yahoo.com
	Gabriel Simbila	NBS	0754398065	skulomba@hotmail.com
	Edgar Senga			
	Fadhil Mtengela	PMO DMD		
	Ewald Peter Boniface		0714623039	ewaldpeter86@gmail.com
	John Chasama	MIT		mbiti07@yahoo.co.uk
	Genya C Genya			genya_06@yahoo.com
	Juvenal Kisanga	WFP		juvenal.kisanga@wfp.org
	Cambier, Benoit	FAOTZ		Benoit.Cambier@fao.org
	Kivaria, Fredrick	FAOTZ		Fredrick.Kivaria@fao.org
	Emmanuel Experious	MAFC	0713527954	kiyengo2001@yahoo.com

	Names	Institution	Phone	Email
	Evance Gambishi	Regional office		
	John Mnyune	Morogoro District Council		
	Remuo Mpagama			
	Evelyne Masagya			
	Rebeca Masika			
	Enock Kasole	Morogoro District DMO -HMIS	0787 081006	
	Daniel S. Pangani	Mvomero District Council		
	Mary Nkwabi		0754599769	nkwabim@yahoo.com
	Alli Gilla		0754384832	
	Foya Hozaniel E.		0719816695	
	Domana Munishi		0787720070	
	Alex Ngereza		0715059611	
	Yusta Kidawa		0755559943	yustakidawa@gmail.com yustakidawa@ymail.com
	David Danda		Assistant Regional Statistical Manager Morogoro	0785380083
	John Maige	MAFC –M&E ARDS	0715642024	maige2008@gmail.com
	Asha Sarota	MCDGC	0713362700	asarota@yahoo.co.uk
	Anita Bigambo	MoW	0757441668	hanifamsuya@yahoo.com
	Martin Ngeleja		0788504178	martinmajulla@yahoo.com
	Oscar Lwoga	World Vision	0754039650	oscar_lwoga@wvi.org
	Josephat Magita	East Africa Grain Council		jmagita@eagc.org
	Glory Mtui		0714148074	gmtui@eagc.org

