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Prime Minister's Office

PRIME MINISTER'S OFFICE - UNITED REPUBLIC OF TANZANIA

WORLD FOOD PROGRAM (WFP) STRATEGIC REVIEW 2016:
FRAMEWORK FOR FOOD AND NUTRITION SECURITY IN TANZANIA

ENDORSED STRATEGIC REVIEW REPORT-NOVEMBER 2016



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ABBREVIATIONS AND ACRONYMS

AEO	African Economic Outlook
AFDB	African Development Bank
AFSP	Accelerated Food Security Program
AIDS	Acquired Immune Deficiency Syndrome
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
ASDP I &II	Agricultural Sector Development Program (I and II),
ASDP	Agricultural Sector Development Programme
ASDS	Agricultural Sector Development Strategy
BCG	Bacillus Calmette- Guerin
BMI	Body Mass Index
BRN	Big Results Now
CAADP	Comprehensive Africa Agriculture Development Program
CCT	Conditional Cash Transfer
CFSVA	Comprehensive Food Security and Vulnerability Analysis
CFW	Cash for Work
CGIAR	Consortium of International Agricultural Research Centers
COSTECH	Commission for Science and Technology
DANIDA	Danish International Development Agency
DASIP	District Agricultural Sector Investment Project
DCF	Development Cooperation Framework
DPs	Development Partners
DPT	Diphtheria, Pertussis and Tetanus
EAC	East African Community
ECDPM	European Centre for Development Policy Management
ERP	Expanding Rice Production Project
FAO	Food and Agriculture Organization of the United Nations
FFA	Food for Action
FtF	Feed the Future
FYDP	Five Year Development Plan
GAFSP	Global Agriculture and Food Security Program
GDP	Gross Domestic Product
GHI	Global Hunger Index
GoT	Government of Tanzania
HBS	Household Budget Surveys
HIV	Human Immunodeficiency Virus
HKI	Helen Keller International
IDA	Iron Deficiency Anemia
IDD	Iodine Deficiency Disorder
IFAD	International Food for Agricultural Development

IFPRI	International Food Policy Research Institute
IITA	International Institute of Tropical Agriculture
ILFS	Integrated Labour Survey
ILO	International Labour Organization
JAST	Joint Assistance Strategy for Tanzania
JICA	Japan International Cooperation Agency
KATC	Kilimanjaro Agricultural Training Centre
LGRP	Local Government Reform Program
LITI	Livestock Training Institutes
LRC	Livestock Research Centers
LSDP	Livestock Sector Development Programme
MAFC	Ministry of Agriculture, Food Security and Cooperatives
MALF	Ministry of Agriculture, Livestock and Fisheries
MDAs	Ministerial Departments and Agencies
MLFD	Ministry of Livestock and Fisheries Development
MoHSW	Ministry of Health and Social Welfare
MTEF	Medium Term Expenditure Framework
NAIVS	National Agricultural Input Voucher Scheme
NAPA	National Adaptation Programme of Action
NBS	National Bureau of Statistics
NFRA	National Food Reserve Agency
NGO	Non Governmental Organization
NNS	National Nutrition Strategy
N-PER	Nutrition Public Expenditure Review
NSGRP	National Strategy for Growth and Reduction of Poverty
PADEP	Participatory Agricultural Development and Empowerment Project.
PANITA	Partnership for Nutrition in Tanzania
PASS	Private Agricultural Sector Support
PER	Public Expenditure Review
PSRP	Public Service Reform Program
PSSN	Productive Social Safety Net
R&D	Research and Development
RCH	Reproductive and Child Health
RDA	Recommended Dietary Allowance
SADC	Southern African Development Community
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SAM	Severe Acute Malnutrition
SAR	Situation Analysis Report
SDGs	Sustainable Development Goals
SF	School Feeding

SIDA	Swedish International Development Cooperation
SME	Small AND Medium Enterprises
SOFRAIP	Soil Fertility Recapitalization and Agricultural Intensification Project
SPS	Sanitary and Phytosanitary Standard
SSR	Self Sufficiency Ratio
SUA	Sokoine University of Agriculture
SUN	Scaling Up Nutrition
TACAIDS	Tanzania Commission for AIDS
TAFSIP	Tanzania Agriculture and Food Security Investment Plan
TBBT	Tanzanian Bread-Basket Transformation
TDV 2015	Tanzania Development Vision 2015
TFDA	Tanzania Food and Drugs Authority
TFNC	Tanzania Food and Nutrition Centre
THDR	Tanzania Human Development Report
THDS	Tanzania Health and Demographic Surveys
UNDP	United Nations Development Program
UNICEF	United Nations Children's Emergency Fund
URT	United Republic of Tanzania
USAID	United States Agency for Development
VAD	Vitamin A Deficiency
WFP	World Food Programme
WHO	World Health Organization
WRS	Warehouse Receipt System
WTO	World Trade Organization
ZHC	Zero Hunger Challenge

Foreword

In response to the continuing low achievements in reducing hunger, poverty, inequality and food and nutrition insecurity faced by many Tanzanians, especially in the rural areas, the ESRF with the support of the government and the World Food Program, embarked on strategic review whose aim is to refocus attention to the critical issues and strategies that would accelerate the attainment of zero hunger in Tanzania.

The report utilizes the global zero hunger challenge together with the recently approved Sustainable Development Goals and contextualizes them for Tanzania, taking into account the hunger, poverty, and food and nutrition situation in the country. The review also takes into account the various stakeholders involved in fighting poverty, hunger and food and nutrition security at national and sub-national levels.

In addition to the government, other key stakeholders are development agencies (both bilateral and multilateral), the private sector and NGOs. The ESRF has undertaken this review bearing in mind that the role it plays as an honest broker on matters of policy and strategy may help bring together all key stakeholders around a common understanding of hunger issues and enable them develop new and best ways to accelerate achievements towards zero hunger, reduced poverty and improvement in food and nutrition security.



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30TH MAY 2016

1.0 INTRODUCTION

The overall objective of the strategy review report is to generate a consultative framework for discussion among key stakeholders, namely government in collaboration with the government of Tanzania and the respective development and private-sector partners, with the purpose of revisiting existing interventions on hunger, poverty, inequality, unemployment and food and nutrition insecurity¹. More specifically, the strategic review aims at undertaking a comprehensive analysis on hunger, poverty and the food and nutrition security status in Tanzania and hence providing inputs that would contribute towards:

- Government and partners' efforts to accelerate progress toward eliminating food insecurity and malnutrition consistent with the Zero Hunger Challenge (ZHC) and the emerging Sustainable Development Goal (SDG) Two to “end hunger, achieve food security and improved nutrition, and promote sustainable agriculture”.
- Enhancing engagement with national governments, facilitate strategic consultations with other key stakeholders, to help align WFP's orientation within the national development goals and priorities.

The review was done through three processes. First was a review of national policies, strategies and programs to develop three related reports namely Situation Analysis Report, Response Analysis Report and Gap Analysis Report. A search and comprehensive analysis of secondary data and information from the Government of Tanzania's Departments, Institutions, and from private sector, development partners, and local and international organizations dealing with food and nutrition security, sustainable development goals, agriculture, and health.

Second, the review also undertook field work with the purpose of consulting with stakeholders both at national and sub-national levels, again covering the situation, responses and gaps analyses.

Third, the draft strategy review was subjected to validation by stakeholders in two planned workshops, involving high level officials from government, DPs private sector and NGOs.

¹ Analysis of poverty, hunger, inequality and unemployment is important for understanding causes of food insecurity.

The situation analysis report provides a joint, comprehensive analysis of the food security and nutrition situation within the pillars of the Zero Hunger Challenge and targets of Sustainable Development Goal two; End hunger, achieve food security and improved nutrition and promote sustainable agriculture and three; Identifying the main food security and nutrition trends, problems and causes.

The response analysis report identifies the food security and nutrition goals or targets that are implied or established in national strategies and programs or agreed in regional frameworks to facilitate progress toward zero hunger.

The gap analysis report assesses the progress that policies and programs aimed at improving food security and nutrition have made for women, men, girls and boys and identify gaps in the response, highlighting if any, specific needs and priorities of population groups.

2.0 SITUATION ANALYSIS

2.1 Growth, Poverty, Inequality and Unemployment:

Tanzania has experienced unprecedented economic growth in the last two decades. GDP grew by about 7.0 percent per year during 2007– 2015, while agricultural growth averaged a respectable 4.2 percent during the same period instead of 6 percent as envisioned in the country's policy frameworks. Although it is the largest and most significant sector of Tanzania's economy, the agricultural sector appears to be the least dynamic and the least invested by the private sector other than existing farmers. An examination of the production trends in recent times suggests that although the agricultural sector grew rapidly between 2007 and 2015 growth has been volatile, and its source has been concentrated among few crops.

Despite impressive economic growth and large improvements in living standards over the past twenty years, food security remains a major economic and social problem in Tanzania. The country ranked 62 out of 78 countries on the 2013 Global Hunger Index (GHI) with a score (of 20.6) categorized as alarming (IFPRI, 2013). Although the prevalence of undernourishment has improved since its peak in 2002-2003 (above 37.4 percent), the food security situation has actually deteriorated since the 1990s, from an undernourishment rate of 24.2 percent in 1992 to 35.7 percent in 2012. In 2013, some 15.7 million of Tanzania were still food insecure representing 33 percent of the population (FAOSTAT, 2014).

Poverty incidence is also still high. Both income (consumption) and development indicators clearly show that levels of poverty in Tanzania are unacceptably high. Levels of poverty over the past two decades have been declining so slowly that it was virtually impossible for the country to realize poverty incidence of 18 percent by 2015 as envisaged by Millennium Development Goals (MDGs). The results from the HBS 2007 and HBS 2012 show that 28.2 percent of Tanzanians are poor where as 9.7 percent of them are extremely poor. Poverty is more prevalent in rural areas than in urban areas. It is therefore correct to argue that not all growth is equally effective in reducing poverty. Tanzania's experience shows that despite progress in tackling extreme poverty and good economic growth rates, persisting poverty remains a pressing issue and has a bearing on food and nutrition security.

Another aspect in which growth has had little impact is inequality. Continuous growth during the last ten years or so has not benefited all groups equally and has been

characterized by widening inequality. Inequality as measured by the Gini coefficient improved only marginally, with Gini coefficient declining from 0.35 in 2004/05 to a coefficient of 0.34 in 2012 (HBS 2011/2012). The three key drivers of inequality in Tanzania are disparities in income, geographical location (urban vs. rural) and gender. These are also drivers of poverty and malnutrition. Inequality matters because it affects how growth acts on well-being and poverty.

High GDP growth that Tanzania has achieved in the last decade or so, has not led to good jobs creation. Unemployment in the country is high in both rural and urban areas. According to the Integrated Labour Survey (ILFS 2014), the difference between total labour force (25.8 million persons) and employed labour is 3.4 million people (unemployed people), out of which 2.1 million are women and 1.3 million are men.

The apparent disconnect between economic growths, poverty, inequality, unemployment and hence food and nutrition security outcomes can be attributed to absence of inclusive growth. **Food Security:** Food security exist when all people, at all times, have physical, social and economic access to sufficient, safe, and nutritious food which meets their dietary needs and food preferences for an active and healthy life. This definition points to three dimensions (pillars) of food security: availability, access and utilization/nutrition.

2.2 National Level Situation, Responses and Gaps

2.2.1 Situation at National Level

The first pillar of food security is food availability: to sufficient quantities of food in appropriate quality, and supplied through domestic production and/or imports. While availability of food is normally assessed at the macro level, generally at the level of the nation, food security has a meaning only at the household level - i.e., at the level of the individual members of the household. At the same time food availability at the national level has a limited, but important, role to play in ensuring food security among the households. Food production is one aspect to ensure food availability, which can be seen in some indicators about arable land area, average dietary energy supply, and protein.

In an average year, food production/availability is normally satisfactory at national level, but it fluctuates between years of surplus in good season and years of deficit in poor rainfall season. The national average self sufficiency ratio is about 110 percent. Some regions and districts have food surpluses of varying magnitude on an annual basis.

However, there are regions and districts with pockets of persistent food shortage annually, especially those in semi-arid agro-ecological zones.

The second pillar of food security is access to food: Food access refers to whether a person has a socially recognized claim on the available supply of food. Such a claim derives from owning the resources that produced the food, having income to purchase the food through the market, or having rights to some sort of grant to food via private or public safety nets. Factors affecting food accessibility include poverty, income insecurity, post harvest management, agro processing, as well as inefficient food markets and purchasing power, which is sometimes compromised by high inflation. Below are the attributes for food access. However, the fundamental cause of chronically inadequate access to food in Tanzania is low income, which reflects limited knowledge and low labor productivity, lack of ownership of productive assets, and/or inadequate rights for help from others in the society.

The third pillar is nutrition or food utilization: Progress has been achieved on nutrition security through increased calorie per capita availability exceeding the Recommended Dietary Allowances (RDA) for energy. Health and nutrition sector also demonstrated good improvement. For two decades, nutritional status tends to be improved, as indicated by decreasing of the prevalence of malnutrition among children under five. Improvement has occurred not only in terms of alleviating macro nutrient deficiency problems, but also in decreasing micro nutrient deficiencies, particularly vitamin A deficiencies (VAD), iron deficiency anaemia (IDA), and Iodine Deficiency Disorders (IDD).

However, nutritional problems still exist. Nutrition insecurity is reflected in malnutrition affecting many Tanzanians in different forms. Micronutrient deficiencies are still common, notably anaemia, and vitamin A and iodine deficiencies. The most pronounced types of under-nutrition are stunting (low height for age, also called chronic malnutrition); underweight (low weight for age, also called acute malnutrition); low birth weight (of less than 2.5 kg, an indication of maternal mortality); Vitamin A deficiency (VAD); iodine deficiency disorders (IDD) and nutritional anaemia caused deficiencies of iron, folic acid and vitamin B12.

2.2.2 Responses at National Level:

The response analysis took stock and traced measures taken to address food and nutrition insecurity in Tanzania since the adoption of the first Food and Nutrition Policy in 1992. It covered three main areas, namely, the Governments' response through policies, strategies and plans; food security and nutrition programs/activities by the

Government, Development Partners (DPs) and private sector and NGOs; and responses to improving smallholder productivity, incomes and sustainable agriculture and food systems in Tanzania, interventions, which are paramount for addressing food and nutrition security in the short and medium terms. Responses in the report covered interventions at the national and sub-national levels. Most DPs and NGOs provide their support to food and nutrition at sub-national levels.

Since early 1990s the Government of Tanzania has been formulating various policies and strategies at macro and sectoral levels to guide Interventions towards improving the health of people by ensuring adequate intake of nutritious food and reduction of infectious diseases. In terms of strategies, the Government has formulated medium and long-term Strategies that include strategic interventions on food and nutrition.

The long-term strategy is the Tanzania Development Vision 2025, which is intended to guide long-term development in order to achieve high-quality livelihoods, good governance and economic growth, and acknowledges agriculture as the backbone of the economy. It also highlights the role of the private sector in attaining a modernized, commercial, highly productive and profitable agriculture sector. In addition to the TDV, there are three medium-term strategies for implementing TDV 2025: the National Strategy for Growth and Reduction of Poverty (NSGRP OR MKUKUTA IN SWAHILI) 2005/6-2009/10 (NSGRP I) and 2010/11-2014/15 (NSGRP II); and the Tanzania Five-Year Development Plan (FYDP I) 2011/12-2015/16.

Another major intervention towards improving food and nutrition security is through the Tanzania Agriculture and Food Security Plan (TAFSIP) which was developed in 2011 under the Comprehensive Africa Agriculture Development Program (CAADP). It is within TAFSIP that holistic approaches towards achieving national food security through increasing production and productivity along value chains are undertaken.

Specific nutrition policies, strategies, programs and legislation: Apart from the revised Food and nutrition Policy of 2014, the National Nutrition Strategy and its implementation plan covering the period 2011/2012 to 2015/2016 is also in place. In addition Tanzania has formulated a number of nutrition relevant policies in the areas of agriculture and food security, health, education, social protection and community development and also several nutrition-related legislations. Most strategic interventions/programs and legislation address the immediate and underlying causes of malnutrition and are implemented through the health sector mainly by and (i) improving dietary intake and (ii) controlling communicable diseases.

In 2011, Tanzania joined **Scaling up Nutrition (SUN)**, a global movement that unites national leaders, civil society, bilateral and multilateral organizations, donors, businesses and researchers in a collective effort to improve nutrition. **USAID** and Irish Aid are the donor conveners of SUN in Tanzania. Under the four pillars of SUN, it has established the SUN Business Network as well begun to incentivize and leverage the private sector to deliver direct nutrition interventions. In 2012 President Kikwete made commitments to scale up nutrition to the National Assembly

Tanzania was one of the first African nations to join the New Alliance for Food Security and Nutrition, a partnership among African heads of state, corporate leaders and G-8 members to accelerate implementation of CAADP strategies. Under the New Alliance, the government and G-8 members have endorsed a country-specific Cooperation Framework and committed to specific policy actions that will improve the environment for private investment in agriculture.

The Prime Minister's Office convenes a multi-stakeholder platform, the High Level Steering Committee on Nutrition (HLSCN). The HLSCN operates within and leverages existing government systems and dialogue mechanisms for developing cooperation, such as the Joint Assistance Strategy for Tanzania and the Food Security Thematic Group within the agriculture sector. A Multi-sector Nutrition Technical Working Group supports the HLSCN and is chaired by the Director of the Tanzanian Food and Nutrition Centre, a government institution that guides, coordinates and catalyzes nutrition work in the country.

The government launched a multi-sectoral National Nutrition Strategy in 2011, which included the placement of a nutrition officer in every district and of nutrition focal points in each ministry. Tanzania is placing strong emphasis on decentralization to ensure that nutrition is on the agenda with those working closest to affected communities.

2.2.3 Gaps at National Level:

An apparent major gap is that despite recording impressive overall economic growth in the recent past, Tanzania did not achieve significant reductions on household income poverty or substantial improvement in food and nutrition security.

There are also many gaps in the provision of basic nutrition services across Tanzania. Malnutrition is estimated to be an underlying cause of over one third of under-five deaths. Almost 4 out of every 10 children aged 0 to 59 months are chronically undernourished and about 1 out of every 5 children weighs too little. Only half of

children are exclusively breast fed for the first 6 months as they should be. Inequities in nutritional status continue to persist with children from the very poor households being three times more likely to be chronically malnourished as those from better off households.

Another key challenge is that there are currently very few nutritionists, extension and community development workers who have the proper training, skills and supplies to be able to deliver an essential package of nutrition interventions at the community level. As a result, vulnerable households are not being reached with key messages about the types of foods that are most nutritious for children, pregnant and lactating women to eat.

Food safety and food quality control is another area that needs to be strengthened; there is no relevant food safety policy and/or adequate legislation to cover food safety and quality. Low compliance with Good Manufacturing Practices (GMP) is a challenge. Trained inspectors to enforce adherence to the hazard analysis and critical points (HACP) system are insufficient. Poor food handling practices are widespread, contributing to diarrhoea diseases. Lastly, as the new national standards for food fortification are applied, small, medium and large scale producers of oil, wheat and maize flour and salt will require initial technical support and be monitored by government to ensure compliance.

