Fill the Nutrient Gap
Lesotho
SUMMARY REPORT
The nutrition situation in Lesotho is alarming

Malnutrition is widespread across Lesotho. There has been little progress in addressing undernutrition, and overnutrition has emerged as a serious concern. This growing double burden hinders the country’s potential for social and economic development and is estimated to cost the country $200 million annually in GDP.

Thirty three percent of children under the age of 5 years are stunted and unlikely to reach their full mental and physical potential. Although economic growth and overall improvements in the health sector resulted in a reduction of stunting by 10 percentage points (to 33 percent) from 2000 to 2014, the overall prevalence is still classified as very high according to World Health Organization (WHO) standards. In addition, overweight and obesity rates of adults have increased sharply over the last two decades (from 39 percent in 1999 to 54 percent in 2016) among women aged 18 or older, contributing significantly to public health problems.

Factors that stand in the way of ending malnutrition include poverty, natural and man-made disasters, low consumer demand for nutritious food, low agricultural productivity, low prioritization of nutrition issues by government agencies, and limited commitment and capacity of local government units to deliver nutrition interventions.

Poor infant and young child feeding (IYCF) is evident by an increase in stunting over the course of a child’s early life: from medium prevalence (14 percent) among children under 6 months, to high (22 percent) for children aged 6–12 months, and very high (38 percent) among children aged 18–23 months. With anaemia being high (51 percent of all children under 5) and overweight becoming an increasing issue (45 percent of women 15-49 years of age are overweight or obese), Lesotho is a clear case of triple burden of malnutrition.

Addressing malnutrition sustainably must take a lifecycle approach, targeting all children, adolescent girls and pregnant and breastfeeding women with a range of interventions adapted to the local context and coordinated across multiple levels and sectors of government. The Government of Lesotho recognises that addressing the malnutrition challenge requires broad cooperation and commitment from several government agencies, public sector entities and the private sector, notably those in the food, health and social protection systems.

The commitment to improving nutrition needs to be prioritized nationally and locally, and coordination should be strengthened. Successful nutrition programming will depend on national leadership, regional resources available to support and encourage local actors, local will and capacity to implement effective nutrition-specific and nutrition-sensitive interventions. Coordination across all levels of government and sectors, including health, agriculture, social welfare and development, and education is essential to strengthen nutrition. Development partners also play an active role in filling the gaps in programming and technical assistance. Private enterprises and actors across the value chain hold a key function in supporting and driving this development and coordination for improved nutrition between the public and the private sector.

Several factors need to be addressed: constraints of availability, physical and economic access, and choice of nutritious food, from supply (food system) to demand (public sector services and consumers). This requires strong commitment, good understanding and clear acknowledgment of a shared responsibility to address the alarming nutrition situation.

Fill the Nutrient Gap (FNG) in Lesotho: Purpose

In response to the Government of Lesotho’s goal of improving nutrition outcomes, the Food and Nutrition Coordinating Office (FNCO) and the World Food Programme (WFP), with the International Fund for Agricultural Development (IFAD), the United Nations Children’s Fund (UNICEF) and the United Nation’s Food and Agriculture Organization (FAO), collaborated to conduct a Fill the Nutrient Gap (FNG) analysis in 2019. The FNG process brought together stakeholders from a variety of sectors including health, agriculture, social development, education and the private sector. It identified overlap and potential alignment across sectors for a strengthened nutrition response, such as the redesign of social protection programmes.
The FNG analysis and its stakeholder engagement process facilitated a greater understanding of food systems and nutrition contexts across the country. The results from the FNG are already being used to support operationalization of IFAD’s country strategy by identifying and prioritizing context-specific policies and programme packages that can improve nutrient intake of target groups through improved access to, and choice of, nutritious food.

**FNG in Lesotho: Process**

The FNG process in Lesotho took place from March to August 2019, with inception meetings in March, validation of preliminary results and development of recommendations in national technical meetings in July, and the dissemination of final results with technical staff and policy influencers in August.

The analysis comprised a comprehensive literature review of available secondary data sources in combination with linear programming (LP) using the Cost of the Diet (CotD) software. The aim of the FNG analysis was to identify policies and intervention packages best suited to improving access to nutritious foods to meet the specific nutrient needs of vulnerable target groups. It analysed the context-specific barriers to adequate nutritious foods and modelled interventions defined by stakeholders.

The FNG assessment was led by the FNCO with technical support from WFP country office, regional bureau and headquarters in partnership with IFAD, UNICEF and FAO. At the start of the process the Lesotho FNG team met with government, non-government, United Nations (UN), and other development partners to introduce it, collate key secondary data sources and identify interventions and entry points for CotD analysis and modelling. Stakeholders identified the target groups as the first 1,000 days from conception to a child’s second birthday, preschool and school-age children, pregnant and breastfeeding women, and adolescent girls.

During the analysis phase over 150 secondary data sources were reviewed. LP analysis was conducted to estimate the cost of a nutritious diet and to calculate the percentage of households unable to afford this diet in all ten districts of Lesotho, disaggregated by urban and rural locations. CotD was used to model interventions in five priority districts identified by stakeholders (Quthing, Mohale’s Hoek, Thaba-Tseka, Butha-Buthe and Maseru). These represent the five dominant and distinct economic zones in the country (the four agro-ecological zones of Senqu River Valley, Southern Lowlands, Northern Lowlands and Mountain, plus the Urban zone of Maseru).

To validate the results, preliminary findings were presented to partners and stakeholders in bilateral meetings and a national workshop. During this validation phase, stakeholders consulted in a technical workshop to develop recommendations based on the FNG findings. Findings and recommendations were then launched in a high-level meeting with policy makers. The detailed FNG process in Lesotho is illustrated in Figure 1.

