Policy Paper for Presidential Economic Council (PEC)

'Towards a Hunger-free Ugandan Society': Policy Implications for Increasing Food and Nutrition Security

By

National Planning Authority[1]

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List of Acronyms

SDGs	Sustainable Development Goals
RDI	Required Dietary Intake
SUN	Scaling Up Nutrition
NTP	National Trade Policy
FNS	Food and nutrition security
UNAP	Uganda Nutritional Action Plan
NDPs	National Development Plans
NPA	National Planning Authority
EAC	East African Community
CAADP	Comprehensive Africa Agriculture Development Programme
GHI	Global Hunger Index
PFMA	Public Finance Management Act
FAO	Food and Agriculture Organisation
UNMA	Uganda National Meteorological Authority
NGOs	Non-Government Organisations
CSOs	Civil Society Organisations
GDP	Gross Domestic Product
WFP	World Food Programme
LC	Local council
IFPRI	International Food Policy Research Institute
USAID	United States Agency for International Development
CDOs	Community Development Officers

1.0 Introduction and Background

Hunger is usually understood to refer to the distress associated with lack of food. It manifests as inadequate diets/nutrition due to food deprivation arising from both inadequate food quantity and quality. This food deprivation results into: undernourishment; mortality; child stunting and wasting[2]. Undernourishment is insufficient caloric intake resulting from food deprivation.

In Uganda, hunger is a prominent national challenge with a big proportion of the population not being able to access enough food (NPA, 2017). The demand for food in the country has outstripped the supply. The rapid population growth rate at 3 percent per annum is outpacing the agricultural growth (food production), which has stagnated at about 2 percent for over a decade. As a result, the country still faces challenges with eliminating hunger and malnutrition. Within the country, there is uneven food security as some areas are faced with food surplus amidst scarcity in other areas. The increasing food insecurity has resulted into increasing hunger and malnutrition especially among children.

Hunger has a negative impact on the social, economic, cultural and political wellbeing of the country. For instance, in 2009, the total costs associated with child under-nutrition were estimated at 1.8 trillion UGX, an equivalent of 5.6 percent of GDP of the same year (NPA & WFP, 2014). This cost occurs in part due to the fact that child under-nutrition affects the health, education, overall economic productivity of the country. A point in case is that stunted children are at the higher risk for repeating grades in school and at higher risk for dropping out of school, grade repetitions are costly to the families and government. Therefore, unless the prevalence of hunger is handled, the country's social and economic aspirations stipulated in the Vision 2040 will remain unattained[3].

As such, there is a strong commitment at the national, regional, continental, and global levels to address issues of food and nutrition security (FNS). At the national level, the government is committed to fulfilling the constitutional obligation of ensuring food and nutrition security for all Ugandans. Through the implementation of six National Development Plans (NDPs), the government is focussed on attaining the Vision 2040 which aims at transforming the Ugandan society from a peasant to a modern and prosperous country within 30 years. As part of the strategies for the socio-economic transformation of Uganda, the Vision proposes to improve the hunger and nutritional status of its citizens, particularly among young children. Specifically, the NDP II, prioritizes increasing access to the basic needs of the population which includes food. The government effort is also embedded in the 2010-2016 Uganda Nutritional Action Plan (UNAP), a framework for Scaling Up Nutrition (SUN) in the country. Furthermore, sector-specific policies and programmes exist: the 2013 National Agriculture Policy (NAP), the National Trade Policy (NTP) 2007, and the second National Health Policy (NPI II) 2010.

[2] Refer to the glossary for these definitions.

[3] Some of the aspirations include: achieving upper middle-income status with a real per capita gross domestic product of US$9,500, reducing poverty to 5 percent, and increasing life expectancy from 63 in FY2015/16 to 85 years; Child stunting as a % of under 5s to 0.

In addition to the national level, at the global level the efforts are accomplished through the Sustainable Development Goals (SDGs) and at the continental level through the Africa Agenda 2063 and the Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods in Africa[4]. At the East African Community (EAC) level, member states aspire to achieve food security and improve the standards of nutrition as enshrined in the 2005-2030 Agriculture and Rural Development Strategy of the region.

Despite these concerted efforts to addressing FNS, the depth of hunger in Uganda remains high. An estimated 10.9 million people in Uganda were experiencing acute food insecurity situation, of which 1.6 million were in crisis (IPC, 2017). On average, four out of every ten Ugandans are unable to meet the required dietary intake. Some of the districts that were badly affected include; those in Teso region, Isingiro, Butaleja, Kasese and the case of Namutumba where in 2015 many children died of malnutrition. About 66 percent of the school going children do not access school meals. As a result, the diets of most Ugandans remain inadequate both in terms of quantity (adequacy and availability) and quality (diversity and safety). With regard to quantity, for the last seven years, Ugandans were consuming on average 1,860 kcal per day as opposed to the minimum required intake of 2,200 kcal per person per day. Despite an improvement in the quality of diets as reflected by a dietary diversity score (number of food groups consumed over time) from 7.6 in 2009/10 to 8.2 in 2015/16, the dietary diversity score remains below the average recommended score of 9.2.

Furthermore, the country's FNS ranking remains low and lags behind other SSA countries. Based on the Global Hunger Index (GHI), Uganda was ranked 87 out of 118 developing countries in 2016 (IFPRI *et al.*, 2016).[5] Nonetheless, within the EAC, Uganda performs better on the GHI than other countries except Kenya.[6] Based on the actual scores, Uganda's GHI score of 26.4 in 2016 is approximately 5.1 points higher than the developing world average of 21.3. The country registered progress in reducing its GHI score, from 41.3 in 1992 to 26.4 in 2016 (ibid).

Against this backdrop, there is need for holistic, timely interventions and policy actions to address hunger, food and nutrition insecurity. Otherwise the country risks not attaining its development aspirations. Therefore, the paper assesses the hunger, food and nutrition security situation in Uganda and examines why despite all efforts hunger still persists. The paper provides policy actions to combat hunger in Uganda. Specifically, the paper:

i. Analyzes the situation of hunger, food and nutrition security in Uganda;
ii. Analyzes the policy, legal and institutional framework to the extent to which it enhances food and nutrition security;
iii. Analyzes the existing programmes to the extent to which they address food and nutrition security;
iv. Analyzes existing financing for food and nutrition programmes to establish efficiency levels;
v. Analyzes relevant international practices to learn from good practices;
vi. Provides policy recommendations and actions enhancing food and nutrition security in the country

[4] Successor to the Comprehensive Africa Agriculture Development Programme (CAADP).
[5] The GHI captures multidimensional hunger based on four indicators: undernourishment; child wasting; child stunting; and child mortality.
[6] Kenya has a better GHI rank (72), whereas Rwanda is ranked 91 and Tanzania is ranked 96 and there is no GHI information for Burundi.

The rest of the paper is structured as follows: Section two, analyzes the situation of hunger, food and nutrition security in Uganda; Section three, analyzes the policy, legal and institutional framework to the extent to which it enhances food and nutrition security; Section four, analyzes the existing programmes to the extent to which they address food and nutrition security; Section five, analyzes existing financing for food and nutrition programmes to establish efficiency levels; Section six, analyzes relevant international practices to learn from good practices; Section seven, Provides policy recommendations and actions enhancing food and nutrition security in the country. And section eight concludes.

2.0: Status of hunger, food and nutrition security

2.1 Status of hunger in Uganda

Hunger in the country especially in rural areas, is severe and of national concern. As of January, 2017[7], an estimated 10.9 million people in Uganda were experiencing acute food insecurity situation, of which 1.6 million were in crisis reflecting high magnitude of hunger. Among the districts that were badly affected include; those in Teso region, Isingiro district, Butaleja and Kasese. A similar situation was experienced in Namutumba district in 2015 where many children died of malnutrition following a prolonged drought. The situation of school feeding also portrays serious hunger given that about 66 percent of the school going children do not access school meals. The recurrent hunger situation in the country is largely attributed to high food insecurity which results from; low levels of agricultural production; low incomes; price increases; erratic weather; pests and disease epidemics; and high dependence due to large family sizes. The magnitude of hunger is manifested in various nutrition indicators as discussed below.

