

FS-TIP Brief Malawi

Food Systems Transformative Integrated Policy

Healthy and sustainable diets for all from a food systems perspective

Diets, Nutrition and Health outcomes

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1. Introduction

Poor quality diets are the principal contributors to all forms of malnutrition. Malawi, like many other lower and middle income countries is being overburdened with high rates of (child) undernutrition on the one hand and rising overweight and obesity rates among the population, resulting in the increased prevalence of non-communicable diseases (NCDs). A healthy diet not only provides the required energy and (micro)nutrients, it also includes the consumption of adequate amounts of healthy food groups such as fruits, vegetables, whole grains, legumes and nuts as well as sufficient amounts of animal-sourced foods. Further, it entails the limited intake of food groups and nutrients that pose a risk to human health such as red meat, processed meat, ultra-processed foods, salt, free sugars and saturated and trans-fats [1, 2].

Agriculture accounts for almost 30% of the country's gross domestic product, and supports about 85% of Malawi's population, but the domestic food supply does not meet the Sustainable Development Goal for sustainable and healthy diets for or all. The typical Malawian diet is limited in its diversity with maize the dominant staple food and 70% of dietary energy being derived from cereals, roots and tubers [3]. There is also inadequate consumption of more nutritious foods such as fruits, vegetables and legumes resulting in high levels of malnutrition. Besides human health, attention to planetary health is also gaining momentum, which calls for safeguarding food systems that can provide for current and future generations. Agricultural production will have to increase to meet rising food demand, and this will require game changing solutions to meet the demand for healthy and sustainable diets.

This brief describes Malawi's status with respect to the health of its current diet, while also accounting for sustainability. The brief adopts a food systems approach and as such emphasizes the expected outcome of the food system, which is healthy and sustainable diets for all Malawians. The first section of this brief describes the status of nutrition-related diseases including all forms of malnutrition, as well as indicators on current dietary intake. The next part describes possible strategies and related policies to mitigate these diet-related challenges. The brief ends with relevant recommendations for policy.

2. Malawi's food system profile: healthy diets for all

Malawi faces the double burden of malnutrition and high levels of undernutrition, alongside the rising prevalence of overweight and obesity rates and diet-related non-communicable diseases (NCDs). Some progress has been made in improving indicators of undernutrition but more progress is needed, along with stopping rising trends of overnutrition and diet-related NCDs.

Child nutrition and related diseases

While Malawi has high stunting rates, a significant reduction in this was observed between 2000 (55%) and 2018 (39%) [4]. Stunting is an indicator of chronic nutrient deprivation i.e., chronic malnutrition. Acute malnutrition (wasting) rates have also fallen over the years, from 6.8% in 2000 to 1.3% in 2018 [4]. However, only about 60% of children under six months are exclusively breastfed and only 8% of children under two years consume a minimum acceptable diet [5]. It is therefore not surprising that the percentage of child deaths related to undernutrition is relatively high with undernutrition among children accounting for 23% of deaths [5].

Adult nutrition and related diseases

Anaemia among women rose from 31% in 2011 to 34% in 2016 with even higher rates found among pregnant women (40% in 2011 and 42% in 2016) [4]. A declining trend in underweight status was seen among women between 2000 (12%) and 2016 (9%) [4]. The rate of undernutrition¹ for the Malawian population was 19% in 2018, a slight decline from 2001 when the rate was 24% [4].

Although Malawi's obesity rates are lower than regional ones, overweight and obesity levels are trending upwards with 25% of women and 15% of men being either overweight or obese [6]. The wealthiest women are three times more likely to be overweight or obese than the poorest due to the higher consumption of unhealthy ultra-processed foods (UPFs). While these foods are more expensive, their consumption denotes a higher social status. Child and adolescent overweight and obesity rates are slightly lower, with 13% of children and adolescents being overweight or obese. A higher prevalence of child and adolescent overweight and obesity rates is seen in urban areas than in rural areas. Globally, rising overweight and obesity rates have contributed to an increase in the prevalence of diet-related NCDs, for Malawi NCD prevalence for diabetes (from 4.6% in 2000 to 6.3% in 2014 among adults) and raised blood pressure (from 26.5% in 2000 to 28.7% in 2015 among adults) [4], are on the rise.