Gaps related to National Policy Strategic frameworks: Policies and strategies related to Food and nutrition security broadly defined to include food availability, food accessibility, nutrition, agricultural crops productivity and food systems, have been identified with the following shortcomings/gaps, among others; Inadequate Multi-sectoral coordination; missing stronger strategic partnerships on food and nutrition security; financial Resources gap; inadequate Political Commitment at national and sub-national levels and; inadequate Interagency collaboration

Another gap relates to institutional arrangements for addressing hunger, poverty and food and nutrition security. The multi-sectoral Landscape analysis to assess the country's readiness to accelerate action in food and nutrition security (TFNC, 2012) found an extensive and well thought out structure from the national to sub-national levels, but also found them not functioning well at all levels. The findings showed that:

- There was poor coordination of food and nutrition activities in the country
- There was a conflicting role between the TFNC and the nutrition unit in the Ministry of health and Social Welfare

- Coordination at the regional and district levels was not functioning well

2.3 Sub-National Level Situation, Responses and Gaps

2.3.1 Situation at Sub-National Level:

Based on discussions with sub-national level food and nutrition security stakeholders, most rural households consume food to reduce hunger with hardly any knowledge about its nutritional value. They give a lot of weight to starchy food as maize/sorghum meal, cassava, and pumpkins. In some areas rice and bananas are also considered as a source of food by rural households although most of produce of these crops is sold to urban areas. Apparently the main challenge with respect to nutrition is little knowledge or ignorance on the part of rural households. Products from these enterprises such as eggs, milk and meat are rarely consumed by these households.

Malnutrition is a problem facing many sub-national level rural and urban areas, although it differs by location. In some areas malnutrition is below the national average rate of 42%. In others it is much more. The situation in terms of other different forms of malnutrition namely; chronic malnutrition, Acute malnutrition, Iron deficiency, Anaemia, Vitamin A deficiency and; Iodine deficiency disorders, also differ by location. Sub-national level responses/interventions to nutrition insecurity, particularly in addressing various forms of malnutrition are similar although they differ in terms of geographical coverage, objectives, target groups, implementation time frame and type of supporter/financier. Most of responses/interventions to nutrition insecurity are guided by National nutrition security policies and strategies. They involve a variety of supporters/financiers including the government, development partners and some NGOs.

2.3.2 Responses at Sub-National Levels:

According to stakeholders in the regions, the main causes of nutrition insecurity at sub-national levels include: inadequate basic health service to pregnant mothers on time; lack of exclusive breastfeeding for young children; poor utilization of food due to lack of knowledge on the same; poor feeding of infant and young child (frequency, quantity and quality); poor Reproductive and Child Health (RCH) attendance; healthcare workers have poor essential nutritional knowledge; low level of understanding by most communities of food utilization and its importance to the human well-being especially among those most vulnerable to diseases' caused by malnutrition; inadequate water and

sanitation facilities; cultural and traditional beliefs on eating habits in some communities. There are mainly two broad interventions, namely, those which are health-based like supplementary feeding through provision of macronutrients (Vitamin A etc.) and immunization of infants and young children; the other group of nutrition interventions at sub-national level derive their legitimacy from the national nutrition policy and related nutrition strategy; ideally such programs should be designed in order to address specific local malnutrition problems; that is the local nutrition situations require a specialized response based on the types and prevalence of malnutrition. There is evidence to show that the nutrition programs at sub-national level have been designed with the specific intention to address the local nutrition problems.

The main interventions at sub-national level centres on reducing stunting, reducing maternal anaemia and improving sanitation in public schools. The main programs and their supporters include: The government, WFP, USAID, UNICEF, World Vision and Sharing World. The target groups for such medium-term programs are pregnant mothers, under two years, male parents with partners who are pregnant or lactating mothers.

Sub-national level nutrition programs are being implemented even in locations known for their good performance in production of food, where the food self-sufficiency ratio is by far above the required level of 120 percent. The main problem with such food abundant regions is on food utilization. The situation is worse in those locations where food production is unable to meet their food requirements and for some of them income is too low to enable them buy food coupled with the inability to acquire/utilize nutritious foods.

2.3.3 Gaps at Sub-National Levels

Discussions with stakeholders revealed that the main causes of nutrition insecurity at that level include: inadequate basic health service to pregnant mothers on time; lack of exclusive breastfeeding for young children; poor utilization of food due to lack of knowledge on the same; poor feeding of infant and young child (frequency, quantity and quality); poor Reproductive and Child Health (RCH) attendance; healthcare workers have poor essential nutritional knowledge.

3.0 STRATEGIC RECOMMENDATIONS

The situation analysis on food and nutrition security in Tanzania over the last 15 years or so has shown that the growth in Tanzania has failed to tackle poverty, unemployment and inequality and hence food insecurity, strategic interventions to address the failure is needed. Growth therefore needs to be seen as an intermediate objective, or more properly a tool, in achieving wider results. What is crucial is to address the quality of growth and in particular to improve its inclusiveness. Inclusive growth starts from the position that the relationship between growth, inequality poverty and unemployment should no longer be assumed inevitably to be trickling down or a trade-off. The inclusive growth strategy recognizes that efforts to tackle poverty, inequality and unemployment and promote growth and their linkage to food and nutrition security can be mutually reinforcing, but that this is not automatic and active government participation is needed to reinforce and manage these relationships among the three. The proposed strategic interventions are based on SDG2, which is aimed at ending hunger, achieve food security and improved nutrition and promote sustainable agriculture. It is important to emphasize here that the achievement of SDG 2 is not independent of the other Sustainable goals, particularly those on poverty; good health and well- being; gender equality; quality education; clean water and sanitation; decent work and economic growth; climate action and industry innovation and infrastructure.

The first major recommendation from analysis is that Tanzania should embark on strategic interventions that would promote inclusive growth. Inclusive growth requires sustainable growth, which is intimately linked to the overall concept of sustainable development. Some of the key ingredients for inclusive growth that are generally agreed upon include: Structural transformation and broad-based growth; creation of good jobs; Investment in human capital and; strong institutions that promote inclusive society with structures and processes that empower local communities so they can hold their governments accountable.

The current scale of threats to sustainable development from climate change and other forms of environmental degradation means that economic growth now needs to be both socially inclusive and environmentally sustainable to achieve long-term human development benefits. Formulating inclusive growth strategy as a long-term framework should mainstream Sustainable Development Goals and that in the case of addressing poverty, inequality, unemployment and therefore food and nutrition security, SDG2 together with SDG1, SADC6, SDG8, SDG12 and SDG13 are the most relevant.

Given that there will be time needed to strategize on long-term interventions with a focus on inclusive growth.

The second recommendation is for Tanzania to continue with its short and medium-term interventions on food and nutrition security on priority basis. However, prioritization of food and nutrition insecurity interventions is to some extent difficult because the three pillars of food security are quite interdependent. Food must not only be available, but it must also be accessible and in nutritious form to all people. Further the complexity of causes that underlie malnutrition calls for a multi-sectoral strategy to address the three key issues of food availability, food accessibility and food utilization.

In addition there is need to address the issues of absorption of nutrition, health and hygiene, which in turn depend on many other factors such as the availability of clean drinking water, sanitation and also on the education and status of women in society. Aware of this, interventions to address food and nutrition insecurity, and particularly the fight against malnutrition must incorporate all these areas. Nevertheless, selection of interventions to address food and nutrition insecurity should be based on choosing those with big impacts, especially among the poorest members of society.

Within nutrition interventions, however, prioritization is very possible and very necessary. In this case more priority should be given to those interventions that address the underlying and basic causes of malnutrition compared to those interventions that address the immediate causes. This is according to the Lancet Nutrition Series that analyzed data from 34 countries to identify high impact interventions on stunting, at 90% coverage; the findings showed that interventions at the immediate level of causality accounted for only for 20% of reduction in stunting, while those at the underlying and basic causes account for 80% (Bhutta Z. et al, June 2013). Hence of the three levels of causality, priority should be given to the underlying and basic causes.

Lastly, it is recommended that since poverty, hunger and food and nutrition security are multi-dimension and multi sectoral problems, comprehensive multi sector and multi-disciplinary solutions are needed to combat them. Coordination and cooperation between food, agriculture, health and other sector policies, and stakeholders are needed to improve national food and nutrition security. This multi-sectoral and multi-disciplinary approach is needed at all levels of designing policies and strategies to implementation of planned programs/interventions and to monitoring and evaluation.

1.0 INTRODUCTION-STRATEGIC REVIEW REPORT

Narrowly defined, the concept of food security includes aspects of food availability, food accessibility and food utilization (or food nutrition). In the case of food security at sub-national levels, food security includes an aspect of management. This entails the distribution of management tasks between the central government and district government and communities, whereby the government functions as a provider of services, a supporter, a facilitator and an advocator, and the communities are the main actors of food security development. Stabilization of food security is achieved through various community empowerment programs. In the near term, community empowerment programs should be intensified to enable communities to overcome food problems autonomously and achieve sustainable household food security.

However, the main problem of food security goes beyond the narrow definition shown above. Other important factors contributing to food and nutrition insecurity are poverty, lack of stable employment, low productivity and, lower regular cash income. Hence it is important to strategize on addressing food insecurity along with, among others, poverty alleviation and income generation programs.

With this broader understanding of food and nutrition security, strategic directions for improving food security, requires at least five major aspects of poverty and hunger alleviation policies to be taken into account. These are, the macroeconomic policy, the impact of globalization, mainstreaming informal employment and legal empowerment of the poor, improving the capacity of poor people and their access to the economy, and taking a strategic approach to poverty and hunger reduction. More specifically, the main policy and strategy areas for accelerating the achievement of the second Sustainable Development² Goal (SDG2) and its targets are as follows: (a) focus on agricultural and rural development complemented with effective implementation of poverty alleviation programs especially expanding employment opportunities to increase incomes; (b) implementing pro-poor trade policy, investing in Research and Development (R&D), and considering a fair, open and rule-based trade system; (c) enhance the role of informal sector, gender mainstreaming and legal empowerment of poor people; (d) improve poor people's capacity by improving education and health sector that are complemented by

²SDG 2 statement - end hunger, achieve food security and improved nutrition, and promote sustainable agriculture, while Sustainable Development refers to development that meets the needs of the present, without compromising the ability of future generations to meet their own needs

improved access to wide economic opportunities; and (e) accelerate structural transformation and inclusive growth of agricultural and rural transformation.

This proposed framework for reviewing strategic directions for food and nutrition insecurity in Tanzania is based on the background paper, which focused on a comprehensive situation analysis comprising of the status of food security, responses towards addressing the challenges of food insecurity that the country has been pursuing in the last three decades or so and the challenges or gaps that inhibited (compromised) the achievements of food security targets. The analysis in the background paper focused on the three pillars of food security, namely, food availability, food accessibility and food utilization or nutrition. Given that agriculture is perhaps the most important sector in Tanzania in contribution to food security (both in terms of production and employment generation), analysis was also done on status and responses towards improving smallholder productivity and incomes, as well as on sustainable agriculture, markets and food systems, all of which are important for achieving the three pillars of food security. Sustainable agriculture, smallholder productivity and incomes, markets and food systems are not part of the definition of food security concept/definition; rather it is one of the drivers for achieving food security particularly in agricultural-based economies like ours and among smallholder farmers who are normally one of the most groups affected by food insecurity; leave alone the fact that they are also the main producers of food in such agriculture-based economies.

The comprehensive situation analysis was done through desk review of key policies, strategies and programs and other literature on food security; and through consultations with key stakeholders, both at national and sub-national levels. At the national level key stakeholders engaged included the government and its agencies, development partners, the private sector and Non Governmental Organization (NGOs); at the sub-national level, the consulted stakeholders included local government officials and program implementers such as donors, NGOs and private sector.

In the course of synthesizing the situation analysis, a number of key strategic weaknesses have been identified, hence calling for the need for further consultations among key stakeholders in food and nutrition security, as a way forward to formulating a strategic direction for food and nutrition insecurity.

This report is **not a food security and nutrition strategy**. The main focus of the proposed framework is to generate strategic issues for consultations among stakeholders on how best to intervene in order for Tanzania to achieve SDG 2, which as mentioned earlier is

aimed at ending hunger, achieve food security and improved nutrition and promote sustainable agriculture.

Apart from the introduction, the contents of this strategy review framework are composed of four other sections. Summarizing from the background paper, the second section, summarizing from the background paper, is a brief account of the current poverty and food security situation in the country, focusing on the food availability, food accessibility and food nutrition and showing the importance of linking all the three pillars of food security with poverty incidence in strategizing for future strategic directions. Performance of each food security pillar is followed by an account of the various interventions that Tanzania developed and implemented and shows how such interventions have not succeeded to substantially reduce poverty and food insecurity. Section three is more on proposed strategic areas and related objectives and targets based on SDG2 and SDG8 and for each of the three pillars of food security and for strategic interventions on improving smallholder-productivity and incomes; sustainable agriculture and; development of markets and food systems; again reference is made to the relevant targets of SDG2. Other SDGs that are relevant to food and nutrition security but are not pursued in details below (in terms of addressing their targets) are SDGs 1, 6, 12 and 13. The proposed strategic interventions for consultation purposes are identified in terms of short-term; and medium-term responses. Section four proposes issues on institutional arrangements for improving effectiveness of stakeholders' interventions in food and nutrition security. The last section five consists of a summary and recommendations.

2.0 BRIEF PERFORMANCE OF POVERTY, FOOD AND NUTRITION SECURITY, RESPONSES TO FOOD AND NUTRITION SECURITY

2.1 PERFORMANCE

This part summarizes the current status of food security in Tanzania, first at macro level and then by each pillar of food security. Access to food is the most basic human right; hence a solid national policy on food security is required. Food security is one of the government priorities. Through agriculture, livestock and fishery revitalization, the government has been consistently strategizing on how to increase food availability ever since independence.

2.1.1 Overall Performance of the Economy, Poverty, Food and Nutrition Security.

At macro level, we relate food security to growth of the economy, particularly growth of agricultural sector, and poverty incidence. This relationship is important because food security is influenced by the structure and level of growth as well as poverty incidence. The agricultural sector is the starting point for finding sustainable solutions to overcome the current food crisis. This relates to agricultural productivity, as well as, to policy frameworks for combating hunger and poverty. Related with it, one aspect for combating and alleviating hunger need sustainable food production to ensure food availability.

Tanzania has experienced unprecedented economic growth in the last two decades. GDP grew by about 7.0 percent per year during 2007– 2015, while agricultural growth averaged a respectable 4.2 percent during the same period instead of 6 percent as envisioned in the country's policy frameworks. Although it is the largest and most significant sector of Tanzania's economy, the agricultural sector appears to be the least dynamic and the least invested by the private sector other than existing farmers. An examination of the production trends in recent times suggests that although the agricultural sector grew rapidly between 2007 and 2015 growth has been volatile, and its source has been concentrated among few crops. Hence accelerating agricultural growth in a wider range of subsectors than those currently leading to the growth process can strengthen growth's effectiveness in reducing poverty. Faster agricultural growth would also benefit urban and rural households by increasing caloric availability and the ability to pay for food. However, in recent years, the Tanzanian government has allocated a relatively small share of its budget to agriculture, although, current development plans

indicate a reprioritization of agriculture as a driver of economic growth and socioeconomic development. Undercapitalization of the sector has also taken centre position in the circle of factors undermining it, followed by poor infrastructure, inadequate value addition chains, low research, poor technology and all that coupled with the ongoing global climate change.

(a) Growth, poverty, inequality and Unemployment

Poverty incidence and its effect on food security are equally important to consider when strategizing on food security. This is because there is a very close relationship between poverty and food security. Poor people are almost always food insecure. Both income (consumption) and development indicators clearly show that levels of poverty in Tanzania are unacceptably high. Levels of poverty over the past two decades have been declining so slowly that it was virtually impossible for the country to realize poverty incidence of 18 percent by 2015 as envisaged by Millennium Development Goals (MDGs).

The results from the HBS 2007 and HBS 2012 show that 28.2 percent of Tanzanians are poor where as 9.7 percent of them are extremely poor. Poverty is more prevalent in rural areas than in urban areas. Between 1990 and 2012, the headcount poverty rate in Tanzania declined from 39 percent to 28.2 percent and extreme poverty as measured by the proportion of those below the food poverty line declined from 21.6 percent to 9.7 percent. It is therefore correct to argue that not all growth is equally effective in reducing poverty. Tanzania's experience shows that despite progress in tackling extreme poverty and good economic growth rates, persisting poverty remains a pressing issue and has a bearing on food and nutrition security.

Another aspect in which growth has had little impact is inequality. Continuous growth during the last ten years or so has not benefited all groups equally and has been characterized by widening inequality. inequality as measured by the Gini coefficient improved only marginally, with Gini coefficient declining from 0.35 in 2004/05 to a coefficient of 0.34 in 2012 (HBS 2011/2012) The three key drivers of inequality in Tanzania are disparities in income, geographical location (urban vs. rural) and gender. These are also drivers of poverty and malnutrition. Inequality matters because it affects how growth acts on well-being and poverty. According to the World Bank³, making the countries more equal can boost poverty reduction efforts. The study found that a 1

³ World Bank (2006) "World Development Report 2006: Equity". World Bank, Washington DC

percent increase in income can cut poverty by 4.3 percent in more equal countries, compared to only cutting poverty by 0.6 percent in the most unequal ones.

Unemployment in the country is also high in both rural and urban areas. According to the Integrated Labour Survey (ILFS 2014), the difference between total labour force (25.8 million persons) and employed labour is 3.4 million people (unemployed people), out of which 2.1 million are women and 1.3 million are men. About half (48 percent) of unemployed live in urban areas. Unemployment for the city of Dar-es-Salaam alone is estimated as 22 percent while in the other urban areas at 13 percent and in rural areas 8 percent. The ILFS finding reveals that unemployment is a serious problem among the youth, and young women are more vulnerable. While economic growth is often tied unequivocally to a correlating improvement in employment, over recent decades however, increases in growth have not resulted in expected comparable increases in numbers of jobs.

(b) Food and Nutrition Security

Despite impressive economic growth and large improvements in living standards over the past twenty years, food security remains a major economic and social problem in Tanzania. The country currently ranks 62 out of 78 countries on the 2013 Global Hunger Index (GHI) with a score of 20.6 categorized as alarming (IFPRI, 2013⁴). Although the prevalence of undernourishment has improved since its peak in 2002 - 2003 (above 37.4 percent), the food security situation has actually slightly deteriorated since the 1990s, from an undernourishment rate of 24.2 percent in 1992 to 35.7 percent in 2012. In 20013, some 15.7 million of Tanzania were still food insecure representing 33 percent of the population (FAOSTAT, 2014).

Tanzania is still facing challenges in food and nutrition security which are in general covering the following problems:

- (i) Occasional import dependency of some food commodities (particularly maize, rice, sugar and dairy products);
- (ii) Low quality of diet among middle-lower income people as indicated by high rates of malnutrition and low diversity in food consumption; due to low intake of vegetables, fruits, and animal foods;

⁴ International Food Policy Research Institute (IFPRI), in conjunction with Welthungerhilfe and the Irish NGO Concern Worldwide: 2013 Global Hunger Index.

