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Fill the Nutrient Gap Mozambique

SUMMARY REPORT



July 2018



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In Mozambique malnutrition is severe and widespread and little improvement has been made in recent years.

The effects of malnutrition are wide ranging and severe. Mozambique's high rate of malnutrition, characterised by child stunting, has short-term consequences for child development, morbidity and mortality, and long-term implications for educational attainment, disease burden, and productivity. These effects hinder the country's potential for social and economic development.

In Mozambique more than two million children under 5 years of age (43 percent) have stunted growth and are unlikely to reach their full mental and physical potential. The early onset of stunting indicates poor nutritional status of mothers, particularly young mothers. Simultaneously, the next Demographic and Health Survey (DHS) is expected to show a substantial increase in the prevalence of overweight and obesity, another form of malnutrition, in women and young children, especially in urban areas. This growing double burden will add to the list of challenges caused by malnutrition in Mozambique and contribute to significant public health problems. The Ministry of Health has requested support from its United Nations (UN) partners to address the burden of non-communicable diseases in Mozambique.

The causes and consequences of malnutrition in all its forms vary across Mozambique and progress is hampered by several factors: poor availability, affordability, and accessibility (i.e. limited access to markets) of nutritious foods; poverty; low dietary diversity; and vulnerability to

shocks. Addressing malnutrition sustainably in Mozambique must include a focus on the most vulnerable; these being children under 2 years of age, adolescent girls, and pregnant and lactating women (PLW). Since 2010, the Government of Mozambique has recognised that addressing the malnutrition challenge requires broad cooperation, including the private sector as a primary partner. Policies and multi-sectoral work plans will be evaluated at national and provincial levels; however implementation at district and community levels is challenging. The way forward is to strengthen government and non-government bodies at all levels; national, provincial and district, and use evidence to prioritise a range of effective, targeted and context-specific interventions. These need to be closely monitored to provide guidance when limited resources make it necessary to adjust priorities.

Any approach will need to appreciate the inequality across the country in terms of food systems and nutritional status. It will need to address physical and economic access to diverse and nutritious foods, especially among smallholder farmers and fishing communities, and should encourage proactive engagement from the private sector and guidance from Industry, Health, Agriculture, and Trade ministries.

Fill the Nutrient Gap (FNG) in Mozambique: Purpose

In the 2016 Global Nutrition Report (GNR), Mozambique ranked 123 out of 132 countries for stunting prevalence and was rated 'off track' for achieving improvements in any of the listed nutrition indicators. Mozambique is not on

track to achieve Sustainable Development Goal 2 on Zero Hunger, which includes the elimination of all forms of malnutrition by 2030. Nutrition improvement is a priority for government and, increasingly, for private sector companies. For meaningful progress to be made there is an urgent need to appreciate the significant barrier posed by physical and economic access to nutritious diets, and gaps in knowledge and practices. Quality services and context-appropriate nutrition interventions are needed for vulnerable populations in the most affected areas of the country.

The FNG process engaged stakeholders from a range of sectors to identify cost-effective actions (building consensus on secondary data directly from FNG partners). Specific vulnerable target groups were prioritised focusing on the first 1,000 days from conception to age two; PLW and children aged 0–23 months, as well as adolescent girls.

To inform upcoming policy development and nutrition programming, the Government of Mozambique's Technical Secretariat for Food Security and Nutrition (SETSAN), which acts as the National Scaling up Nutrition (SUN) Secretariat, examined the role that economic and physical access to nutritious foods plays in determining nutrition outcomes. This was possible with technical support from WFP Mozambique, and financial resources channelled through SETSAN and partners (Irish Aid, USAID, WFP and UNICEF).

The FNG analysis and its engagement process were undertaken across sectors and stakeholders to facilitate greater understanding of different food systems and nutrition contexts across the country, and to give insight into national and provincial interventions that could improve access to nutritious diets.

From the early set up phase, Government Sectors and their partners expected the FNG final outputs to contribute to the decision-making process, to inform the future Third National Strategy of Food Security and Nutrition (ESAN III, to be launched in 2018), and to shape the translation of the latter into province-tailored, costed work plans. The aim is to enable the design and scaling up of nutrition-specific and nutrition-sensitive policies and interventions, within and across the food, health and social protection systems. This will address developmental and climate shock-response settings to improve nutrition indicators in Mozambique in the short term, and the lives and future of its people in the long term.

The leading body of FNG analysis was SETSAN with support from the WFP Country Office and with technical assistance from WFP Headquarters in Rome and inputs from the Regional Bureau in Johannesburg. The Multisectoral Action Plan for the Reduction of Chronic Undernutrition (PAMRDC) working group was leveraged to guide decision-making for FNG's analytical approach at national level. The working group was composed of

government sectors (Ministry of Agriculture and Food Security, Ministry of Health, Agricultural Research Institute of Mozambique, Foundation for Community Development, National Institute for Social Protection, National Institute of Health – Ministry of Health and the Technical Secretariat for Food Security and Nutrition – Maputo, Cabo Delgado, Manica & Sofala provinces), United Nations (WFP, UNICEF, IFAD and FAO), Civil Society (Women, Gender and Development, Nutrition International), the Convener of the SUN Private Sector Platform (GAIN, Intellica), donors (USAID, Irish Aid, EU, DANIDA and DFID), and academia (International Potato Centre).

FNG in Mozambique: process

The FNG process in Mozambique began with inception meetings in February 2017, moving to more technical events in May 2017 and a preliminary results workshop in October 2018. The FNG analysis cycle was completed with the final stakeholder workshops in April 2018 (Figure 1). 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 overall aim was first to understand context-specific barriers to adequate nutrient availability and intake, and second, to explore the impact of potential interventions and/or their mutual combinations to improve access to nutrients, particularly from nutritious foods. Demand generation for nutrient-dense foods and related supportive policies was part of the analysis as well.

At the start of the process, the FNG team carried out inception meetings with SETSAN, WFP and stakeholders from government, non-government, United Nations (UN) and development partners, through the PAMRDC advisory group and bilaterally. They introduced the FNG process, decided on the level of analysis, collated key secondary data sources and identified possible interventions, entry points and transfer mechanisms to test in the CotD modelling. It was agreed that secondary data analysis would be carried out at national level, presenting department-specific data when available.

Secondary data was compiled, including information gathered from follow-up bilateral meetings with stakeholders and additional key informants. Over 120 data sources were identified and reviewed, and data gaps were identified. A modelling plan of existing and potential interventions was established with input from stakeholders engaged in the FNG process. The FNG team analysed secondary data, undertook (i) linear programming (LP) affordability analysis and (ii) intervention-modelling using CotD with data from the Household Budget Survey 2014-2015 (Inquérito do Orçamento Familiar (IOF)). Intervention-modelling was initially carried out in four provinces spread across the country.

Preliminary results were presented at a national multi-stakeholder workshop led by SETSAN in October 2017. The workshop included the same representatives from Government Sectors (Nutrition and Food Security, Agriculture and Social Protection), academia, donors, UN, Civil Society, and other development partners. These consultations developed joint recommendations and actionable strategies, based on the preliminary FNG findings and discussions. A decision was made to proceed with the LP intervention modelling analysis for all provinces at rural and urban levels, using the 2014-2015 IOF data. The results of this further modelling are presented in the FNG Final Report.