2.1.1 Prevalence of undernourishment in the country remains high

The prevalence of undernourishment in the country remains high. Overall, the prevalence of undernourishment (reflecting the share of the population with insufficient caloric intake below 2,200 kcal) remains high with nearly 40% of individuals in Uganda being classified as undernourished, and 16 percent of the households are chronically undernourished with only 4 percent of the households being food secure for the last five years (2009/10-2015/2016). This implies that Ugandans are unable to consume the minimum required Dietary Intake (RDI) for light physical activity which is 2,200 kcal.

The prevalence of undernourishment is worse in the rural areas. The intake is lower in the rural areas with an average of 1,814 in 2009/10 to 1,841 in 2015/16 as compared to the urban areas standing at 1,956 kcal in 2009/10 to 2,030 kcal in 2015/16. In addition, the dietary diversity scores remain below the standard average of 9.2[8] although some improvements have been registered. Important to note is that households in the Northern and Eastern regions which are more food

[7] Integrated Food Security Phase Classification (IPC) report, 2017

[8] Based on the USAID framework for HDDS for measurement of household food access, the *'average HDDS in the richest 33 percent of households can serve as a guide for setting the target level of HDDS'* (Swindale and Bilinsky, 2006); from the UNPS, the average HDDS for this group was estimated at 9.2.

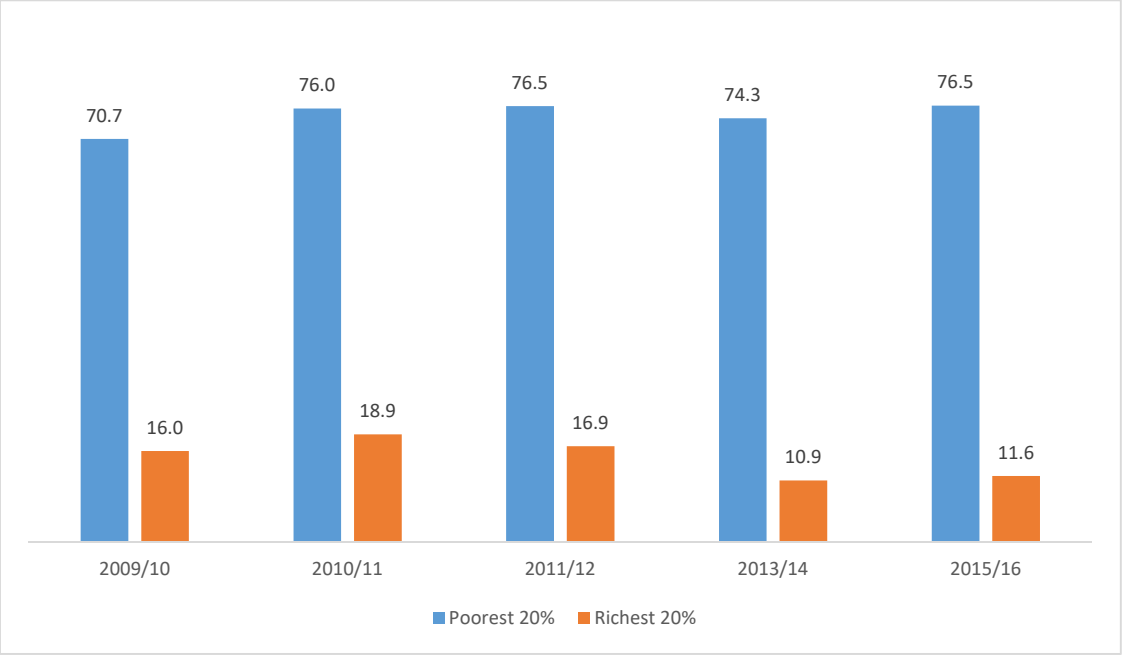
insecure have higher food diversification as compared to the Central and Western which are more food secure, reflecting cultural and nutrition knowledge gaps, and agro ecological food production zones. This situation is worrying since it implies that the rural areas which are the food producers are increasingly becoming food insecure and more hunger stricken, meaning that they are selling off most of the food produced. This is a reversing trend since in the earlier period (2002/3-2005/6), individual's resident in urban areas had a higher prevalence of food insecurity and hunger than their rural counterparts (Ssewanyana and Kasirye, 2010).

The prevalence of undernourishment is highest in northern Uganda. There are also regional variations, with the northern being the lowest and the western the highest. Specifically, there is a drastic decline in caloric intake per person per day in the eastern region, from 1,913 kcal in 2009/10 to 1,692 kcal in 2015/16, and caloric deficiency increasing from 33.2% in 2009/10 to 45.8% in 2015/16 which is attributed to unguided commercialisation of agriculture in the region, with increased focus on cash crops at the cost of food production. The case of commercial production of sugarcane in Busoga is highlighted as a threat to land availability for food crops.

As expected, the prevalence of undernourishment is worse amongst the poor. The richest 20 percent of the population is able to meet the required dietary intake while the poorest 20 percent have the highest levels of undernourishment. Overall, there is an urgent need to focus on the food intake of the poorest households if Uganda is to meet the required targets for ensuring access to food to all Ugandans all year round.

The nutritional quality of the foods consumed in the country is low. The most consumed food stuff in Uganda are staples (cereals, roots, tubers and matooke), which are normally relatively cheap foods but are generally low in nutritional density due to low protein and micronutrient deficiencies except beans and ground nuts. The contribution of staples to caloric intake remained high at over 60 percent of the daily caloric intake. Therefore, both dietary quantity and quality remain key challenges in ensuring that all Ugandans are hunger free and nutrition secure.

Figure 1: Prevalence of undernourishment by income quintiles in percentage



2.1.2 Prevalence of hunger among children

Hunger affects children more. This results into high rates of stunting, underweight, wasting, and hence making them vulnerable to diseases and resulting into high child mortality rates[9]. While stunting decreased from 32 percent in 2009/10 to 27 percent in 2015/16 (UNPS, 2014) for children under one year, the reduction is slow. Currently, about 1.8 million children aged less than 5 years are stunted. At this pace, by 2030, approximately 11 percent of the population under five-years will be stunted,[10] which will still be high.

Stunting is much worse in rural areas especially in western Uganda. There are also large geographical variations in stunting rates, with children in rural areas being more stunted as compared to urban children.[11] The western region has the highest stunting rates (Table 1). While western Uganda is more food secure, they have limited dietary diversity. This is attributed to culture, knowledge gaps and production patterns across agro-ecological zones.

[9] (infant mortality is 43%, under 5 mortality is 64% UDHS, 2016)
[10] Assuming that all factors remain constant.
[11] The rural-urban gap in the stunting rate narrowed from approximately 14 percent in 2009/10 to approximately 9 percent in 2015/16 partly explained by the consistent reduction in stunting rates in rural areas.

Table 1: Children's nutrition indicators – stunting rate for children 6–59 months in percentage

	2009/10	2010/11	2011/12	2013/14	2015/16
Uganda	33.5	33.9	28.9	32.0	27.2
Rural/Urban:					
Rural	35.9	35.7	31.3	33.8	28.8
Urban	22.3	20.1	13.7	24.8	20.4
Region:					
Central	26.9	27.6	25.1	30.7	25.5
Eastern	34.0	33.6	29.8	33.7	28.2
Northern	32.3	34.0	26.0	27.2	23.6
Western	42.4	46.1	37.2	36.2	31.7
Child's sex:					
Males	37.4	38.7	32.6	35.0	29.6
Females	29.5	28.9	25.7	29.0	24.8

Stunting is more prone among the poor; however, the stunting levels among the rich is also a cause of concern. The poorest 20 percent have the highest stunting rate of 29 percent, while the richest 20 percent have a stunting rate of 19 percent. The unacceptable stunting rates among the rich are due to factors beyond income which include: limited access to nutrition education information; limited child care among the working mothers; lifestyles and cultural attitudes towards food consumption that determine dietary diversity.