**Figure 1: Overview of the FNG process and timeline in Lesotho**
Malnutrition overview

After a reduction in stunting prevalence from 44 percent in 2000 to 33 percent in 2014, little further improvement has been seen in other indicators such as anaemia and IYCF markers. The 2014 prevalence of 33 percent is classified as very high by WHO (based on the new 2018 classifications). Stunting prevalence correlates with poverty: 46 percent of children in the poorest socio-economic strata are stunted compared to 13 percent in the richest. Stunting is higher in rural than in urban areas (35 percent and 27 percent respectively). Stunting prevalence is 22 percent among children aged 6–8 months and 38 percent among children aged 18–23 months. This suggests dietary inadequacies when breastfeeding should be frequent and when complementary feeding should be diverse.

Since 2004, anaemia rates have remained constant for women aged 15–49, and have slightly increased for children under 5 years of age (from 49 percent in 2004 to 51 percent in 2014). Rates are at 27 percent for all women aged 15–49 and 36 percent for pregnant women in that age group. Fifty eight percent of children aged 6–8 months, 65 percent of children aged 9–11 months and 62 percent of children aged 12–17 months were anaemic in 2014. Because dietary inadequacies are an important cause of stunting, other micronutrient deficiencies are also likely to be widely prevalent.

The prevalence of overweight among children has remained constant at 7 percent since 2004. In 2014, 45 percent of women and 13 percent of men aged 15–49 were overweight or obese. Overweight and obesity correlates with wealth and age: 55 percent of women in the richest socio-economic strata are overweight or obese compared to 25 percent in the poorest. Eighteen percent of women aged 15–19 are overweight or obese, while 67 percent of women aged 40–49 are overweight or obese.

Figure 2: Stunting prevalence per district, 2014. (DHS 2014)
COST OF THE DIET (CotD) ANALYSIS

The CotD software uses LP to understand the extent to which poverty, food availability and prices may affect the ability of people to meet their nutrient needs. Using price data collected from markets or from secondary sources, the software calculates the amount, combination and cost of local food that is required to provide individuals or households with their average needs for energy and their recommended intakes of protein, fat and micronutrients. These diets are calculated within defined constraints to prevent the inclusion of unrealistic types or amounts of food and the provision of excessive amounts of nutrients.

The FNG approach defines the Staple Adjusted Nutritious Diet: the lowest cost nutritious diet that includes the typical staple food and excludes prohibited foods. This diet is referred to as the ‘nutritious’ diet throughout this summary. Population expenditure data is compared to the cost of the nutritious diet and is used to estimate the proportion of the population that would not be able to afford it. This non-affordability can be estimated and compared across different districts, seasons or countries.

As part of the FNG process, CotD analysis was undertaken for all districts in Lesotho with separate analyses for urban and rural areas. The 2017 Consumer Price Index, collected by the Bureau of Statistics, provided data on prices and availability of more than 70 food items. The 2017 Lesotho Household Budget Survey provided data on household food expenditure, including monetised consumption of self-produced food.

The lowest cost of a nutritious diet was estimated for a model household of five members which included a breastfed child of 12–23 months, a child of 6–7 years, an adolescent girl of 14–15 years, a breastfeeding woman and an adult man. Two maize-based meals per day were included to account for 50 percent of dietary energy from the preferred staples. This was done for all household members except the child aged 12–23 months, who received one maize portion per day.

CotD software was used to model interventions proposed by stakeholders with the objective of improving the affordability of a nutritious diet for individuals and/or households. Based on the severity of malnutrition indicators and the prioritization of ongoing programmes, stakeholders identified five districts for intervention modelling: Quthing, Mohale’s Hoek, Thaba-Tseka, Butha-Buthe and Maseru.

The selection of potential interventions for modelling was informed by secondary data review and stakeholder consultations. It included:

- increased availability of local nutritious food;
- different types of complementary food or specialised nutritious foods (SNF) made available through the market and/or social safety nets;
- micronutrient supplementation;
- fortification of staple food; and
- conditional cash transfers for vulnerable households.

The modelled interventions are theoretical. In reality they would need to be accompanied by complementary behaviour change interventions to promote nutritious choices among consumers.

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3 As defined by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). The need for 9 vitamins and 4 minerals is included.

4 This diet is not intended to reflect what individuals or households are currently eating, nor should it be used to develop food-based recommendations or dietary guidelines.
1. VAST IMPROVEMENTS HAVE BEEN MADE IN HEALTH BUT NUTRITION REMAINS A CONCERN. THE DOUBLE BURDEN OF MALNUTRITION IS AN ISSUE FOR ALMOST ALL WEALTH QUINTILES AND GEOGRAPHIC DISTRICTS.

Lesotho has among the highest prevalence of HIV in the world: 26 percent of its population aged 15–49 lives with HIV. Consequently, many health-related interventions are focused on HIV/AIDS prevention and treatment, resulting in a significant drop of HIV as a cause of death (61 percent) during the 10 year period from 2007–2017. This trend is also true for other communicable diseases such as tuberculosis (19 percent) and lower respiratory infections (16 percent), indicating an overall improvement in the health system.

On the other hand, malnutrition has not seen the same improvements over the last decades. Thirty three percent of children under five years of age are stunted. The district of Mokhotlong has the highest prevalence nationwide at 48 percent, and Mafeteng has the lowest at 26 percent. Stunting prevalence also varies depending on wealth: in the lowest wealth quintile malnutrition is three times higher than the highest wealth quintile (46 percent and 13 percent respectively).

Anaemia prevalence is also high in Lesotho. More than half (51 percent) of children under 5 are anaemic, with all districts having a prevalence higher than 40 percent, and Mafeteng has the lowest at 26 percent. Stunting prevalence also varies depending on wealth: in the lowest wealth quintile malnutrition is three times higher than the highest wealth quintile (46 percent and 13 percent respectively).