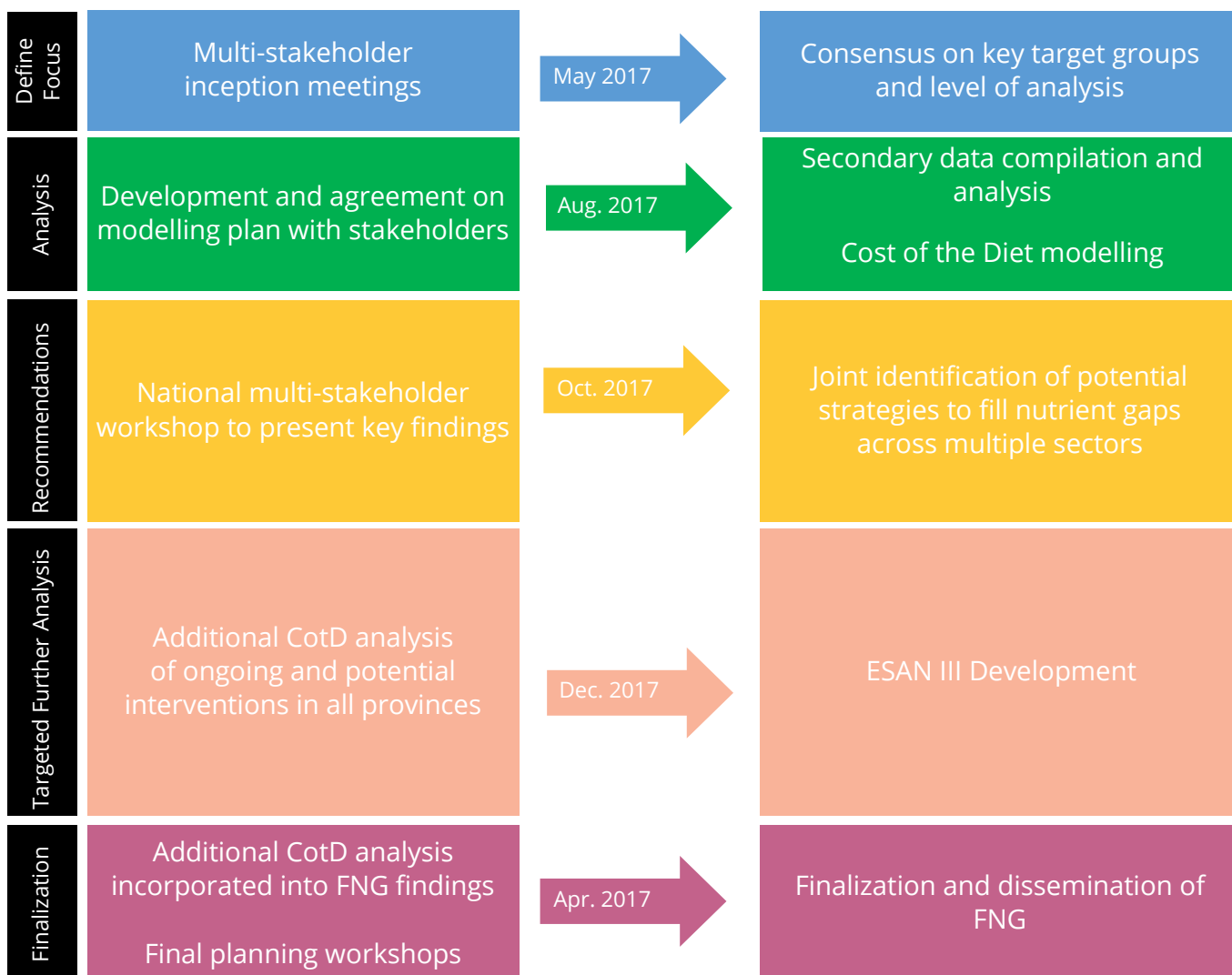
Further workshops were led by SETSAN in April 2018 to present and discuss the modelling results for all provinces and jointly decide on final prioritisation of interventions and develop recommendations at provincial levels.

Workshop 1. Provincial or regional working groups comprised of provincial SETSAN focal points and other provincial stakeholders to discuss the implications of the findings for their province/region, and to prioritise actions.

Workshop 2: Sector-specific working groups representing national stakeholders from Education, Health, Private Sector, Agriculture, Fisheries & Livestock, Demand Creation/SBCC and Social Protection sectors to discuss prioritised activities from the October workshop in light of the provincial results, and to prioritise sector activities.

Workshop 3: Workshop with WFP country office and field office teams and partners to discuss the implications of the FNG findings for WFP programming and the Country Strategic Plan.

Figure 1: Overview of the FNG process and timeline in Mozambique



FILL THE NUTRIENT GAP: A SITUATION ANALYSIS AND DECISION MAKING TOOL

The FNG tool is used to identify nutrition-specific and nutrition-sensitive interventions, most appropriate for a given context, to improve nutrient intake, one of the two direct causes of malnutrition (the other being disease). Any intervention should result in an improvement in nutrient intake.

The tool has been developed by the WFP with technical support from research institutes (the University of California, Davis; the International Food Policy Research Institute (IFPRI); Epicentre; Harvard University; and Mahidol University) and UNICEF. FNG provides a framework for strengthened situation analysis and multi-sectoral decision-making that identifies context-specific barriers to adequate nutrient intake among specific target groups. It engages different sectors to propose cost-effective strategies to overcome barriers. It has been used in more than fifteen countries to date.

The FNG combines review of secondary data and information with LP analysis using the CotD software developed by Save the Children United Kingdom. The FNG analysis considers a range of factors that reflect or affect dietary intake including local malnutrition characteristics, type and availability of nutritious foods in local markets, affordability of nutritious foods, nutrient intake, local practices, cost optimization, and potential entry points for interventions.

The consolidated information is analysed and the findings are reviewed by a multi-sectoral group of stakeholders at relevant levels to come to a shared understanding of the issues, context and solutions. Through this consultation process, context-specific optimal policy and programme actions, including possible entry points for interventions, are jointly identified for different sectors (such as health, social protection and across the food system), and stakeholders from the public and private sectors.



COST OF THE DIET 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 estimates the amount, combination and cost of local foods that are needed to provide individuals or households with their average needs for energy and their recommended intakes of protein, fat and micronutrients¹. These diets are calculated within defined mathematically modelled 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 as the lowest cost nutritious diet that includes typical staple foods and excludes foods that are considered taboo². Population expenditure data is compared to the cost of this nutritious diet and is used to estimate the proportion of the population that would not be able to afford a nutritious diet. This non-affordability can be estimated and compared across different regions, seasons or countries.

As part of the FNG process in Mozambique, a separate CotD analysis was undertaken for urban and rural areas in all provinces for two seasons. The 2014-2015 IOF was used as the source of data on food prices and availability and to estimate average food

expenditure and average household size. A nutritious diet was estimated for model households of five members which included a child of 12–23 months, a child of 6–7 years, an adolescent girl of 14–15 years, a lactating woman and an adult man³. At least two servings per day of the local staple foods were included for all household members, with the exception of the child aged 12–23 months.

The CotD software is also used to model interventions with the objective of improving the affordability of a nutritious diet for individuals and/or households. The selection of potential interventions for modelling was informed by the PAMRDC working group and bilateral consultations with Government Sectors and other stakeholders, as well as the secondary data review. CotD analysis included:

- Increased availability of local nutritious (unfortified) foods and biofortified foods.
- Different types of complementary foods or specialised nutritious foods (SNF) made available through the market and/or social safety nets.
- Micronutrient supplementation.
- Fortification of staple foods.
- Conditional cash transfers for vulnerable households.

The modelled interventions are theoretical and would need to be accompanied by complementary SBCC interventions (demand generation).



1. As defined by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO).

2. 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.

3. The estimate of the percentage of households that cannot afford a nutritious diet applies only to households of this specific composition in each province. However, across a lifespan many households will have this, or a similar composition, for some time. It is important to represent the increased nutrient needs of essential life stages and target groups that are most difficult to meet.

FNG Mozambique: Findings⁴

1.

PREVALENCE OF STUNTING IS VERY HIGH, WITH REGIONAL DIFFERENCES AND AN INCREASING TREND IN URBAN AREAS. ANAEMIA IS A SEVERE PUBLIC HEALTH PROBLEM IN ALL PROVINCES.

Despite gradual improvements in economic growth and poverty reduction, malnutrition continues to affect a large part of Mozambique's population. The national stunting prevalence of 43 percent of children aged below five years in 2011 was relatively unchanged from 1997 (45 percent).