2.1.3 Hunger among children at school is high

Hunger among children at school is high especially in rural areas with Northern and Western Uganda most affected. Only 34 percent of the children in the country receive meals while at school, with urban children (41 percent) being more likely to receive school meals than their rural counterparts (32 percent). The problem is more pronounced in Northern (14.8 percent) and Western (14.4 percent), Table 2. Most of the current school meals are provided by way of parental contribution (NPA, 2017).

Table 2: Extent of receipt of school meals, 2013/14 in percentage

	All school going children		Type of school		
			Nursery	Primary	Secondary
	Meals provided either free or through parental contribution				
All	34.2		35.6	33.7	35.3
Rural	32.2		31.7	32.0	33.5
Urban	40.9		47.0	40.6	38.5

Central	40.5		32.1	42.3	41.6
Eastern	56.2		68.5	57.3	44.2
Northern	14.8		65.9	11.6	13.9
Western	14.4		13.6	12.4	23.5
Source: UNPS 2013/14 data					

2.2 Status of food security in Uganda

Despite Uganda being a predominantly an agricultural economy, the country still remains food insecure, and consequently has experienced persistent instances of hunger. A country is said to be food secure when people have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Essentially, food security encompasses four dimensions: food availability; economic and physical access to food; food utilization and stability over time (FAO 1996). The major underlying factors to food insecurity are: low agricultural productivity (erratic weather patterns, pests and disease epidemics, limited access to extension services); high post-harvest losses; food safety; low household incomes; unregulated cross border trade in food products; and lack of household and national food reserves.

2.2.1 Low Agricultural Productivity

Agricultural productivity is low, with wide yield gaps between research stations and on farms. The low agricultural productivity is the principal cause of food insecurity resulting into persistent hunger. There are significant yield gaps between on-farm yields and those attainable at research stations (Table 4). The crop yield gaps for maize, beans, and groundnuts, and banana has negative implications for food security of Ugandans.

Table 4: Crop yield gaps (tonnes/hectare)

	2013/14			2015/16	
Food crop	Actual	Gap		Actual	Gap
Maize	1.31	3.69		1.65	3.35
Beans	0.68	1.32		0.55	1.45
Groundnuts	0.49	2.21		0.37	2.33
Banana	3.12	1.38		4.22	0.28

Notes: Crop yields in tonnes per hectare at research stations were as follows: 5-8 for maize, 2-4 for beans, 2.7–3.5 for groundnuts and 4-5 for banana (MAAIF, 2010). No information was available for other crops. Computations are based on the lower bound of the expected yields at research stations.
Source: UNPS 2013/14 and 2015/16 data

The low productivity is mainly due to: erratic weather patterns characterised by severe and frequent droughts, floods; low access to extension services; low adoption of agricultural-enhancing

technologies (such as fertilisers, improved seeds and breeds, agronomic and animal husbandry practices, and irrigation); poor quality inputs on the market; prevalence of pests and disease epidemics; limited access to agricultural financing; insecure land tenure systems; inefficient output market and limited .

2.2.1.1 Erratic weather patterns

Erratic weather patterns with severe prolonged, droughts and floods affects agricultural productivity. The majority of Ugandan households are subsistence farmers and rely on rainfalls for agricultural production. Historically, rainfall patterns were reliable and predictable in terms of timing and their intensity, which aided production planning. However, this has changed with the onset of climate variability. In some cases, prolonged dry spells have been followed by unusually heavy precipitation. Nearly 90 percent of household reported suffering reductions in food production due to weather-related shocks—with minimal variation across regions (UNPS, 2013/14). Such very high experiences of reduction in food production suggest a limited adoption of resilient agricultural practices such as irrigation.

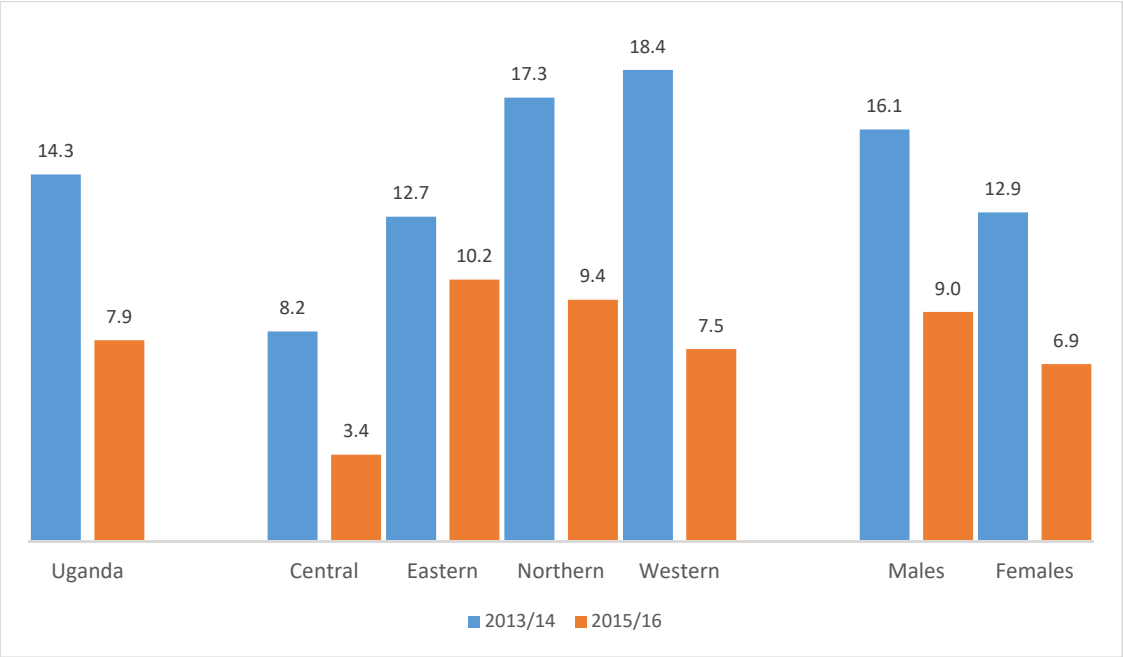
Despite the potential of irrigation to contribute to food security being well understood, its use is very minimal. The total area equipped for irrigation in Uganda is of 11,137 hectares, which represents only 0.1 percent of the country's total arable land, with the crops under irrigation mainly being rice and sugarcane (FAO, 2012).[12] The land under irrigation by crop type is: for rice, 79 percent; sugarcane, 12 percent; maize, 4 percent; for vegetables, 5 percent; (MWE, 2010). The low adoption and usage of irrigation technologies in Uganda is partly attributed to: limited promotion of simple appropriate irrigation technologies, the high cost of investment in appropriate irrigation technologies; inefficient use of existing irrigation infrastructure; insufficient, uncoordinated, policy, legal and institutional mechanisms for irrigation between MWE and MAAIF. For example, the irrigation policy and masterplan remained in draft form for the last eight years. Other contributors to poor irrigation coverage are small land holdings, and limited technical capacity to manage irrigation facilities, particularly at lower levels (districts and farmers themselves), exacerbated by unclear land ownership arrangements and weak tenure systems.

2.2.1.2 Low access to extension services

Low access to extension services especially among smallholder farmers. Of the 8 million smallholder farmers, less than one million (only 0.635 million) accessed public extension services (UNPS, 2015/16). Figure 4 shows a significant reduction in the share of farmers who accessed public extension services, from 14 percent in 2013/14 to 8 percent in 2015/16.

[12] MoWE (2010). A National Irrigation Mater Plan for Uganda, 2010-2035. Republic of Uganda, Kampala.

Figure 4: Share of farmers with access to public extension services in 2013/14 and 2015/16 in percentage



Source: UNPS 2013/14 and 2015/16 data

2.2.1.3 Limiting land tenure system

The land tenure system greatly limits the agricultural productivity especially among women. Only one out of every five land parcel holdings had a formal title, with a small share of females with parcel holdings registered in their own names. Nationally, only 20.3 percent of the parcel holdings have a formal certification. The lack of formal land titles impacts farmers' investments in land and adoption of productivity-enhancing technologies.