- (iii) Presence of double burden malnutrition problems, namely under nutrition (particularly stunted) and over nutrition (obesity) at the same time, and even it can be occurred in the same household or even at same individual in the long run;
- (iv) Transient and in fewer cases chronic food insecurity are remained problems in particular remote areas due to poor economic access, food distribution barriers and/or food production failure caused by bad weather and;
- (v) Relatively un-integrated and fragmented policy and programs in food and nutrition security and poverty

As mentioned earlier on, the concept of food security implies adequate availability and stability in the supply of food and, more importantly, access to food and utilization. Therefore below is a presentation of performance of each food security pillar, namely, food availability, food accessibility, and food utilization. These are followed by performance in agricultural productivity and smallholder incomes, sustainable agriculture, markets and food systems, all of which are important for contributing to food security.

2.1.1.1 Brief Performance on Food Availability

One of the pillars of food security is food availability to sufficient quantities in appropriate quality of food, and supplied through domestic production or imports. Availability of food is assessed at the macro level, generally at the level of the nation state, but food security has a meaning only at the household level - in fact, at the level of the individual members of the household. At the same time food availability at the national level has a limited, but important, role to play in ensuring food security among the households. Food production is one of the major aspects to ensure food availability, which can be seen in some indicators about arable land area, average dietary energy supply, protein and fat share.

Tanzania produces a number of food crops. The major food staples are cassava, maize, bananas, rice, sorghum, pulses, and Irish and sweet potatoes. In an average year, food production is normally satisfactory at national level, but it fluctuates between years of surplus in good season and years of deficit in poor rainfall season. The national average self sufficient ratio ranges between 110 and 120 percent.

The food production system in Tanzania is dominated by small scale producers who cultivate between 1 to 3 hectares and practicing limited irrigation. The major harvested food and feed crops are maize, beans, cassava, potatoes, millet, sorghum, groundnuts, peas, and lentils, rice, and other fruits and vegetables. In addition, most households own

some form of livestock for meat, milk, and eggs. The most common are chickens, sheep, ducks, goats, and cattle.

In addition, to the above mentioned food products, there is high demand of wheat that cannot be sufficiently supplied by the local production due to low productivities and unfavorable weather conditions. Therefore, most of the wheat, about 1.1 million tons, is imported and is used to produce wheat flour which is used for preparation of wheat flour-based foods.

In the last decade, the implementation of community, public and private, civil society, and development partner projects and interventions has resulted into a modest improvement of food crop output in several areas of the country and improvement of overall food self sufficiency that reached 125 percent in the period 2014/2015. The selected examples of the recent performance made in the crop subsector are as follows. According to the data from Ministry of Agriculture, Livestock, and Fisheries (MALF, 2015), the output of maize has increased from 3.4 million tons in 2005/2006, through 4.7 million tons in 2009/2010 to 6.7 million tons in 2013/2014.

The production of paddy increased from 1,399,680 tons in 2007/2008 to 2,194,750 tons in 2012/2013, and 2,586,307 tons in 2014/2015. The production of pulses increased from 652,000 tons through 924,350 tons in 2009/2010 to 1,667,194 tons in 2013/2014. This remarkable increase in production is attributed to several efforts by government, producers, NGOs, and development partners' among them improved knowhow, increased use of technologies and fertilizers, and marketing infrastructure.

The performance of the crop subsector could dramatically be improved if the following challenges and issues were addressed.

- (a) Measures to increase crop yields in the face of increasing population and declining land available for farming.
- (b) Producers failing to produce an adequate supply of food because of limited access to capacity development opportunities and input factors.
- (c) Risks from rainfall variability and other climate change effects
- (d) Soil and water management challenges
- (e) Increasing proliferation of pests

- (f) Low commitment and allocation of public resources and low investments in food crop value chains
- (g) Cultural and gender gaps
- (h) Transportation infrastructure

Need to improve roads and rail that link farmers to crop inputs and offer access to competitive markets, where they can sell their crops for a better price than may be available locally.- Currently nearly one-third of national agricultural production either arrives in poor condition or never makes it to consumers at all (National Agricultural Policy, 2013).Also important to mention is the storage facilities that will enable producers keep their crops dry and available year-round to markets, not just in season, and cooling facilities (refrigeration) which is hugely important to keeping farming and livestock products fresh and healthy and ensure them to reach distant markets.

In the livestock subsector the trends have been as follows: According to the National Livestock Census of 2007/2008, the country had the following species: cattle (21.3 million), goats (15.2 million), sheep (5.7 million) and pigs (1.6 million). According to the MALF data of 2016, the population of livestock in 2015/2016 was: cattle (25.8 million), goats (16.7 million), sheep (8.7 million) and pigs (2.4 million). The observed positive trends are mainly arising from own producer efforts, LSDP, DADPS, and ASDP-L support, and to a lesser extent from the support of development partners, such as Heifer International, World Vision, Care Tanzania, and Land O Lakes. Nonetheless, the annual consumption of livestock products remained low at 12 kg, 47 l milk, and 75 eggs per person. Note that the corresponding FAO 2011 values are: 50 kg, 200 l milk, and 300 eggs.

As to the fisheries subsector, the annual growth has been slow, at about 2 percent. The production of fish rose from 320,000 tons in the year 2000, to 341,109 tons in 2006 to just 364,602 tons in the year 2013. The fresh water fisheries contributed 98 percent of the overall output (MALF, 2014). In the last decade, the export of fish has been on decline, from 57,289 tons in 2005 to 38,373 tons in 2013. This is due to overfishing, degradation of grounds for hatcheries, increasing illegal fishing, and degradation of fisheries ecosystem through domestic and industrial discharges into water bodies.

2.1.1.2 Brief Performance on Food Accessibility

Food accessibility is determined by some selected consumption and economic indicators, i.e. food expenditure share, income distribution (Gini ratio), daily consumption of energy

and protein. Gini ratio of income distribution increased consistently from 0.31 (1999) to 0.41 in 2012.

In 2012, the proportion of income owned by 20 percent of population with highest income reached 48.94 percent, for 40 percent of population moderate income it reached 34.18 percent, and for 40 percent of population with lowest income just owned 16.88 percent of total income. This kind of income distribution seriously affects food accessibility, especially for the lowest income group. Therefore the successful implementation of inclusive development and growth (pro poor, pro job, pro growth, pro environment), that improve equality of income distribution will give substantial improvement to the food accessibility of the population.

Another important aspect affecting accessibility to food is income inequality. Income inequality refers to the extent to which income is distributed in an uneven manner among the population. Consumption per adult equivalent can be used to examine inequality of income. Gini coefficients and quintile ratios are the most common indices used to measure inequality. The Gini coefficient ranges from 0 (every person has the same consumption) to 1 (one person has all of the consumption in the country). The Gini coefficient for Tanzania stands at 0.34 in the 2011/12. There is more inequality among the individuals in other urban areas compared to that of Dar es Salaam and rural areas. The quintile ratio, which is a ratio of consumption of the richest 90 percent to consumption of the poorest 10 percent, also shows that other urban areas have more inequality.

Another way to assess household well-being is by assessing changes in household expenditure patterns, including changes in the proportion of total expenditure that a household uses for food. Typically, a drop in the food share in total household consumption is associated with an improvement in the level of household well-being. Data from the HBS indicate that the food share in total consumption declined from 62 percent to 59 percent from 2000/01 to 2007 and to 44 percent in 2012.

This downward shift occurred in each of the three residence strata, though much more strongly among urban households, especially those in Dar es Salaam. These results suggest that the well-being of Tanzanian households may have improved. Nevertheless the share of total expenditure going into food is still very high, implying that many households are unable to spend a substantial part of their meager income to invest in income generating activities. It is not surprising therefore to find out that within agriculture there is little variation in poverty by type of crop grown. Among households whose main source of cash income is from the sale of food crops, 40 percent are poor, whereas 39 percent of

households dependent on the sale of cash crops are poor. Those dependent on the sale of livestock and livestock products have a lower rate of poverty (around 30 percent).

The performance of food accessibility can be rated as still low because of the following: (a) The proportion of households experiencing food poverty is above 10 percent; (b) The levels of basic needs poverty and food poverty levels are 28.2 percent and 9.7 percent, respectively. Rural income poverty levels are at 19.5 percent (HBS 2012)⁵. Therefore resource poor households of both rural and urban areas sometimes face difficulties to access food from markets due to inadequate purchasing power; (c) Food prices, particularly of maize, cassava, rice, and pulses can remain high all year round despite good availability. Variations in price also affect the price of livestock products (cattle, goats, pig, chicken meat, milk, and eggs; (d) Unemployment is still high⁶ and wages in both urban and rural areas are generally low especially for unskilled labor in agriculture, public service, and industries.

Large segments of populations are therefore unable to adequately meet their food needs from market sources; (e) Food inflation ranges between 5 and 10 percent. Inflation affects food accessibility through lowering purchasing power of food consumers; (f) the level of agro-processing technical infrastructure in Tanzania is still very low and most of the technologies and machinery used are obsolete. In the year 2011, the ratio of processed agricultural products to total exported agricultural products (maize, paddy, cotton, coffee, tea, sisal, tobacco, pyrethrum cashew nuts, hides and skins, fish, sugar) was just 27.4 percent.

A *weak agro-processing industry* in Tanzania contributes to huge post-harvest losses estimated at 30-40 percent for cereals and 40-60 percent for fruits, vegetables and fish (MAFC, 2013); (g) Productivity growth in the food system that is important in helping produce lower cost food and expanding employment in other sectors of the economy is still very low. For instance, the proportion of irrigated land out of total farmed land per year is only about 4 percent; and (h) Projects to reduce income poverty and to enable people to invest in farm and non-farm income generating activities that would enable them to improve their assets and enable them to afford nutritious and diversified food, such as Conditional Cash Transfer and social protection system are under-resourced and limited in scope and geographical coverage.

⁵Despite high GDP growth rates of over 6 percent during the last decade, the poverty rate has only marginally declined from 33.3 percent in 2007 to 28.2 percent in 2012.

⁶The number of employed youth aged 15 to 24, currently forming 20 percent of the youth population, is just 14 percent (Global Post, 2013). Tanzania National Panel Survey (NPS) Report, Round 2 (2010–2011) reported an overall 3 percent unemployment rate.

2.1.1.3 Brief Performance on Nutrition Security

Progress has been achieved on nutrition security through increased calorie per capita availability exceeding the Recommended Dietary Allowances (RDA) for energy. Health and nutrition sector also demonstrated good improvement. For two decades, nutritional status tends to be improved, as indicated by decreasing of the prevalence of malnutrition among children under five. Improvement has occurred not only in terms of alleviating macro nutrient deficiency problems, but also in decreasing micro nutrient deficiencies, particularly vitamin A deficiencies (VAD), iron deficiency anaemia (IDA), and Iodine Deficiency Disorders (IDD). Integrated and complementary strategies to combat macro and micro-nutrient deficiencies were implemented to some extent although still requiring a stronger effort to accelerate the reduction of malnutrition problems.

Complementary strategies that are implemented at present consisted of food diversification program through balanced diet approach including improving of food safety; providing supplementation for certain target groups, particularly to control VAD and IDA; and food fortification for certain food vehicle. At present salt iodization and iron fortification of wheat flour have been mandated, while vitamin A fortification in sunflower oil is at a pilot stage. In complementary with those action, various regulations regarding food security, health, nutrition and food safety have been issued to enhance and accelerate improvement on food security, food safety and nutrition status of the community.

However nutritional problems still exist. Nutrition insecurity is reflected in malnutrition affecting many Tanzanians in different forms. Micronutrient deficiencies are still common, notably anaemia, and vitamin A and iodine deficiencies. The most pronounced types of under-nutrition are stunting (low height for age, also called chronic malnutrition); underweight (low weight for age, also called acute malnutrition); low birth weight (of less than 2.5 kg, an indication of maternal mortality); Vitamin A deficiency (VAD); iodine deficiency disorders (IDD) and nutritional anaemia caused deficiencies of iron, folic acid and vitamin B12. In some sections of the population, over-nutrition, manifested by overweight, obesity, high blood pressure, heart disease and diabetes is starting to emerge.

According to the results of the Tanzania Demographic Health Survey Report (TDHS, 2009/10), the level of stunting of the children is 42 percent compared to the NSGRPII target of 22 percent. Stunting is an outcome of failure to receive adequate nutrition over an extended period of time and is also affected by recurrent or chronic illness.

Underweight and wasting in children is 15.8percent and 4.8percent respectively, suggestive of transitory and emergency food insecurity (TDHS 2009/10). In adults, the prevalence of underweight (BMI less than 18) is about 10percent in women. Obesity is also a problem in 10percent of the adult population in urban and slightly lower in rural areas.

Malnutrition is estimated to be an underlying cause of over one third of under-five deaths. Almost 4 out of every 10 children aged 0 to 59 months are chronically undernourished and about 1 out of every 5 children weighs too little. Only half of children are exclusively breast fed for the first 6 months as they should be. Inequities in nutritional status continue to persist with children from the very poor households being three times more likely to be chronically malnourished as those from better off households.

The high rates of chronic under nutrition among children is driven by poverty and food insecurity, but also largely by poor infant and young child caring and feeding practices at the household level. There have been only slight declines in national poverty levels since 2000/01 despite robust and sustained economic growth during the intervening years. Recent trends suggest that while per capita agriculture GDP expanded rapidly during 2007-2014, caloric availability at the household level hardly improved. The low food availability and utilization at household level can be explained in part by the limited access to basic nutrition information and services to help educate caregivers about the types of foods that are most nutritious to eat, and also about good infant and young child feeding practices.

The impact of under-nutrition on human, economic and social development is huge. It is a serious underlying factor in child and maternal mortality, a major cause of poor educational performance, a driver for intergenerational transfer of poverty and inequality and lowers economic productivity of adults and overall national social and economic development. Hence, addressing under nutrition, poverty and inequality at scale of significant population impact should become an important human, economic, educational and social development imperative for Tanzania.

2.1.1.4 Brief Performance on Smallholder Productivity and Incomes, Sustainable Agriculture Markets and Food System.

As noted earlier, agriculture account for 26 percent of Tanzania's GDP, employs 76.5 percent of the workforce⁷ and provides the livelihoods of some 80 percent of the country's population. While Tanzania's food self-sufficiency has ranged from 88 to 120 percent over the past 10 years, localized food deficits are rampant thus undermining food accessibility in the country. Agricultural productivity remains low and poses a significant challenge to poverty reduction and food accessibility. Tanzania's agriculture faces challenges from low adoption of new technologies, limited infrastructure and high transportation costs, a lack of adequate market access, and high rates of taxation and non-tariff trade barriers. There are also critical problems related to marketing and value chain for agriculture that affects the food system. In spite of the large amount of literature on agricultural marketing, inadequate attention has been given to the constraints, which have continued to cause lack of market integration, price volatility, and limited investment. Furthermore, inadequate attention has been given to the role of marketing institutions (broadly defined to include institutions and legal/regulatory issues) in supporting commodity exchange, and how particular institutions can effectively reduce transaction costs.

(a) Food Systems

The food system in Tanzania is underdeveloped and inefficient, especially in terms of supply chain. There are concerns about the large differences that appear to exist between farm-gate prices, on the one end of traditional supply chains, and retail or export prices, on the other end.⁸ The implication of large price spreads are that transaction costs within traditional farm to market chains are large and that substantial value is being removed from chains through inefficient or value depleting intermediate processes, including but not limited to transport and intermediate trading. As a result of this value subtraction, farmers receive less payment for the products they produce, consumers pay more for the food products they consume and incentives within traditional chains distort resource allocation decisions. This effect also limits the ability of farm producers and intermediary processors to move up the value ladder from low value commodities to high value specialty products, e.g. non-traditional horticultural products, organic products, globally certified products, etc.

⁷Feed the future Tanzania factsheet, 2013

⁸Between 1982 and 1999, producer prices for export products as a percent of FOB prices declined sharply from 1982 to 1999 for pyrethrum, tea, tobacco, cotton and coffee and bounced back at the end of the period after declining sharply during the middle of the period. See Table 3.8 in Agriculture in Tanzania Since 1986, World Bank Publication. Absolute spatial margins are also relatively high for staple crops. However, time series analysis of marketing margins over the period 1986 to 1998 indicate that market margins between primary crop production areas and Dar have been declining gradually for most staples. Among staple foods, price spreads remain highest for wheat and rice, followed by cassava root. Significantly, market margins appear to be increasing over time for cassava. Market spreads appear to be lowest for maize.

Developing supply chain organizational structures may not only promote competition but more importantly it is also supportive to pro poor interventions. Appropriately designed agro-industrial structures can and will allow poor farmers and farm products dependent processors to break out of the low level equilibrium in which they are frequently stuck. In other words, developing supply chain structures changes and generally raises the competitive game of chain participants to match the requirements of specific niche markets into which they may want to sell.

(b) Agricultural inputs markets

Currently, the responsibility of input supply is with the private sector, leaving the government with the role of providing a favorable environment and necessary regulatory framework. Important changes have occurred in the pattern of importation, demand and consumption of inputs within the country as a result of liberalization. The price of inputs set against the output price shows that the overall terms of trade have turned against agriculture in general. This deterioration in terms of trade is especially true for food crops.

However, there are several other factors that restrict the use of inputs (particularly fertilizer), which do not directly reflect profitability. First, it appears that, with the collapse of the cooperatives as suppliers of inputs on credit, the absence of any alternative credit mechanism has simply prevented the overwhelming majority of farmers from buying inputs even if they could be profitably used. Secondly, the physical availability of inputs might pose a constraint in some areas. An important consideration in input supply is the fact that the country is geographically large relative to existing quality of transport infrastructure. Thus, although market liberalization was expected to improve the supply of inputs to the local levels (villages), this has not been the case.

(c) Market Structure for Agricultural Products

Liberalization of agricultural input and output markets after 1986 brought to an end decades of state control that had seen uneven growth of national food crop markets, large falls in traditional export crop production and an increase in subsistence and rural poverty. However, although no comprehensive analysis has been undertaken on the post liberalization structure, conduct and performance of agricultural marketing systems, evidence indicates the existence of a number of marketing constraints, even under a liberalized market scenario.

Even after market liberalization, the marketing chains for the staples such as maize, rice and beans have remained relatively short. One major reason for this is the low level of commercial grain processing and the low level of specialization of grain wholesalers who often engage in retail and other types of trade as well. However, the number of selling outlets available to farmers increased and so did the supply sources for urban consumers. The grain market is structured such that grain moves from producers to rural assemblers, then to regional wholesalers (sellers), then through central market brokers to regional wholesales (buyers) then to retailers and finally to consumers. Little transformation of grain takes place along the marketing chain. This suggests that, beyond transport and limited storage, relatively few market services are provided by intermediaries, indicating a relatively unsophisticated market structure. It is common practice for the bag in which the grain is transported to be changed at every transfer of ownership within the marketing chain.

Some of the constraints that have been identified in agricultural marketing in Tanzania include: inadequate access to markets, inadequate market information, limited access to finance, inadequate development of agricultural marketing institutions, lack of entrepreneurial skills, non-existence of product standards, weak contractual arrangements, high transaction costs, inadequate vertical coordination and integration of marketing channels, and policy uncertainties. The costs of agricultural marketing in the country are generally known to be high, partly as a result of the underdeveloped transport and communication infrastructure.

In general, grain businesses in Tanzania consist of small operations, started and managed by their owners and operating with relatively few fixed investments. They are small and personalized in the sense that in most cases, the owner is also the manager of the day-to-day trading operations. Other characteristics of grain trading are that few trading firms invest in transport vehicles; there is little use of telecommunications in grain trading; storage capacities are inadequate, hence many traders attempt to sell soon after they have made purchases; there is little access to credit, thus shortage of working capital.