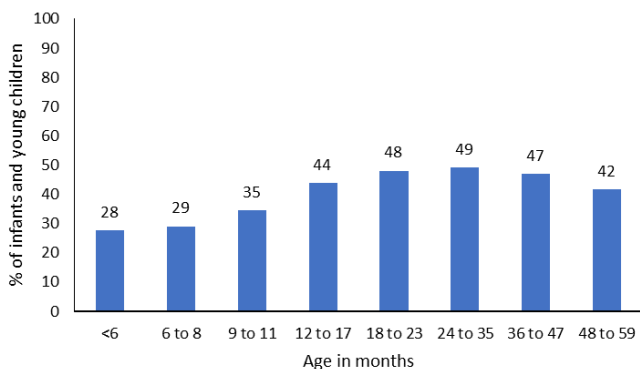
Stunting prevalence appears to be correlated with latitude; rates become progressively higher from south to north and are over 50 percent in the northern provinces of Nampula and Cabo Delgado. Stunting prevalence is higher in rural areas (46 percent) but increasing in urban areas (35 percent in 2011, up from 29 percent in 2003).

The 2011 DHS found that 28 percent of children under 6 months were stunted (Figure 2), indicating poor maternal nutrition status before, during and immediately following pregnancy (often exacerbated by early pregnancy⁵ amongst adolescent girls) and poor breastfeeding practices. Stunting prevalence peaked at 49 percent for children 24 – 35 months indicating inadequate consumption of nutritious foods (low dietary quality) often accompanied by illness or infection.

Anaemia is a significant public health concern in Mozambique and prevalence is severe in all provinces: 54 percent for women and 64 percent for children.

The prevalence of overweight and obesity among women is reportedly increasing nationwide but is highest in the southern provinces and in urban areas, where over a third of women are affected.

Figure 2: Stunting prevalence by age group in months (DHS 2011).



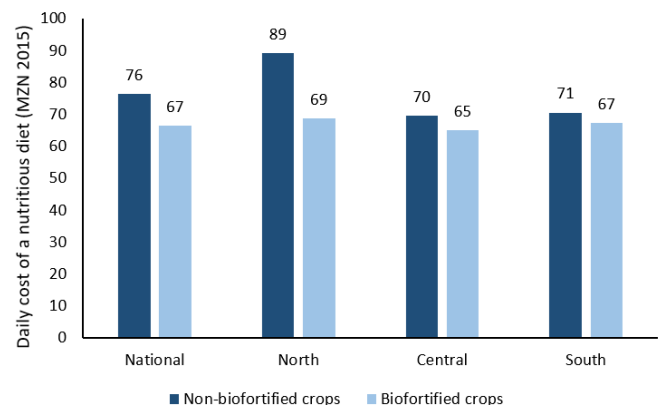
2.

AVAILABILITY OF NUTRITIOUS FOODS IS POOR, ESPECIALLY IN RURAL AREAS. AGRICULTURAL PRODUCTION IS DOMINATED BY MAIZE AND CASSAVA AND PRODUCTIVITY AND ACCESS TO MARKETS IS LOW.

Mozambique is a predominately agrarian society and agriculture is the main livelihood source for 80 percent of households, yet the sector accounts for only 25 percent of GDP. Maize and wheat production are much lower per hectare than in other countries in Southern Africa. Nearly all farmers are smallholders, few use modern inputs and techniques, and market access is poor, offering limited opportunities for selling produce. As a result, most farm land is used for subsistence farming and six staple crops – maize, pulses, cassava, groundnuts, rice and sorghum – account for 85 percent of total farmland use.

Analysis of 2015 IOF data found that on average 90 percent of food consumed by rural households was from own production. As shown in the CotD analysis, if households were enabled and encouraged to swap to biofortified versions of staple crops, the cost of a nutritious diet could be reduced by 12 percent on average nationally (Figure 3). This implies that if biofortified crops were grown, members of rural households would be more likely to have a higher nutrient intake and nutrient deficiencies would be reduced.

Figure 3: Impact of substituting staple crops (cassava, sweet potatoes and beans) with biofortified crops on the cost of a nutritious diet for a 5 person household by region⁶ (rural areas only).



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

5. 38 percent of adolescent girls aged between 15–19 years are pregnant or already mothers.

6. North: Cabo Delgado, Nampula, Niassa; Central: Manica, Sofala, Tete, Zambezia; South: Gaza, Inhambane, Maputo.

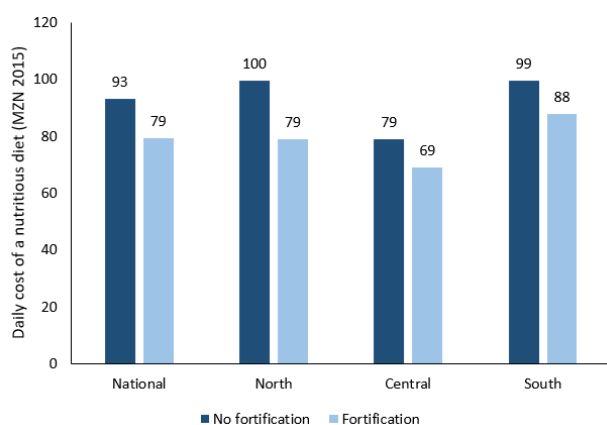
3.

DIETS ARE DEPENDENT ON UNFORTIFIED STAPLE FOODS AND ARE LOW IN NUTRIENT-RICH FOODS. HOUSEHOLD DIETARY DIVERSITY AND CONSUMPTION VARY GEOGRAPHICALLY.

The most recently available nationally representative survey of dietary intake (2011) reveals very low dietary diversity and high staple-dependency. Cereals and starchy roots provide almost 80 percent of dietary energy.

The Mandatory Food Fortification Decree, approved in 2016, requires the fortification of wheat flour, maize flour, vegetable oil, sugar and salt. CotD analysis compared diets based on non-fortified foods to diets that included fortified foods. Access to fortified foods could reduce the cost of a nutritious diet by 15 percent in urban areas where households were more likely to purchase their foods⁷ (Figure 4). Implementation would require appropriate compliance with fortification regulations. The 2011 DHS found that only 45 percent of households had iodized salt, despite salt iodization being mandatory in Mozambique since 2000.

Figure 4: Impact of substituting flour, oil and sugar with fortified foods⁸ on the cost of a nutritious diet for a 5 person household by region (urban areas only).



4.

POVERTY AND LIMITED MARKET ACCESS IMPACT HOUSEHOLDS' ABILITY TO SOURCE A DIVERSE DIET.

Between 2002 and 2014, poverty levels remained unchanged in the north and central regions (55 percent and 46 percent respectively) while levels decreased from 60 percent to 33 percent in the south. The north is characterized by a dispersed population while the south's population clusters around major urban areas. Despite

7. Given that the majority of staple foods consumed by rural households were from own production, fortification was not modelled in these areas.

8. Wheat flour and maize flour fortified with iron, folate, B12 and zinc; oil and sugar fortified with vitamin A.

Mozambique's north-south geography, most transport infrastructure is east-west, connecting neighbouring countries to Mozambique's ports. Agricultural producers in the north are unable to transport products to consumers in the more economically developed south, where most food is imported from South Africa.

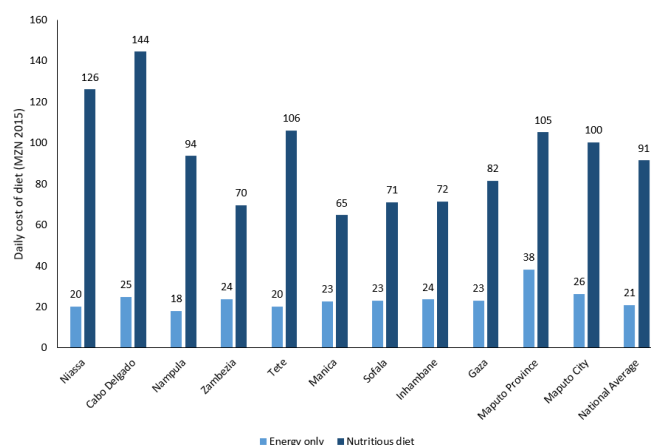
Nationally, 42 percent of the population live more than 30 minutes walking distance from a market and 76 percent live more than 2km from any road. Large sections of the population are unable to sell produce, earn an income or purchase more nutritious foods, resulting in low dietary diversity among agricultural households.