Indicators for adequate IYCF practices are relatively low throughout the country. In 2014, only 23 percent of children aged 6–23 months received Minimum Dietary Diversity (MDD) and 61 percent received Minimum Meal Frequency (MMF). This translates into Minimum Acceptable Diet (MAD) for only 11 percent of children aged 6–23 months. These indicators have worsened over time, MAD was 37 percent in 2004, 18 percent in 2009 and 11 percent in 2014. A change in how these indicators are defined in the Demographic and Health Surveys could partially explain the decline between 2009 and 2014, yet the definition for all three indicators remained the same between 2004 and 2009 where the biggest drop in MDD and MAD was observed.

The cost of a nutritious diet for a child under 2 years of age is impacted depending on whether the child is breastfed or not, as there is a higher need for the consumption of nutrient-dense foods. If a child aged under 2 is breastfed in accordance with WHO standards, the daily cost of his or her nutritious diet would be 5 Lesotho maloti (LSL). If there is no breastfeeding, the cost increases by LSL 2, for a daily total of LSL 7. On the other hand, micronutrient-dense specialized nutritious foods can help reduce the cost of a nutritious diet. From a daily cost of LSL 5, 20 g of lipid based nutrient supplements (small quantity) could bring it down to LSL 2.1, while 60 g of Super Cereal+ could reduce it to LSL 1.4.

4 Complete details of the findings, a full list of data sources used, and references can be found in the full report.

5 Between 2009 and 2014, criteria for minimum dietary diversity were increased, from 3+ to 4+ food groups for all children and milk, consumed at least twice a day to meet minimum acceptable diet (MAD), was no longer to be counted as one of the required 4+ food groups for non-breastfed children.
3. MEETING THE NUTRIENT NEEDS OF ADOLESCENT GIRLS AND BREASTFEEDING WOMEN COSTS MORE THAN MEETING THE NEEDS OF OTHER TARGETS. THEY ARE AT HIGHER RISK FOR MICRONUTRIENT DEFICIENCIES BUT LITTLE DATA EXISTS TO UNDERSTAND THEIR VULNERABILITIES.

The micronutrient needs of adolescent girls and breastfeeding women are amplified. For example, they require twice as much iron per kilocalorie than an adult man or a school-aged child, so their food needs to be more micronutrient-dense. As this is usually more expensive than low micronutrient-dense food, meeting their needs becomes more expensive. In the modelled households, the adolescent girl and the breastfeeding women make up more than 60 percent of the total cost of a nutritious diet.

Targeted interventions could help to greatly reduce this cost. For the adolescent girl, the daily cost of LSL 24 for a nutritious diet would be reduced to LSL 20 with iron and folic acid supplementation (IFA), and a multi-micronutrient tablet (MMT) would reduce it to LSL 15. For the breastfeeding woman, the daily cost of LSL 21 for a nutritious diet would be reduced to LSL 16 with 165 g of Super Cereal daily, IFA would reduce it to LSL 15, and MMTs to LSL 14.

There is little information to understand the specific vulnerabilities of women of reproductive age in Lesotho. Cost of the Diet analysis has shown limiting nutrients to be iron, calcium, folic acid and vitamin C for these target groups. This means that there is a higher likelihood for women of reproductive age to be deficient in those micronutrients. High anaemia rates in children aged 6-8 months indicate low iron stores from mothers. Improved nutrition in adolescent girls and pregnant and breastfeeding women can help break the malnutrition cycle as it not only affects them, but also (future) children.
HOUSEHOLD DIETARY DIVERSITY IS LOW DUE TO LIMITED AVAILABILITY OF FRESH FRUIT AND VEGETABLES AND LOW CONSUMPTION OF ANIMAL SOURCE FOODS. LIVESTOCK IS AN ASSET USED FOR INCOME GENERATION BUT RARELY FOR CONSUMPTION.

Consumption of fruit and vegetables is low. Lesotho remains far below the WHO recommended intake of 400 g of fruit and vegetables per day. The 2018 Global Nutrition Report (GNR) estimated that only 68 g of fruit and vegetables are consumed on average on a daily basis, with only 128 g per person/day available throughout the country. Similarly, Lesotho misses the mark on dietary energy from non-staples, which stands at a low 20 percent, meaning that 80 percent of all dietary energy comes from energy-dense foods such as cereals, starchy roots and oil. While these dietary patterns might be influenced by behavioural factors such as choices, the data indicates that production – and subsequently availability, are also an issue. As GDP per capita has doubled to $1,200 from 2003 to 2013, the availability of vegetables, fruit and meat (as measured by trade balance) has remained unchanged.

More specifically, Lesotho’s production is dominated by staples, with around 78 percent of total agricultural production focused on cereals (primarily maize) and potatoes. Although there is substantial livestock (half a million cattle and three million sheep and goats), very little is consumed. Most livestock is treated as an asset and traded or used for wool and mohair production.

Access to animal source foods could be increased by focusing on commercial production of chicken and eggs and improving the poultry value chain (see recommendations). Producing eggs through homestead chicken can immediately improve access to animal source foods and dietary intake locally. While such an intervention could reduce the monthly cost of a nutritious diet by up to LSL 100, it is important to combine it with behaviour change communication to avoid undesired outcomes, such as consumption of the chicken if intended for egg production.

Understanding the commodity-specific value chain for diverse foods and complementing it with tailored interventions needs improvement if Lesotho is to leverage the economic and nutritional potential of increasing production. Creating an enabling environment would require interventions along the value chain, such as adequate access to inputs (seeds, fertilizers, irrigation etc.), the existence of processors (mills, slaughterhouses and packaging facilities), and distribution chains with adequate connectivity throughout the country.