The predominance of smallholder farming systems make provision of agricultural support services expensive. Nearly 92 percent of land holding was under smallholder farmer control and management.[13]

2.2.2 Low household incomes especially in rural areas

The low household incomes impact on food security and exacerbate hunger in both rural and urban households with greater impact in rural low-income households. The lower the household income, the higher the proportion of household expenditure on food implying higher vulnerability to food insecurity. The average share of food in total household expenditures was in the range of 55 percent to 61 percent over the 2009/10-2013/14 period, implying medium vulnerability to food insecurity.

[13] In sub section 2.2.3, the Review provided a definition of smallholder farmers in the Ugandan context.

2.2.3 Lack of household and national food reserves expose the country to food insecurity and hunger

Uganda lacks household and national food reserves making it vulnerable to hunger. At national level, the Government has no food reserves. The few available reserves[14] are small and are private sector owned. At household level, the traditional food reserve mechanisms collapsed. The unregulated cross border food trade has encouraged the inflow of foreign traders in food products to purchase food from the gardens which exposes the households to food insecurity as they are tempted to sell almost everything.

The lack of food redistribution mechanisms also fails to leverage food surplus in one region to cater for scarcity in another region.

3.0 Status of policy, legal, institutional frameworks and programs on hunger, food and nutrition security

3.1 Status of policy and legal frameworks

The 1995 Constitution of the Republic of Uganda guarantees food and nutrition security for the population but operationalization remains a challenge. The constitution articulates the role of ensuring adequate food and nutrition for the population as par Article 14 (XIV), Article 22 (XXII) and Article 157, which calls for the creation and operationalization of a contingency fund for response to emergencies and shocks. In addition, the Public Finance Management Act (PFMA), 2015, requires government to appropriate at least 0.5 percent of the total approved budget as a contingency for responses to natural disasters. While the Constitution and PFMA are explicit, implementation remains a challenge. To date, there are no national food reserves that can guarantee food security to all the citizens during hunger crisis.

The health sector policies seem to be adequate since they address the entire spectrum from health promotion, disease prevention and treatment. The challenge is in programming and implementation.

The Public Health Act Cap 281 (1935) and the Food and Drug Act Cap 278 (1959) provide for nutrition and food safety These Acts provide for adequate sanitation, protection of food stuffs and control of pollution in water and food supplied as well as matters relating to prevention of adulteration of food and drugs.

The National Health Policy (NHP) 2010 addresses nutrition security: The focus of the NHP is on health promotion, disease prevention, and the early diagnosis and treatment of diseases. The policy specifically prioritizes the effective delivery of the Uganda National Minimum Health Care

[14] Those operated by Uganda Grain Council and those established with support from WFP in specific districts

Package (UNMHCP), which includes nutrition. The NHP is implemented through the Health Sector Strategic Plans (HSSPs). The two recent strategic plans HSSP III and HSSP IV of 2015/16-2019/20 recognise the need to integrate maternal, infant and young child nutrition into health services. The plans set specific targets to scale up the micronutrient supplementation of vitamin A, iron and folic acid. In addition, urbanisation and unhealthy nutrition lifestyles were identified as aspects that have led to an increase in non-communicable diseases (NCDs) such as hypertension, cardiovascular diseases, and diabetes. In line with the implementation of the NDP II, the MoH has prioritised the strengthening of community mobilisation and communication for good nutrition for all age groups as well as the expansion of micronutrient supplementation.

The Education Act (2008) vests the responsibility of school feeding on the parents and guardians. However, the law is weak in its enforcement and assumes that all parents can afford. Apart from ensuring nutritional education in schools, the government does not provide institutionalised school meals. To address the nourishment of learners, a Cabinet directive specifying modes of ensuring the availability of meals in schools was issued. Unfortunately, the directive assumes that all the parents would be in position to provide meals for their children and thus undermining the challenges of affordability due to income disparities among the parents both in rural and urban areas. In addition, the MoES in 2015 prepared Guidelines for Feeding and Nutrition Interventions, which give the primary responsibility of providing school meals to parents. However, the law is weak in its enforcement, in fact, many parents continue not to provide food for their school children. Furthermore, the law and the policies do not take care of nutrition as integral to quality education outcomes.

The commitment to the implementation of these policies is still an issue of concern for all stakeholders. This is mainly attributed to limited consensus on responsibility for feeding school children, as well as limited sensitization of parents and guardians on the importance of children's nutrition. The financial implication of a national school meals programme seems to be a major concern and the deterrent factor to a fully-fledged Government school feeding programme.

The 1998 Land Act and its amendment of 2004 provides for land reforms, these reforms have not been fully implemented to enhance agricultural productivity. The law offers the recognition of the rights of bona-fide occupants and protection by restricting the transfer of family land, and provision for the land fund. It was expected that regularisation of land rights of *bona-fide* occupants would increase investments in land including expanding food production. The Land Amendment Act (2010) provided that *bona-fide* residents could be evicted only upon failure to pay ground rent. However, the Constitution required GoU to promulgate a land law that, among other issues, formalised traditional land rights and guaranteed the security over land for vulnerable groups. In addition, the land fund has been hampered by both budgetary constraints and design issues.

National Agriculture Policy (2013) aims to ensure household and national food and nutrition security for all Ugandans, but implementation is weak to attain FNS outcomes. The policy

targets the promotion of agricultural enterprises that generate regular incomes to support food purchases. In addition, it encourages the production and consumption of nutritious foods, including indigenous foods, and calls for an enterprise mix to meet household food and income needs. Furthermore, it targets the provision of appropriate storage facilities to improve post-harvest management. It also aims to develop regional markets for locally produced food products. The policy calls for local government ordinances to ensure that households adopt appropriate food production practices. Finally, it calls for the establishment of a national strategic food reserve system. This policy has been operationalized through the Agricultural Sector Strategy Plan (2015-2020), which adopted 12 priority commodities targeting food security and incomes. In addition, MAAIF has developed sub-sector policies as per the provisions in the policy, including a comprehensive National Fertiliser Policy (2016), the National Extension Policy (2016).

In 2016, the Cabinet passed a comprehensive **National Fertiliser Policy (2016)** to drive improvement in soil nutrient levels. The policy targets to reduce annual nutrient loss by 30 kgs per hectare and increase annual fertiliser application up to at least 50 kgs per hectare by 2020. The above targets are to be met through various strategies addressing: (i) the capacity of farmers to engage in fertiliser use; (ii) the capacity of suppliers to deliver quality, timely and affordable fertilisers; (iii) the regulatory and institutional capacity to ensure the environmentally safe supply of fertilisers; and (iv) the dissemination of fertiliser related knowledge.

However note that fertilizer usage still remain low on account of cost (price) and knowledge on application due to inadequate extension staff/personnel.

National Extension Policy (2016) promotes access to appropriate information, knowledge and seed technologies. These policies complement each other in increasing the availability of critical production inputs and in promoting the appropriate use of appropriate technology to enhance yields, thus delivering FNS and increasing incomes of both farm households and value chain actors. The importance of indigenous knowledge in the agricultural sector is observed by sustaining indigenous farming systems such as agroforestry, intercropping, pest management, soil fertility and conservation management, and post-harvest technologies. Agricultural extension is critical for bridging the link between research and farmers and hence the backbone of the agricultural sector. *While the Government has taken deliberate efforts to mainstream extension services within MAAIF, results are yet to be seen in terms of outcomes. There are still concerns on the adequacy of extension staff and the levels of facilitation provided to enable them reach the farmers to realize the desired impact*

Recognizing the high cost of investment in irrigation technologies, the government, through the MoWE, is now embarking on investment in small, medium and large-scale irrigation schemes and enhancing the mechanisation of production. Investment in irrigation is being undertaken in complementarity with the promotion of water conservation in moisture-stressed areas. As previously analysed, there are limited incentives to make long term investments on land in an environment characterised by untitled land.[15]

[15] Land titles were discussed in Figure 12 in section 3.4.2.