5.

MOST PEOPLE IN MOZAMBIQUE CAN AFFORD FOOD TO MEET THEIR BODY'S ENERGY REQUIREMENTS, BUT MORE THAN HALF DO NOT HAVE ECONOMIC ACCESS TO A NUTRITIOUS DIET OF LOCALLY AVAILABLE FOODS.

CotD analysis was used to calculate the cost and content of household diets that met: 1) requirements for energy only, and 2) requirements for energy, protein and 13 micronutrients, while including local staple foods (nutritious diet). The daily cost of the nutritious diet was more than four times the cost of the energy-only diet (91 MZN compared to 21 MZN). There was little variation among provinces in the cost of an energy-only diet, however the cost of a nutritious diet varied from 144 MZN in Cabo Delgado (north) to 65 MZN in Manica (central) (Figure 5).

Figure 5: Comparison of energy-only and nutritious diets: daily cost per household by province.



Estimated diet costs were compared to the amount of money households reported spending on food, including monetized own production, to estimate the percentage of households that would be unable to afford these diets. Based on these estimates, nationally, 7 percent of households would not be able to afford an energy-only diet and 54 percent of households would not be able to afford a nutritious diet.

There was a strong correlation between nutritious diet non-affordability and stunting prevalence by province (Figure 6). Provinces with the highest non-affordability tended to have the highest stunting prevalence, particularly in Cabo Delgado and Nampula. That implies that in Manica, for instance, the majority of the population (above 70 percent) can afford a nutritious diet and therefore demand-generation interventions should be promoted here more than anywhere else.

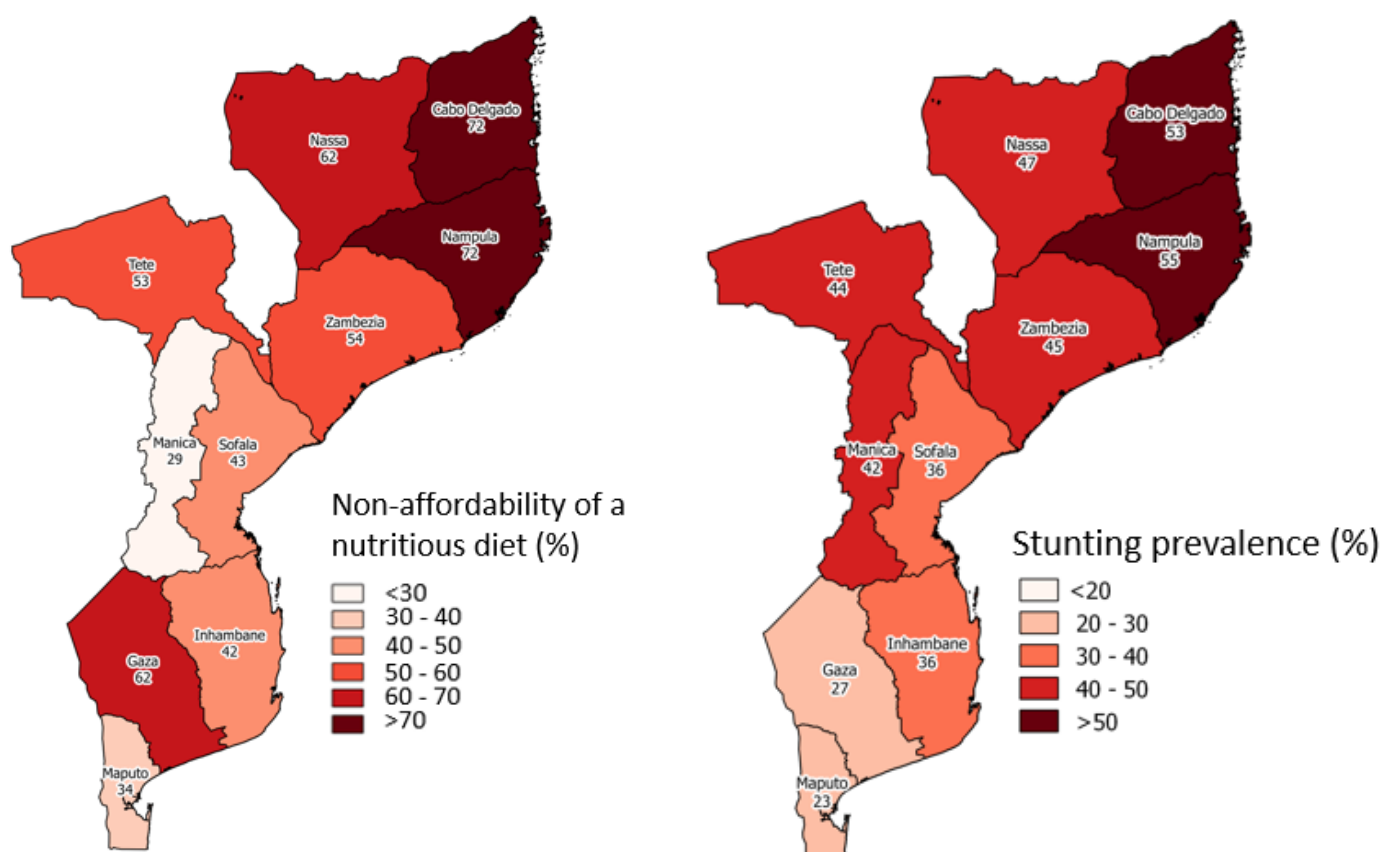
6.

SEASONAL FLUCTUATIONS, CLIMATE SHOCKS AND ECONOMIC SHOCKS REGULARLY THREATEN FOOD SECURITY, DIETARY DIVERSITY AND NUTRITION.

During lean seasons, typically December–March in the north and October–February in the south and centre, households in all regions of Mozambique consume diets low in diversity. Maize prices increased during lean seasons in Beira, Tete and Nampula from 2011–2015, but did not change in Maputo, where much of the food is imported from South Africa. However, during the financial crisis of 2016 maize prices in Maputo increased, in line with spikes in the Consumer Price Index (CPI). Given that wasting was higher with peak inflation during the 2008 financial crisis, a similar effect could have occurred during the 2016–2017 period.

Climate change poses a serious risk to food security and nutrition. Recently Mozambique was identified as the country most severely affected by climatic events in the world. Nearly half of Mozambique is exposed to drought or flood and much of the country is exposed to the threat of cyclones. During the 2015–2016 El Niño drought, the harvest failed in most of the south and in many parts of the central region, and an estimated 1.5 million people were food insecure. Food unavailability due to crop failure was exacerbated by limited import options due to droughts in neighbouring countries, the poor state of the economy following economic crises and limited in-country storage and transport capacity.

Figure 6: Comparison of non-affordability of nutritious diets and stunting prevalence, by province.



7.

CONTINUED BREASTFEEDING RATES ARE HIGH BUT NUTRIENT INTAKE FROM COMPLEMENTARY FOODS IS LOW. TARGETED INTERVENTIONS ARE NEEDED TO IMPROVE NUTRIENT INTAKE IN CHILDREN AGED 6–23 MONTHS.