(d) Markets for Livestock and livestock products

Increased private sector participation in the marketing of various livestock products has increased the number of channels through which livestock producers can sell their products. However, private sector participation is biased in favour of urban areas and areas with good road infrastructure. Private traders operate in those areas where they can easily collect and transport livestock products to consumers. Consequently, the less accessible parts of the country such as Ruvuma, Rukwa, Katavi, Mtwara and Lindi, are

inadequately served, in terms of supplies of livestock products, despite the fact that there is surplus production in the Northern part of Tanzania. Internal livestock markets are therefore not integrated. In addition, domestic livestock products face stiff competition from imports. Other constraints affecting the performance of markets for livestock and livestock products include livestock pests and diseases, low quality and lack of standards for locally produced livestock products and inputs, inadequate infrastructure such as stock routes and abattoir, and inadequate entrepreneurial skills and capital.

Although the government is taking various measures to address the problem of food insecurity in the country, including promotion of cross border trade with neighboring countries, border food trade is one of the causes of food insecurity in some of the local communities participating in the trade. This is particularly so due to poor regulation and control of such trade activities. Thus, in many cases, border food trade has been restricted as an intervention to ensure food security in the country.

(e) Marketing for horticultural products

Horticultural products are grown primarily for sale. However, some may be retained for home consumption, or, in the absence of markets, just left to rot, thus causing substantial post harvest losses particularly because most of them have very short shelf life (i.e. perishables). The main markets for horticultural products are in the major urban centers. Marketing of horticultural products is characterized by a large number of traders dealing in small amounts of un-standardized commodities. In most areas, marketing channels are not well organized. An inadequate marketing system, which fails to cope with surplus production during peak production periods, is undoubtedly the single greatest obstacle to developing the horticultural sector in Tanzania.

2.2 Measures Taken by Tanzania to Improve Food and Nutrition Security

This section summarizes the key policy and strategy frameworks for addressing food and nutrition security. More details on this are found in the background paper: *The situation analysis of food and nutrition security in Tanzania*.

Since 1992, when the first Food and Nutrition Security was launched, food and nutrition are among the top program priority of the Tanzanian government. In subsequent policy and strategy frameworks, like Tanzania Development Vision 2025 (TDV 2025), the National Strategy for Growth and Reduction of Poverty (NSGRP I and II), Agricultural Sector Development Program (I and II), the Tanzania Agriculture and Food Security

Investment Plan (TFSIP) and the National Nutrition Strategy, among others, food and nutrition security has explicitly featured as one of the governments' top priority.

The TAFSIP brings together all stakeholders in the agricultural sector, Health, infrastructure, education and all those who directly or indirectly affect agriculture, food and nutrition security. The common agenda of these strategic frameworks is to transform the agricultural sector to achieve food and nutrition security, create wealth and poverty reduction. The TAFSIP in particular aims at promoting increased production and productivity in the agricultural sector towards reduction of poverty and achieving food and nutrition security. The government is also implementing other agricultural programs under Kilimo Kwanza and the Southern Agricultural Growth Corridor of Tanzania (SAGCOT).

2.2.1 Measures Taken to Address Food Availability and Food Accessibility

The United Republic of Tanzania developed TDV 2025 to guide long-term development. TDV 2025 aims to achieve high-quality livelihoods, good governance and economic growth, and *acknowledges agriculture as the backbone of the economy*. It also *highlights the role of the private sector in attaining a modernized, commercial, highly productive and profitable agriculture sector*. There have been two medium-term strategies for implementing TDV 2025: the National Strategy for Growth and Reduction of Poverty 2005/6-2009/10 (MKUKUTA I) and 2010/11-2014/15 (MKUKUTA II); and the Tanzania Five-Year Development Plan (FYDP) 2011/12-2015/16 (new FYDP has been launched).

The MKUKUTA strategy outlined three clusters of activities for TDV 2025: i) growth and reduction of income poverty; ii) social services and well-being; and iii) good governance. The contribution of the agriculture sector focuses on the first cluster - growth and reduction of income poverty - and defines five priority areas for driving growth in agriculture (Table 2.1 below).

FYDP 2011/12-2015/16 was developed to reflect the global economic crisis and national capacity for managing such shocks. Delineating key functions and strategies to generate the momentum for economic growth, the outgoing FYDP considered agriculture as one of five key priority areas for which strategic interventions are needed (Table below).

Table 2.1: Agriculture Sector Objectives and Targets from National Medium-Term Strategies in the United Republic of Tanzania.

ACTIVITY	MKUKUTA I (2005/6-2009/10)	MKUKUTA II (2010/11-2014/15)	FYDP (2011/12-2015/16)
Objectives/ priorities	<ul style="list-style-type: none"> Increased productivity and profitability Increased sustainable off-farm income-generating activities Secured and facilitated marketing of agricultural products 	<ul style="list-style-type: none"> Supportive physical infrastructure Water and irrigation infrastructure Financial and extension services; incentives to promote investments, knowledge and information Value-addition activities (agro-processing, livestock and fish processing, and mechanization) Trade/export development services. 	<ul style="list-style-type: none"> Expansion/improvement of irrigation agriculture Availability of scientific production methodologies (research, training, extension services) Promotion of agro-processing and value-addition activities Availability and utilization of modern agricultural inputs and mechanization Climate-compatible agriculture
Selected key targets	<ul style="list-style-type: none"> Increased agricultural growth from 5% in 2002/03 to 10% by 2010 Increased growth of livestock subsector from 2.7% in 2000/01 to 9% by 2010 Increased food crop production from 9 million tonnes in 2003/04 to 12 million tonnes in 2010 Strategic grain reserve of at least 4 months of national food requirement Reduced proportion of rural population (men and women) below basic-needs poverty line from 38.6% in 2000/01 to 24% in 2010 Reduced proportion of rural food-poor (men and women) from 27% in 2000/01 to 14% by 2010 	<ul style="list-style-type: none"> Increased agricultural growth in real terms from 2.7% in 2009 to 6.0% by 2015 Increased growth of livestock subsector from 2.3% in 2009 to 4.5% by 2015 Increased area under irrigation from 370 000 ha in 2009 to 1 million ha by 2015 (irrigation farming supplying 25% of domestic food demand by 2015). 	<ul style="list-style-type: none"> Average agricultural growth at least 6% Increased growth of overall livestock sector from 2.7% to 5% by 2016 Increased food self-sufficiency for cereals and legumes from 104% to 120% by 2015 Increased irrigated area from 330 000 ha to 1 million ha by 2015/16 Increased agricultural labour productivity from TSh 212 671 to TSh 345 724 by 2015/16 Increased value addition for local agricultural producers from 30% to 50% by 2015/16 Increased annual agricultural foreign exchange earnings from US\$700 million to US\$1 500 million by 2015/16.

Source: Author's elaboration.

Then there are short to medium-term agricultural strategies and programs, which support the medium term frameworks; these are the Agricultural Sector Development Strategies (ASDS) and their implementing instruments, namely, Agricultural Sector Development Programs (ASDPs) and Tanzania Agriculture and Food security Plan. The strategic objectives of these frameworks (ASDS, ASDP and TAFSIP) are to: (i) create an enabling and favourable environment for improving production, productivity and profitability in the agriculture sector; and (ii) increase farm incomes to reduce rural poverty and ensure household food security.

To serve these objectives five strategic areas have been identified: (i) creating a favorable environment for commercial activities; (ii) facilitating marketing efficiency for inputs and outputs; (iii) strengthening the institutional framework for agricultural development; (iv) enhancing public-private roles in strengthening supporting services; and (v) mainstreaming planning for agricultural development in other sectors. These frameworks are complemented by a set of sub-sectoral policies, including:

- The Cooperative Development Policy, established in 1997 and reviewed in 2002, to create an enabling environment for cooperatives to operate efficiently in the liberalized economy;
- The National Livestock Policy of 2006.
- The Agricultural Marketing Policy of 2008.
- The National Irrigation Policy of 2010.
- The National Agricultural Policy of 2013.
- The Horticultural Development Strategy 2012-2021.

Other projects, developed to support agriculture and food security, particularly food availability and food accessibility include:

- The Accelerated Food Security Project (AFSP), supporting the government's efforts to achieve greater food security by increasing food production and productivity;
- The government's National Agricultural Input Voucher Scheme (NAIVS), providing input subsidies for seeds and fertilizer;
- The Participatory Agricultural Development and Empowerment Project (PADEP), providing grants to communities and farmers' groups for investment in agricultural development project activities focusing primarily on improving soil fertility and land management, adopting sustainable agricultural technologies and increasing efficiency in inputs and outputs marketing;

- The Tanzania Social Action Fund of the President's Office, supporting the implementation of projects related to food security, education, roads, water, health, training and environment.
- The Rural Energy Fund, implemented by the Ministry of Energy and Minerals with investments in rural roads from the Ministry of Works.
- Other smaller projects addressing a wide range of agriculture-related areas such as livestock and fisheries development, mechanization, development of irrigation infrastructure, development of marketing infrastructure, development of agricultural cooperatives, development of agriculture-related small and medium enterprises, development of rural financial services, facilitation of trade, and improvement of food security and nutrition.

2.2.2 Measures Taken to Address Nutrition Security

Apart from the revised Food and Nutrition Policy of 2014, the National Nutrition Strategy and its implementation plan covering the period 2011/2012 to 2015/2016 is also in place. In addition Tanzania has formulated a number of nutrition relevant policies in the areas of agriculture and food security, health, education, social protection and community development and also several nutrition-related legislations.

Most strategic interventions and or programs and legislation address the immediate and underlying causes of malnutrition and are implemented through the health sector mainly by improving dietary intake and, controlling communicable diseases among others as follows:

- Interventions to improve dietary intake:*** These include the national program on infant and young child feeding and micronutrient programs on IDD, Anaemia and Vitamin A Deficiency. Apparently, most nutrition relevant legislation such as those on marketing of breast milk substitutes, food fortification including iodization of salt and fortification of flour and edible oil, also target improved dietary intake. Programs that treat and manage severe acute malnutrition and communicable diseases like malaria, diarrhea (ORS) and pneumonia also address the immediate causes.
- Controlling underlying causes:*** Programs addressing the underlying triad of causes of food, health and care are few and most address public health and food security. Interventions such as the Expanded Program for Immunization, National Program for HIV and AIDS, the integrated management of child illness (IMCI), de-

worming and other specific programs that control malaria, diarrhea and pneumonia are meant to reduce the burden of diseases . Others in this category are interventions for the provision of safe drinking water, promotion of hygiene and environmental sanitation. Food security programs include the Tanzania Agriculture and Food Security Plan (TAFSIP) and Feed the Future.

Then there are interventions that address both the immediate and underlying causes; these have some aspects of food security, health and care. Such interventions include Mwanzo Bora programme in Dodoma, Manyara, Morogoro region and Zanzibar, as well as Child programs in 16 districts in Mbeya, Njombe, and Iringa region through UNICEF support; the Ruvuma Nutrition Program implemented by the Centre for Counseling Nutrition and Health Care (CONSENUTH) and several other programs by development partners, NGOs, CSO and FBO. A relevant legislation at the underlying causal level is that of maternity leave.

- c. ***Controlling basic causes:*** the only big intervention at the level of basic causes is TASAF's ten-year Productive Social Safety Net (PSSN) program expected to reduce stunting by 22 percent. Another intervention at the level of basic causes is TASAF's community based conditional cash transfer (CB-CCT) Program aiming at covering all 920,000 households in Tanzania categorized as extremely poor (falling below food poverty line-HBS 2012) by end 2015. The condition s includes access to education, health and nutrition services and development of productive livelihoods, improved water and sanitation.
- d. ***Adequate resources required:*** Adequate provision of human and financial resources for nutrition is key in improving nutrition at all levels. The government for the first time allocated a budge for nutrition in the budget years of 2010/2011 where a budget line for nutrition at national and sub-national levels was established and a nutrition Public Expenditure Review (N-PER) was undertaken in 2013 covering the three budget years from 2010/2011 to 2012/2013.

The N-PER showed that the national and sub-national pattern of financial resource allocation to nutrition is of great of concern. In brief, the N-PER found out the following:

- Very low investment in nutrition. Excluding resources allocated to local governments, total nutrition investment amounted to Tzs 78.6 billion over the three years period (2011-2013). This level of investment was only 0.06 percent

of national GDP. Resource allocation in nutrition interventions against the National Nutrition Strategy-Implementation Plan estimates was 23.1percent in 2011/2012 and 22.9 percent in 2012/2013.

- The capacity for nutrition implementation is very low in terms of human resources and institutions involved: the number and motivation of nutrition officers at sub-national levels was low and national nutrition institutions in terms of systems and resources were weak
- Development Partners funded as high as 78 percent of the aggregate budget allocation in nutrition while the government funded only 22 percent.

Other interventions on nutrition include:

- Establishment of nutrition focal points at national and sub-national levels and
- Establishment of multi-sectoral and multi-stakeholder coordination structures

In July 2011 the government established a High-Level Steering Committee on Nutrition (HLSCN). It is chaired by the Permanent Secretary in the Prime Minister's Office (PMO), with the Tanzania Food Nutrition Centre serving as secretariat⁹. Furthermore, Multi-sectoral Steering Committee on Nutrition (MSCN) was formed at the regional and district levels.

In addition to the HLSCN, there is a Technical Multi-sectoral nutrition Working Group (TWG) chaired by the TFNC which it supports the HLSCN. To coordinate sectoral programming, nutrition focal persons have been designated in each ministry represented at the HLSCN. At regional and district levels, focal persons are charged with the responsibility for developing and facilitating multi-sectoral nutrition plans and supporting the working of the MSCN, which are chaired by the regional and district executive authority.

There is also the Tanzania Alliance against Hunger and Malnutrition (TAAHM) formed in November 2013. This is made up of 20 local organizations with membership covering five regions namely, Mbeya, Iringa, Morogoro Kilimanjaro and Dar-es-Salaam. Their aim is to serve as a national platform for stakeholders' engagement in tackling hunger and malnutrition in Tanzania through networking, capacity building, advocacy and

⁹ The HLSCN is composed of the PMO's office-regional and local Government; health and social Welfare; Agriculture Food security and Cooperatives; Livestock and fisheries; Water; education and vocational training; community development, Gender and Children; Industry and trade; Natural resources and Tourism; East African Community. Other members include the Development Partners (UNICEF, USAID and the Irish Aid) private sector, Sokoine University of Agriculture, Faith Based organizations and NGOs.

communication. TAAHM aspire to advocate for the eradication of hunger and malnutrition in Tanzania.

However, with so many stakeholders and partners involved in food and nutrition security, that coordination becomes very challenging. Key to effective coordination is identification of strategic allies committed and willing to advance the nutrition agenda under the principle of the three ONES of one plan, one coordinating mechanisms and one Monitoring and Evaluation framework.

2.2.3 Measures Taken by Tanzania to improve productivity, smallholder incomes, food systems and sustainable agriculture.

One of the very early responses to addressing problems of low productivity and therefore smallholders' incomes is the provision of farm input subsidy. The history of farm input subsidy in Tanzania can be traced back to 1967 when the Tanzanian Villagization programs were adopted to enable rural development through provision of basic services such as schools, health centers, piped water, electricity and roads to rural population, and subsequently improve production and economic efficiency including enhancement of agricultural productivity (Coulson, 1982). Promoting use of farm input was among the measures taken thus, introduction of the farm input subsidy.

Importation and distribution of agricultural inputs were controlled by the state with highly subsidized input prices. The program was largely halted in 1982 due to the repeal of the village legislation. The economic crisis of the mid-1980s led to the economic liberalization program in 1986, involving liberalization of agricultural markets and foreign exchange, removal of domestic price controls, and reform of state monopolies. Agricultural market liberalization started with the food crop markets, and then cash crops market in early 1990s. Input subsidies were phased out between 1991 and 1994, and subsequently fertilizer subsidies decreased from 80 percent in 1990 to 55 percent in 1992 and to no more that 20 percent by mid-1992 (Putterman, 1995) which rendered it difficult to improve smallholder productivity, food and nutrition status in Tanzania¹⁰.

¹⁰For example, the sharply reduced use of fertilizer in the growing of most staple food crops particularly maize had a negative impact on overall maize yields in Tanzania according to Skarstein (2005). This was particularly notable in the Southern Highlands which used to be the 'granary of Tanzania'. The decline in yield was accelerated by the fact that due to high transport costs, private traders could not find it profitable to collect crops in remote areas, especially in Mbeya, Rukwa and Ruvuma regions. Statistics on the regional composition of maize production shows that between 1987–89 and 1996–98 maize output has declined by 13–19 percent in the three more remote regions of the southern highlands (Mbeya, Ruvuma, and Rukwa), while expanding in Iringa, Dodoma and other regions closer to Dar-es-Salaam.

Agricultural input subsidy in Tanzania has therefore been an important factor to influence not only smallholder productivity, but also smallholder income levels and therefore food and nutrition security overtime.

Issues of agricultural productivity and smallholder incomes are also addressed by the Southern Agricultural Growth Corridor of Tanzania (SAGCOT), which was initiated in 2010 as an international public-private partnership, also aiming at promoting private investment, particularly in increasing agricultural productivity and developing commercial agriculture in the Southern Corridor.

The Tanzania Agriculture and Food Security Investment Plan (TAFSIP), which was formulated in 2011 by the Government of Tanzania in collaboration with its development partners is another initiative which is intended to bring all agriculture stakeholders from both the Mainland and Zanzibar into a common agenda of comprehensively transforming the sector to achieve food and nutrition security, create wealth, and poverty reduction.

Among the interventions and/or investments spelt out by TAFSIP, targeting enhancing agricultural productivity and improve smallholders' incomes include the following.¹¹

(i) Improving crop production and productivity

The objective of improving productivity is to optimize the input-output factors governing crop, livestock, and fisheries production so as to improve volumes and overall food and nutrition security. The specific objectives under this component are:

- Improve crop, livestock, fisheries and aquaculture production and productivity
- Improve food and nutrition security
- Prepare and manage disasters

In view of the above objectives focus is on increasing production and productivity of the main food crops through increased use of improved farm inputs including better seed varieties, fertilizers, extension services and continued research on priority food and export crops varieties. Priorities for food crop production are to increase production and productivity of maize, rice, cassava, pulses, bananas, potatoes, sorghum, millet and wheat. Priority export crops include coffee, tea, cashew, horticultural oil seed crops as

¹¹Note that, some of these interventions have multiple effects in that they tend to also influence sustainable agriculture, food systems and markets.

well as spices. Strategies also include sustainable land and water management improved access to appropriate mechanization and irrigation technologies as well as appropriate control and prevention of pests and diseases.

(ii) Improving production and productivity of livestock

Tanzania has a large livestock resource comprising different species majority of which are indigenous type kept in the traditional systems that are not commercially oriented. Constraints to production and productivity include among others low genetic potential of the majority of the existing stock, limited supply of the improved stock production systems which are not commercially oriented, low processing capacities and unorganized marketing system. The production and productivity of livestock in the country can be improved *inter alia* through improvement of the genetic potential of the existing stock; increasing supply of improved stock; commercialization of the livestock industry; increasing the processing capacities of livestock products; and improvement of marketing efficiency for livestock and livestock products. It is proposed that strategic interventions for the improvement of livestock should follow a commodity value chain approach.