Food safety

Malawi scores 66.7 out of a maximum of 100 on the Food Safety Systems Index (FSSI) [7]. The FSSI combines information on the existence of legal or policy and institutional frameworks, quality of monitoring and surveillance programs, laboratory structures and programs to facilitate compliance to food safety standards. Although food safety in Malawi has improved in recent years, there are still substantial gaps between national and global standards. An analysis conducted by Morse et al. (2018) concluded that **'there is a significant threat to public health and market access due to uncoordinated, outdated or incomplete regulatory framework, poorly defined mandates, limited infrastructure, lack of equipment and skilled personnel, inadequate resources, and limited awareness and ability to comply with standards.'** [7] Improving the food safety situation is critical for strengthening economic growth and improving public health, for instance, by reducing the incidence of food borne diseases such as liver disease caused by high aflatoxin intake. Effective implementation of a solid food safety framework is an essential component of Malawi's food security, improved nutrition, disease prevention, economic development and poverty reduction strategies, at the national and sub-national level.

Energy and nutrient consumption and production

The concept of dietary quality should be seen along the lines of multiple dimensions. Dietary quality refers to nutrient adequacy, dietary diversity, moderation of certain foods, food groups or nutrients as well as the adequate consumption of food groups related to improved health [8]. Based on the household consumption data from the fifth integrated household survey 2019/2020 and the integrated household panel survey 2019 (IHS5) Malawi's energy and nutrient gaps were estimated using the adult male equivalent (AME) approach, which expresses food intake within the household [9]. The AME allows for the conversion of the household total food and nutrient intake to an individual household members' intake. This is expressed as a proportion of the energy requirements of an adult man, 18-30 years old, who engages in moderate physical activity. Energy and nutrient consumption was calculated using the 2019 Malawian Food Composition Table [10] and where data were missing, the Uganda,

¹ Percentage of the population consuming below the minimum level of dietary energy consumption required to maintain a normal active and healthy life

Tanzania and the West African Food Composition Tables were used. Table 1 below shows the total consumption and consumption adequacy for energy and a set of micronutrients, for urban and rural populations in Malawi. Overall, the urban population has a higher intake adequacy for energy and nutrients. This analysis shows that intakes of energy, proteins, calcium, iron, zinc and folate are fairly good as both urban and rural households consume at least 87.4% of the recommended intake. However, intake of Vitamin B12 and Vitamin A is low especially among rural communities with only 34.6% (Vitamin B12) and 59.2% (Vitamin A) of the population consuming the recommended intake.

Table 1: Consumption and consumption adequacy of energy and selected nutrients

	Total consumption (per day, AME*)				Consumption adequacy (%)		
	Urban	Rural	Total	Recom. intake	Urban	Rural	Total
Energy (Kcal)	3862.9	3620.0	3659.4	2750.0	92.8	89.1	89.7
Protein (g)	120.1	107.7	109.7	50.0	98.4	97.0	97.2
Calcium (mg)	3286.4	2797.4	2876.8	1000.0	98.3	94.7	95.3
Zinc (mg)	22.0	21.3	21.4	27.4	94.2	91.1	91.6
Iron (mg)	183.0	158.3	162.3	14.0	99.5	98.8	98.9
Folate (ug DFE)	578.1	683.8	666.7	400.0	89.5	87.4	87.7
Vitamin B12 (ug)	5.9	2.2	2.8	2.4	60.8	34.6	38.9
Vitamin A (ug RAE)	891.5	779.7	797.9	600.0	65.6	59.2	60.2
Vitamin B6 (mg)	3.4	3.2	3.3	2.0	94.3	92.7	92.9
Vitamin C (mg)	187.3	214.1	209.7	60.0	95.8	92.0	92.7
Ribo (mg)	1.5	1.3	1.4	1.7	68.2	64.4	65.0
Niacin (mg)	2.7	3.2	3.1	20.0	94.7	94.3	94.3
Thiamin (mg)	21.9	21.0	21.1	1.5	79.7	75.1	75.9

Source: Fifth integrated household survey 2019/2020 and the integrated household panel survey 2019 (IHS5); * Adult Male Equivalent