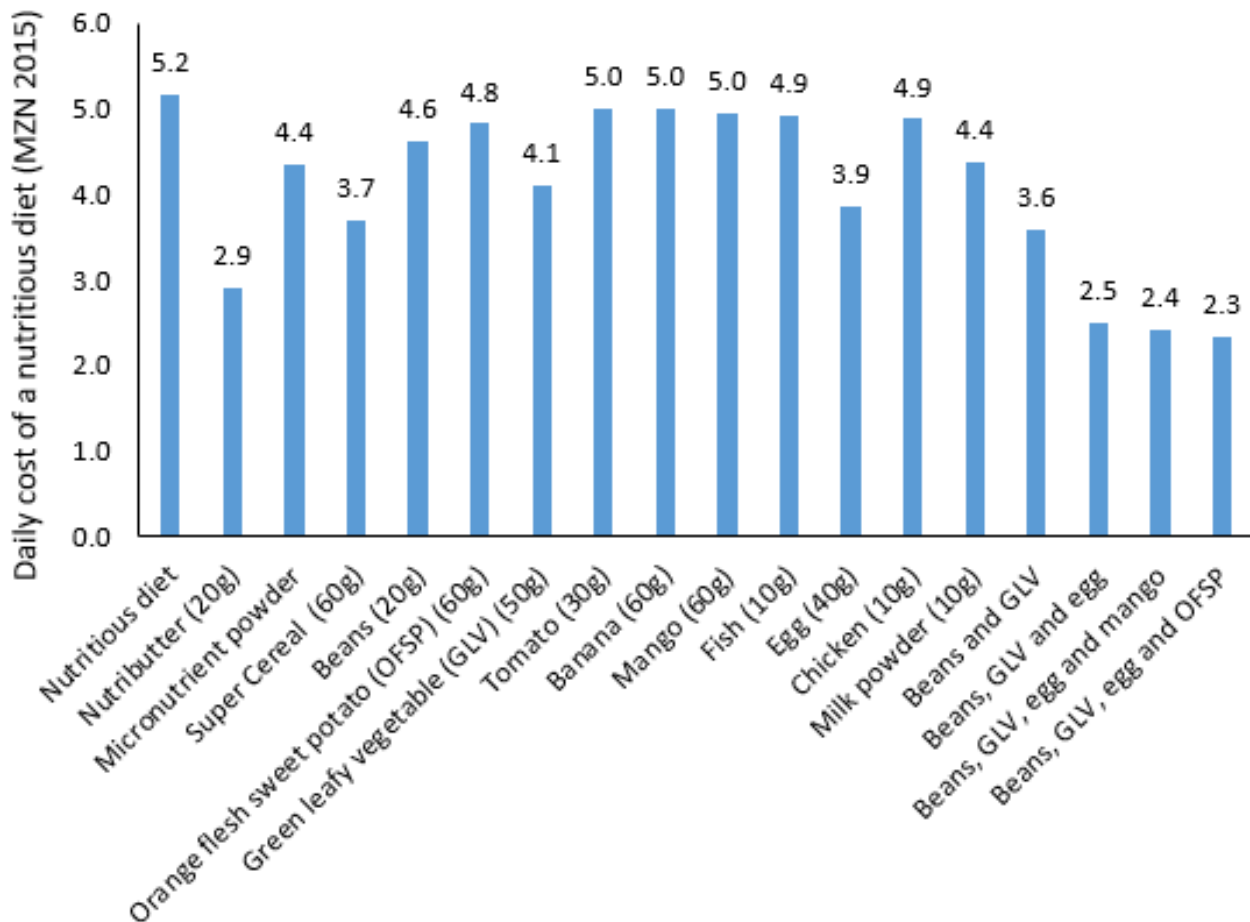
The median duration of exclusive breastfeeding in Mozambique was 1.3 months in the 2011 DHS, much lower than the recommended six months. Continued breastfeeding rates were more promising: 87 percent of children were receiving breast milk at 12–17 months and 61 percent of children at 18–23 months.

Only 1 in 10 children (11 percent) 6–23 months are fed a sufficient quantity and variety of food, that is, a minimum acceptable diet (MAD)⁸. This is due to a combination of low scores for minimum meal frequency (MMF)⁹ and minimum

dietary diversity (MDD)¹⁰, 38 percent and 30 percent respectively. MMF was lowest in Maputo, possibly due to time constraints on urban mothers. MDD was particularly low in Gaza, Sofala and Zambezia. There was little difference in MAD by wealth quintile, and given the high non-affordability of nutritious diets found in CotD analysis, it is likely that the main reason for low MAD in children is an inability of households to choose nutritious foods due to poor access, rather than a lack of knowledge or inadequate dietary practices.

CotD analysis was used to estimate the impact of multiple interventions to improve nutrient intake of children 6-23 months. On average, specialized nutritious foods (SNF) could reduce the daily cost of a nutritious diet for children by 29–44 percent, while micronutrient powders could reduce daily cost of a nutritious diet by 15 percent. Combinations of vouchers for natural foods could reduce the daily cost of the nutritious diet by 30–55 percent (Figure 7).

Figure 7: Impact of different in-kind and voucher interventions on the cost of a nutritious diet for children of 12–23 months per day (national average).



8. The Minimum Acceptable Diet is a summary indicator for beneficiary group practices. Children are classified as consuming a Minimum Acceptable Diet if they meet the minimum diet diversity and the minimum meal frequency.

9. The Minimum Meal Frequency is the proportion of target group members (e.g. children 6–23 months) who receive a food a minimum number of times or more, based on age group. A 'feeding' or 'meal' consists of both meals and snacks.

10. Minimum Diet Diversity is the proportion of a target group (e.g. children 6–23 months) who received foods from 4 or more of 7 food groups the previous day. The seven food groups are (1) grains, roots, and tubers, (2) legumes and nuts, (3) dairy products, (4) flesh foods, (5) eggs, (6) vitamin A rich fruits and vegetables, (7) other fruits and vegetables.

8.

THE DIETS OF ADOLESCENT GIRLS AND WOMEN ARE POOR AND CONTRIBUTE TO MALNUTRITION IN CHILDREN. TARGETED INTERVENTIONS CAN IMPROVE NUTRIENT INTAKE FOR THESE TARGET GROUPS.

In all regions of Mozambique, the nutritional requirements of the adolescent girl were the most expensive for the household to meet, comprising on average 33 percent of the total household cost (30 MZN per day) (Figure 8). The adolescent girl needs foods that are relatively rich in nutrients (especially vitamins and minerals) in comparison to their energy content: more vegetables, animal source foods, and fortified foods. The lactating woman was the second most expensive family member comprising on average 28 percent of the total household cost, followed by the man (20 percent), school-aged child (13 percent) and child under 2 (6 percent). As foods are not shared in these proportions and women and girls are unlikely to get a larger – or even equal – share of more nutritious foods, their nutrient needs are unlikely to be met.

Different interventions featuring SNF, supplements and natural foods were modelled for adolescent girls and PLW. On average, iron and folic acid tablets were most effective at reducing the cost of the nutritious diet for adolescent girls (by 30 percent) while vouchers for fresh nutritious foods could reduce costs by 7–22 percent (Figure 9).

For lactating women, a medium quantity lipid-based nutrient supplement (MQ-LNS) was the most effective intervention (29 percent reduction), followed by Super Cereal (SC, 22 percent), multiple micronutrient tablets (MMT, 13 percent) and iron and folic acid supplements (IFA, 8 percent). Vouchers for fresh foods reduced diet costs by 8–10 percent (Figure 10).

Figure 8: Percentage of the total cost of the nutritious diet for each household member (national average).

