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Cost of the diet analysis in Samoa

An analysis of the cost and affordability of diets, nutrient gaps and modelling of interventions to improve diets in Samoa

MINISTRY OF AGRICULTURE AND FISHERIES
SAMOA

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Foreword

The Government of Samoa remains committed to ensuring that every Samoan has access to safe, affordable, and nutritious food. This commitment is at the heart of our national development priorities and is vital for the health, resilience, and prosperity of our people.

The Cost of the Diet Analysis for Samoa provides valuable evidence to inform our policy and decision-making processes. It highlights the real cost of achieving a healthy diet in Samoa, the challenges that households face in accessing nutritious foods, and the opportunities to strengthen our agriculture and food systems to better meet the needs of our communities.

This analysis is particularly timely as Samoa continues to confront multiple challenges, including the rising burden of non-communicable diseases, vulnerabilities to climate change, and the pressures of global market fluctuations. By identifying the gaps between what is affordable and what is nutritious, the report equips us with the insights needed to guide investments, strengthen local food production, and ensure that nutrition-sensitive approaches are mainstreamed into our agriculture, health, and social protection strategies.

I wish to acknowledge with gratitude the technical support of the World Food Programme (WFP) in undertaking this analysis, as well as the contributions of all national stakeholders who participated in this important work. We also recognize the longstanding partnership between WFP and the Ministry of Agriculture and Fisheries, through which we continue to collaborate on advancing food and nutrition security, building resilience, and improving the livelihoods of our people. Your collective efforts have made it possible to generate this critical evidence base that will guide us towards building a healthier and more resilient Samoa.

It is my sincere hope that the findings of this report will not only inform national planning but also inspire collective action at all levels, from government, to communities, to families so that together, we can ensure the right to nutritious food for every Samoan.

Honourable Niu'ava Eti Leatiogie Malolo Funefeai
Minister of Agriculture and Fisheries
Samoa

Executive Summary

Background

Samoa faces a triple burden of malnutrition: widespread obesity - linked to increased risk of diet-related non-communicable diseases (NCDs) - coexist with undernutrition and micronutrient deficiencies. With nearly 80 percent of women classified as obese and over 70 percent of deaths linked to NCDs, the country's nutrition crisis is exacerbated by a shift from traditional diets to imported, ultra-processed foods. Rising food prices further limit access to healthy diets, particularly for vulnerable households.

Under the leadership of the Ministry of Agriculture and Fisheries, the World Food Programme undertook the Samoa Cost of the Diet (CotD) analysis in order to ascertain the affordability and accessibility of nutritious diets in Samoa. This analysis was conducted between October 2024 and June 2025 with the objective of informing national policy and programming by identifying entry points to better enable households to meet their essential nutrient needs, thereby supporting Samoa's commitment to achieving food and nutrition security.

Methods

The analysis identified food baskets which could meet a six person household's nutrient needs at the lowest cost by 1) leveraging price data collected by the Samoa Bureau of Statistics (SBS), and 2) using the WFP's Enhance linear optimization tool, a mathematical method used to find the best possible solution (maximum or minimum) to a problem with linear relationships between variables. The analysis includes findings for two types of diets: an energy-only diet, which is the lowest cost of meeting daily kilocalorie needs, and a nutrient-adequate (nutritious) diet, the daily cost of meeting both kilocalorie and energy needs. The costs of diets are then compared to household food expenditure data, also provided by SBS, to estimate non-affordability. The analysis included the potential impact of interventions on cost and non-affordability, based on stakeholder consultations.

Findings

While an energy-only diet, meeting only the kilocalories needed to survive, costs 11.88 Western Samoa tala (WST), the equivalent of 4.34 United States dollars (USD) per household per day, a nutritious diet, meeting kilocalorie and nutrient needs, costs WST 50.00 (USD 18.28) — over four times more. A comparison of diet costs of individual household members highlights the nutritional vulnerability of adolescent girls and breastfeeding women, who have the highest cost of nutritious diets. While almost all households in Samoa are able to afford an energy-only diet, over 40 percent of Samoan households are not likely to be able to afford a nutritious diet given current food expenditure.

In addition to cost and non-affordability, the analysis considers access to food, and it does so for different scenarios and interventions. Cost comparisons show that the nutritious diet, if it were composed of only locally produced food, would be twice as expensive as a diet that included imported items. This underscores the need to strengthen local food systems to improve access and affordability. Poultry production, a significant intervention highlighted by stakeholders to improve access to local, nutritious food, was found to have significant potential to reduce diet costs and improve access to micronutrients like vitamins B_{12} and A, and folate. Stakeholders demonstrated interest in exploring school-based programmes, particularly those offering balanced meals including animal source foods, which can reduce the cost of the nutritious diet by up to 25 percent for school

age children. The analysis shows that social protection schemes to increase affordability of a nutritious diet through the provision of cash transfers would have to be accompanied by social and behaviour change (SBC) programmes promoting nutritious food choices.