Our findings indicate that the quantity of energy intake is largely met as 92.8% of the urban population and 89.1% of the rural population has adequate intake. Calcium, iron, and folate are nutrients found in the green leafy vegetables which are often included as an accompaniment to the maize-based *Nsima* in the Malawian diet. The poor intake of Vitamin B12 can be attributed to its sole occurrence in animal-source foods (ASFs) which majority of the population may find expensive. Vitamin A is primarily found in red and orange fruits and vegetables. Such

products are available for the Malawian population in the form of orange-flesh sweet potatoes, carrots, pumpkins and mangoes, although the last two items are seasonal and so are not available all year-round. Consumption adequacy is based on all products that are reported as consumed by the household and not just those products produced by the household.

The production adequacies for energy and all nutrients are lower than consumption adequacies. This is partly due to the availability of data as little information for the production part of the database was available (e.g., no information on production of oil crops or nuts was available). However, this situation also highlights that the agricultural production of Malawian households, including those in rural areas, is not sufficient to be self-sustaining. As expected, production adequacy for energy and the listed nutrients is higher in rural areas than in urban areas (Table 2). Vitamin B12 and vitamin A have the lowest percentages in terms of production adequacy (10.9% and 31.2% respectively). Research done by Gilbert et al (2020) showed that households in Malawi in both urban and rural settings rely heavily on food purchases from the market. This could provide as much as 50% of calories and 40-50% of proteins and micronutrients for households [11]. This highlights the importance of markets in the contemporary Malawian context, in comparison to the past when energy and nutrients were primarily obtained from home production.

Table 2: Production and production adequacy of energy and selected nutrients

	Total production (per day, AME*)				Production adequacy (%)		
	Urban	Rural	Total	Recom. intake	Urban	Rural	Total
Energy (Kcal)	1698.9	2296.4	2265.9	2750.0	49.8	63.4	62.7
Protein (g)	53.6	71.9	70.9	50.0	63.3	77.2	76.5
Calcium (mg)	865.0	1198.9	1181.9	1000.0	41.4	56.8	56.0
Zinc (mg)	12.0	16.2	16.0	27.4	58.9	72.4	71.7
Iron (mg)	46.2	61.8	61.0	14.0	66.8	79.3	78.7
Folate (ug DFE)	395.0	521.0	514.5	400.0	54.5	70.5	69.7
Vitamin B12 (ug)	0.4	0.5	0.5	2.4	8.4	11.0	10.9
Vitamin A (ug RAE)	221.2	352.5	345.8	600.0	19.3	31.8	31.2
Vitamin B6 (mg)	1.5	2.0	2.0	2.0	55.2	68.1	67.4
Vitamin C (mg)	78.1	101.2	100.0	60.0	41.5	53.0	52.5
Ribo (mg)	0.6	0.8	0.8	1.7	33.7	43.9	43.4
Niacin (mg)	2.1	2.7	2.7	20.0	71.5	83.4	82.8
Thiamin (mg)	12.2	17.3	17.0	1.5	47.6	62.4	61.6

Source: Fifth integrated household survey 2019/2020 and the integrated household panel survey 2019 (IHS5);

*Adult Male Equivalent.

Food consumption score (FCS)