The External Trade Act (Cap. 88) makes provision for the regulation of external trade however, this has not exercised to safeguard food security. The law gives the Minister of Trade powers to restrict export or importation of certain goods including food. Despite the numerous food crises faced by Uganda since 2009, the country has not put in place mechanisms to operationalize the law to ensure food security. On the other hand, neighbouring countries such as Kenya and Tanzania routinely use similar legislation to control cross border food trade. The exception to the rule by Uganda is due to the full liberalisation policy adopted since the early 1990s.

The Uganda Food and Nutrition Policy (UFNP) of 2003 commits to eliminate hunger and malnutrition, however, the policy has never been fully operationalised. The UFNP's overall objective is to promote the nutritional status of the people of Uganda through multi-sectoral and coordinated interventions that focus on food security, improved nutrition and increased incomes. A key proposal under the UFNP was the establishment of the Food and Nutrition Council (FNC)—a governing body for overseeing FNS in Uganda. This body has never been established. The nonexistence of the FNC as a central coordination authority is one of the factors affecting the implementation of the UFNP. The policy is also long overdue for revision to take into account emerging issues including SDG2.

The national strategic development frameworks adequately address hunger and food and nutrition security, however, the challenge has been in implementation. Vision 2040 aspires to improve the hunger and nutritional status of its citizens, particularly children. It aspires towards transformation of agriculture from subsistence to commercial. While this is a desired trend care should be taken to ensure household food security to avoid hunger crisis. The NDP II prioritises increasing access to the basic needs of the population such as food. It also emphasises facilitating the availability and access to agricultural inputs, irrigation, research and extension, provision of meteorological services, among others, as avenues for enhancing agricultural production and productivity. The challenge is in programming and implementation.

The social development sector recognises the role of nutrition for development particularly the vulnerable, however, efforts have been minimal to create the desired impact. The Uganda National Gender Policy (NGP) (2007) recognises that the use of rudimentary technology affects women labour allocation and negatively affects food security. The National Integrated Early Childhood Development (NIECD) Policy (2016) advocates for children's good nutrition alongside healthcare, community mobilization, health behavioural change and stimulation for holistic development. The Social Protection Policy (2015) also recognises the provision of social assistance and social security to vulnerable population.

The Social Sector Development Plan (2010/11-2015/16) focuses on provision of different forms of social assistance such as food-for-work schemes in food-insecure regions and feeding programmes for orphans in schools. Through the Social Assistance Grants for Empowerment (SAGE) it also targets the elderly and improve the food and nutritional security for women and

children. Other initiatives in the social development sector are the Male Involvement Strategy (2015), which calls for the involvement of men to be part of healthy feeding and good sanitation.

3.2 Institutional arrangements and capacities

The institutional framework calls for a multi-sectoral approach requiring participation from several MDAs, development partners, civil society and the private sector, for a more holistic and coordinated response for hunger and FNS. However, the coordination, programming and implementation are a challenge. The overall coordination of the multi-sectoral approach is vested under OPM. The respective MDAs continue to implement their sector specific policies and programs on hunger, food and nutrition security in partnership with Non-state actors. However, the establishment of technical and sector committees within the key MDAs and sectors respectively would enhance coordination and implementation.

The establishment of District Nutrition Committees should help to coordinate hunger, food and nutrition security programs at the grassroots level, if strengthened. These committees will further strengthen programming, implementation and reporting of hunger, food and nutrition security in districts.

Establish a comprehensive national strategic food reserve system. At household level, revamp the "Omutongole Chief system" towards FNS. The use of alternative structures to highlight food insecurity challenges in communities is also recommended. During the colonial era, Uganda operated the *Omutongole* chief system—a village-level enforcer of ordinances, including ensuring that households had access to food (through the allocation of part of the household land to food production and operating a granary for food storage) and maintained an acceptable level of household hygiene. This ensured that households could not sell immature food or sell the whole food produced immediately after the harvest. The civil war experienced during the 1970s and 1980s led to a breakdown of this system. Although the chief system was replaced by the village local council (LC) system, the possibilities of the use of LCs as enforcers of food production is very limited since LCs are elected and the *Omutongole* was an appointed chief.

Therefore, there is a need to use other existing low-cost options to address the food challenges observed at the household level—particularly by encouraging the storage of food. Religious and cultural institutions offer such an alternative due to their presence at the grassroots level. Through their weekly assemblies, religious groups can support the required mind-set change for farmers and could also facilitate the dissemination of information. Cultural institutions should also promote agricultural production and drum up support for FNS programmes in their localities. These institutions could be champions in their communities, particularly in addressing the stigmatisation related to nutrition challenges such as malnutrition. In the past, these institutions have been demonstrated to be effective in supporting other government programmes such as public health campaigns.

3.2 Programmes supporting hunger, food and nutrition security

Programmes implementing FNS are either global, regional, district specific or population specific. Some are supported directly by government, development partners or a combination of the two.

Each programme is being led through a line ministry which fosters sustainability of the programme and government ownership.

Peace Recovery and Development Plan

The PRDP focuses on socio-economic development to bridge the gap between the northern region and other parts of the country following over 20 years of conflict. However, food sufficiency has not improved in northern Uganda. The third PRDP cycle marked a policy shift for the region from 'recovery to development'. PRDP III strives to achieve the twin goals of improving income and reducing vulnerability. PRDP III recognises that some regions, e.g. Karamoja, have experienced more than 40 years of food insecurity due to both poverty and conflict. In addition, the plan notes that the commercialisation of agriculture has compromised subsistence livelihoods and consequently exacerbated food insecurity in some parts of Uganda that were previously affected by the war. Despite the policy shift, the targeted regions still face food insecurity and hunger implying that the design and implementation of the program could be inappropriate.

Multi-sectoral Food Security and Nutrition project

This project is relatively new with limited coverage and its impact is yet to be felt. As part of the implementation of the UNAP, Uganda is implementing the Multi-sectoral Food Security and Nutrition project (2015-2019). This is a World Bank supported USD 27 million project targeting three sectors: health, agriculture and education. The project is implemented in 15 districts[16]selected based on having the highest stunting and worst dietary diversity. A major target of this project the expansion in the utilisation of community-based nutrition services. Specifically, the project will establish community demonstration gardens at primary schools. Implementation is guided by locally developed Primary School Nutrition Action Plan and the village health teams (VHTs).

Operation Wealth Creation

The OWC initiative was intended to increase efficiency in input provision that was being undertaken by NAADS. However, the program lacks proper coordination and linkages with other programs for enhancing FNS. It is supply driven as opposed to demand driven leading to wastage. Critical elements for boosting agricultural productivity such as irrigation are not covered. OWC prioritised three cash crops, namely, coffee, tea, and citrus fruits and two food crops, maize and beans. Specifically, resources are allocated in the ratio of 70/30 towards cash crops and food crops respectively. In addition, OWC focuses on addressing post-harvest losses and general food storage facilities with particular attention to the poorest subsistence farmers. In partnership with

[16] The project districts are classified as Phase 1 and 2 (based on high stunting and low dietary diversity). There are five districts in Phase 1 Five i.e. Bushenyi, Nebbi, Ntungamo, Maracha, and Namutumba. Ten districts will be selected in Year 2 from the remaining 15 that qualified on the basis of combined high stunting and low diet diversity: Isingiro, Yumbe, Arua, Bugiri, Iganga, Kyegegwa, Kiryandongo, Kamwenge, Masindi, Kyenjojo, Kabarole, Kabale, Hoima, Kibaale, and Kasese.

WFP, NAADS/OWC has established 10 additional satellite collection points that support farmers to store grains and pulses.