Despite Samoa's rich agricultural traditions, the country remains heavily reliant on food imports, with 61 percent of household food consumption purchased and only 37 percent of top food items locally produced. This dependence limits dietary diversity and contributes to poor nutrition outcomes. The analysis finds that even if all Samoans could afford a nutritious diet, current limitations on national food availability would prevent access to the quantity of vegetables needed in the nutritious diet.

Conclusion

This report calls for a multisectoral response to transform Samoa's food systems. Recommendations can be translated into policy and programmes in relevant sectors. Agriculture and production as well as health and education are essential sectors to implement the suggested interventions. These include promoting diversified, nutrition-sensitive farming, regulating the influx of unhealthy imported foods and promoting healthy alternatives, local sourcing of school meals, and early nutrition behaviour change. Essential to ensure long-term impact and sustainability are awareness and advocacy, monitoring and evaluation, and financing of the proposed interventions. By aligning agriculture, health, education, and trade policies, Samoa can build a resilient food system that ensures all citizens have sustainable access to affordable, nutritious diets.

Background

Samoa context

The Independent State of Samoa is a Small Island Developing State (SIDS) in the Polynesian region of the Pacific Ocean. It comprises two main islands, Upolu and Savaii, as well as several smaller islets, and has a population of 222,382 people. It is a lower-middle-income country with a gross domestic product (GDP) per capita of 3,746 United States dollars (USD) (2022) and a high level of human development (0.702, 2022). Samoa benefits from a stable governance structure, blending traditional and parliamentary systems. While the country has a dynamic economy driven by agriculture, tourism, and remittances, it is highly vulnerable to external shocks. Samoa experiences frequent tropical cyclones and heavy rainfall, often accompanied by severe flash flooding, high winds, and storm surges which significantly impact food security, social protection, and economic development. Vulnerabilities are intensified by its small size and remote location.

NUTRITION CRISIS AND NON-COMMUNICABLE DISEASES (NCDS)

Samoa is facing a growing crisis in nutrition and public health, driven by the widespread prevalence of NCDs. Food and nutritional health problems occur nationwide with consequences cutting across all sectors. At the heart of this crisis is an alarming obesity epidemic — Samoa currently ranks as the fourth most obese country in the world. Obesity, once seen as a sign of beauty or strength, is now recognized as a major health threat. The prevalence of NCDs like diabetes, hypertension, and heart disease has risen dramatically, particularly among women. Just under 80 percent of women in Samoa are obese, and over 70 percent of deaths are related to NCDs. A key driver of this health emergency is the dramatic shift in dietary habits. Traditional nutritious foods are now being replaced by imported ultra-processed foods and sugary drinks which are high in sugar, salt and unhealthy fats, and are coupled with a decline in physical activity. According to Samoa's Consumer Price Index (CPI) Report, rising food prices have further exacerbated diet-related health issues by pushing up consumption of cheaper unhealthy foods.

In response, the Samoa National Food and Nutrition Policy (NFNP) & Plan of Action 2021—2026 outlines the government's commitments to enhancing nutritional health in the country. It presents a comprehensive framework of actions that the government and its partners aim to adopt, develop, and implement to address the various food and nutritional health issues faced in Samoa. The NFNP mission "to reduce malnutrition and food and nutrition-related diseases in Samoa" underscores the Government of Samoa's commitment to addressing food and nutrition as a development priority. To achieve this, the NFNP sets out specific, measurable targets, including: 5 percent reduction in under-5 overweight; no increase in childhood/adolescent overweight; 5 percent reduction in childhood/adolescent obesity; 5 percent reduction in adult overweight; 5 percent reduction in adult obesity; and 5 percent increase in intake of fruit and vegetables. These targets call for urgent systemic changes in the accessibility of nutritious food and public awareness of improved dietary habits.

Motivations for undertaking a Cost of the Diet (CotD) analysis in Samoa

Within this context, the United Nations World Food Programme (WFP) is working in partnership with others to support the Government of Samoa to address these challenges. As part of this, the Ministry of Agriculture and Fisheries

and WFP are jointly conducting a Cost of the Diet (CotD) analysis in Samoa to identify the cost and affordability of diets and nutrient gaps, and inform decision making to improve access to healthy, nutritious diets for the Samoan population. The CotD analysis is integrated within a multisectoral engagement process to inform government policies and programmes across key sectors including agriculture, health, education, and community.