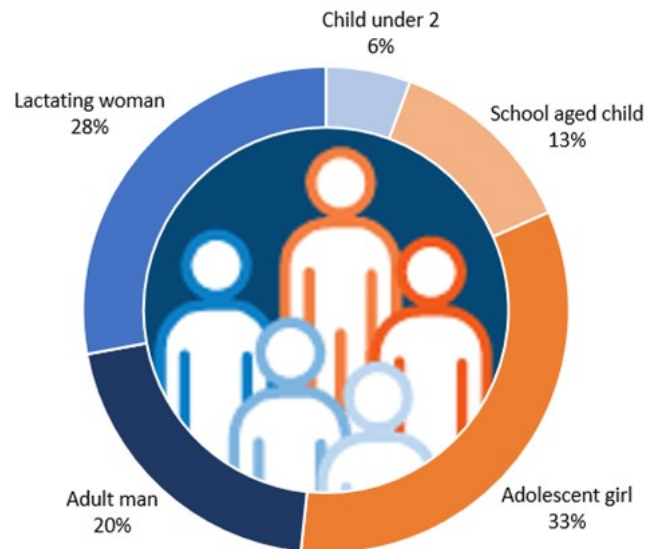


Figure 9: Impact of different in-kind and voucher interventions on the daily cost of a nutritious diet for adolescent girls (national average).

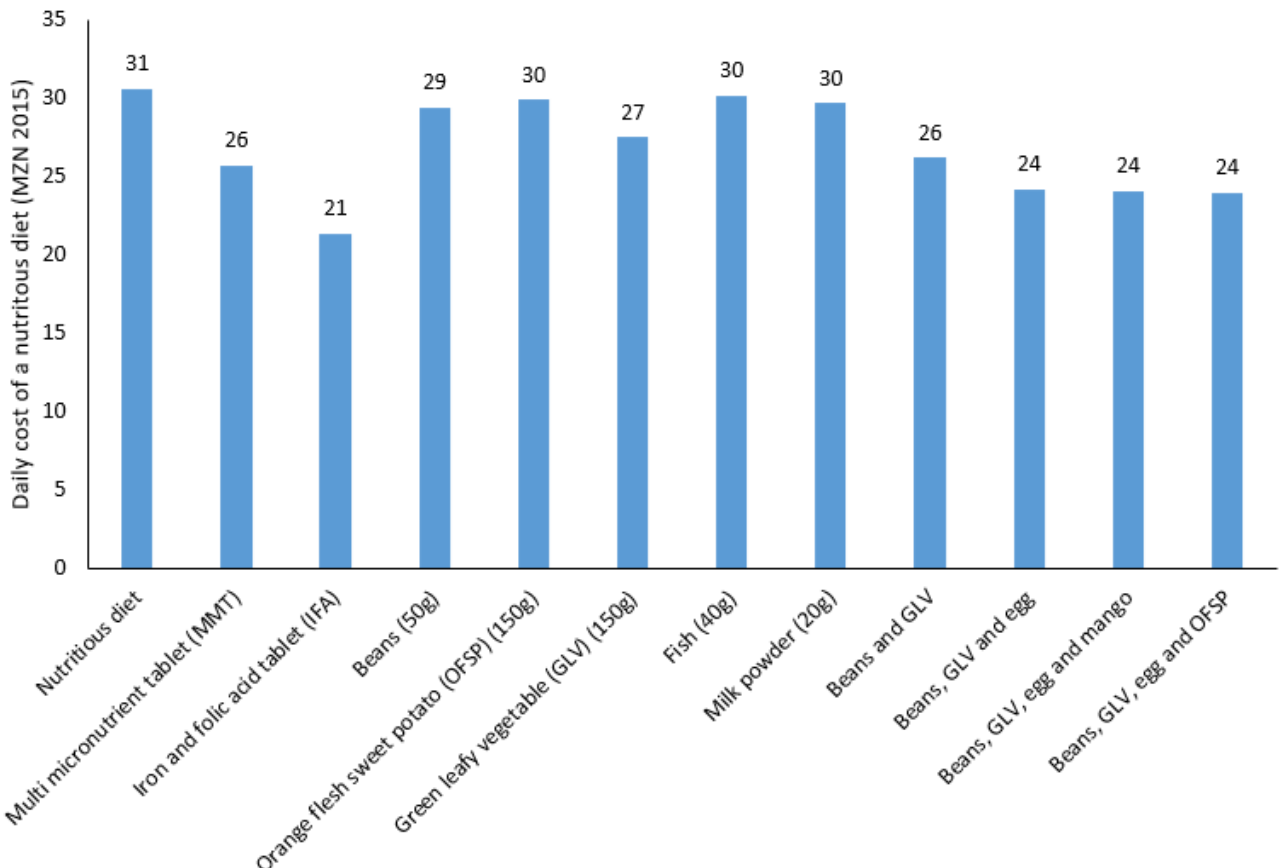
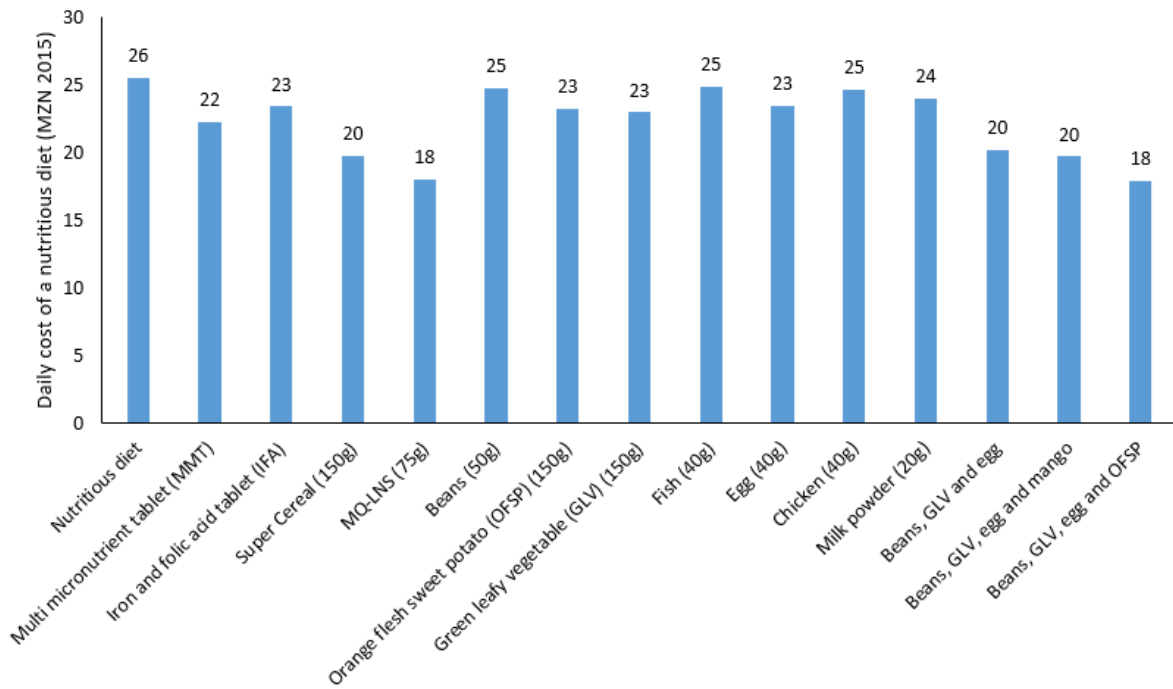


Figure 10: Impact of different in-kind and voucher interventions on the daily cost of a nutritious diet for PLW (national average).