School meals programme (SMP)

While the government gives responsibility of providing school meals to the parents, different agencies such as the WFP have been supporting the SMP and have registered improved food and nutrition outcomes in the targeted regions. However, the coverage is limited for more tangible results. The aim of SMP is to both attract and retain students in school as well as to address hunger and malnutrition.[17] Presently, WFP supported SMP is implemented only in Karamoja in partnership with the GoU, given the chronic food constraints in the region. As one may observe, the heavy focus on the Karamoja sub-region in many of the programme responses by mainly development partners partly explains the sub-region's improving indicators in nutrition status. The positive nutrition and education outcomes registered in Karamoja calls for a national roll out for SMP.

Exclusive breast feeding

The government has been hailed for efforts to promote maternal nutrition and care through approaches such as promoting exclusive breastfeeding for the first six months of life. Children between 6 and 24 months of age, have received timely, adequate, safe and appropriate complementary feeding and micronutrient. In addition, the provision of fortified common staple foods have contributed to a reduction of malnutrition.

Public-private partnership on food fortification

The Ministries of health and trade in partnership with private sector have implemented several food fortification interventions, however the level of awareness and participation is low. This effort has been reinforced by the Uganda National Bureau of Standards (UNBS), which provides the necessary standards and marketing regulations for fortified foods. Some private sector initiatives in food fortification include: (i) the Production for Improved Nutrition Project, a public-private partnership between RECO Industries Limited and the USAID/Uganda that delivers ready-to-use therapeutic foods; (ii) maize flour fortification with Vitamins A and B and iron by Maganjo Grain Millers; and (iii) manufacturing Vitamin A-fortified cooking oil by BIDCO and Mukwano Industries. However, the UNPS data shows low levels of awareness on the importance of fortified foods, particularly in the northern and western regions.

[17] Evaluations point to large impacts of the SMP in northern Uganda. For instance, Alderman *et al.* (2012) show that the SMP had significant impacts on school enrolment and attendance as well as grade repetition. Other impacts were observed in regard to the nutrition status of siblings as well as cognitive development and learning achievement for children attending school (Aderma *et al.* 2009).

USAID programmes in supporting FNS in Uganda

There are a number of USAID funded programmes on FNS, however they are limited in coverage, implemented in piece meal to have tangible impact.

Community Connector (CC), which began in January 2012 in nine districts and will phase up to 15 districts. CC implements activities from UNAP and works with District Nutrition Coordination Committees and Village Health Teams in improving the nutritional status of women and young children and the livelihoods of vulnerable populations. • Production for Improved Nutrition (PIN), which is designed to source quality ingredients from indigenous farmers and build the capacity of local industries to manufacture and distribute therapeutic and supplementary foods.

•The Northern Uganda Health Integration for Enhanced Services (NU-HITES) Project, which aims to increase the use of quality health services and to strengthen systems for the delivery of quality health services in northern Uganda, with the overall aim of improving the health and nutrition status of the population in Northern Uganda, through a district-based integrated package of quality health services that include nutrition.

4.0 Status of financing for hunger, food and nutrition programmes

Financing Hunger, food and nutrition programmes is limited, disjointed and piece meal to have meaningful impact. It is also more donor driven and reactionary in approach as opposed to proactive. There is no specific budget line within the line ministries and agencies that indicates the amount to be allocated on FNS alone.[18] In part, food and nutrition are taken as higher-level outcomes to be achieved when multidimensional programme activities are funded to foster high production and productivity and good health. Thus, it is important to understand the state and non-state commitment to the key sectors of agriculture, health, and water and sanitation.

4.1 Total official flows to the agriculture sector

Agricultural sector financing is low, to generate the desired impact in FNS. The Maputo Declaration made in 2003 as a response to stagnation of African agriculture required all countries to increase their agriculture expenditure to 10 percent, within the national budgets. In this regard, Uganda is yet to meet the target, with the average share of the agriculture expenditure in the national budget remaining at less than 3.5 percent (Table 21), which remains far behind the Maputo Declaration commitment. The GoU progressively reduced public spending in agriculture from 10 percent of the total budget in 1980 to 3.7 percent in 2008-09 (Martiniello, 2015).

Though public spending towards the agricultural sector nearly doubled from UGX 480 billion in 2015/16 to UGX 829 billion in 2016/17, the share of agriculture budget to total budget remained

[18] The Vision projects that every UGX 1,000 invested in agriculture can yield a six-fold increase in productivity and lead to a significant reduction in child stunting, improve maternal health, and enhance micronutrient intake.

low at 3.1 percent as shown in Table 21. This increment is partly due to the procurement and distribution of inputs to farmers through the OWC, to foster food security and enhance farmers' incomes. MAAIF headquarters, which has the mandate to coordinate and provide extension services, is projected to receive nearly 30 percent of the sector's public budget. Table 21 further shows how the share of public spending going towards institutions that are mandated for research, such as NARO and NAGRIC, is relatively low in comparison to the institutional mandate.[19] Even though the government allocation to agriculture-specific activities and the MDA level have increased over the years, the analysis of food and nutrition output costs (both budgeted and actual), as in the annual budget performance reports, reveals that the cumulative allocation to FNS is still low.

Table 1: Public expenditure in the agriculture sector (Uganda billion shillings)

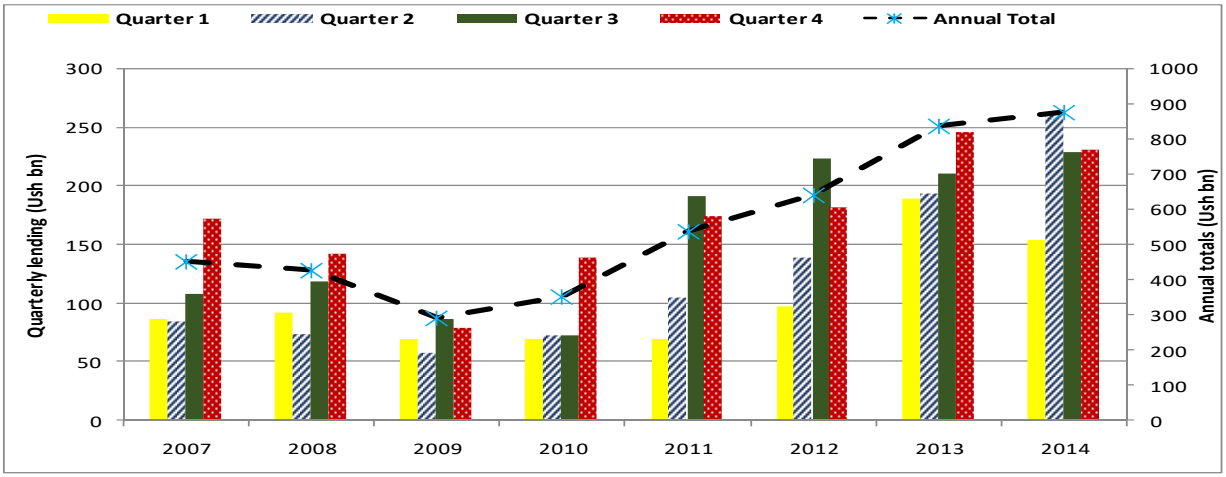
Vote function	Approved budget					MTEF Projections	
	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
MAAIF	81	83	82	131	247	251.1	227.6
DDA	4	5	5	5	7	5.5	6.1
NAGRC&DB	-	3	3	4	12	6.1	6.1
NARO	83	80	147	98.2	114	71.5	43.5
NAADS Secretariat	53	52	160	179	319	334.5	384.3
UCDO	4	4	4	5	5	3.3	3.7
UCDA	3	3	8	28	68	90.8	90.8
LG Agriculture and commercial services	148	148	64	37	57	57	57
Total	***378***	***382***	***473***	***487.2***	***829***	**819.8**	**819.1**

Notes: Dairy Development Authority (DDA); NAGRCDB; Kampala Capital City Authority (KCCA); MAAIF; NARO; Uganda Coffee Development Authority (UCDA); Uganda Cotton Development Organisation (UCDO).
Source: Background to the Budget Reports, MoFPED

The private sector contribution to FNS is limited by expensive credit. The private sector is making investments and expenditures in the food and agricultural sector, mainly through domestic borrowing. Cognizant of the fact that much of the borrowing may be informal, as shown in Figure 19, financial institutions and micro deposit-taking institutions (MDIs) registered increases in the total annual lending to agriculture, between 2007 and 2014 (Bank of Uganda, 2015). The quarterly financing reveals a larger share of agricultural financing occurring in the fourth quarter, which corresponds to the most food-secure periods of the year, when peak food harvests have been achieved. It can be argued that private sector financing has, to a large extent, not targeted the production of food crops but has rather facilitated marketing. While this facilitates the distribution of food from rural areas where production occurs to urban areas where much of consumption takes place, it has contributed to depletion of food reserves in rural areas.