(iii) Agricultural financing

Agricultural financing is another important support service for developing the agricultural sector. Agriculture financing in Tanzania has been through a variety of sources with the Government traditionally being the main source of funds to the sector mostly to support services and infrastructure. Government resources have been supplemented by Development Partners (DPs) who have been supporting the development of the sector through contribution to the ASDP Basket Fund and stand-alone projects. In addition, resources to the sector have also been channeled through Non Governmental Organizations (NGOs), both local and international, and these have also made significant contributions to the sector, although the exact amount of resources flowing through this channel has been difficult to estimate. The Government has taken measures including legal and policy reforms to encourage the commercial private sector to invest in agriculture. However, the result has not been as significant as expected as many private sector players are still hesitant to invest in the sector.

In response to the food and fertilizer price increases in 2008, the government launched the Accelerated Food Security Program (AFSP), which aims to boost food production and productivity in targeted areas, where agricultural input intensity is among the lowest in the country. A pilot input subsidy program was launched in 2008, and was expanded into the National Agricultural Input Voucher Scheme (NAIVS) in 2009. The NAIVS

initiative uses vouchers to transfer resources directly to farmers, increasing their purchasing power, stimulating the development of input supply chains, and fostering competition among input suppliers and agro-dealers (World Bank, 2009).

The main objective of the program was to improve farmers' access to critical agricultural inputs (fertilizer and improved seeds) for maize and rice production. NAIVS has been implemented by the Ministry of Agriculture, Food Security and Cooperatives (MAFC). NAIVS was further meant to intensify food production in areas with high agro-ecological potential for producing the two staple foods. These areas are concentrated in the Southern Highlands, Northern Highlands, and Western regions with agro-ecological zones suitable for the targeted crops. Provision of input vouchers has been targeted to farmers cultivating less than one hectare, and focusing on paddy farmers using irrigation facilities. The targeted project areas account for about 70 percent of total maize production and 50 percent of total paddy production in Tanzania. Subsequently, gradual expansion of the program to other regions has been taking place with vouchers distributed in more than 152 districts in more than 20 Mainland regions.

Despite the success of the NAIVS program in terms of increase in adoption rates for improved seed and fertilizer, yield and food security, there are still some concerns that need to be addressed, and which reveals that productivity potential was far beyond what the program managed to achieve. Major challenges during implementation of NAIVS are related to substantial misuse of vouchers; late delivery of vouchers, as well as the late delivery of inputs once the vouchers were in hand; some NAIVS rules on targeting were not enforced fully; and withdrawal of the services of agro-dealers undermined the levels of continuing commercial purchases of improved inputs. The food and nutrition security targets set by NAIVS, ASDS, ASDP and TAFSIP were not therefore achieved.

(iv) Supply-side issues

According to the draft ASDP II sorting out supply-side constraints is considered as key to driving the sector towards higher productivity levels across the commodity value chains. The critical targets related to agricultural productivity, smallholders' income, sustainable agriculture, markets and food systems spelt out in the Agricultural Sector Development Strategy (ASDS) and therefore Agricultural Sector Development Program (ASDP) include: Raising the area under irrigation from less than 200,000 ha in 2001 to 1 million ha by 2015 (out of the high potential for irrigation area of 2.3 million hectares); Increase farm productivity of major cereals (increase maize yields of 3.0 per hectare (rain fed) and irrigated paddy yields of 3.9 tons per hectare by 2015); Increase livestock productivity:

milk to more than 5 liters/cow/day; and Increase the proportion of land tilled mechanically (animal and machinery) to 35 percent.

ASDS and ASDP have identified the following as requiring specific interventions if Tanzania is to effectively address the challenges of productivity and therefore food and nutrition security. A series of interventions have been implemented towards improvement of water supply, management and irrigation; introduction of farm mechanization; use of improved seeds, fertilizers and agro-chemicals; and land management¹². Additional interventions which have been made to facilitate and enhance agricultural productivity, smallholders' income, sustainable agriculture and food systems, include markets and marketing infrastructure, research and extension, private sector business, and as noted earlier, financial services.

(v) Research and technology development

Research and technology development is an important support to the agricultural sector in Tanzania. The main focus of the research effort has been to increase agricultural productivity through generation of client oriented technologies addressing the needs, interests and opportunities of the technology users.

In order to ensure agricultural production, productivity and quality is increased, it is important that appropriate technologies are developed, introduced and adopted by farmers. Research activities are undertaken in 16 research institutions located in seven agro-ecological research zones namely, central, eastern, lake, northern, southern, southern highlands and western. This initiative is mainly targeting the following areas:

- Inadequate research infrastructure facilities and manpower
- Inadequate up-scaling and dissemination of inventions and innovations, caused by inadequate IPR management, low levels of uptake by agro-dealers and adaptation by farmers resulting in addition to poor linkage between research and extension

(vi) Mechanization

There have also been notable efforts towards mechanization services in Tanzania. As pointed out earlier, smallholder farming which is dominant in Tanzania is characterized by low use of improved agricultural production techniques including mechanization. This intervention is therefore meant to support agriculture sector through improved mechanization services by promoting the use of power tillers, support local

¹² See also URT 2014b

manufacturing of draft animal power implements and promotion of tractor hiring services. Among others, the following interventions have been initiated:

- Inadequate production of mechanization equipment
- Low access to mechanization services and therefore very low investment in mechanization and many farming activities are done manually.
- Inadequate supporting systems in agro mechanization (one stop mechanization centre).
- Low use of intermediate technology (animal traction)
- Limited information on demand levels for agro-industrial machinery and equipment.

(vii) Extension Services

Like mechanization, extension services are other interventions which the government has been promoting. The government has planned to have at least one agricultural extension worker per village. These workers will be provided with working gears including transport facilities and accommodation. The program will also facilitate Village Extension Officers to monitor implementation of extension messages by farmers. The focus is therefore on low uptake of agricultural technology by farmers; inadequate number of extensions officers; lack of facilities for extension services; and low level of private sector participation in extension services.

(viii) Ensuring sustainable agriculture

Quite often inappropriate land use practices and the resulting degradation threaten the sustainability of ecosystem, human health, food security and productivity; and constrain investment in various social and economic sectors. Another fundamental problem is global warming and climate change which disturb the trend of hydrological cycle resulting into either heavy rainfalls or less or no rains which leads to floods or drought respectively.

The long term impact of environmental degradation has been climate change which has detrimental effects (for example, droughts, and floods) on agriculture. While ASDP addresses the problem of environmental degradation, it does not address the problem of climate change and its impact on agriculture. The government should continue to sensitize the public on the importance of conserving the environment and mobilize people to plant trees and encourage farmers and livestock keepers to adopt environmental friendly farming and animal husbandry methods. Agricultural strategies

should take on board climate change as one of the major challenges for sustainable agricultural development. Mitigation and adaptation strategies to cope with climate change should be given more attention in terms of investment. There is need to ensure that the natural resources in agriculture are preserved to allow the future generation to use them.

(ix) Food Systems

Food system entails the entire food value chain from the input market to the product market and to the dining table. Some of the critical attributes of a functioning food system are market infrastructure and value addition/chain.

a. Market infrastructure

These include roads and communication infrastructure, markets (buildings) storage facilities and functional warehouses. Quality-agriculture infrastructure has the potential to improve the productivity of agriculture, reduce post-harvest handling and storage losses, control price oscillation of commodities and impart considerable multiplier effects in the economy through forward and backward linkages. Well planned holistic infrastructure development has the potential of rejuvenating this ailing sector of the economy.

Market infrastructure and value addition are important aspects for the development of the agricultural sector and poverty reduction in rural areas. Availability of markets for agricultural products is important in stimulating agricultural production. Availability of markets also ensures better producer prices for farmers. Value addition is also important for development of the agricultural sector and poverty reduction in rural areas in the sense that agro-processing and packaging activities can generate employment and incomes in rural areas. Currently due to gaps in the market infrastructure (such as poor transport and storage facilities), agricultural producers in rural areas are not fully linked to domestic markets in urban centres. With improvement in the market infrastructure, producers can increase production and take advantage of the growing domestic market in urban areas.

b. Rural and feeder roads and communication infrastructure

Feeder roads in rural areas are not well developed and they are impassable for the most part of the year. This leads to high transport cost which tend to increase the margin between producer price and consumer price. Poor transport also limits the size of market for agricultural products and hinders inter-regional trade. Improvement in feeder roads is expected to reduce transport cost of inputs and products, expand the size of domestic

market, and preserve the quality of agricultural products, particularly perishables such as fruits, vegetables, fish and livestock products. Poor communication infrastructure (telephones, internet, e-commerce, etc.) in rural areas hinder collection and dissemination of market information.

c. Markets (buildings), storage facilities, and functional warehouses

The problem of inadequate storage facilities is still critical. Inadequate storage facilities in rural areas, in most cases lead to products being sold directly from the field. During harvest seasons this practice tends to depress producer prices, leading to loss of farmers' income. In addition, inadequate post-harvest storage facilities cause deterioration in the quality of agricultural products. It is estimated that in Tanzania, post-harvest losses range between 25-35 percent of yields. Adequate storage facilities are needed to increase and stabilize farmers' incomes, and to preserve the quality of products.

d. Value addition (agro-processing and packaging)

This calls for intervention to promote and strengthen agro- processing, preservation and value addition of food products through: Facilitating access to simple and efficient technological processes, equipment, and raw materials that can be produced and maintained locally; encouraging public and private sector investment to rehabilitate and raise the performance of SIDO, TEMDO, CAMARTEC, TIRDO, TATEDO, TBS, TFDA, GCA, and other agro-processing supporting entities and enabling them to generate and disseminating new equipment, technology, and micro to mid-scale facilities/factories for processing and packaging food commodities with good market potential at the domestic, regional, or international levels and to minimize waste streams and environmental impact and; facilitating adoption of new and existing technologies and techniques by producers and processors through demonstrations, matching grants, or other methods of encouraging uptake, adaptation, and use of innovations.

e. Agro-processing

The level of agro-processing infrastructure in Tanzania is very low. As a result, Tanzania is exporting unprocessed agro-products, and the agro-processing industry cannot meet domestic demand. The low capacity in agro processing is one of the main reasons for high post harvest losses. It is currently estimated that 30 percent and 70 percent of output of cereals, and fruits and vegetables, respectively, is lost post harvest due to inadequate agro-processing facilities. In the fisheries subsector, 15 - 20 percent of output is lost post harvest due to lack of processing facilities. One of the major reasons for

inadequate investment in agro-processing is poor physical infrastructure in rural areas. Investment in agro processing activities can generate employment and incomes in rural areas. Agro-processing will also add value

f. Grading, standardization, branding, packaging

Grading, standardization, branding, and packaging are important aspects of product-marketing in this modern era. Currently, the level of these services for agricultural product is unsatisfactory leading to low marketability of the products. For example, small holder farmers, livestock keepers, and fishermen fail to take advantage of existing market outlets (supermarkets and hotels) for their products such as fruits, vegetables, milk and fish because they do not have the knowledge of how to pack their products. Tanzania also fails to take advantage of existing regional and international market opportunities for her agricultural products because of poor grading, standardization and packaging.

g. Market Research, Market Promotion and Market Information

Currently market information system for agricultural products is weak and asymmetrical due to poor market research, market promotion and market information. As a result, producers do not have enough knowledge about potential domestic and international markets for their products. For example producers of fruits, vegetables, and fish and livestock products in peri-urban areas do not know the existing opportunities that have been created by the existence of supermarkets in urban areas. Low level of knowledge of international market requirement regarding sanitary and phytosanitary standards pose barriers for Tanzania to export agricultural products.

h. Sanitary and Phytosanitary Standards

Both domestic and export markets for agricultural products demand certain levels of product quality. One of these is Sanitary and Phytosanitary Standard (SPS) measures as prescribed under the Food and Agriculture Organization (FAO) of the United Nations framework and legally recognized by the World Trade Organization (WTO). Generally, Tanzania is weak in the management of plant, fish and animal health issues and enforcing food safety controls. These weaknesses pose barriers for Tanzania to trade domestically and internationally. Improvement in sanitary and phytosanitary services will enhance the quality of agricultural products, leading to increased sales in the competitive regional and international markets.

In addition to increasing quality of agricultural products, there is need to increase exports of agricultural products other than traditional agricultural crops in the regional and

international markets. Tanzania has big potential to produce food (cereals, fruits, vegetables, and livestock and fishery products) for exports. Tanzania can take advantage of the existing regional markets such as the East African Community (EAC), Southern Africa Development Committee (SADC). There are also market opportunities for food in the Middle East. Furthermore, Tanzania has not fully exploited market opportunities in the emerging global markets such as AGOA, EU-EPA and China.

The reasons for failure to exploit these opportunities include lack of access to market information, poor domestic market infrastructure, and low quality of products that do not meet international standards. Inadequate promotion of these products in regional and international markets is another reason for Tanzania failing to take advantage of market opportunities.

i. Producer Empowerment and Market Linkages

Agricultural production in Tanzania is dominated by smallholder farmers with weak entrepreneurship. In addition, they have very little bargaining power when faced with a few large buyers who command enormous market power. In an evolving marketing system, characterized by stiff competition between different actors in the agricultural value chain to capture a larger margin of the value addition, smallholder farmers stand to be the major losers.

Poorly developed agricultural markets are among the major challenges Tanzania is facing. This problem is further exacerbated by a number of factors including, poor road infrastructure, poor storage facilities, standards and poor quality, lack of preservation facilities etc. A number of measures have been taken by the government and other stakeholders as follows:

One of the interventions related to food systems and markets is agro processing and value addition. Post-harvest product management is another sub program under agro processing and value addition which is intended to encourage adoption of on-farm good practices in product management after harvest in order to reduce post harvest losses. This will subsequently result in increased incomes and improved food security. There will further be some efforts to improve storage and handling services where the plan is to reduce levels of post harvest losses of cereals from 30 to 10 percent and of perishables from 50 to 25 percent by 2015. Among the activities to be implemented in order to attain this goal will be to promote proper use of traditional storage facilities; sensitize farmer groups, associations and cooperative societies to operate Warehouse Receipt System (WRS) as per WRS Act (2005) and its regulations of (2006); and to encourage

private sector investment in cold storage facilities for horticulture, dairy and fish products. Another sub program is grading and standards at farm-level and collection centres to comply with market requirements. Emphasis is on promoting appropriate grades and standards to improve quality and enhance market penetration and therefore improve smallholder incomes. Investment in agro-processing activities can generate employment and incomes in rural and urban areas, thereby contributing to reduction of food insecurity and income poverty.

Also important to mention is transformation and diversification of agricultural products which is also the initiative taken by the government and other stakeholders in Tanzania. There is potential to add value to current agricultural production by tapping into niche markets for processed goods currently not being produced in Tanzania. This intervention underscores twofold areas namely; stimulate private investment in product development; and build the capacity of the private sector to continually identify and develop new products according to end market trends.

There have also been some efforts towards promotion of marketing of agricultural products. In order to meet the agricultural sector's vision of a transforming the subsistence agriculture sector into a market-based economy, there is need to seize opportunities in domestic, regional and international markets for agricultural products (crops, livestock, fishery and agro forestry). To ensure sustainability, farmers producing for the market must satisfy consumer demand for quantity, quality and safety of agricultural produce. The private sector is expected to play a major role in improving commercial processing, marketing and promotion of consumption of all agricultural produce including cereals, meat and meat products, milk and milk products and eggs which meet the quality and safety demands of consumers in conventional and niche markets. Reducing marketing costs is also considered necessary in various interventions by the government and other stakeholders.

Additional responses have also been directed towards development of marketing information systems in the attempt to address the marketing challenges. Under Agricultural Sector Development Strategy (ASDS) and Agricultural Transformation Initiative (ATI), one of the key strategic areas for policy intervention is improving marketing of inputs and outputs in order to increase returns to agriculture. In this regard, special emphasis is given to establishing a private agribusiness sector support unit, promoting agro-processing and rural industrialization and strengthening marketing information and dissemination. Among the components which the government has been keen to address include, a general lack of financial, human and technical capacity to generate, manage and disseminate accurate agricultural information; inadequate quality

data due to limited analytical capacity and resources (staff, funding, and equipment); limited market information collection and dissemination.

Further, the objective of development of market-oriented cooperatives and associations in Tanzania is to establish the long-term, capacity-building required to create effective, market-oriented cooperatives. That is, market cooperatives that are strong to respond to market opportunities and enable Tanzania to penetrate regional and international markets; this in turn, will create more sophisticated value chains in agro processing systems for locally consumed produce. This is another initiative which is ongoing to improve marketing problems in agriculture.

3.0 FUTURE STRATEGIC DIRECTIONS

This section discusses two main areas of strategic directions and creates criteria for prioritization of interventions to improve food and nutrition security. The first one focuses on the needed long-term strategic framework to tackle poverty, unemployment and inequality, all of which have a bearing on food and nutrition security. The second area focuses on addressing short to medium-term strategic areas targeted towards food and nutrition security in line with the three pillars of food security, namely food availability, food accessibility and food utilization. It is on the basis of this structure of discussion that we make recommendations on prioritized intervention both in the long-term and short and medium terms.

3.1 Strategizing on inclusive growth and sustainable development goals

3.1.1 Ensuring Quality Growth

Given that the growth in Tanzania has failed to tackle poverty, unemployment and inequality and hence food insecurity, strategic interventions to address the failure is needed. Growth therefore needs to be seen as an intermediate objective, or more properly a tool, in achieving wider results. What is crucial is to address the quality of growth and in particular to improve its inclusiveness. Inclusive growth starts from the position that the relationship between growth, inequality poverty and unemployment should no longer be assumed inevitably to be trickling down or a trade-off. The inclusive growth strategy recognizes that efforts to tackle poverty, inequality and unemployment and promote growth and their linkage to food and nutrition security can be mutually reinforcing, but that this is not automatic and active government is needed to reinforce and manage these relationships among the three.

Inclusive growth requires sustainable growth, which is intimately linked to the overall concept of sustainable development. The current scale of threats to sustainable development from climate change and other forms of environmental degradation means that economic growth now needs to be both socially inclusive and environmentally sustainable to achieve long-term human development benefits.

The key elements of inclusive growth include those from standard growth strategies **such** as macroeconomic stability and economic openness. In addition to those standard strategies, inclusive growth should entail the following attributes:

- a) Have broader objectives than increasing income and GDP and require the government to proactively work to achieve those objectives, rather than assuming that positive outcomes will automatically come through growth. Trickle down strategy cannot succeed in addressing poverty, unemployment and food insecurity.
- b) Reduce poverty inequality and unemployment
- c) Benefit all groups, including the most marginalized
- d) Translate into gains in human development and increased well-being
- e) Promote the sustainable use of natural resources and climate protection
- f) Consider participation, not just distribution outcomes and therefore focus on increasing active participation in the economy and a say in how the economy is run.

Furthermore, some of the key ingredients for inclusive growth that are generally agreed upon include:

- a) ***Structural transformation and broad-based growth:*** the route to inclusive growth lies in shifting to more productive economic activities (structural transformation). This reduces an over-reliance on a few sectors which in turn increases stability and can generate more and better jobs. Without economic transformation, the poor will remain locked into low-return activities, and any progress will be volatile.
- b) ***Job creation:*** According to 2013 World Development Report¹³, jobs are also transformational in providing household income, raising economic productivity, providing resources to invest in children's health and education, changing social and power relationships and providing a sense of dignity and well-being. There is a good case for countries to have explicit job strategies rather than rely on growth strategies to provide jobs. Whilst evidence shows that growth is good for jobs (for example opportunities, benefits and wages tend to increase as economies become more prosperous) this link is not automatic. The bank notes that there are lags and gaps in translating growth into better living standards, productivity and social cohesion; a focus on jobs can be a factor in achieving all three.