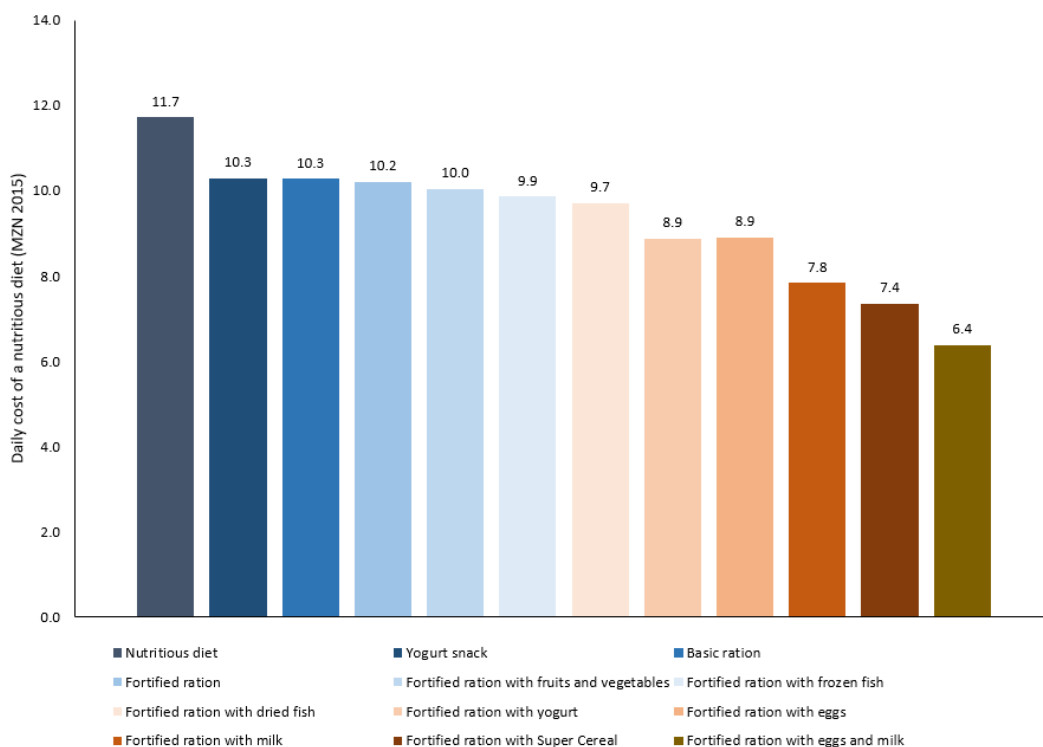
9.

SCHOOL FEEDING PROGRAMMES CAN IMPROVE NUTRIENT INTAKE FOR SCHOOL-AGED CHILDREN.

The 2013 National School Feeding Programme, Programa Nacional de Alimentação Escolar, (PRONAE) highlights school feeding as a government priority and aims to

expand school feeding to all pre-primary and primary schools. The emphasis would be on local procurement, community participation and nutrition education. When modelled using CotD, the most effective package included the provision of fortified maize and oil, eggs and milk (reconstituted from milk powder), which could reduce by 50 percent the cost to the household of feeding the school-aged child a nutritious diet (Figure 11).

Figure 11: Impact of alternative school-feeding interventions on the daily cost of a nutritious diet for school-aged children. The basic school feeding package contains unfortified maize, beans and vegetable oil while the fortified package contains beans, fortified maize meal and fortified vegetable oil.



10.

INTERVENTIONS TARGETED AT DIFFERENT HOUSEHOLD MEMBERS COULD REDUCE THE PERCENTAGE OF HOUSEHOLDS IN MOZAMBIQUE THAT ARE UNABLE TO AFFORD A NUTRITIOUS DIET, BUT THEY REQUIRE IMPROVED REACH OF MARKET AND PUBLIC-SECTOR DISTRIBUTION CHANNELS.

Effective interventions for key target groups can be combined to create context-specific household intervention packages (Table 1) with the potential to reduce the cost of a nutritious diet for households in different areas of Mozambique (Figure 12). On average, the daily cost of a nutritious diet could be reduced with different interventions as follows:

- A package of supplements (no. 1) for key vulnerable target groups (reduction of 17 percent);
- A package of fortified special foods (no. 2) for target groups (reduction of 19 percent);
- Agricultural and market interventions with natural nutritious foods (no. 3) (reduction of 37 percent)
- A combination of targeted interventions (SNFs) with

fortified crops available on the market and household production of biofortified crops (no. 4) could reduce the cost of a nutritious diet by 34 percent and reduce the percentage of households unable to afford a nutritious diet from 54 percent to 29 percent.

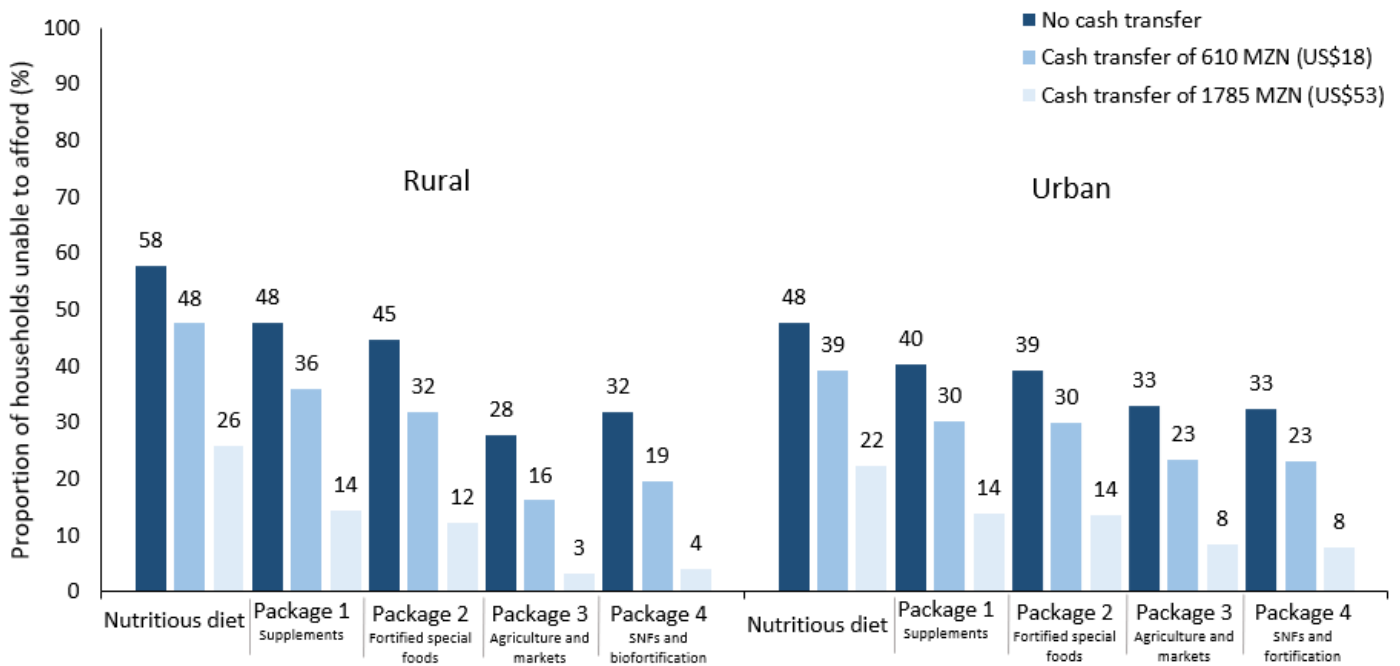
A monthly cash transfer of 1,785 MZN (US\$53) (assuming 70 percent of the transfer is spent on food) could reduce the percentage of households unable to afford a nutritious diet to as little as 3 percent when combined with package 3 in rural areas, and as little as 8 percent when combined with package 3 or 4 in urban areas.

A recent WFP market assessment report indicates that while market-based approaches may be effective in urban areas, purchasing power may not be the only constraint. Other distribution channels (health, social protection, agriculture extension, NGOs) are needed to reach people, and more nutritious crops (including biofortified crops) should be self-produced while infrastructure improvements are prioritised to support market development, particularly in rural areas.

Table 1: Intervention types modelled in the CotD Analysis. See full report for complete details of modelled packages.