[19] Even though NARO receives this funding from development partners for project related activities, this is not sustainable in the long run.

Figure 1: Agricultural lending by regulated financial institutions and MDIs, 2007-2014 (UGX billions)



Source: Agricultural Finance Year Book, 2015

4.2 Health sector financing

MoH budget allocation to nutrition is too low to create the desired results. The MoH—the sector in which the bulk of nutritional interventions are undertaken—allocated approximately UGX 100 million, or less than 1 percent of the health budget, to nutrition interventions.[20] Table 22 illustrates how expenditures in health related nutritional activities (most likely drug administration) have been at the level of national medical stores and district local government subvention for primary health care. The budget for the sector cannot discern nutrition funds. Nonetheless, attempts have been made by some development partners to ensure that some resources are allocated for nutrition interventions, through the national budget. In terms of budget support programmes to health through the MTEF, ODA has originated mainly from Sweden (UGX 1.3 bn) and Belgium (UGX 9.4 bn). Similarly to other donors such as UNICEF, USAID supports the sector by financing specific programmes such as SPRING and FANTA, which support UNAP implementation. The budgets for the latter two programmes are not publicly declared.

In addition to a meagre budget, there is limited appreciation for the costs and devastating impacts of malnutrition among key decision makers, particularly MPs. In 2012, UNICEF sampled 150 MPs to establish the most important issues affecting children in Uganda. The MPs were asked to rank the top four most important sectors and the issues within the different sectors. Although the health sector was ranked the most important (98 percent) followed by the education sector (94 percent), within the health sector, there was considerably less appreciation for nutrition issues. Figure 24 shows how MPs ranked different issues within the health sector, and it is evident that, overall, nutrition is not ranked among the top four issues. MPs considered hospitals and health centre infrastructure (84 percent), maternal and new-born health (66 percent), immunisation (53 percent),

[20] Public financing in the health sector has concentrated on the construction and rehabilitation of hospitals and health centres, such as the construction of a specialized maternal, neonatal and women's Hospital at Mulago.

and medical staff salaries (47 percent) to be more important than nutrition (45 percent). Consequently, it is important that MPs know more about the adverse impacts of malnutrition as well as the policy challenges faced in addressing this important issue.

Overall, although official budgets exist to finance activities in critical sectors that support FNS, aligning the expenditures with FNS goals still remains a challenge. This is mainly due to competing priorities for the same narrow budget in which FNS issues are viewed as being minor in the different respective sectors. The limited placement of specific FNS programmes in the national budget implies financing for FNS activities cannot be directly traced, even in the sector-specific monitoring and evaluation frameworks. As a result of this limitation, most UNAP interventions have not been implemented, especially those relating to the nutritional status of children, and this is due to inadequacies in financing, particularly from the government. For example, most nutrition interventions are embedded in larger sectoral budgets. Since no clear budget exists for nutrition, given the multi-sectoral nature of nutrition interventions, programme-based budgeting for nutrition could be an option worth considering. The government does not offer adequate funding for food and nutritional security, and even when a DSIP is budgeted for implementation, targeted funding is not provided, which highlights the resourcing constraints for food and nutritional security.

4.3 Financing for water for production t

While the financing for water for production has been stable, it has not targeted the appropriate cost-effective technologies. The financing of this indicator has remained relatively stable has slightly increased to UGX 30.6 billion in 2015/16. Ventures by the government to support this activity and to increase access to the provision of water for production have centred on financing the construction of 6 valley dams in the Karamoja sub-region and 46 valley tanks in Rakai, Isingiro, Lyantonde, Mubende, Kiboga, Kamuli, Kumi, Apac and Kitgum, (MoFPED-Budget Speech, 2016). To date, the effectiveness of these ventures has not been ascertained.

The need for early warning climate systems cannot be overemphasised, however, as Table 23 below shows, climate and climate change financing have substantially declined from 2013/14 (UGX 13 billion) to 2015/16 (UGX 6.8 billion).

4.4 Financing for social development sector

Funding for the social development sector mostly lies in capacity-building activities, such as training CDOs and district nutritionists in local government structures, and encouraging community group formations to identify local persons as leaders in the transfer of nutrition knowledge in villages.

Generally speaking, the entire financing structure for the different sectors related to FNS does not relate expenditures to quality and output standards, regardless of the source of funding. The stagnant performance in food security indicators (measured in terms of caloric intake) is a reflection of the limitations in well aligned prioritisations and in the uncoordinated nature of food

security interventions across sectors. In addition, given that nutrition is a multidimensional issue, synergies between the three major sectors are vital for improving the nutritional indicator scores at the national, regional and global levels.

5.0 International experiences

International experiences in hunger, food and nutrition security: Brazil, Kenya, Ethiopia, and China.

The experiences of emerging and developing economies in meeting the food and nutritional security needs for their populations are instructive. The emerging economies especially Brazil, China and Ethiopia have unprecedented strides over the past three decades in providing adequate food and nutritional security to their populations. This has been achieved not only by food supply but also implementing institutional reforms, social policies, and programs to improve socio-economic access to food and provision of basic services for nutritional absorption.

Brazil has achieved promising results in the fight against hunger and poverty. The Zero Hunger Project was originally conceived in 2001 by a nonprofit civil society organization interested in in the contribution to the formulation of a national food and security policy that was still lacking in the country. The project was adopted in 2003 to fight hunger and food insecurity. Large scale technologies and mechanisms developed by EMBRAPA were key to increasing productivity of the frontier land. In 2006, the Organic Law on Food and Nutrition created the National Food and Nutrition Security Policy (PNSAN) with the aim to guarantee and protect the human right to adequate food.

Programs introduced in Brazil to fight hunger:- **Bolsa-familia- a conditional cash transfer program** (managed by the ministry of social development to fight hunger), **national school feeding program**(1940s) ; distribution of vitamin A and iron, food and nutrition education, food and nutrition surveillance system (SISVAN), workers- food program**, local and regional food and nutrition security networks like food banks**, urban agriculture**, Food acquisition program** (PAA) - Strengthens the relation between food producers and consumers by providing direct purchase of food from family farmers and traditional communities**. Also rural extension assistance and rural extension services**, Strengthening of family agriculture; Financing of family agriculture; agricultural and harvest insurance, Water insurance, Solidarity economy and production inclusion, Oriented productive microcredit**, Regional food and nutrition cluster: rural development council**, Other initiatives are: Continuous Cash Benefit- Unconditional cash transfer for individuals with disability and elderly.

The government of Kenya came up with a policy to address food and nutrition insecurity; The National Nutrition Action Plan approved by government in 2012 which is to spend 6 billion ksh ($ 70 million over the years 2013-2015 to scale up nutrition. Short term coping strategies were introduced like**; (i) provision of emergency food assistance**, **(ii**) Introduced food safety nets

like food subsidies, cash transfer, **iii** school feeding program that is prevailing both in the urban and rural schools, (iv) **adjustment in the trade and tax policy measures by reducing tax tariffs for imports to zero,(v)** developing village based advisors to improve food security, **(vi)enhancement o**f **agricultural production using input subsidies like fertilizers and seeds,** investment in the local infrastructure, investment in agro-processing thus adding value for the primary products, strategic food reserves, **The food security bill 2014**,macro-economic policy management..