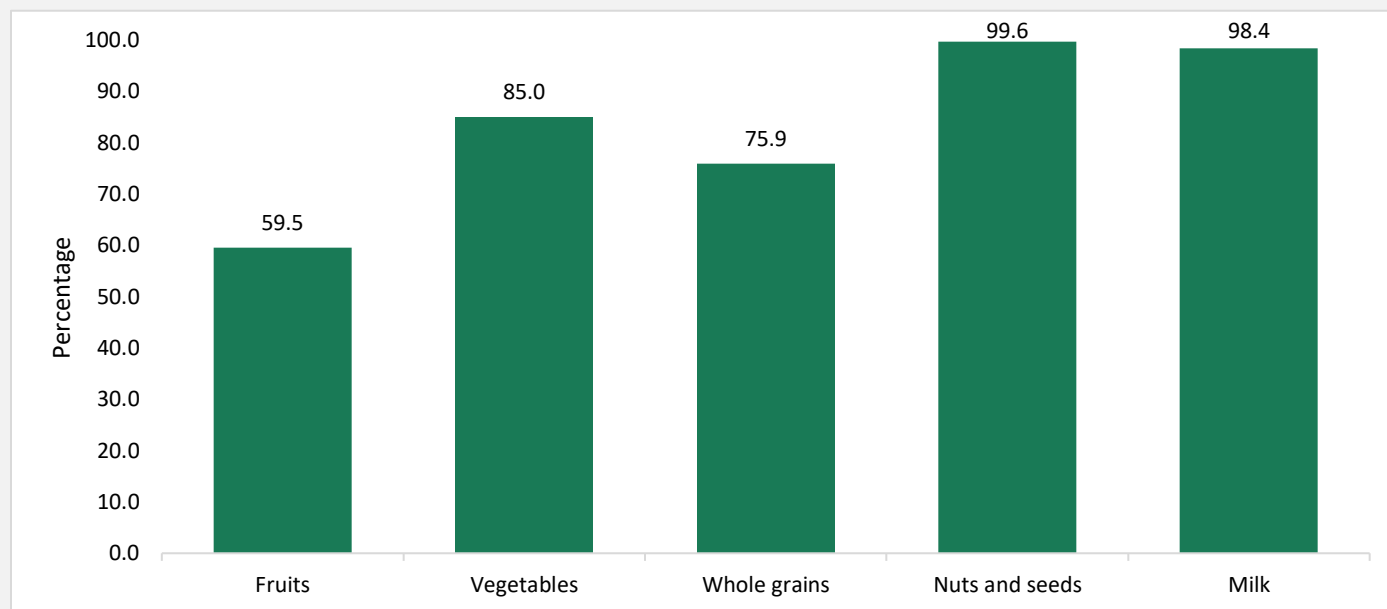
The FCS aggregates household-level data on the diversity and frequency of food groups consumed over the previous seven days. This is then weighted according to the relative nutritional value of the consumed food groups.

The FCS is an indicator of household-level dietary diversity and is a validated proxy for energy sufficiency in most contexts. In Malawi, 79% of the households are classified as having an acceptable food consumption score, whereas 3% and 18% were classified as having poor and borderline poor food consumption scores respectively. Since the start of the COVID-19 pandemic, a negative FCS trend has been observed. In May/June 2020, 88% of households in Malawi were classified as having an acceptable food consumption score, a number that declined to 79% six months later [12]. Furthermore, urban households (83%) have a higher level of acceptable food consumption in comparison to rural households (78%). Female-headed households are consuming less diversified diets as indicated by a lower score of 71% in comparison to the score of 80% recorded among male-headed households. Although the rural south has lower crop production levels than the rural central and north, it shows the highest acceptable food consumption score (82%), indicating consumption of a more diversified diet.

Food group level consumption

In 2019, the EAT-Lancet Commission on healthy diets from the sustainable food systems defined a universal reference diet, one that would take into account the balance between the health and sustainability of the diet [13]. The EAT-Lancet report includes recommendations for the intake in grams per day of 14 foods and food groups: whole grains, tubers and starchy vegetables, vegetables, fruits, dairy foods, red meat, fish, eggs, chicken and other poultry, legumes, nuts, unsaturated oils, saturated oils, and added sugars. Intake information for 8 of the 14 food groups for Malawi was available as seen in Figure 1.

Figure 1: Gap in meeting the EAT-Lancet recommendations for different food groups



Source: <https://foodsystemsdashboard.org> (2017, Global Burden of Disease study data)

Red meat and sugar-sweetened beverages (SSBs) are food groups to limit, therefore the intake levels set by the EAT-Lancet commission were treated as an upper bound not to be exceeded. Fruits, vegetables, whole grains, legumes, nuts and seeds and milk are food groups whose intake should reach a certain level (adequacy food groups), and the EAT-Lancet recommendations are thus treated as lower bounds. The gap is expressed as the recommended intake compared to the actual intake expressed as a percentage, with a higher percentage indicating a larger gap in meeting the recommendations. Malawi scores well for both red meat and SSBs, which are food

groups whose consumption should be limited, as their intake is below the recommended level. There is also no gap for legume intake with respect to the EAT-Lancet Commission recommendations. For all other food groups, a large dietary gap is observed, with nuts and seeds showing a gap of 99.6% (equalling to a gap of 49.8 g/day/person). Gaps are also seen in intake of milk (98.4%), vegetables (85%), whole grains (75.9%) and fruits (59.5%) which translate into gaps of 246, 255, 176 and 119 g/day/person respectively. Food balance sheets from the Food and Agriculture Organization (FAO) show that the supply of fruits and vegetables within the country should be sufficient to meet the desired recommendations (478 g/person/day and 242 g/person/day respectively)². However, based on the analysis discussed here, it can be concluded that this produce does not reach the population.