	Package 1	Package 2	Package 3	Package 4
Children 6-23 months	Micronutrient powder (MNP)	Super Cereal (CSB) in North and South Nutributter (SQ-LNS) in Central	Natural foods: dried fish, green leafy vegetables, eggs, etc.	Super Cereal (CSB) in North and South Nutributter (SQ-LNS) in Central
Children 6-7 years	-	-	Improved school feeding package with fortified foods and local vegetables	Improved school feeding package with fortified foods and local vegetables
Adolescent girls	Multi micronutrient tablet (MMT)	Multi micronutrient tablet (MMT)	Natural foods: dried fish, amaranth, eggs, etc.	Multi micronutrient tablet (MMT)
Pregnant and lactating women	Multi micronutrient tablet (MMT)	Super Cereal (CSB)	Natural foods: dried fish, green leafy vegetables, eggs, etc.	Super Cereal (CSB)
Household	-	-	Fortified foods in urban areas; biofortified crop production in rural areas	Fortified foods in urban areas; biofortified crop production in rural areas

Figure 12: Impact of household intervention packages in urban and rural areas on the percentage of households that would be unable to afford a nutritious diet (national average).



The **effectiveness of cash transfers** to improve nutrition depends on the availability of nutritious foods in local, accessible markets; consumers being knowledgeable about healthy eating habits; and consumers prioritizing and having enough purchasing power to buy nutritious foods.

The modelling results with cash transfers are encouraging but a WFP market assessment in Gaza and Tete found that cash transfers faced constraints such as distance to

markets, poor road infrastructure, weak financial capacity of smaller traders, low potential of local shops to meet food selection and diversity requirements, the escalation of insecurity along main trade routes, the scarcity of local food supplies, trader competition for fewer stocks and the inflationary pressure on food prices. In urban areas cash transfers were deemed feasible and in rural areas near urban areas a pilot was recommended to evaluate effectiveness (Both findings: Caccavale et al. 2016).

11.

FOOD SECURITY AND NUTRITION ARE STATED GOVERNMENT PRIORITIES ACROSS MULTIPLE SECTORS; THEY REQUIRE TARGETED AND EVIDENCE-BASED STRATEGIES FOR DELIVERY.

Food security and nutrition are prioritised by the Government of Mozambique in a number of policy frameworks and SETSAN is in the process of formulating a new National Strategy for Food Security and Nutrition.

The FNG process brought together – and was led by – stakeholders from different government ministries and

departments including Health, Agriculture, Food Security and Nutrition, Education and Social Protection. UN agencies, donor agencies and NGOs from different disciplines were also engaged.

A part of this analysis was the ability to show the need for, and potential impact of, packages of interventions delivered by different participants across a range of platforms in different contexts. The FNG process provides evidence for collaboration and targeting of multi-sectoral actions, and clearly demonstrates the responsibility all sectors have for participating in, and contributing to, the improvement of nutrition in Mozambique.

FNG in Mozambique: Recommendations

During the FNG dissemination workshop main findings were shared and discussed. Participants formed working groups by province and by sector. Working groups discussed the following entry points for policy and programmatic strategies: agriculture; social protection; health; SBCC; education; and the private sector. Each group developed action plans for prioritized interventions. Across the action plans and in discussions throughout the workshops the following recommendations emerged from participants.

1.

AGRICULTURE AND FISHERIES — INVEST IN, PROMOTE AND PROLIFERATE THE PRODUCTION OF NUTRITIOUS FOODS AND THE ADOPTION OF IMPROVED TECHNOLOGIES AND METHODS USING COMMUNITY-LEVEL EXTENSION AND SUPPORT.

The average rural household in Mozambique produces 90 percent of the food it consumes. Dietary diversity and market access are low in most of the country. A consensus was reached among workshop participants that a key intervention would be to support the production of greater quantities of nutritious foods by smallholder farmers. Working groups representing the provinces of Zambezia and Tete highlighted the promotion of beans, green leafy vegetables, eggs and orange-flesh sweet potato in their action plans. A working group representing Nampula and Cabo Delgado provinces highlighted the promotion of biofortified foods in their action plan.

2.

SOCIAL PROTECTION — TARGET THE MOST VULNERABLE GROUPS WITH SOCIAL PROGRAMMES, SUPPORT CASH TRANSFERS WITH SBCC AND INVEST IN IMPROVED DATA SYSTEMS FOR STRUCTURED TARGETING AND MONITORING.

In the preliminary results workshop a group consensus was reached on the importance of targeting the most vulnerable groups in the country in terms of geographical

area, poverty status and the lifecycle stage, particularly in development and climate shock responsive settings. In the final results workshop a group representing Nampula developed an action plan combining cash transfers with SBCC to improve consumption of nutritious diets. The group proposed an expansion of ongoing interventions led by INAS and WFP to vulnerable families.

3.

SBCC — PRIORITIZE HARMONIZED SBCC MESSAGES TO IMPROVE DIETS FOR INFANTS AND CHILDREN, WOMEN AND ADOLESCENT GIRLS AT COMMUNITY LEVEL.

Across all interventions and specifically with respect to cash transfers working groups highlighted the importance of SBCC to address existing knowledge gaps in target group populations. The working group from Nampula specifically highlighted the importance of addressing cultural taboos and promoting production of nutritious foods at the household level as a component of a cash transfer programme. Community radio was highlighted as a potential channel.

4.

HEALTH — PROVIDE SERVICES TO PREVENT EARLY PREGNANCIES TO PROTECT ADOLESCENT GIRLS' NUTRITIONAL STATUS AND THAT OF FUTURE GENERATIONS.

CotD analysis identified that of all household members meeting the cost of the nutritious diet was most expensive for adolescent girls, due to high nutrient requirements related to physical development. Early pregnancy was highlighted as an immediate cause of chronic malnutrition in Mozambique. Workshop participants agreed that reducing unwanted teenage pregnancies through the health and education sectors could improve the nutrition situation in Mozambique.

5.

EDUCATION — LEVERAGE SCHOOL FEEDING PROGRAMMES TO IMPROVE ACCESS TO NUTRITIOUS FOODS AND OPTIMISE NUTRITION OUTCOMES.

CotD analysis identified that ongoing school feeding programmes could improve nutrient intake for children if rations were adjusted to include more nutritious foods. Challenges identified by workshop participants in the delivery of more nutritious foods through the school feeding platform included the procurement of fresh foods, food safety and storage, overcoming local taboos and the capacity of programme managers to identify which foods would make rations more nutritious. Workshop participants with experience implementing school feeding programmes agreed that despite the challenges school feeding programmes could be improved to include more nutritious foods and there was a strong commitment to achieving this goal.

6.

PRIVATE SECTOR — ENGAGE WITH THE PRIVATE SECTOR TO SUPPORT AND FACILITATE DEVELOPMENT AND COMMERCIALISATION OF NUTRITIOUS FOODS.

Improved engagement with private sector actors to deliver nutritious foods through commercial channels will be needed to improve nutrient access throughout Mozambique, immediately in urban areas and in the long-run in rural areas. Private sector engagement strategies highlighted by workshop participants included improved enforcement and compliance of fortification standards, promotion and recognition of nutritional options available through local markets, improvement of roads and market access throughout the country and more production of nutritious foods by Mozambican industry.



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LIST OF ACRONYMS

CotD	Cost of the Diet
DHS	Demographic and Health Survey
FAO	Food and Agriculture Organization of the United Nations
FNG	Fill the Nutrient Gap
GLV	Green Leafy Vegetables
GNR	Global Nutrition Report
INAS	National Institute for Social Action
IFPRI	International Food Policy Research Institute
IOF	Inquérito do Orçamento Familiar (IOF) (Household Budget Survey)
IYC	Infants and Young Children
IYCF	Infant and Young Child Feeding
LP	Linear Programming
MAD	Minimum Acceptable Diet
MMT	Multi Micronutrient tablet
MNP	Micronutrient Powder
MQ-LNS	Medium Quantity Lipid -Based Nutrient Supplement
MZN	Mozambican Metical (currency)
PAMRDC	The Multisectoral Action Plan for the Reduction of Chronic Undernutrition
PLW	Pregnant and Lactating Women
SC	Super Cereal
SBCC	Social Behaviour Change Communication
SETSAN	Secretariat for Food Security and Nutrition
SNF	Specialised Nutritious Food
SUN	Scaling up Nutrition Movement
UN	United Nations
WFP	United Nations World Food Programme

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