Using a food systems approach, the study combines secondary data, advanced software, and multi sectoral stakeholder engagement to identify barriers and solutions for sustainable and healthy diets. This analysis is part of a joint SDG programme: "Catalyzing the Samoa national food systems transformation agenda through collective action". The objective of this programme is to contribute to the solutions highlighted in the Samoa Food Systems Pathway 2030 on how to transform national food systems for a resilient Samoa, drawn from the national 2021 Samoa Food Systems Summit Dialogue. It will also contribute to the Health Sector Plan 2019/20— 2029/30, the National Food and Nutrition Policy & Plan of action 2021—2026, and the Agriculture and Fisheries Sector Plan 2022/23—2026/27.

The analysis leverages existing data from the SBS and other sources and includes essential inputs on the health and nutritional context from the Ministry of Health, supplemented by stakeholders' inputs to ensure findings are comprehensive and recommendations are actionable in the Samoan context.

Methods

Stakeholder process

The CotD analysis process began in October 2024 and was completed in June 2025. It was led by the Ministry of Agriculture and Fisheries and supported by WFP's Pacific Multi-Country Office (PMCO) with technical assistance from WFP's Asia and the Pacific Regional Office (APARO). Bilateral consultations with stakeholders on inputs for the analysis were collected between October 2024 and May 2025. The draft analysis report was completed in June 2025 and the final validation of findings took place in June 2025.

Data sources

This analysis draws on both primary and secondary data sources to estimate diet costs and assess affordability in Samoa. The primary data on food prices was collected by SBS from markets across the country in November 2024 and January 2025, covering a broad range of locally available and commonly consumed foods. Household economic data was obtained from the SBS Household Income and Expenditure Survey (HIES) 2018, which served as the basis for estimating household level food access and affordability. The analysis incorporated components from the SBS HIES 2023 to provide updated insights into current dietary patterns. In addition to reported food expenditure, the analysis accounted for own production and in-kind food access, using variables related to subsistence agriculture, fishing, livestock, and home processed food to capture the full picture of household food resources.

Enhance tool

The CotD analysis uses the linear optimization platform Enhance to ascertain the extent to which poverty, food availability and food prices can affect people's ability to meet their macronutrient and micronutrient requirements. Using primary data or secondary data sources, Enhance calculates what quantity and combination of locally available foods result in the lowest possible cost to provide individuals or households with their average energy requirements and recommended intake of protein, fat and micronutrients[1]. Diets are modelled with predefined limits to avoid the inclusion of unrealistic amounts or types of food as well as the excessive supply of nutrients.

The analysis determines the cost of the diet for a household with a specific composition. The composition includes individuals representing the different stages of the life cycle, as nutritional needs vary across age and sex. The modelled household has six members:

- A child aged 12-23 months
- A school age child of 6-7 years
- An adolescent girl of 14-15 years
- A breastfeeding adult woman
- An adult male
- An elderly woman

Types of diets analysed

This analysis of diet costs estimated household costs for two types of diets, detailed in Table 1.

1 As defined by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). The requirements for nine vitamins and four minerals are included.

TABLE 1: DIETS MODELLED IN THE ANALYSIS

	ENERGY-ONLY DIET	NUTRIENT-ADEQUATE ("NUTRITIOUS" DIET)
Definition	The energy-only diet refers to the combination of foods that meets the energy requirements (kilocalories) of the modelled household for the lowest possible cost. It mainly consists of basic staple foods and other foods with high energy density.	The combination of foods that, for the lowest possible cost, meets the macronutrient and micronutrient requirements in addition to the energy requirements, where roughly 50 percent of energy comes from staple foods frequently consumed in the country[2].
Macro- and micronutrient targets	**Only human energy needs.** Target is set for kilocalories met at 100 percent.	**Both human energy and nutrient needs.** Targets are set to meet kilocalories at 100 percent, and to meet recommended nutrient intake targets for calcium, zinc, folate, iron, magnesium, pantothenic acid, niacin, thiamin, and vitamins B_{12}, B_6, A and C at minimum 100 percent, but avoiding upper limits.
Methodology	Linear optimization	Linear optimization
Source	WFP Fill the Nutrient Gap (FNG) indicators	WFP FNG indicators

Calculation of non-affordability

Non-affordability is defined as the percentage of households whose monthly food expenditure is below the monthly cost of the nutritious diet (WST 1,584 per household per month in Samoa). Household food expenditure data are compared with the cost of the nutritious diet in order to calculate the proportion of the population that would not have access to this diet. The proportion of unaffordability is a conservative estimate because it is based on an optimized selection of foods. The actual cost and unaffordability of nutritionally adequate diets is likely to be higher.

Analytical process

This analysis of diet costs had two components: 1.) a review of information, secondary data and literature, specific to the analysis context regarding factors that could influence individuals' diets, and 2.) an analysis of the cost and affordability of the diet. These two components are integrated to gain a better understanding of the obstacles faced by individuals in a specific context and to identify possible entry points and interventions with the potential to close gaps in nutrient intake.