Figure 9: Poultry value chain. (IFAD 2019)

Figure 10: Horticulture sector value chain. (IFAD 2019)
5. FOOD INSECURITY AND COST OF A NUTRITIOUS DIET ARE HIGHER IN RURAL AND REMOTE AREAS. VULNERABILITIES ARE INCREASED BY LACK OF ACCESS TO MARKETS. SEASONALITY HAS THE HIGHEST EFFECT ON COST IN RURAL AREAS.

Lesotho has four distinct agro-ecological zones (lowlands, foothills, mountains and Senqu River Valley) with 66 percent of its population living in rural areas, many of which are remote. Dietary diversity is low everywhere, but particularly in the more remote areas of mountains, foothills and Senqu River Valley. Distance to markets and availability of foods are comparatively low in these areas, but the cost and affordability of nutritious foods plays a major role too.

Figure 11: Household cost for a nutritious diet, by district. (CotD 2019)

Meeting nutrient requirements costs a household an estimated LSL 71 per day, almost four times as much as meeting energy requirements (LSL 18). While energy requirements can be met by consuming very few food groups, a nutritious diet in Lesotho requires up to 8 food groups, including dairy, green leafy vegetables, fruit, eggs, meat, fish and pulses. The price distribution within the country differs, with the lowlands and foothills having relatively low prices and the mountainous regions being the most expensive (see Figure 11). Likewise, the rural regions are 10 percent or more expensive compared to the urban parts.

This means that households in areas such as Mokhotlong, Thaba-Tseka and Qacha’s Nek have a longer distance to markets, find fewer foods there, and have to spend more money on a similar diet than other regions. These largely rural areas, which have few urban or peri-urban sections, are impacted more strongly by seasonality. Comparing prices between July and November 2019 showed that variation of monthly cost in the urban context is only around 10 LSL during those months, but 100 LSL more in the lean season in rural areas.

6. ECONOMIC ACCESS IS LOW: 56 PERCENT OF HOUSEHOLDS ARE UNABLE TO AFFORD A NUTRITIOUS DIET. ONE IN TEN HOUSEHOLDS DOES NOT HAVE ENOUGH MONEY TO COVER THEIR DIETARY ENERGY NEEDS, WHICH EXACERBATES THE IMPACT OF HIV.

Poverty plays a major role in accessing a nutritious diet and food expenditure and exacerbates vulnerabilities. The household cost to meet only energy needs ranges from LSL 500-650/month, with most districts being around LSL 600/month. Corresponding non-affordability ranges between 3 (Leribe) and 11 (Thaba-Tseka and Mokhotlong) percent. This means that in the mountainous areas one in 10 households might not have enough money to meet their energy requirements.

The high prevalence of HIV throughout the country, and the increased energy requirements of people living with HIV (PLHIV), indicate the need for targeting PLHIV to ensure their elevated needs are met. They have higher nutrient needs, particularly for energy (estimated 10-20 percent) and protein. Nutrition plays a major role in the course of the disease because nutrient requirements are increased but appetite and ability to digest are reduced. While the cost implications are hard to estimate directly, HIV impacts the ability to earn an income and increases the amount of food that is needed. This means that existing vulnerabilities may be exacerbated by an HIV infection.

Geographically, HIV prevalence is high across the country. Over 25 percent of Lesotho’s adult population is currently living with HIV, and 74 percent of this population is on antiretroviral treatment. HIV prevalence is highest in Mohale’s Hoek and elevated in the urban and peri-urban areas around Maseru. However, since the rural population still makes up around 66 percent of Lesotho’s native population (the Basotho), the caseload of PLHIV might be higher in rural areas.

Figure 12: Household non-affordability of an energy-only diet, by district. (CotD 2019)
Nationally, more than half of households (56 percent) are not spending enough money on food to meet their nutrient requirements. Non-affordability of a nutritious diet is particularly high in the mountainous regions (above 70 percent), where high cost and low economic status overlap. Maseru has the lowest non-affordability for a nutritious diet in the country, although the absolute number of households not able to afford nutritious foods remains high (50 percent).

Non-affordability and stunting share geographic similarities. As with other drivers of malnutrition, non-affordability is high in those remote areas that also have a long distance to markets, low dietary diversity and increased cost. Given the association between stunting and non-affordability, it is clear that economic access is a major barrier to eating healthy foods that meet nutrient requirements. Although behavioural aspects play a major role, too, it is clear that large parts of the population simply do not have enough money to buy the right foods for their families.

The 2016 Lesotho Vulnerability Assessment and Analysis Report (LVAC) estimated that 30–70 percent of the population benefit from social safety nets (SSNs). Households consider them one of their most important sources of income, helping them afford food requirements and other needs. Existing SSNs include a Universal Old Age Pension, a Child Grant Programme, a School Feeding Programme, a Cash For Work Programme, a Disability Grant and a Fertilizer and Input Subsidy Programme. Yet even when factoring in social safety nets, LVAC results show that many households face survival and livelihood deficits. In the period from December 2018 to February 2019, more than 50 percent of the rural population faced an acute food insecurity situation, with 16 percent in a crisis and 3 percent in an emergency situation.

In Lesotho, depending on its specific structure, a household could potentially access different safety nets. The model households used to calculate the cost of the diet could, for example, have access to the Child Grants Programme for two children and the Cash For Work Programme. With the assumption that households spend 70 percent of the cash transfers received on food, the Child Grants Programme would cover LSL 175 of food costs, while Cash For Work would cover LSL 840. The sum of these would mean the household...
obtains a total of LSL 1,015 from social safety nets to spend on food. Compared to the calculated cost of a nutritious diet (national average), the model households would remain with a gap of LSL 1,152 per month.