Cost of a healthy diet

About 94% of the population cannot afford a healthy diet³ as on average it costs 219% (2.85 USD) of household food expenditure. Similarly, 71% of the population cannot afford a nutrient adequate diet⁴ as on average it costs about 102% (1.33 USD) of household food expenditure [14, 15]. The costs for those population groups whose needs for a nutrient adequate diet are highest (pregnant and lactating women, adolescent boys) can exceed 1.50 USD a day [15, 16]. With a healthy or nutrient adequate diet being out of reach for most of the Malawian population, people choose to consume cheaper options, often cereals, which provide energy and a feeling of satiety. The costs of a healthy and nutrient adequate diet are mainly driven by the sufficient intake of fruits, vegetables and animal-source foods (ASF). It is therefore not surprising that a large gap in fruit and vegetable consumption exists as seen in Figure 1. It is important to take into account the variation by season in the costs of healthy and nutrient adequate diets. Price increases for nutrient-dense foods such as fruits, vegetables and ASF are the key drivers of the seasonal variations in the costs of a nutrient adequate diet [14]. By far the most costly nutrient in the Malawian diet is riboflavin, followed by vitamin B12, niacin and selenium [16].

3. Main observations

Significant progress has been made in the recent past in reducing the burden of malnutrition in Malawi along multiple dimensions, including child health. Nevertheless, the current situation is worrying as stunting rates remain high and anemia among women is on the rise. Further, a worrying upward trend is observed in overweight and obesity rates as well as incidence of diabetes and high blood pressure. This double burden of malnutrition has to be tackled through various interventions. Both aspects of this double burden of malnutrition are priority areas of the National Multi-Sector Nutrition Policy (NMNP) 2018–2022.

² 2018 data

³ A healthy diet provides adequate calories and nutrients but also includes a more diverse intake of foods from several different food groups to meet all nutrient intake requirements and help prevent malnutrition in all its forms.

⁴ A nutrient adequate diet is one that provides adequate calories and relevant nutrient intake of 23 macro- and micronutrients through a balanced mix of carbohydrates, proteins, fats, essential vitamins and minerals needed to prevent deficiencies and avoid toxicity.

The food safety situation in Malawi can be improved. However, the lack of funds and limited inter-departmental or inter-ministerial collaboration due to overlapping departmental roles and mandates, reduces the efficiency and effectiveness of enforcing and monitoring the food safety situation in Malawi.

Malawian households face nutrition-related challenges in terms of both the quantity of food to which they have access and the quality of food. Many households rely on their own food production, primarily focusing on their own needs. Where staple foods, typically maize, are the main components of a meal, diversification of (micro)nutrient intake remains a challenge. Further, a significant part of the population is not meeting their energy needs and thus the efforts of the Ministry of Agriculture to increase maize productivity needs to continue alongside the production and consumption of micronutrient-dense crops such as fruits and vegetables. Promoting the balanced consumption of ASFs, given the low adequacy of vitamin B12 in the Malawian population, should also be on the nutrition agenda. ASFs are known to pose a higher burden on the planet in terms of sustainability but given their provision of essential nutrients such as iron, calcium and vitamin B12, they can be part of a healthy and sustainable diet when consumed in limited amounts. With 71% of the Malawian population unable to afford a nutritious diet, steps will have to be taken to make diverse and nutritious dietary options available for the total population.

The rising trend observed in the incidence of overweight and obesity rates as well as non-communicable diseases is in line with the nutrition transition occurring in Malawi towards diets that are high in fats, sugars and salt. UPFs are rich in these 'harmful' ingredients and due to their higher prices, are primarily accessible to those with high incomes. Awareness campaigns and higher taxation of these products can help arrest the worrying increased intake of these products.