¹³ World Bank (2013) "World Development Report 2013: Jobs". World Bank, Washington DC

- c) ***Investment in human capital:*** Investment in human capital is universally recognized as a key pillar for achieving inclusive growth. Better economic development outcomes have linked to investments in health and education. As labour is their main asset, a good level of health and education enables both poor men and women to participate in and benefit from economic growth.
- d) ***Strong institutions:*** An inclusive economy requires an inclusive society that has the institutions, structures and processes that empower local communities so they can hold their governments accountable. It also requires the participation of all groups in society in decision-making processes.

Since inclusive growth requires sustainable growth, which is intimately linked to the concept of overall sustainable development, it is recommended that Tanzania should embark on developing frameworks to mainstream Sustainable Development Goals. Two of the 17 SDGs are particularly more relevant to inclusive growth, poverty reduction and food and nutrition security. These are SDG 2 and SDG 8, as outlined below.

Sustainable development Goals: As mentioned earlier on, the main focus of the proposed strategic areas for food and nutrition security is to generate consultations among stakeholders on how best to intervene in order for Tanzania to achieve SDG 2, which is aimed at ending hunger, achieve food security and improved nutrition and promote sustainable agriculture. It is important to emphasize here that the achievement of SDG 2 is not independent of the other Sustainable goals, particularly those on poverty; good health and well-being; gender equality; quality education; clean water and sanitation; decent work and economic growth; climate action and industry innovation and infrastructure. Thus, while this framework centers on SDG 2, Tanzania must look at the SDGs as interdependent and ensure that all of them are given due consideration but not necessarily of the same weight. Some of the SDGs such as goal 5 on gender and goal 16 on promoting peaceful and inclusive societies for sustainable development, provide access to justice for all are cross cutting.

SDG 2 has its objective to end hunger, achieve food and nutrition security and promote sustainable agriculture. The goal has prescribed five targets, namely:

- By 2030 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations including infants, to safe, nutritious and sufficient food all year round

- By 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons
- By 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment
- By 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality
- By 2020 maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge as internationally agreed;

The needed interventions therefore includes:

- i. Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development, and plant and livestock gene banks to enhance agricultural productive capacity in developing countries, in particular in least developed countries.
- ii. Correct and prevent trade restrictions and distortions in world agricultural markets including by the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.

- iii. Adopt measures to ensure the proper functioning of food commodity markets and their derivatives, and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.

It is important to emphasize here that the achievement of SDG 2 is not independent of the other SDGs, particularly those on poverty; good health and well-being; gender equality; quality education; clean water and sanitation; decent work and economic growth; climate action and industrial innovation and infrastructure. Thus, while this framework centers on SDG 2, Tanzania must look at the SDGs as interdependent and ensure that all of them are given due consideration but not necessarily of the same weight. Some of the sustainable development goals are cross cuttings (Goal 5 on gender and Goal 16 on promoting peaceful and inclusive societies for sustainable development, provide access to justice for all etc). However, given the close association between poverty incidence, inequality, unemployment, and food and nutrition insecurity in Tanzania, this framework emphasizes the need to strategize on food and nutrition security and at the same time addressing poverty, inequality and unemployment. In order to achieve massive progress towards reducing poverty, unemployment and inequality and hence food security, Tanzania should strategies to promote inclusive growth. The focus inclusive growth along with SDG2, SDGs 1, 6, 8, 12 and 13 is the major long-term strategy that this review recommends.

The second major recommendation emanating from this strategy review is continuation, on a priority basis, of current short to medium-term interventions; this is covered in section 3.2 below.

Tanzania should also have country-specific strategy based on SDG 8 whose main objective is to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. The main targets under this goal are:

- Sustain per capita economic growth in accordance with national circumstances and in particular at least 10 percent per annum GDP growth.
- Achieve higher levels of productivity of economies through diversification, technological upgrading and innovation, including through a focus on high value added and labour-intensive sectors.
- Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage formalization and growth of micro-, small- and medium-sized enterprises including through access to financial services; small businesses play an important part in

national and local development, contributing significantly to employment, economic growth and service provision. They also play an important role in inclusive growth

- Improve progressively through 2030 global resource efficiency in consumption and production, and endeavour to decouple economic growth from environmental degradation in accordance with the 10-year framework of programs on sustainable consumption and production.
- By 2030 achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
- By 2020 substantially reduce the proportion of youth not in employment, education or training
- Take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour, eradicate forced labour, and by 2025 end child labour
- Protect labour rights and promote safe and secure working environment of all workers, including migrant workers, particularly women migrants, and those in precarious employment.
- By 2030 devise and implement policies to promote sustainable tourism which creates jobs, promotes local culture and products.
- Strengthen the capacity of domestic financial institutions to encourage and to expand access to banking, insurance and financial services for all.
- By 2020 develop and operationalize a strategy for youth employment. The link between food and nutrition security and SDGs 1, 6, 12 and 13 is summarized below;

Sustainable Goal 1: End poverty in all of its forms everywhere

Applicable measures for the goal are:

- Strong and fair agricultural trade
- **Resilience to climate change and other environmental shocks for the poor**
- Improved health to reduce lost productivity

(i) Sustainable Goal 6: Ensure availability and sustainable management of water and sanitation for all. Applicable Measures for the goal are:

- Water-use efficiency across all sectors
- Protecting and restoring water-related ecosystems

(ii) Sustainable Goal 12: Ensure sustainable consumption and production patterns. Applicable measures for the goal are:

- Sustainable, environmentally sound management and efficient use of natural resources
- Reducing food and post-harvest losses along production and supply chains
- Reduction of food wastage by consumers.

(iii) Sustainable Goal 13: Take urgent action to combat climate change and its impacts.

Applicable measures for the goal are:

- Strengthening resilience and adaptive capacity
- **Integrating climate changes measures into policies**
- Improving climate change education, awareness and capacity in especially least developed countries.

3.1.2 Specific Strategic Areas for Addressing Poverty and Food Insecurity

As pointed out above the long-term solution to poverty and food and nutrition security is through strategies that promote inclusive growth. Meanwhile, it is equally important to continue strategizing on short to medium term interventions that can reduce poverty and increase food security.

The achievement of food security development and poverty alleviation has a direct link with agriculture and rural development. The main problem of food security is not food availability, but the purchasing power of the disadvantage people. Beside the issue of decentralization and the optimal approach to poverty reduction, the following problems are faced by developing countries (including Tanzania) in achieving agriculture and rural development:

- (i) An imbalance in capacity of, and the asymmetric implementation of trade liberalization, low commitment from developed countries and a decreasing trend in overseas development assistance in agricultural sector;
- (ii) The impact of the energy crisis on the food crisis, and the conflicting policies within developing countries to deal with the food crisis;
- (iii) Low agricultural production capacity, resulting from low application of technology, degradation of land quality, lack of agricultural incentive and infrastructure, all of which have led to decreasing total factor productivity and decreasing competitive advantage of agricultural commodities; and
- (iv) Low capacity of poor people and poor access to employment and economic activities that generate a source of income.

Proposed broader programmatic areas for addressing food security, including for the most vulnerable groups, and poverty alleviation are outlined below:

a) Addressing food security

Accelerating agricultural growth in a wider range of subsectors than those currently leading to the growth process will strengthen growth's effectiveness in reducing poverty. Faster agricultural growth would also benefit urban and rural households by increasing caloric availability and the ability to pay for food. Various interventions are required to improve smallholder's crop yields; they include investing in rural infrastructure, researching and adopting improved seed varieties, and providing extension services to smallholders. Undercapitalization of the sector has also taken centre position in the circle

of factors undermining it, followed by poor infrastructure, inadequate value addition chains, low research, poor technology and all that coupled with the ongoing global climate change.

Further, Agriculture's value added can grow not only through expansion of area or increase in yield, but through change in the composition of output that shifts production out of activities with low or negative value added into existing or new activities with higher profitability. Such a process has begun is beginning in Tanzania, as production has shifted to nontraditional exports and import competing commodities. Hence there is the need for an approach to supporting agricultural growth that recognizes the diversity of the sector.

b) Addressing extreme poverty

In order to support poverty alleviation, the government has to initiate a multi-sector community¹⁴ development in order to:

- Make the poverty reduction agenda relevant, contextual and sustainable by considering the characteristics of the poor and involving them in decision-making processes;
- Encourage and support transparent and accountable poverty reduction activities at the community levels;
- Acknowledge the capacity and social capital of the poor and;
- Reposition the role of poverty reduction-related parties from development agents to community empowerment facilitators.

In addition to the reorientation of the poverty alleviation initiatives, it is essential to strategize on:

- Focusing on synergetic economic activities and programs to support economic growth, empowerment and a social safety net system.

¹⁴District and local governments should allocate special funding and prepare policy support for disseminating and adopting these productive programs in order to accelerate agricultural and rural development. To support rural development, strong local governments are necessary because they give special attention to interventions for accelerating food diversification, which is strategic in nature and has a high likelihood of success.

- Implementing a combination of conditional direct cash transfer with compulsory basic education programs and family health and nutrition programs that particularly focus on children under five years.
- Strengthening the capacity, authority and mandate of sub-national level institutions dealing with enhancing food security and poverty reduction.

To address poverty reduction along with food security issues, there is a need to widen and diversify agricultural and rural development policy by considering the following dimensions:

- Improving the production capacity, agricultural and rural infrastructure
- Improving agricultural productivity and market system
- Promoting the diversification of agricultural and non-agricultural economic activities and employment.
- Increasing the availability and distribution of productive asset, and improving access to them, particularly access to land for marginal farmers.

Acknowledging the participation of the private sector in research and development (R & D), infrastructure development, and market efficiency improvement, and enhancing this participation and Speeding up structural transformation through balanced rural-urban investment and development to bring about the convergence of levels of agricultural and non-agricultural productivity.

3.2 Short and medium-term Strategic directions for food security pillars

Since there will be time needed to strategize on long-term interventions with a focus on inclusive growth, Tanzania should continue with its short and medium-term interventions on food and nutrition security but do so on some priority basis. However, prioritization of food and nutrition insecurity interventions is to some extent difficult because the three pillars of food security are quite interdependent.

Food must not only be available, but it must **also be accessible and in nutritious form to all people**. Further the complexity of causes that underlie malnutrition calls for a multi-sectoral strategy to address the three key issues of food availability, food accessibility and food utilization. In addition there is need to address the issues of absorption of nutrition,

health and hygiene, which in turn depend on many other factors such as the availability of clean drinking water, sanitation and also on the education and status of women in society. Aware of this, interventions to address food and nutrition insecurity, and particularly the fight against malnutrition must incorporate all these areas. Nevertheless, selection of interventions to address food and nutrition insecurity should be based on choosing those with big impacts, especially among the poorest members of society.

3.2.1 Food Availability Pillar

i. *Self sufficiency and sustainable self sufficiency:*

Self sufficiency for staple food is very important, it is essential aspect for a nation regarding its ability to fulfill food or ensuring food availability to all people:

Main objectives for this pillar are to:

- Improve production and productivity, as well as quality for agriculture crops particularly paddy, maize, soybean, sugar and also increase livestock production particularly big and small ruminant's meats, as well as poultry products adequately and safely.
- Improve agricultural infrastructure and resources to attain self sufficiency targets.
- Improve research and innovation on technology and improved high quality seeds.
- Increase capacity and empower agricultural human resources directed to: (i) formulating extension revitalization policy, assistances, education and training; (ii) increasing peoples' participation; (iii) increasing competency and morale of agricultural units; and (iv) developing farmer institutions.

The main contributors to food availability are: domestic production, national food reserves, food diversification based on local resources and promotion of food trade. In this regard, the proposed strategic intervention areas are to:

- Achieve sustainable food self-sufficiency on key crops and livestock products,
- Rehabilitate irrigation infrastructure
- Ensure insurance for harvesting failure
- Disseminate technology and revitalization of extension services.

- Promote diversified food supply that is based on local culture and resources.
- Promoting food trade;
- Strengthen management of national food reserve system to control fluctuation on supply and price.

ii. *Specific Food Availability-based strategic directions:*

While there is need to continue with some of the specific interventions as per current Food and Nutrition Security Policy, strategies and programs, there is need to revisit some of them in view of the gaps and challenges identified in the situation analysis paper for this review.

The proposed priority strategic areas for improving food availability in Tanzania are as follows:

- (a) Enhance and support access to savings and credit facilities by small scale farmers, processors, and traders by enhancing the capacity and capabilities of Savings and Credit Cooperative Societies (SACCOS)/Savings and Credit Associations (SACAs) through improving their liquidity and diversification of loan portfolios, organizational and financial management skills, technical and infrastructural capabilities, and ability to up-scale and increase its networks through the use of modern technological options such as telephone banking.
- (b) Ensure that all villages within agro-ecological zones with high potential for food production (with adequate fertile land and annual precipitation) have land use plans, i.e., in Iringa, Mbeya, Rukwa, Ruvuma, Morogoro, Kigoma, Kagera, Katavi, Shinyanga, Mwanza and Tanga regions.
- (c) Support investment in the implementation of climate change adaptation measures in the crop, livestock, and fisheries subsectors according to the National Climate Change Strategy, 2012.
- (d) Increase budget support to raise the proportion of public budget allocated specifically to crop, livestock, fisheries, and related environmental management to 10 percent of the GDP by 2025.

- (e) Expand the area of land under traditional and precision irrigation to about one million hectares in areas where climate smart agriculture can be undertaken by 2035.
- (f) Double the use of modern agricultural technology and mechanization to about 50 percent by 2030; and
- (g) Increase the public budget allocated to research and development to 1 percent of the GDP by 2025.

3.2.2 Food Accessibility Pillar

Limited access to food is affected by a combination of poverty, lack of stable employment, lower regular cash income and limited purchasing power. In a nut shell the main contributions to food accessibility are efficient food distribution systems, marketing and trade, supply and price stabilization and when necessary, food aid.

The strategic areas for consideration are to:

(a) Short-term policy responses

- Stabilize food prices by accumulating stocks/reserves
- Maintain stability of food supply and price
- Conduct food distribution for chronically food-insecure households
- Provide food assistance for transient food vulnerable households resulting from natural, social, and economic disasters.

(b) Medium and long-term policy responses

- Increase investment on infrastructure, research and development, and strengthen farmer institutions.
- Formulate a Sustainable Food Security Strategy
- Prioritize both income and food security
- Promote diversification toward high value commodities
- Realign strategies of international development partners with the government's strategies.
- Facilitate food distribution through development of district/local council connectivity.

- Accelerate domestic food production,
- Export and import¹⁵,
- Agriculture enterprise diversification based on local resources.

(c) Specific food accessibility strategic directions:

The proposed priority strategic actions for improving food accessibility are:

- (i) Fast track and ensure an adequate funding and effective implementation of the National Social Protection Framework 2016.
- (ii) Improve the emergency response and preparedness by upgrading the national emergency food reserve system through increasing the capacity of the NFRA from the current 246,000 tons to one million tons by 2030 to provide food to vulnerable households in chronic food insecure regions and enable provision of relief food during crop failure; and designing and implementing national food reserve utilization and management protocols¹⁶.
- (iii) *Role of NFRA and linking food security to nutrition security:* The need to synchronize the operations of National Food Reserve Agency (NFRA) to ensure it plays the double role of motivating farm productivity through price stabilization to prevent farm losses during bumper harvests (purchase of excesses); and dampening consumer price escalation when there is shortage in the market (releasing its stock into the market). For the NFRA to play this double role, it has to operate commercially instead of subsidizing producers and consumers. Food purchases from farmers during harvests, especially in the periphery/remote agricultural areas where the private sector is reluctant to buy because of high transport costs, would help guarantee farmers of markets for their produce, and releasing food stocks during high food prices would help push down prices to consumers, even if NFRA does not sell at subsidized prices. In addition to operating in the domestic food market, NFRA should also engage in the export market, particularly during high bumper harvests; in this way, farmers will be able to get higher prices. The export business though should be open to other players as well, including individual farmers, hence creating a competitive environment.
- (iv) Enable Tanzania Social Action Fund (TASAF) to upscale and increase the geographical coverage of its interventions and projects related to: capacity

¹⁵ Import of staple food to be allowed only when the domestic production of food is inadequate.

building to gain/improve skills; community public works to rehabilitate and build new roads (to facilitate passage and reduce cost of agro-input and output factors), storage, market infrastructure, small scale irrigation and; availing of startup and operational capital to support improved farming of crops, livestock fishery and forestry products.

3.2.3 Food Utilization Pillar

a) Candidate priority areas for nutrition interventions

According to the National Nutrition Strategy, priority areas could be categorized into three on the basis of causality.

- Actions that address the immediate causes
- Actions addressing the underlying causes and
- Actions addressing the basic causes

The SUN movement categorizes actions at the immediate level of causality as nutrition specific and those at the level of underlying and basic causes as nutrition sensitive. Let us categorize them on the basis of causality. In this regard, the criteria for prioritization include:

- High vulnerability risk
- Potential for large scale impact
- Susceptibility to large scale application
- The ability to monitor and evaluate

b) Criteria for prioritization of nutrition interventions

More priority should be given to those interventions that address the underlying and basic causes of malnutrition compared to those interventions that address the immediate causes. This is according to the Lancet Nutrition Series that analyzed data from 34 countries to identify high impact interventions on stunting, at 90 percent coverage; the findings showed that interventions at the immediate level of causality accounted for only for 20 percent of reduction in stunting, while those at the underlying and basic causes account for 80 percent (Bhutta Z, et al, June 2013). Hence of the three levels of causality, priority should be given to the underlying and basic causes.

c) Priority Interventions at the level of underlying causes

Most interventions at the underlying level of causality are implemented through a range of sectors and target different groups of people and address the triad of **food, care and public health**. These interventions are grouped into three strategies and programs that:

- ***Improve household food and nutrition security:*** including, food safety and processing, nutrition-sensitive agriculture and food systems, interventions to increase availability of, and sustained people's access to nutritious foods
- ***Improve the care environment for young children and pregnant women:*** these include interventions such as early childcare and education, those designed to educate and empower families so that they are better able to provide appropriate nutritional care especially to their children and pregnant women and empowering women within the household
- ***Improve public health water and sanitation:*** such as reproductive health including family planning, immunization; environmental management of malaria, diarrhea and pneumonia; access to safe drinking water; promotion of good hygiene and access to sanitation facilities; nutrition care for people living with HIV and AIDS.