**Figure 16:** Comparison of the monthly cost of a nutritious diet for the modelled household (average across all districts) against transfers from social safety net programmes. (CotD 2019)

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**8. THE PRIMARY SCHOOL FEEDING PROGRAMME HAS UNIVERSAL COVERAGE AND REPRESENTS A STRATEGIC ENTRY POINT TO IMPROVE CHILDREN’S DIETS.**

Primary education has been free and compulsory in Lesotho since 2000. The government, assisted by WFP, introduced a universal school feeding programme for primary schools with a gradual rollout until universal coverage was reached. With a net enrolment rate of over 80 percent for girls and boys and an attendance rate of more than 90 percent in urban and rural settings, the school feeding programme reached more than 350,000 children in 2017.

The school feeding programme is migrating from two delivery models, the government catering model and the WFP model, into a single model under National Management Agents (NMA). Each of the pre-existing models had their own menus with advantages and disadvantages from a nutrition standpoint. The catering menu included five different food groups per week with a minimum of two different food groups per day, as follows:

- Monday: 150 g of maize porridge and 100 g of moroho (African spinach):
- Tuesday: One quarter loaf of bread and 200 ml of bean soup;
- Wednesday: 150 g of maize porridge, 100 g of moroho and 1 egg;
- Thursday: 150 g of boiled maize kernels and 150 g of beans; and
- Friday: 150 g papa (corn or maize porridge) and 250 ml of milk.

The WFP menu served breakfast and lunch and consisted of fortified maize meal, oil, sugar, salt and a daily serving of pulses.

**Figure 17:** Number of children covered by the School Feeding Programme, per delivery model and year. (WFP 2018)

**Figure 18:** Percentage of daily Reference Nutrient Intake met by School Feeding Programme NMA menu and proposed top-up, by nutrient. (CotD 2019)
Though both models helped reduce the cost to the household of a nutritious diet to the school-aged child by more than 20 percent (from a daily cost of LSL 8.8 to LSL 7.1 (WFP) and LSL 6.7 (catering)), neither met the minimum required 60 percent nutrient intake of all micro and macro nutrients. The new NMA menu will provide breakfast as per the WFP programme and lunch as per the caterers programme. Though this menu delivers more of certain nutrients (for example, pantothenic acid) it still underperforms in others like fat, vitamins A, C and B12, and calcium. By adding a top-up, per week, of two servings of vegetables (like moroho), three cups of milk and a serving of oil, this menu would reach a 60 percent threshold on all required macro and micro nutrients for a school-aged child.

Although the improved menu compares well to the previous menus, the adjusted school meals meet between 50-60 percent of daily requirements, which implies that the foods from home (or out of school) provide the other 40-50 percent. This might be difficult to achieve for some key micronutrients, such as Vitamin B12, Calcium and Pantothenic Acid. It is therefore crucial to not only improve the lunch menu which, at least on paper, is quite nutritious, but also the breakfast menu. For the school meals to be able to make this good contribution to nutrient intake, implementation needs to be done very well, which means that budget dedicated to this will also have to increase. If the sourcing of micronutrient-rich items (flour, vegetables, milk) is challenging logistically or financially, adding a multi-micronutrient powder can be a good way to improve micronutrient content of the school meals.

**9. AGRICULTURAL PRODUCTIVITY IS LOW AND IS EXPECTED TO DECREASE AS CLIMATE CONDITIONS WORSE. PRODUCTIVITY IS LIMITED BY SUB-OPTIMAL AGRICULTURAL PRACTICES BUT COULD INCREASE THROUGH IMPROVING THEM AND INVESTING IN INFRASTRUCTURE.**

Lesotho is not self-sufficient in the production of either meat or vegetables; the country depends on South Africa to supply their internal market. Ninety percent of broiler meat and 80 percent of vegetables sold in the Basotho formal market are imported from South Africa (UNTRADE, 2018). Lesotho’s production is focused on cereals, primarily maize. Average yields remain comparatively low (cereal yields of 987 kg per hectare in 2017 and 468 kg per hectare in 2016) and are vulnerable to climate shocks.

Although 78 percent of all productive land area is agricultural (meaning that it is used for crop, horticulture or livestock) and 38 percent of the economically active population engages in agriculture, it contributes to a mere 5 percent of GDP. Lesotho relies heavily on imports from South Africa for almost all commodities, with only 30 percent of all foods consumed being produced in Lesotho. The majority (91 percent) of fields for crop production is run by smallholder farmers for own consumption. These farmers often struggle to reach a subsistence level and, in most cases, need to supplement their own production with purchased commodities, resulting in an overall deficit at the household level. This suggests that currently many smallholders are not able to sustain their livelihoods by agricultural activities.

This trend is likely to continue, partly due to external factors such as climate change that causes increasingly long and intense spells of drought, but also due to sub-optimal agricultural practices. Agricultural inputs such as fertilizer and improved seeds are not widely used, and government input subsidy programmes do not effectively reach those households with small landholdings. As a result, few smallholders make use of agricultural inputs to boost their productivity.

Less than 1 percent of cropland in the country is irrigated and very few improvements have been made between 2006 and 2016, although recently more attention has been paid to improving irrigation practices. With prolonged droughts, reliable water supply becomes more important. Several solutions could be appropriate, ranging from large scale, such as dams, to low-tech, such as rainwater harvesting. Access to irrigation means more frequent harvesting, which translates into more availability of fresh nutritious foods. With irrigation for a diversified household garden of 35m², household cost could be cut by 10 percent (200 LSL per month) (Figure 19).

**10. MICRO, SMALL AND MEDIUM AGRICULTURAL ENTERPRISES ARE TOO CONSTRAINED TO EXPAND. THEIR PARTICIPATION ALONG THE AGRICULTURAL VALUE CHAIN IS LIMITED.**

The agricultural value chain is dominated by government initiatives. Local small and medium sized enterprises are rarely included. Maize that is distributed through the main trader networks in Lesotho is largely imported from South Africa, leaving maize from local smallholder production to be processed only locally and mainly consumed by the households growing it or those nearby. Access to credit, and subsequent growth and investment, is very low, making it difficult for farmers to increase their own production beyond subsistence farming. No agricultural insurance is available for farmers to take risks and branch out.