4. Review of strategies and policy implications using a food systems approach

A short review of existing strategies, the policies linked to these strategies and policy implications is presented in this section. The strategies discussed are based on the Malawian context and should be treated as complementing each other across different parts of the foods system. No single proposed strategy will solve the multi-faceted nutrition problems Malawi faces today.

Consumer awareness campaigns

There is a need to strengthen behavior change and communication. Consumers are at the end of the food system and are partly responsible for what is produced. Their demand shapes what is found in the shops and markets and therefore sourced, either locally or internationally. Educating consumers on healthy and sustainable dietary choices is a key driver for the sustainable production of healthy foods.

Guidelines for a healthy and sustainable diet should form the basis of public health messages on food and nutrition. Food based dietary guidelines (FBDGs) are a set of context specific and simple advisory statements that direct consumers, agricultural policies and nutrition education programs regarding healthy eating patterns and lifestyle. They provide specific guidance on the type of foods and food groups or nutrients even, that are relevant to the diet-related health conditions within a country [17]. Most FBDGs focus on both the quality of food group consumption as well as quantity. The typical Malawian diet relies heavily on the consumption of cereals (maize) and a shift to include priority food groups is necessary. Priority food groups for Malawi are fruits, vegetables, nuts and seeds, and ASFs. In addition, creating awareness on the negative health effects of unhealthy foods such as UPFs is needed. To date, Malawi does not have a set of FBDGs, but given that one of the priority areas in the National Multi-Sector

Nutrition Policy is emphasizing the need for nutrition education and positive behavior change, embarking on the journey to develop Malawian FBDGs fits in the mandate for the coming years.

Special campaigns to improve the diets of vulnerable groups such as women of reproductive age, mothers, infants and young children are already in place. However, given the high stunting rates among children under-five years as well as the high anemia rates among women, particularly pregnant women, these campaigns will have to continue and be strengthened. The National Multi-Sector Nutrition Policy pays special attention to these groups and emphasizes the importance of infant and young child feeding practices, including those related to breastfeeding and complementary feeding. Additionally, Malawi's Health Policy promotes several nutrition-specific interventions at the health facility and community level. These interventions include promoting dietary diversity and the treatment of acute malnutrition, which given the frequent occurrence of natural disasters such as flooding and droughts compounded by the current COVID-19 pandemic, are needed regularly.

Food environment - affordable diets for all

The food environment merits significant attention as a large part of the Malawian population cannot afford a healthy and nutritious diet, or even a nutritious diet. Agriculture is the dominant economic sector in Malawi and most of the foods available to the household are sourced from home production. This is often done on small land parcels and agricultural activities have rather low yields. Home production does not provide enough in terms of quantity and quality of foods, and low income levels limit the purchasing power of farmers. To compensate for low productivity, poor households supplement their food access and income by engaging in casual agricultural labor for food or monetary payments. Increasing the income levels of farmers by improving employment opportunities will help ensure more stable incomes that can go towards food expenditures, while also promoting healthy food choices.

Maize production is heavily subsidized through the Farm Input Subsidy Program (FISP) and the Agriculture Input Program (AIP). These programs contributed to a sharp drop in the percentage of the population being vulnerable to energy deficiency. However, additional efforts are needed to promote agricultural diversification with nutrient dense foods such as legumes, fruits and vegetables as well as indigenous foods which are often nutrient rich. Although the supply of vegetables and legumes seems to be sufficient in Malawi, it does not yet reach the majority of the population. Fruits and vegetables are more expensive food groups and are therefore not accessible to large parts of the population, especially the poor. Farm input subsidy programs and voucher programs can improve economic access to fruits and vegetables for the general population.

ASFs are the most expensive food group and although the supply of animal-sourced protein has increased by 55% since 2010, making these foods more available for the poor is important, especially among those vulnerable to iron or vitamin B12 deficiency. Increasing the supply of meat, milk and eggs could lower their prices, making these foods more accessible to a larger part of the population. Notably, with increased livestock production, veterinary services will also have to be upscaled. The regulatory body for livestock is the Department of Animal Health and Livestock Development (DAHLD) which is mandated with the promotion of animal health.