In light of the nutrition status of Tanzania, along with various responses and related challenges/gaps emanating from them, there are basically two interventions approaches to cope with the problem, namely specific and sensitive interventions; these have been identified in the National Nutrition Strategy and should be also a basis for prioritization of interventions.

d) *First Priority should be on 1000 days of life*

In terms of specific nutrition interventions, which are short-term in nature, first priority should be on 1000 days of life. Under-nutrition can be prevented with greatest impact observed during the first 1000 days of life (from conception to two years), also called *window of opportunity*. This is the most nutrition-sensitive period and preventive actions targeting pregnant women and children less than two years have the greatest impact on survival, growth and physical and mental development and even predicts future economic earnings. These activities, which are generally undertaken by the health sector, include immunizations, supplementary feeding of pregnant mothers and growth monitoring of under-five children; supplement of iron-folate tablets to pregnant mothers,

promotion of exclusive Breastfeeding, and complementary Feeding; the impacts can be recorded in a relatively short time.

e) Second priority should be the implementation of the National Nutrition Strategy (NNS) and the Tanzania Agriculture and Food Security Investment Plan (TAFSIP)

i. The NNS

As observed by Dr. Festo Kavishe (September 2014)¹⁷, one of the strong/useful attributes of the NNS is that it has adopted a human rights-based conceptual framework that “explicitly sees malnutrition as a social problem and facilitates the identification of the extent and nature of the nutrition challenge; its immediate underlying and the basic causes and provides for a cyclic programming process that ensures that in any particular context, the problem of malnutrition is assessed, analyzed and actions taken in a participatory and empowering way”. Nevertheless, the NNS should go beyond the focus on the immediate and underlying causes to include paying adequate attention to the basic causes of malnutrition, something which will require political commitment and action that goes beyond formulation of favorable policy, strategy, programs, governance structures and legal environment.

The NNS includes sensitive nutritional interventions¹⁸, and a range of development activities outside the health sector. The target is the general public, not special for the 1000 Days of Life groups.

ii. Make use of the TAFSIP¹⁹

Given that TAFSIP is a multi-sectoral framework involving all key stakeholders, it could serve as an important and very timely opportunity to bring together all the relevant government ministries, together with the private sector, development partners and non-governmental organizations to galvanize around a common agenda for reducing malnutrition, as is outlined in the National Nutrition Strategy (NNS, 2014).

The Multi-Sectoral nature of the TAFSIP and the NNS interventions/programs have been designed to ensure that all households, particularly those with children under five,

¹⁷Dr Festo P. Kavishe, “Towards Eliminating Malnutrition in Tanzania: Nutrition Vision 2025.”

¹⁸ These are shown in Appendix I

¹⁹ The TAFSIP’s life span is ending this year; however it should be revisited and updated to reflect new developments in the areas of poverty, hunger, including food nutrition; in particular the reviewed TAFSIP should mainstream SDG2 and SDG8 along with SDGs 1, 6, 12 and 13.

pregnant and lactating women and those affected by HIV/AIDS, are reached by trained community development and extension workers that are equipped to deliver a comprehensive package of agriculture-related nutrition services at the community and household-levels.

- Establishing and developing a joint ministerial research plan for priority nutrition issues. Develop and implement Information and behaviour Change Communication Strategy for the nutrition components. Strengthen behaviour change interventions by increasing clean and healthy life behavior (PHBS) practices at the household level.
- Promoting increased production and consumption of micronutrient-rich agricultural food products, (e.g., traditionally-bred bio-fortified crops, dairy and meat products), home horticultural products, and see the possibility of genetically engineered produce.
- Addressing the issues of absorption of nutrition, health and hygiene, which in turn depend on many other factors such as the availability of clean drinking water, sanitation and also on the education and status of women in society. Aware of this, our fight against malnutrition incorporates, as it must, all these areas.
- Ensure those nutrition programs of development partners and those of the private sector and NGOs are designed to complement government priorities on the basis of consultation at the national and sub-national levels. The objectives of their programs must be aligned with those of the government; and
- Capacity building of the various governments at both national and sub-national levels to address nutritional challenges and disaster preparedness.

f) Priority Interventions at the level of basic causes

As part from priority two, these include strategies and programs, which:

- *Alleviate extreme poverty and provide social protection and livelihoods:* they include the elimination of extreme poverty, e.g. the TASAF's Productive Social Safety Net (PSSN) and community-based conditional cash transfers (CB-CCT); those that provide employment; broaden areas of economic growth, those that

improve livelihoods and the well being of the poor; and those that reduce inequality.

- *Address the political nature of the nutrition problem:* this includes adequate and sustainable resources allocation to nutrition programs at all levels; acknowledgement of nutrition as a right to be achieved progressively and; accountability.
- *Provide the necessary nutrition relevant basis services and infrastructure:* including availability and access by all to education, health services, water and sanitation, communication, transport and energy.
- *Address issues of nutrition governance and accountability:* such as nutrition information management, surveillance, monitoring and evaluation, advocacy and communication Systems, research, coordination and partnerships and capacity development.

g) Priority interventions at the level of immediate causes

These form part of priority three of interventions based on the causality framework. Most interventions addressing the immediate determinants of malnutrition are implemented through the health sector. The interventions can be categorized into two based on the two major immediate determinants of malnutrition as follows:

(i) Strategies and programs that improve dietary intake include:

- Interventions that promote good nutrition practices, including maternal, infant and young child feeding (IYCF) and healthy diets e.g. breastfeeding counseling (exclusive breastfeeding during the first 6 months with complementary feeding up to 18 months, promotion of healthy diets and lifestyles)
- Interventions that improve vitamin and mineral intake, including supplementation (with vitamin A, iron, folate, micronutrient powder), fortification (of salt, flour, edible oil) and food-based strategies (vegetable gardens)
- Interventions promoting enrichment of nutrient density of the diets of young children (6-23 months of age) and pregnant and lactating women

(ii) *Strategies and programs that treat acute malnutrition and diseases are:*

- Interventions that lead to proper management of acute malnutrition including severe and moderate acute malnutrition and emergency nutrition interventions
- Interventions that lead to proper treatment and management of common childhood diseases like malaria, diarrhea and pneumonia.

h) Interventions based on Triple “A” process

Apart from the above strategic interventions, which are mostly based on the causality framework, there are other very important interventions based on the cyclic process of Assessment, Analysis and Action (Triple “A” process)²⁰. The triple A process is extremely useful as a tool for identifying priority actions in a specific geographical or social context, gaps in actions taken, advocacy and communication and tracking progress, aspects not well implemented in the current nutrition scenario. Moreover it facilitates effective coordination (both conceptually and practically and use a multi-sectoral approaches. It also facilitates development of institutional capacity at all levels of both the systems and human resources.

The key attributes of the triple “A” process are:

- Capacity and gap analysis and an authority pattern analysis to facilitate the development of a framework for common results and accountability
- Communication to develop awareness and tracking progress (M&E) to know whether or not actions taken are impacting on the nutrition situation
- Advocacy to elicit comments,

3.2.4 Agricultural Productivity and Smallholder Incomes, Sustainable Agriculture, Markets and Food Systems

In efforts to attain food and nutrition security goals and targets, Tanzania has taken and implemented a number of interventions intended to address and therefore enhance agricultural productivity and smallholders’ income, sustainable agriculture, markets and food systems, at both national and sub-national levels.

²⁰ This framework facilitates the development of consensus on the level of nutrition problem (assessment), its nature (analysis) and the actions needed at all levels of causality (immediate, underlying and basic and levels of society (community, district/regional and national)

Thus, in addition to the above pillar-based coverage, **we also propose strategic intervention areas for agricultural productivity**, smallholder incomes, and sustainable agriculture, markets and food system.

a) Strategizing on improving agricultural productivity

Tanzania's future agricultural growth path will need to combine features of the land intensive and labor intensive models that conserve the resource base, and this will of necessity differ from the experience of the 1990s. Because of the diversity of Tanzania's endowments and agro- climatic conditions, growth paths deriving from better cultivation of larger tracts will be optimal in more land abundant parts of the country such as the Southern Highlands, while those associated with high yields and intensive cultivation will suit other areas such as Morogoro and Kilimanjaro. Where increase in area per worker is possible (e.g. in relatively land abundant areas such as Rukwa, or where growing urban centers draw workers away from farms) yield increases will be less necessary, and the converse applies to areas where land and off-farm jobs are scarce. This is so because of an adding up requirement: change in labor productivity must equal change in land productivity plus change in area per worker.

Agriculture's value added can grow not only through expansion of area or increase in yield, but through change in the composition of output that shifts production out of activities with low or negative value added into existing or new activities with higher profitability. Such a process has begun is beginning in Tanzania, as production has shifted to nontraditional exports and import competing commodities. Hence there is the need for an approach to supporting agricultural growth that recognizes the diversity of the sector.

In order to achieve ambitious sectoral targets for growth, the government will need to persevere with policy reforms started in the 1990s, and complete the unfinished agenda without backward movement or reversals. In addition, it is critical that the Government rebalance public expenditure to align with its objective of broad-based growth. Continued technical and financial assistance from development partners will still be needed, as will reduction in developed countries farm subsidies that distort international agricultural markets. The private sector will have to seize new opportunities opened in agricultural production, trade, processing, and input supply, and in most cases can be counted on to do so if the business and regulatory environment improves. This underscores two enduring themes of Tanzanian agriculture that provide a strong basis for future growth. First, farmers are a diverse group, not limited to the stereotypical image

of the peasant household with hoe technology providing its members with food and a small commercial surplus. Rather, there exists a range of households operating in diverse farming systems, with varying degrees of market involvement. Second, that Tanzanian farmers – wherever they lie on the continuum between subsistence and commercial orientation – have continually proven themselves to be resourceful, market oriented, and eager to respond to market opportunities.

A successful tripartite partnership between government, the development partners, and the private sector can nurture a growth process that is more protective of the natural resource base than in the past, and more effective in increasing labor productivity, the key indicator of improved farm incomes and poverty reduction. Government policy actions and decisions on institutional reform and public expenditure set the context in which the agricultural sector can grow to meet the high national expectations, or fall substantially short. Given the stated goal of sustained sectoral growth at 8% annually, only an ambitious agenda of reforms and well chosen public expenditure can be expected to succeed. More limited actions require amendment of the growth and poverty reduction targets, or recognition from the outset that they will not be met.

Removal of constraints on agricultural marketing, processing and farm productivity will require focus on:

- *Improved implementation of land tenure and reforms*
- *Expansion of agricultural research effort, and continued research and extension focus on client responsiveness and engagement of farmers in the research process, and strong emphasis on sustainable use of land and water resources.*
- *Irrigation improvements*
- *Support for improved functioning of output and input markets, and for associated rural services including finance.*

The rapid and dynamic changes influencing agricultural production, diversification, and competitiveness require new approaches to support effectively tomorrow's agriculture. In this regard, the Rural Development Strategy (RDS), which is still live, is quite useful. In the Rural development Strategy the main objective for agriculture is to;

- Differentiate strategies to fit various farm types
 - Small-scale family farms
 - Subsistence oriented farms

- Commercial farms
 - Strengthen farmer to market linkages
 - Support to diversifying agriculture and boosting the share of high-value products
 - Encourage in part through demand-driven extension services more efficient use of farm inputs and reduced post harvest losses
 - Enhance food safety
 - Renew commitments to science and technology as key to sustainable productivity growth in agriculture
 - Integrated land, water, and pest management systems
 - Biotechnology and related bio-safety
 - IT and innovation for agriculture.

The RDS recognized that the income-earning capacity of poor farmers can be improved through better technology and better access to inputs, services such as extension and product markets. But they do this in different ways, depending on farm types, production systems, and market opportunities. Future productivity increases thus require technologies tailored to specific groups of farmers in more narrowly defined production environments. Accordingly, a different strategy for each of the major farm types must be employed.

b) Strategizing on achieving sustainable agriculture, food systems and smallholder incomes

First, there is need to target interventions that would lead to sustainable agriculture, agricultural productivity and rural commercialization; these projects aim at improving food production output and increased incomes along the value chain with potential to significantly boost annual yields of targeted crops, and improve market access through construction of rural feeder roads. Such interventions include: Irrigation development, sustainable water and land use management projects. These project aims to raise productivity through irrigation schemes, assisting farmers to improve agronomy and conservation agriculture; contract farming; promoting access to finance through innovative approaches such as credit guarantee; supporting research and development, market linkages, and storage solutions; infrastructural support; and to improve income, welfare and livelihoods of producers. In addition to the government, other key stakeholders supporting these projects are United States Agency for Development (USAID), Japan International Cooperation Agency (JICA), and World Bank, DANIDA, SIDA, DFID, AFDB, EU, RNE, BRAC Tanzania, Rockefeller Foundation and Alliance for a

Green Revolution in Africa, FAO, IFAD, Bill & Melinda Gates Foundation. Other includes Aghakan Foundation, and local, regional, and international research institutions such as COSTECH, ARI, SUA, ASARECA, and CGIAR.

A major intervention is along the model of the Southern Agriculture Growth Corridor (SAGCOT) initiative whose aim is to support and stimulates sustainable and responsible agricultural development in southern Tanzania as a driver of economic growth and poverty reduction. This is done through the establishment of enabling conditions for sustainable agricultural transformation and promotes participation of smallholder farmers in the development of agriculture value chains in priority SAGCOT clusters. The intervention is expected to address some key infrastructure constraints such as road and energy access, but also supporting small scale farming, in particular.

Second is to expand non-farm income generating activities. While poverty is largely rural, and agriculture is a major part of the rural economy, other activities within the rural economy can be stimulated by agricultural growth. Rural non-farm activities (NFA) are often included in the income-generating activities of households, and this is also true for poor households engaged in agriculture.

Closer inspection of the distribution of income sheds light on the reason for such high poverty among people whose principal source of income is agriculture. Total agricultural income is remarkably equally distributed across the five wealth quintiles. In 2007, the poorest households earned 15.9 percent of all agricultural income, whereas the least poor earned 20.3 percent. The difference in total income comes from the fact that better-off households earn a substantial fraction of their income outside agriculture, either as wages/salaries or through non-agricultural self-employment. The least poor 20 percent of households earn 48 percent of all wage income and 46 percent of all income from self-employment. The poorest 20 percent of households on the other hand earn only 5 percent of all wage income and 4 percent of all income from self-employment.

Hence growth in agriculture is an essential requirement for poverty reduction and food security. However, without growth in non-farm rural income producing activities, rural poverty reduction efforts will not met with success. Many non-farm activities, often with upstream and downstream linkages to agriculture and natural resources, have important multiplier effects. Others, in manufacturing, services, commerce, are similar to those in urban settings. Developing effective support to the rural non-farm economy is an essential part of the rural strategy. Government and other stakeholders' interventions

should strengthen existing opportunities, seek new ones, and address the removal of barriers to entry by rural people to diversified employment and enterprise activity. The interventions will address the institutional support necessary to foster a diversified rural economy at the national and sectoral levels as well as at sub-national, local and community levels. The government should also promote rural enterprise development through support for business development services, and the provision of efficient services for SMEs, such as rural infrastructure. There are, however, more important strategic issues for assisting the rural sector and small farms in the contemporary situation to improving agricultural productivity of some basic food products. Below are some of such strategic issues.

Third is to increase production and productivity of food staples. While much of the focus in agriculture today is on high value market chains and the challenges of linking (small) farmers to those market chains, it would be wrong to overlook the importance of markets for food staples and their own particular needs for public support.

Given the country's past and recent experiences with food insecurity and related high food inflation, it is not only important to recognize that food staples still have a key role to play in the economy more generally and in rural areas more specifically, but also to recognize that the markets for food staples are inherently different from markets for many high value products; the former needs greater public attention. Many producer markets for high value products have been and can easily be successfully privatized and this is in part because of their higher profit margins and greater integration into export and retail markets. However, hardly any credible evidence exists to suggest that the private sector can successfully take over the producer market chains for staple foods during the early stages of agricultural development. As farmers struggle with low productivity and high subsistence needs, low input use, low incomes, poor infrastructure, high risks, and the like, the amount of profit to be made in market chains for food staples remains low and unattractive for much private investment.

There is also a growing body of studies showing that important institutional and market failures are to be expected at low level of agricultural development; In this regard, the role of the public sector for supporting the growth in production and productivity of food staples on the one hand, and on developing their markets on the other. This argument is well supported by the Asian experience. In Asia, the public sector played a key role in food staple market chains during the early years of the Green Revolution. This role went far beyond the kind of facilitating role envisaged today and actually provided most key services itself, including research and development, extension, fertilizer, improved seeds, storage, credit, and marketing. Research on India shows these

interventions played a key role in launching the Green Revolution. They also helped ensure that small farmers were able to participate, and that contributed greatly to the levels of poverty reduction achieved.

The international development community seems sufficiently concerned with Asia's post-Green Revolution problems that it is totally discouraging countries like Tanzania to launch their own agricultural revolution without these kinds of public interventions; instead these countries are asked to rely almost exclusively on the private sector and producer organizations, even though there are no successful examples of this approach working for food staples markets in the early stages of agricultural and economic development. This is not to advocate a return to costly and inefficient parastatals or to poorly targeted subsidies. Nor is it an argument against a strong role for the private sector where this can work. What is really needed is a much better understanding of those aspects of public intervention that really worked in Asia and why. Then we can draw the right lessons for developing new institutional innovations to bring those essential ingredients to Tanzania. Even most Asian countries still remain cautious about moving too rapidly towards fully privatized markets for food staples.

Fourth is to promote diversification into high value agricultural products. Small farms with a commercial orientation can benefit enormously from diversification into higher value foods (fruits, vegetables, oils, fish, livestock products, etc.) and processed foods. Demands for these types of food are growing rapidly with rising incomes and urbanization.

A challenge for this "new" high value agriculture is to make it more pro-poor. Left to market forces alone, the major beneficiaries of the new high value agriculture will mostly be the larger and commercially oriented farms, and farms that are well connected to roads and markets. Many small farms are likely to get left behind unless marketing arrangements can be developed that link them to the new market chains.

Fifth is to organize small farmers for marketing. Small farms have always been at a disadvantage in the market place. They only trade in small volumes, sell sub-standard quality products, lack market information and have few links with buyers in the marketing chain. The problem has been exacerbated by market liberalization and globalization. Not only has the state been removed from providing many direct marketing and service functions to small farms, leaving a vacuum that the private sector has yet to fill in many countries, but small farmers must now also compete in integrated and consumer driven markets where quality and price are everything. In this regard, small farmers will need to organize themselves to overcome these problems and to

exploit the new opportunities that these new markets offer; otherwise they risk losing market access.

Voluntary producer organizations of various types will have important roles to play in filling this void and in linking small farmers to food processors, manufacturers, traders, supermarkets and other food outlets (Kindness and Gordon, 2002). Such organizations can help serve businesses by providing an efficient conduit to reach small-scale producers (e.g. by negotiating contract arrangements on behalf of a producer group), and help improve the quality and timeliness of small farmers' production and their access to agricultural research and extension, input supplies and agricultural credit.

Sixth is the efficient and effective provision of agricultural services. Small volumes and high transactions costs mean that small farmers are also disadvantaged in obtaining key inputs. Although privatization policies have opened up new opportunities for the private sector, they have inadvertently left many small farmers without adequate levels of support. Public investments to improve rural infrastructure and transport systems are an important part of the longer term solution to this problem. Formation of effective producer organizations for marketing purposes can also help give small farmers the buying power they need to obtain key inputs at competitive prices.

But as with markets for food staples, market failures often require direct state interventions in the early stages of development. Agricultural research and extension is a prime example. Much of the agricultural R&D needed to help small farmers increase the productivity of their food staples and to improve natural resource management must either be undertaken or funded by the public sector. Similarly, left to the private sector alone, there will be insufficient investment in the control of contagious animal and plant diseases.