**Figure 19:** Monthly cost of a nutritious diet for the modelled household (average across modelled districts) with and without improved water access. (CotD 2019)
Despite an input subsidy programme for cereals which sells inputs at 30-50 percent of retail cost, many households reported that inputs remain unaffordable. Selling inputs at such a low price also comes at the cost of inhibiting potential private sector actors that are not able to compete with these low margins. This, in turn, impacts the effective absence of private sector players that are needed for a long-term sustainable delivery model of agricultural inputs.

Given such constraints, reducing losses during production of crops could be a first step to improving outputs. Small enterprises regularly experience high post-harvest losses and do not receive good profits for their products. Improving only post-harvest losses by 10 percent on a 5 ha farm could save half a ton of crops every year. Additionally, adequate regulation could ensure that all improvements within crop production are nutrition-sensitive. As an example, introducing a mandatory fortification policy as local maize production and milling increased would create the opportunity for locally produced, fortified maize meal at local markets.

Table 1: Interventions combined to household package.

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<thead>
<tr>
<th>Target</th>
<th>Intervention</th>
<th>Safety net</th>
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<tr>
<td>Under 2</td>
<td>SC+ (60 g daily)</td>
<td>Child Grant</td>
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<tr>
<td>School-aged child</td>
<td>WFP school meals</td>
<td>Child Grant</td>
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<tr>
<td>Adolescent girl</td>
<td>MMT (1 g daily)</td>
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<tr>
<td>Pregnant woman</td>
<td>IFA (1 g daily)</td>
<td>Cash for Work</td>
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<td>Adult man</td>
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Economic barriers to adequate nutrient intake can be significantly reduced with multisectoral interventions: food (agricultural interventions), health (supplementing diets with specialized nutritious foods or micronutrient supplements), education (healthy, nutritious school meals), and social protection (cash transfers for the most vulnerable). Assuming that all households would be eligible for the modelled interventions, non-affordability could be reduced from 56 percent to 9 percent, making a nutritious diet available for almost all.

These results demonstrate the possible benefits that could be gained by increasing household access to nutritious foods via a package of interventions that is delivered across multiple entry points and by different sectors. The underlying assumption is that adequate demand-creation strategies are in place to ensure that cash transfers or vouchers provided would be spent on nutritious food which would be consumed by the targeted individuals.

11. INTRODUCING INTERVENTIONS FROM ALL SECTORS CAN DRASTICALLY REDUCE THE COST AND NON-AFFORDABILITY OF NUTRITIOUS DIETS.

Moving the needle on malnutrition requires actions from all sectors. To estimate the impact of combined interventions, the most effective interventions were combined into a household package with a cash transfer, based on the social safety nets that are available. In the case of the school aged child, the ongoing WFP school meals model was selected as implementation and feasibility of NMA school meals remains challenging and would not reflect the most likely programming for school aged children in the short to medium term. The results show that a combination of targeted interventions and a household cash transfer can reduce the money needed by the household down to just LSL 213/month.

Figure 20: Monthly cost of a nutritious diet with and without packaged interventions, compared with monthly transfer amount of social safety nets. (CotD 2019)
Figure 21: Percentage of households not able to afford a nutritious diet, with and without packaged interventions and social safety nets.
(CotD 2019)
FNG in Lesotho: Stakeholder Recommendations

DEVELOPMENT OF SECTOR–SPECIFIC STAKEHOLDER RECOMMENDATIONS

During the recommendation workshop participants joined one of five sectors (health, education, social protection, commercial agriculture and household agriculture). Based on the FNG findings each group discussed the key messages and findings related to their sector. They then identified a maximum of two interventions that they agreed were the bestentry points to leverage the sectors contribution to improved nutrition. The groups then discussed if the interventions existed, the key target group (e.g. school-aged children, adolescent girls, pregnant or breastfeeding women), and the main outcomes of delivering the interventions.

To specifically provide guidance to ongoing or planned programmes, the groups then identified implementing actions for two scenarios: one where such an intervention would have increased funding but less time to achieve the desired outcomes, and one where the intervention would have the same funding but triple the time to achieve the outcomes. They also identified the stakeholders, outside of their sector, that would need to be engaged and the challenges they expected in undertaking the intervention. The purpose of the exercise was to identify a range of activities to achieve similar or identical outcomes based on time and funding constraints, to consider all the necessary stakeholders to be engaged and to consider challenges to be overcome.

Based on the sector recommendations, the FNG team produced the following prioritized interventions and activities per sector.

HEALTH

Universal coverage of iron and folic acid supplementation (IFA)

Participants discussed the universal coverage of iron and folate supplementation (IFA) as a necessary health intervention. There are currently some programmes in Lesotho with an IFA supplementation component, but their coverage is not universal.6

IFA supplementation should be targeted towards three groups with increased nutritional requirements: (i) pregnant and breastfeeding women; (ii) women of child-bearing age; and (iii) adolescent girls. The key outcome of such a programme would be reduced anaemia rates in and adolescent girls and women, as well as in children aged 0–6 months.

Procurement, transport, storage and distribution of supplements would be the main programme activities. Other activities that stakeholders agreed were important to achieve the desired outcomes were community awareness and promotion activities, and training of health workers and volunteers. This could help targeted populations understand the importance of IFA supplementation for adequate implementation. Monitoring and evaluation should be undertaken related to all programme activities, and there should be clear data to measure impact.

Stakeholder engagement should be led by the Ministry of Health and the Food and Nutrition Coordinating Office. The Ministry of Education should also be involved as education could provide an entry point for reaching adolescent girls. Civil society and community-based organizations could also provide valuable inputs and help with implementation, given their ongoing work in Lesotho. Health workers were also considered to be key stakeholders for implementation and training.