In Ethiopia's response to hunger, food and nutrition insecurity, the government of Ethiopia is taking a strong leadership role with programs like the Productive Safety Net Program (PNSP) largest program in the world that works for the vulnerable. The program stimulates markets, increases access to service and builds community engagement, another project is Household Asset Building Program (EHABP), CARE by UASAID, that engages small hose holder farmers to enhance their agricultural productivity, joint emergency operations program run by a catholic church, **Ethiopia commodity exchange** (ECX) where farmers can access better services and prices from the market. The national disaster prevention and management policy that includes: The National Emergency Food Reserve that aims to maintain a food stock capable of feeding 4.5 million people.

China's progress in reducing hunger and food and nutrition insecurity has relied on mainly increasing incomes and food productivity. The foundation of republic in 1949 and economic reforms in the 1980s with introduction of "agrarian reform" and "Household Responsibility System" have played a great role in China's agricultural production and productivity transformation. The rate of growth of GDP originating in agriculture accelerated from 2 percent in1970s to over 6 percent in the immediate post reform in 1980s. Since 2000, the Chinese government has stepped up investments in agricultural research and development to meet increasing domestic demand for food. However, the private sector R&D is concentrated in food processing and animal husbandry while the public sector concentrates on grain production. Grain-sufficiency (rice, maize and wheat) has always been at the center of national food security agenda in China and most of the Asian countries, as the world's biggest food producer, China worked on improvement of its food situation by diversifying the agricultural sector, creating food and trade policies that address hunger and food insecurity through proper resource allocation.

However, the national experiences of these countries in enhancing food security and addressing hunger suggest that increasing per capita availability is a pre-condition for ensuring food security. Growth in agricultural output needs to be accelerated and made more inclusive by focusing on the different requirements of small holders.

6.0 Policy Recommendations and Actions

a) Improving Food security through deliberate efforts to enhance production and productivity

1. **Increase the parent stock for quality input by strengthening and/or upscaling Research and Development** – rehabilitating and equipping existing research Institutions and laboratory facilities to increase parent stock for quality input, developing local human capacity, among others. In addition, disseminate developed planting materials from the laboratories to the producers for multiplication.

2. **Increase the presence of extension of workers at farm and village level by facilitating the recruited agricultural extension staff to enable them reach every farmer and hold them accountable.** These staff should be facilitated with transport equipment, skilling, establishment of plant clinics and laboratories, and increasing operational funds at the district and sub county local government to deliver extension services in order to increase the number of farmers accessing extension services from the current 1m to 4m by 2020.

3. **Eliminate the institutional conflicts and overlaps that hindered the operationalisation of the irrigation policy and master plan by making the mandate of irrigation solely be under the MWE and be elevated to a Directorate with political oversight under a dedicated State Minister.** The Departments in-charge of Water for agricultural Production and irrigation in MWE and MAAIF should be combined and elevated to a Directorate for irrigation and this Directorate should be under MWE. This will eliminate the institutional conflicts and overlaps that hindered the operationalisation of the irrigation policy and master plan for delivering water for production. For political oversight, a State Minister for Irrigation should be designated.

4. **Proactively deal with irrigation at farm level by the Directorate for irrigation under MWE, in a phased approach, identify innovative and cost-effective technologies.** In addition:

    - Promote household-level water harvesting through rooftop, surface runoffs for backyard irrigation
    - Fast-tracking the establishment of other small-scale irrigation technologies to offer an opportunity to expand access to water for production. For instance, supporting model farmers to acquire irrigation equipment.
    - Improve access to water for production to enhance agricultural production particularly in drought-affected areas that face recurring food challenges, such as in the Karamoja sub-region.
    - There is also need to provide incentives on irrigation technology, such subsidies and tax waivers to promote irrigation.

5. **MAAIF and UNBS enforce regulations on quality assurance of agricultural inputs including fertilisers, seeds, seedlings and stocking materials and agricultural chemicals**. In addition:

- All the imported inputs should be certified from source.
- Certification of nurseries, closer monitoring of inflow (import) of agro-inputs and activities of input dealers.

6. **Improve distribution of inputs to ensure that farmers/beneficiaries receive the right inputs at the right time to reduce wastage and corruption through for instance use of a voucher system.** For instance, resources for inputs used in NAADS/OWC should be distributed to farmers through a voucher system to enhance its efficiency.

7. **Enforce mandatory the utilization of the redundant government land in schools, prisons, and NARO for agricultural production. In this regard:**

   - MoES ensure and enforce utilisation of school gardens as a mechanism for transfer of knowledge and information on food production and nutrition to children, parents and surrounding communities.
   - Prisons be facilitated to fully utilise their land to scale-up crop multiplication to increase availability of high quality and disease resistant planting materials.
   - NARO should utilise all their land across the regions to scale up the agro specific crops to increase availability of high quality and disease resistant planting materials. For example, the land in '***Nyabwishenya'*** in Kisoro district which is over a square mile can be used to multiply Irish potato seed for farmers and act as a model farm in the country.

8. **Establish and operationalize a comprehensive National food reserve system by elevating the department of food and nutrition security in MAAIF to a Directorate level charged with maintaining the food reserve system.** The National reserve system will entail a mechanism for food reserves from house hold, parish, Sub County, district to national level. For effective implementation:

   - Rural agricultural households shall be required to have a minimum food reserve supervised by the parish chief, working together with traditional leaders, who will be accountable for ensuring that all households have maintained the minimum reserve.
   - At sub county level, the sub county chiefs shall be required to oversee the implementation and monitor to ensure availability of food reserves in all the parishes of their jurisdiction.
   - At the district level, the department of production should be strengthened by designating officials at principal and senior level to handle food and nutritional security. This will require a specific conditional grant to facilitate promotion of food and nutritional security from the household to the district level.
   - At national level, the directorate of food and nutritional security should maintain the national food reserves. The directorate shall utilize the buffer/reserve/contingency fund to operationalize the national food reserves.

9. Promote mass production of maize, beans and rice as food security crops by facilitating their production at regional level.

10. **MTIC to develop and enforce regulations for managing cross border trade to safe-guard food security.** National food sufficiency should be emphasised by regulating cross border trade

dynamics particularly in periods of food shortages. The regulations will guide the decisions, modalities on the type and nature of foods bought and sold across borders and also discourage the sale of food produce while still in the gardens. In addition, MTIC will issue guidelines to LGs to ensure enforcement and implementation of the regulations.

b) Improving Nutrition Security

11. **Enforce consumption of nutrient rich foods through mandatory industrial food fortification for major staples and bio-fortification.** Promote investment in bio and industrial food fortification to enhance the nutritional content of both own grown food and food purchased on the market. However, where crops like banana which has been biofortified with Iron cannot be released to the public because the biosafety law has not been passed. Specifically:

    - All schools and hospitals must procure only fortified maize meal and cooking oil. The MoES and MoH should develop and enforce regulations to ensure implementation
    - Millers should fortify maize meal and cooking oil to ensure adequate supply of fortified foods for Uganda's population and more so students.
    - UNBS and UIRI should train and support Small-scale millers with appropriate technologies for fortification.
    - UNBS should enforce regulatory standards for local millers, to ensure safe and effective fortified products.
    - UNBS should ensure that high quality premix for fortification is imported
    - MSTI should fast-track the enactment of Biosafety and Biotechnology law to promote and support bio-fortification
    - MoES and MoGLSD should design and implement a comprehensive program to massively mobilize and sensitize parents and communities to play their role of school feeding and provide affirmative action for the poor and vulnerable households.

12. **MAAIF should revitalize nutritional role to promote behaviour change and increase awareness on nutritious foods for all ages.** Increased sensitisation of communities using behaviour change communication requires urgent attention and implementation to address the very poor nutrition standards and practices in communities and households.

c) Cross cutting

13. **NPA should evaluate the existing programmes intended to enhance FNS in northern and eastern regions to establish why they are not leading to improved FNS and provide recommendations for program re-design.** The state of FNS in eastern and northern Uganda necessitates affirmative action