Small farmers face a range of weather, disease, pest and market related risks that discourage them from investing more in major land improvements and from adopting more profitable technologies and crop and livestock activities. In order to cope with these risks, farmers and rural societies have developed a range of risk management measures but these measures offer only limited protection against catastrophic weather events like droughts or market collapses. Governments can help by providing safety net programs, and by facilitating the development of credit and insurance arrangements that provide cash in times of need.

Seventh is to make use of nonfarm opportunities and migration. Rural nonfarm income, such as nonfarm wage or self employment earnings, is already an important component

of the livelihood strategies of rural people, sometimes accounting for about 40 percent of their income. Its importance is also growing with urbanization and greater spatial integration of markets (Ellis and Harris, 2004). But opportunities for farmers and agricultural workers to reduce their dependence on agriculture are constrained by the paucity of their human, financial and physical assets and the economic context of the geographical area in which they live.

Lack of human and financial assets confines many of the poor to low-productivity, low-growth market segments from which there are few pathways out of poverty, and simply remain a means of bare survival. In this case the policy challenge becomes one of equipping poor households to move from these "refuge" nonfarm jobs to more remunerative ones. But to do this, they require a variety of private assets such as **education**, public assets such as roads and electricity and information about how to access dynamic market segments, as well as start-up funds. It is also agreed that gender and social status can restrict access by the poor to the most lucrative nonfarm activities in some settings.

Perhaps the best protection against adversity lies in the diversification of livelihoods so that if one activity fails, the income associated with other activities may be drawn upon in time of need. However, diversification is demand driven and follows rising per capita incomes; it is not a primary engine of growth in its own right. Given that nonfarm activities produce goods and services (e.g. many retailing and personal services, highly perishable agricultural products, and the processing of local agricultural outputs) that are consumed almost entirely within the location in which they are produced, supply side interventions alone are not enough to promote nonfarm activities. This is because much expansion of these activities is constrained by growth in local demand, which in turn depends on growth in regional income and in the volume of goods produced that need to be processed and traded. Without local agricultural growth or access to new markets (e.g. from tourism, mining or government jobs), incomes and the demand for non-farm goods and services remain low, and rapid expansion of non-farm activities can quickly depress local prices and wages, making them more a refuge occupation than a productive alternative to agriculture. Opportunities to migrate to productive jobs in urban areas are also conditioned by the state of the national economy and growth of the agricultural sector.

While the non-agricultural incomes for farmers constitute an important part of the income of farmers, it will not become the major source of income for farmers in the short term. Agricultural transformation is crucial for poverty reduction and rural transformation. Experience of China for example show that while the economy was

increasing at a high rate (average of 9 percent annually between 1978 and 2008) agriculture also kept pace with the overall growth of the economy. High and sustained growth in agricultural output will certainly increase farmers' income, hence contributing to poverty reduction.

Soil fertility and crop management practices are important for sustainable agriculture. There has been continuous nutrient mining of Tanzanian soils depleting the native fertility of soils in many areas thus, complicating even further the problem of low agricultural productivity in the country. While many progressive farmers have harvested yields of the order of six metric tonnes of maize and paddy rice per hectare, the average yield has been of the order of 1.5 metric tonnes. The present low yields have been caused mostly by the use of inappropriate crop management practices, including low quality seed, poor plant nutrition and inappropriate crop rotation practices. Since Tanzanian fertilizer use levels are one of the lowest in the world, it is necessary to take urgent steps to recapitalize the degraded soils through an integrated approach such as:

- Agricultural intensification through productivity enhancing packages,
- Human and institutional capacity building,
- Improving the efficiency of input and outputs markets, and
- Soil fertility recapitalization.

Among the needed interventions in this area are presented below:

- *Conservation is important for sustainable agricultural development and poverty reduction.*
- *Water Resource Management*

Tanzania faces water shortages in many areas due to climate variability and poor distribution of the resource. This is happening despite the fact that the country possesses numerous water bodies. The water resource is critical to Tanzania's economic and social development, and underpins the livelihood of the communities that rely heavily on agriculture for their food and income. Hence addressing the issues associated with water management will contribute substantially to growth and reduction of poverty. The objective of sustainable water resource management is to scale up investment for land sustainability as well as improve water resource management.

- ***Integrated Agricultural Land Management:***

This strategic area should focus on increasing knowledge on sustainable approaches in the utilization and management of land resources for increased productivity and profitability of crop from irrigated agriculture.

- ***Managing climatic shocks***

Climatic changes contribute to severe food crises. Over the last two decades Tanzania has experienced a number of acute food shortages caused by drought and floods or excessive rainfall. Handling natural disasters that cause food crises is a process with four stages. These are warning, decision, response and rehabilitation. The Early Warning System (EWS) is in place. An Early Warning System should collect data on climatic conditions; yield forecasts, markets, food prices and pest invasions. Strengthening of EWS within the country is crucial in order to minimize food shortages. The next important move is decision making which needs strong management on the part of institutions handling relief. They should be able to provide on-site assessment of emergency relief so that short-term famine relief and long-term development policies are coordinated. A third stage concerns logistical infrastructure. Food has to be moved to the recipients by road, railway or water. Should these routes fail, then contingency plans should be available. Lastly, one disaster can lead to cumulative disasters and further requirement for disaster relief. For example food crises are usually accompanied by health problems. Health risks increase with reduced dietary intake. In drought prone areas access to safe water is also reduced thus affecting the health and nutritional status of people particularly children. Public action groups can and should play a key role in preventing these adverse health effects.

More than often, the country has not been able to cope with such crises without development partner support through food aid. But even when food aid is provided the capacity to distribute it is inadequate. There is little logistical infrastructure for the delivery of relief supplies, capacity to coordinate the overall relief effort and the capacity in rehabilitating services such health, education, water and sanitation facilities. The capability to reconstruct services such as physical infrastructure is equally inadequate. No long-term progress can be made against food insecurity caused by climatic disasters without the machinery in place to record and diagnose stress signals and to organize swift and effective measures to such signals. There is need therefore to establish and strengthen relief and rehabilitation agencies.

4.0 INSTITUTIONAL ARRANGEMENT

Since poverty, hunger and food and nutrition security are multi-dimension and multi sectoral problems, comprehensive multi sector and multi-disciplinary solutions are needed to combat them. Coordination and cooperation between food, agriculture, health and other sector policies, and stakeholders are needed to improve national food and nutrition security. This multi-sectoral and multi-disciplinary approach is needed at all levels of designing policies and strategies to implementation of planned programs/interventions and to monitoring and evaluation.

The multi-sectoral Landscape analysis to assess the country's readiness to accelerate action in food and nutrition security (TFNC, 2012) found an extensive and well thought out structure from the national to sub-national levels, but also found them not functioning well at all levels. The findings showed that

There was poor coordination of food and nutrition activities in the country

There was a conflicting role between the TFNC and the nutrition unit in the Ministry of health and Social Welfare

Coordination at the regional and district levels was not functioning well

For both national and International commitment to accelerate action plan to improve poverty, hunger, and food, the government should seek the involvement and support of other stakeholders, such as the development partners, NGOs, universities, professional organizations, and community organizations. Donor-Country Programs and those of the private sector and NGOs should be designed to complement government priorities on the basis of consultation at the national and sub-national levels. The objectives of their programs must be aligned with those of the government to increase the understanding of how policy and governance issues need to be aligned for improved food and nutrition security programming, implementation and Monitoring and Evaluation (M&E).

This involvement should focus on:

Increasing the commitment of the stakeholders, led by the government, to give priority to protection and fulfillment of the community nutrition;

- Improvement of the poverty, hunger and food and nutrition programs' management through developing sectoral and multi-sectoral coordination;

- Strengthening poverty, hunger and food and nutrition security direct and indirect programs; and considering that the magnitude of these problems have widespread and multi-dimension effects to the affected, they should enhance the implementation of the agreed policies, strategies and programs under the coordination of designated Government Ministries.
- Enhancing policy advocacy that is targeted at sub-national levels, including communities and households to create more awareness and involvement towards combating poverty, hunger and food and nutrition insecurity.
- Improving community participation and mobilization through activities that include: monitoring the efforts towards addressing poverty and hunger and particularly of nutritional status of vulnerable groups;
- Strengthening coordination mechanism by defining modalities for sharing roles and responsibilities between central, regional and district authorities and introducing better program oversight and management through surveillance, monitoring, evaluation and financing; while focusing and intensify priority targeting of interventions to poor and underserved areas.

In addition, building the effective partnerships across programs and sectors to make use of synergies in service provision and advocacy. In order to make the impact of the food and nutrition interventions big, it is proposed that the following issues be addressed;

- Strategically develop the understanding and capacity to apply well the food and nutrition strategies by all stakeholders at all levels
- Develop a clear implementation strategy that adheres to the principle of **THREE ONES**²¹, namely,
 - One plan to be followed by all nutrition stakeholders at all levels;
 - One coordinating mechanism that effectively enhances multi-sectoral approaches
 - One M&E framework that is usable and tracks progress regularly within common results, resources and accountability framework.
- Strengthen advocacy, communication and social mobilization for nutrition to create awareness among policy makers and the public at all levels, but more so at

²¹ Discussed also by Dr Festo P. Kavishe in "Towards Eliminating Malnutrition in Tanzania: Nutrition Vision 2025."

sub-national level, where awareness on nutrition is lower relative to the national level.

5.0 SUMMARY AND RECOMMENDATIONS

This is a very brief section on the account that detailed discussions on food and nutrition security issues and recommended interventions are well covered in the main text.

The situation analysis on food and nutrition security in Tanzania over the last 15 years or so has shown that the growth in Tanzania has failed to tackle poverty, unemployment and inequality and hence food insecurity, strategic interventions to address the failure is needed. Growth therefore needs to be seen as an intermediate objective, or more properly a tool, in achieving wider results. What is crucial is to address the quality of growth and in particular to improve its inclusiveness.

Inclusive growth starts from the position that the relationship between growth, inequality poverty and unemployment should no longer be assumed inevitably to be trickling down or a trade-off. The inclusive growth strategy recognizes that efforts to tackle poverty, inequality and unemployment and promote growth and their linkage to food and nutrition security can be mutually reinforcing, but that this is not automatic and active government is needed to reinforce and manage these relationships among the three. Hence the first major recommendation from analysis is that Tanzania should embark on strategic interventions that would promote inclusive growth.

Inclusive growth requires sustainable growth, which is intimately linked to the overall concept of sustainable development. The current scale of threats to sustainable development from climate change and other forms of environmental degradation means that economic growth now needs to be both socially inclusive and environmentally sustainable to achieve long-term human development benefits. Formulating inclusive growth strategy as a long-term framework should mainstream Sustainable Development Goals and that in the case of addressing poverty, inequality, unemployment and therefore food and nutrition security, SDG2 together with SDG1, SDG8, SDG6, SDG12 and SDG13 are of most relevance. Some of the key ingredients for inclusive growth are presented in the main text.

5.1 Summary and recommendations on food availability and food accessibility

The second major recommendation emanating from the situation analysis is for Tanzania to continue with its short and medium-term interventions on food and nutrition security but do so based on some priority criteria. However, prioritization of food and nutrition insecurity interventions is to some extent difficult because the three pillars of food security are quite interdependent. Food must not only be available, but it must also be accessible and in nutritious form to all people. Further the complexity of causes that

underlie malnutrition calls for a multi-sectoral strategy to address the three key issues of food availability, food accessibility and food utilization. In addition there is need to address the issues of absorption of nutrition, health and hygiene, which in turn depend on many other factors such as the availability of clean drinking water, sanitation and also on the education and status of women in society. Aware of this, interventions to address food and nutrition insecurity, and particularly the fight against malnutrition must incorporate all these areas. Nevertheless, selection of interventions to address food and nutrition insecurity should be based on choosing those with big impacts, especially among the poorest members of society.

5.1.1 Food Availability

The agricultural sector is the starting point for finding sustainable solutions to overcome the current food crisis. This relates to agricultural production and productivity, as well as, to interventions to combat hunger and poverty. Related to these, one aspect for combating and alleviating hunger is to promote sustainable food production to ensure food availability.

One of the dimensions of food security is food availability to sufficient quantities of food in appropriate quality, and supplied through domestic production or imports. Availability of food is assessed at the macro level, generally at the level of the nation state, but food security has a meaning only at the household level - in fact, at the level of the individual members of the household. At the same time food availability at the national level has a limited, but important role to play in ensuring food security among the households. Food production is one aspect to ensure food availability, which can be seen in some indicators about arable land area, average dietary energy supply, protein.

Food can be made available through domestic production, maintaining household and national food reserves, trade particularly food exports since Tanzania should be able to produce most of the food she needs such that imports are should be necessary when domestic supply cannot suffice to meet demand; diversification of production based on local resources and efficient and effective management of food crisis.

Strategies to achieve sustainable food production systems and implement resilient agricultural practices that increase productivity and production; reducing food and post-harvest losses along production and supply chains; ensure achievement of *Self sufficiency and sustainable self sufficiency* as this is an essential aspect for a nation regarding its

ability to fulfill or ensuring food availability to all people; formulate a Sustainable Food Security Strategy.

5.1.2 Food Accessibility

Food accessibility is mainly caused by limited access to food due to a combination of poverty, lack of stable employment, lower regular cash income and limited purchasing power. Hence the main problem of food security is not just food production/food availability, but the purchasing power of disadvantage people. Strategies to fight poverty create employment and stability in income generation among the people especially among the extreme poor are required to address food accessibility problems at household and national levels; prioritize income security first along with food security. More specifically interventions to improve food supply and stabilize food prices; improve distribution, marketing and trade of food, particularly through facilitating development of district/local council connectivity.

5.1.3 Food Nutrition

Nearly one in four children under the age of five is underweight. The problem of hidden hunger that is, deficiencies of essential vitamins and minerals, such as iron, Vitamin A and iodine is also severe. The complexity of causes that underlie malnutrition calls for a multi-sectoral strategy to address the three key issues of availability, access and absorption. Interventions need to address the issues of absorption of nutrition, health and hygiene, which in turn depend on many other factors such as the availability of clean drinking water, sanitation and also on the education and status of women in society. Aware of this, fight against malnutrition should incorporate all these areas.

Preventable deaths and illness related to malnutrition among the working force are a major factor undermining economic and social development as they directly affects the human resource, the key to putting together other factors of production. Underweight children, stunted growth, limited mental development and nutrient deficiency ailments that can be fatal and permanently crippling like anemia and rickets respectively, are some of the effects of malnutrition.

These effects significantly reduce labour productivity in agriculture and other sectors; the situation will persist if the quantity and quality of the food produced is not improved.

a) Criteria for prioritization of nutrition interventions

Priority should be given to those interventions that address the underlying and basic causes of malnutrition compared to those interventions that address the immediate causes. This is according to the Lancet Nutrition Series that analyzed data from 34 countries to identify high impact interventions on stunting, at 90 percent coverage; the findings showed that interventions at the immediate level of causality accounted for only for 20 percent of reduction in stunting, while those at the underlying and basic causes account for 80 percent (Bhutta Z, et al, June 2013). Hence of the three levels of causality, priority should be given to the underlying and basic causes. These are well outlined in the main text where interventions to address the underlying and basic causes are given more weight relative to those addressing immediate causes.

b) Interventions based on Triple “A” process

Apart from the above strategic interventions, which are mostly based on the causality framework, there are other very important interventions based on the cyclic process of Assessment, Analysis and Action (Triple “A” process)²². The triple A process is extremely useful as a tool for identifying priority actions in a specific geographical or social context, gaps in actions taken, advocacy and communication and tracking progress, aspects not well implemented in the current nutrition scenario. Moreover it facilitates effective coordination (both conceptually and practically and use a multi-sectoral approaches. It also facilitates development of institutional capacity at all levels of both the systems and human resources.

The key attributes of the triple “A” process are:

- Capacity and gap analysis and an authority pattern analysis to facilitate the development of a framework for common results and accountability
- Communication to develop awareness and tracking progress (M&E) to know whether or not actions taken are impacting on the nutrition situation
- Advocacy to elicit comments,

²² This framework facilitates the development of consensus on the level of nutrition problem (assessment), its nature (analysis) and the actions needed at all levels of causality (immediate, underlying and basic and levels of society (community, district/regional and national)

3.1.4 Summary and Recommendations on Smallholder Productivity and Incomes, Sustainable Agriculture, Markets and Food Systems.

An examination of the production trends in recent times suggests that although the agricultural sector grew fairly rapidly over the last ten years at 4.2 percent per year, growth has been volatile, and its source has been concentrated among few crops. Rice and wheat, for example, dominated production trends for cereals, while cotton, tobacco and sugar production grew almost 10 per cent per year. Larger-scale commercial farmers grew these well-performing crops on farms heavily concentrated in the northern and eastern periphery of the country. In contrast, yield for maize, the dominant staple food crop grown extensively by subsistence farmers, remained low due to poor farming methods and dependency on rain conditions. Tanzania's low poverty growth elasticity results from the current structure of agricultural growth, which favors large-scale production of rice, wheat and traditional export crops in specific geographic locations.

There have been significant efforts in Tanzania aimed at addressing the existing smallholder productivity, incomes, sustainable agriculture, markets and food systems challenges and/or gaps in the country. These efforts have been in terms of policies, strategies, programs and projects at both national as well as sub national levels. However, despite these efforts a dismal improvement has been recorded partly due to limited capacity in the areas of financial resources, skills and competencies, and a poorly developed infrastructure which affects the initiatives to improve smallholder productivity, incomes, sustainable agriculture, markets and food system.

Failure to attain productivity goals, improve smallholder incomes, attain agricultural sustainability goals, transform agricultural markets and food systems has made it difficult to address food and nutrition insecurity in Tanzania. The government and other key stakeholders need to understand the challenges and come up with strategic interventions in the areas of funding, skills development, infrastructure, and community awareness, if food and nutrition goal's and targets are to be attained in Tanzania. In terms of policy and planning, smallholder productivity, incomes, sustainable agriculture, markets and food system, and therefore food and nutrition security should be given the priority they deserve.

A successful tripartite partnership between government, the development partners, and the private sector can nurture a growth process that is more protective of the natural resource base than in the past, and more effective in increasing labor productivity, the key indicator of improved farm incomes and poverty reduction. Government policy actions and decisions on institutional reform and public expenditure set the context in

which the agricultural sector can grow to meet the high national expectations, or fall substantially short. Given the stated goal of sustained sectoral growth at 8% annually, only an ambitious agenda of reforms and well chosen public expenditure can be expected to succeed. More limited actions require amendment of the growth and poverty reduction targets, or recognition from the outset that they will not be met.

Removal of constraints on agricultural marketing, processing and farm productivity will require focus on:

- *Improved implementation of land tenure and reforms*
- *Expansion of agricultural research effort, and continued research and extension focus on client responsiveness and engagement of farmers in the research process, and strong emphasis on sustainable use of land and water resources*
- *Irrigation improvements*
- *Support for improved functioning of output and input markets, and for associated rural services including finance.*

Interventions targeting sustainable agriculture, agricultural productivity and rural commercialization are required to improving food production output and increased incomes along the value chain with potential to significantly boost annual yields of targeted crops and livestock, and improve market access through construction of rural feeder roads; Irrigation development, sustainable water and land use management projects. In this way farmers would be assisted to improve agronomy and conservation agriculture. Other interventions that are important are promotion of contract farming; developing market linkages; storage facilities at household and national levels; promoting access to finance through innovative approaches such as credit guarantee; supporting research and development and; infrastructural support, all of which are necessary for improving incomes, welfare and livelihoods of producers and consumers.

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