The main challenges that could prevent adequate implementation were identified as being cultural beliefs and myths, and lack of acceptability of supplementation within communities. A shortage of appropriate health and other staff could also be a potential issue affecting implementation.

Improvement of Infant and Young Child Feeding Practices (IYCF)

Participants identified that IYCF practices in Lesotho need to be improved. They recommended a programme with this specific focus and two key outcomes: (i) an increased in exclusive breastfeeding for the first six months of a child’s life and continued breastfeeding until two years of age, and; (ii) improving appropriate complementary feeding practices, specifically achieving higher dietary diversity and meal frequency to increase the number of children receiving a minimum acceptable diet.

This programme would primarily target pregnant and breastfeeding women and parents, or other caregivers of children aged 6–23 months. Women of childbearing age and communities could also be targeted depending on the specific activities included in the programme.

Participants suggested a series of activities that could be included within the programme depending on resource and time availability. As a priority, they identified training for community health workers (CHW), village health workers (VHW) and other relevant stakeholders including the general community. They suggested recruiting nutritionists for clinics and communities and that adequate reporting systems and supervision be put in place for all workers. The potential of distributing multiple micronutrient powders (MNP) was discussed.7 It was agreed that monitoring and evaluation of the programme would be critical.

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6 It was recognized by stakeholders that multi-micronutrient supplements would fill more of the nutrient gaps and hence would have a greater impact on health and development, but participants agreed that more information and consultation would be required to shift from IFA to MMS.

7 Multiple micronutrient powders are packets of vitamins and minerals in powder form that can be sprinkled into any ready-to-eat semi-solid food. For more information: https://www.who.int/elena/titles/micronutrientpowder_infants/en/
Different line ministries and other organizations and stakeholders would need to be involved in this programme. Identified ministries included Health, Agriculture and Food Security, Social Development, and Education and Training.

As identified by the FNG, participants mentioned that low dietary diversity and meal frequency may not necessarily be an issue related to lack of knowledge, but also to low affordability and availability of nutritious foods. Additionally, cultural beliefs around breastfeeding could potentially interfere with the acceptability of training. Other challenges are Lesotho’s maternity leave policy which presents an important challenge for working and breastfeeding mothers, and, food insecurity and high unemployment which present challenges to complementary feeding practices and, IYCF in general.

**EDUCATION**

The group focused on school meal interventions, one for primary schools (6–13 year olds) and one for early childhood care and development (3–5 year olds). The participants highlighted that, despite the aim to provide universal coverage of school meals to children, scale-up is still needed. This is particularly in relation to accessing a nutritious school meal that could serve the outcomes of improving nutritional status (as measured through anaemia, dietary diversity and vitamin A deficiency), increase nutritional knowledge, improve school enrolment and attendance, and impact on reducing early marriage and pregnancy.

Participants suggested that on a policy level, government partners should be reviewing menus and associated guidelines for school meals to ensure they comply with reasonable targets of school feeding (e.g. one third of daily requirements per meal, or a proportion of the day’s energy requirements). They also suggested establishing and enforcing a no junk food policy in schools to support healthy, sustainable diets. They highlighted that monitoring systems and accountability mechanisms for programmes need to be established to ensure cooperation with guidelines and regulation across participating schools.

Actions that were highlighted by the group primarily focused on supplementing existing national school meal programmes with locally grown, produced and/or procured foods. The main difference between interventions that required additional funds but would show results quickly and those that delivered outcomes at a slower pace but with less financial investment, was the involvement and support required from the community.

Achieving quick results at scale would require the application of more advanced technologies (e.g. hydroponics) or greenhouses at the school garden level, supplementing foods sourced at the community level. The group favoured sourcing foods through production at community level rather than national procurement to account for local preferences and food habits. This would require training and supervision. They also mentioned a general challenge with coordination, highlighting that if nutritious school meals were to be implemented through a centralized system, programme quality would likely suffer.

Identifying entry points and actions for programmes that might not have additional funds, the group focused on mobilizing existing resources. At the community level physically closest to the school, they identified traditional school gardens as a first step for parents and teachers to support the NMA diet. Actions included supporting inputs and agricultural practices as well as behaviour change and awareness programmes. Building school gardens and the needed infrastructure could be supported by the existing Food For Assets programme, where the work capacity could be directed toward digging gardens, building fences and helping set up and run the garden. To maintain school gardens all year round, a community schedule would need to be set up.

Several different stakeholders would need to be involved to achieve the desired outcomes. From the public sector, these would include the Ministry of Small Business, the Ministry of Education and Training, the Ministry of Trade and the FNCO. In addition, stakeholder engagement would need to include businesses related in the supply chain for the school meals, as well as non-profits and other development partners.

**AGRICULTURE: COMMERCIAL VALUE CHAINS**

Participants identified that focused interventions on two value chains have the potential to improve nutrition in Lesotho: broiler meat and vegetables.

**Improving the poultry value chain:** The main recommendation was to formulate targeted interventions to attract investors to fill gaps such as the establishment of hatcheries or parenting stock farms. These could be credit or tax incentives targeted at investors willing to start a business to fill gaps in this sector. Within financial institutions and commercial banks there is a need to revisit terms and conditions in favour of the strategic development of a product that attends the different actor’s needs. For example, a credit line targeted to investors that want to start a hatchery unit/parent stock farm.

**Improving the vegetable value chain:** Two main bottlenecks that impede the improvement of vegetable food systems were identified: i) access to water for irrigation and ii) absence of local providers of agricultural inputs. The group indicated that providing rural credit lines, not only to farmers, but also entrepreneurs that are willing to invest in strategic areas (such as agro-dealers, storage and processor facilities), could support farm operations and the expansion of production in strategic areas. Other interventions suggested were empowering farmer organizations through access to market information, capacity building, and building storage in order to increase farmers’ bargaining power with contractors. One example are farmers’ associations to build storage facilities to intermediate on negotiations and to be able to purchase higher volumes of inputs at better prices.