Special attention needs to be paid to vulnerable groups. Providing nutrient rich foods by rolling out a school feeding program countrywide will tackle this problem for schoolchildren, including adolescents. The adolescent period is understood to be a second window of opportunity, where catch-up growth can improve health throughout the lifespan [18]. The National Education Policy advocates for the promotion of a school feeding program. Such a program should not only focus on improving energy provision to children, it should also address the issue of dietary diversity through the inclusion of nutrient-dense foods such as ASFs, legumes, fruits and vegetables.

Alongside the promotion of healthy foods, it is essential to discourage the consumption of unhealthy foods, given the steady rise in overweight and obesity rates observed in Malawi. At the moment, Malawi does not impose higher taxation on foods rich in sugar such as sugar-sweetened beverages. Implementing a sugar and fat tax alongside an awareness campaign on the negative health implications of these products is a strategy for mitigating the consumption of these unhealthy foods.

Food supply chains and agricultural practices

Agriculture is the main driver of national food security in Malawi. The development of the agricultural sector will therefore have great impacts in terms of changing the food system and ultimately the country's food security profile. Systems to support households in responding effectively to and recovering from adverse shocks that restrict their access to food are required, alongside attention to improving food production, storage and transport. The Malawi National Agricultural Investment Plan (NAIP) promotes nutrition-sensitive foods and agriculture-based approaches including homestead farming, production of high nutritive-value foods, more capital-intensive forms of agriculture (cash crops, livestock, and aquaculture) and improved market access.

At the farm level, production could be improved through increased use of biofortified seeds and other inputs through the country's Farm Input Subsidy Program. Biofortified crops have a higher nutrient content than their regular counterparts and have great potential to improve the nutrient intake of a population. Several maize breeds with higher levels of provitamin A, lysine, tryptophan, zinc and iron have been marketed [19]. This should be accompanied by an education campaign to teach farmers how to sustainably manage their soils, while increasing the production output of more nutritious foods. The Malawi food system has become more vulnerable to the effects of climate change such as increased droughts, floods, pest attacks and diseases as well as variations in rainy season patterns. As such, crops that are able to weather these shocks are needed.

Turning to distribution, investments in cold-chain storage facilities and general storage are needed for perishable products such as fruits and vegetables as well as less perishable items like maize to prevent aflatoxin contamination. Improvements in the transport and logistics networks are also sorely needed. This will reduce post-harvest food losses which are an important driver of food insecurity, especially in the lean season. The poor road network is a serious bottleneck in the Malawi food system and progress in its development is slow even though it is mentioned as a key priority area by the government in its medium-term development strategy, the Malawi Growth and Development Strategy (MGDS). Transportation of products from the farm to warehouses or the markets is compromised, leading to higher food losses and food prices. The low electrification rate, especially in rural areas where most agricultural products are farmed, is a challenge to the development of infrastructures such as cold-chain and powered storage facilities as well as processing units. The National Energy Policy has the mandate to 'increase access to affordable, reliable, sustainable, efficient and modern energy' but obtaining sufficient funding for attainment of these goals is often a problem.

5. Recommendations for policy implementation

The Malawian food system is not fit for the future and does not provide healthy and sustainable diets for all. The country is taking several steps in the right direction as seen in the declining rates in stunting and increased maize production which has reduced levels of energy inadequacy. However, additional steps are needed. The principal recommendations from this policy brief are highlighted below.

1. Educate the population on the fundamentals of a healthy diet including diets for vulnerable groups such as infants and young children. Food Based Dietary Guidelines are a powerful tool in dietary education.
2. Improve household financial status by increasing incomes and lowering the prices of nutrient-dense foods through subsidies which would enable economic access to healthy and nutritious diets. While subsidies for maize, which is the food staple, should continue, subsidies that support dietary diversification are also needed.
3. Tackle malnutrition among school-age children and adolescents by rolling out a school feeding program countrywide.
4. Discourage the excessive consumption of unhealthy foods such as sugar-sweetened beverages through taxation.
5. Improve farm gate yields by subsidizing fertilizers and providing crop varieties that are biofortified as well as resilient to shocks.
6. Improve the infrastructure for transport and logistics, cold-chain management and storage facilities to minimize food losses. This also includes access to a reliable electricity network to ensure cold-chain management.

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