**AGRICULTURE: HOUSEHOLD PRODUCTION**

Participants, including representatives from the Ministry of Agriculture and Food Security, FNCO and the non-profit sector, suggested that a homestead agriculture programme could improve access to animal source foods and fruit and vegetables for rural subsistence farmers. Such a programme should have two main components: small animals (short cycle) and homestead gardens. Though its primary focus would be household consumption, it could potentially also be used to generate income.
Desired outcomes would be to increase animal source food consumption and overall household dietary diversity, especially of vulnerable individuals such as women of reproductive age. The intervention should be targeted to rural low-income households.

As an example for a successful programme that could be scaled up, stakeholders mentioned the FAO and the Ministry of Agriculture and Food Security programme focusing on the creation of keyhole gardens for small scale fruit and vegetable farming. This programme is favoured because it requires little input and can be set up almost exclusively with items found around the household. Due to its elevated structure and shape, it supports efficient and drought-resistant water management, increasing the likelihood of having fresh, nutritious foods available at household level, even if in small quantities.

Depending on the size of the land, a household could have one or more keyhole garden or plots for horticulture. For short cycle animal farming, the group mentioned chicken and rabbits as examples. It is known that in Lesotho people traditionally share short cycle animals once they reproduce, and the household maintains a stock of at least two while giving two to other households. In the case of chickens, the focus could be either egg production and consumption, or direct poultry consumption.

The group analysed the different components this programme needs. Education and training were prioritised and should include:

- keyhole building and preparation;
- livestock management and reproduction;
- food preparation;
- food storage and preservation techniques; and
- overall nutrition education (for example, the increased nutrient needs of adolescent girls and pregnant and breastfeeding women and IYCF practices).

Depending on budget constraints, education and training could be given in household visits (preferred) or public gatherings. Though the latter could be implemented at a lower cost, participants mentioned that some vulnerable households couldn’t afford the travel involved.

In-kind transfers of inputs could be implemented for the lowest income households. Transfers should be targeted and closely monitored, and should not only include seeds and fertilizers but also building materials for keyhole construction, water collection, food processing, storage and preservation.

A baseline including indicators of interest (household dietary diversity, minimum dietary diversity for women of reproductive age, minimum acceptable diet, and animal source food consumption, among others) should be collected on and close monitoring should be a priority. Close monitoring of extension worker activities was deemed necessary to ensure adequate programme implementation. It was also agreed that close programme monitoring could help a positive deviance (PD) approach and feed into future programming (monitor, evaluation and learning).

Participants emphasized the need to include different line ministries for implementation. Ministries of Water, Agriculture and Food Security, Social Development, Health and Education and Training were seen as being the most important.

The main challenge identified was the disconnect between the many different stakeholders involved in the promotion of nutrition-sensitive homestead farming. Duplication of efforts and clashing mandates is a common problem in Lesotho, therefore coordination should be a priority. With little knowledge of homestead farming (coverage, specific yields, crops, and diversity) understanding needs to be improved and lessons learned from programmes that have been successful.

SOCIAL PROTECTION

The participants agreed that school feeding programmes provide a valuable entry point for social protection. They identified expanding school feeding to early childhood development centres (ECDs) and secondary schools as being potentially beneficial interventions. Delivery methods could vary: ECDs would provide a meal; secondary schools could explore vouchers for meals from caterers near the school. The desired outcome would be improved nutrition for children aged 2–5 years and adolescents. The Ministry of Health and Social Welfare and the Ministry of Education would coordinate for an integrated approach towards ECDs, incorporating health and nutrition into the existing ECD programme.

Activities would include setting up the delivery system for implementing ministries and mobilising resources using public financing tools. A monitoring and evaluation system would have to be put in place. Participants identified that coordination of different programmes and systems, plus lack of political will and funding, could pose challenges for this programme. They also identified that targeting could be an issue for programme implementation, especially when related to birth registration in Lesotho.
CONTRIBUTORS

The Food and Nutrition Coordinating Office under the Prime Minister’s Office in Lesotho; the Fill the Nutrient Gap team at the WFP HQ Nutrition Division, with particular thanks to Janosch Klemm, Sabrina Kuri, Saskia de Pee and Jane Badham; the WFP Lesotho Country Office team, with particular thanks to Makhauta Mokhethi, Marian Yun and Mary Njoroge; the WFP Regional Bureau Johannesburg with particular thanks to Rosalyn Ford and Rose Craigue; and IFAD, with particular thanks to Erika do Amaral Valerio, Christian Dietz and Philipp Baumgartner. Donors supporting this analysis are BMZ, IFAD, UNICEF and FAO.

LIST OF ACRONYMS

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<tr>
<th>Acronym</th>
<th>Definition</th>
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<tr>
<td>CHW</td>
<td>Community health worker</td>
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<td>CotD</td>
<td>Cost of the Diet</td>
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<td>ECD</td>
<td>Early Childhood Development Centre</td>
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<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<td>FNCO</td>
<td>Food and Nutrition Coordinating Office</td>
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<td>FNG</td>
<td>Fill the Nutrient Gap</td>
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<td>GDP</td>
<td>Gross domestic product</td>
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<td>Global Nutrition Report</td>
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<td>IFA</td>
<td>Iron and folic</td>
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<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
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<td>IYCF</td>
<td>Infant and young child feeding</td>
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<td>LP</td>
<td>Linear programming</td>
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<td>LSL</td>
<td>Lesotho (ma)loti</td>
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<td>LVAC</td>
<td>Lesotho Vulnerability Assessment and Analysis Report</td>
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<td>MAD</td>
<td>Minimum acceptable diet</td>
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<td>World Health Organization</td>
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<td>WRA</td>
<td>Women of reproductive age</td>
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