2 This diet is not intended to reflect what individuals or households currently eat, nor should it be used to develop food based dietary recommendations or guidelines.

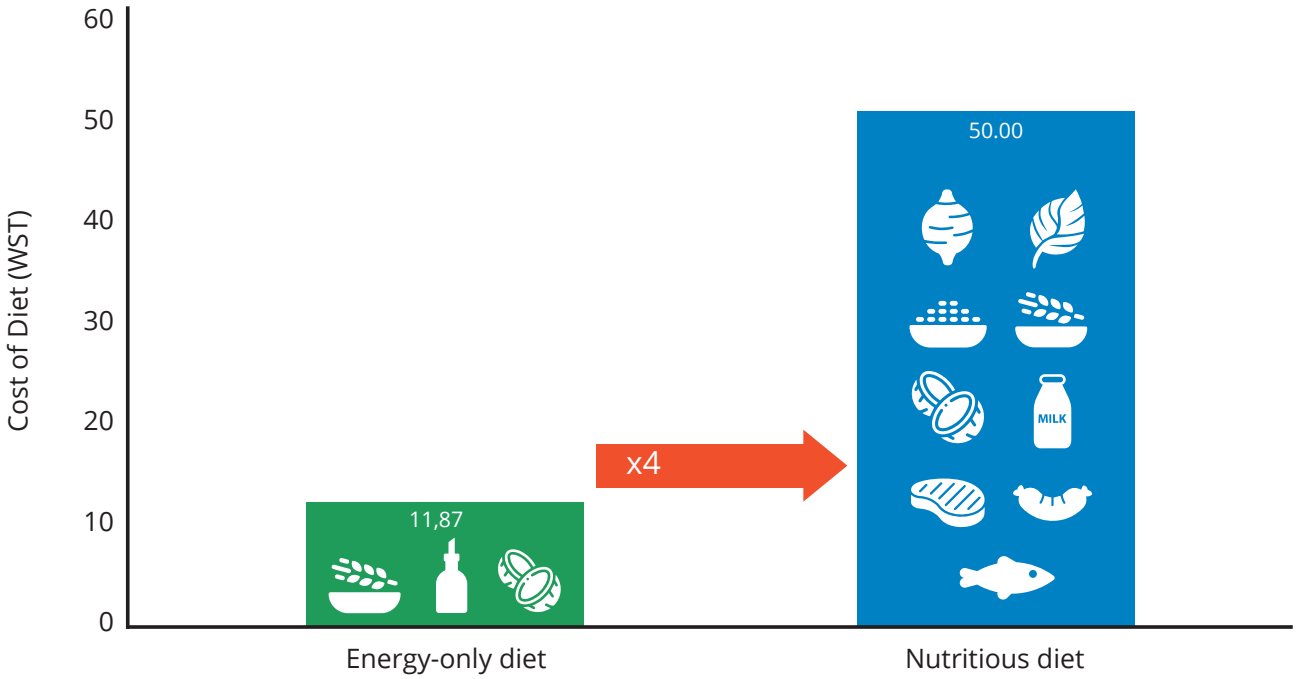
Findings – Baseline CotD results

Cost of the diet

By combining local food prices with dietary requirements, this analysis identifies the minimum cost needed to meet essential nutrient needs using locally available foods. It not only highlights economic **barriers to achieving a healthy diet but also identifies strategies for improvements.**

The cost difference highlighted in Figure 1 between a nutritious diet and an energy-only diet per day is significant for a six person modelled household in Samoa.

FIGURE 1: DAILY COST OF ENERGY-ONLY AND NUTRITIOUS DIETS IN SAMOA, FOR A 6 PERSON HOUSEHOLD FOR 3 MEALS



The energy-only diet, which meets only basic calorie requirements without essential nutrients, costs WST 11.88 per day for the modelled household. In contrast, a nutritious diet for the same modelled household that provides adequate macro- and micronutrients costs WST 50.00 per day, which is four times more than the energy-only diet. The foods selected in each type of diet for an example individual are listed in Table 2.

TABLE 2: FOODS SELECTED IN THE ENERGY-ONLY AND NUTRITIOUS DIETS FOR AN EXAMPLE INDIVIDUAL (ADOLESCENT GIRL)

	ENERGY-ONLY DIET	NUTRITIOUS DIET
Starchy staples	Wheat flour	Taro, rice, wheat flour, potatoes
Legumes, nuts and seeds	Coconut	Coconut
Animal source foods (+ dairy)		Milk, sardines, beef, sausage
Vegetables		Taro leaves (+ spice quantities of onion and garlic)
Fruit		
Oils and fats	Vegetable oil	

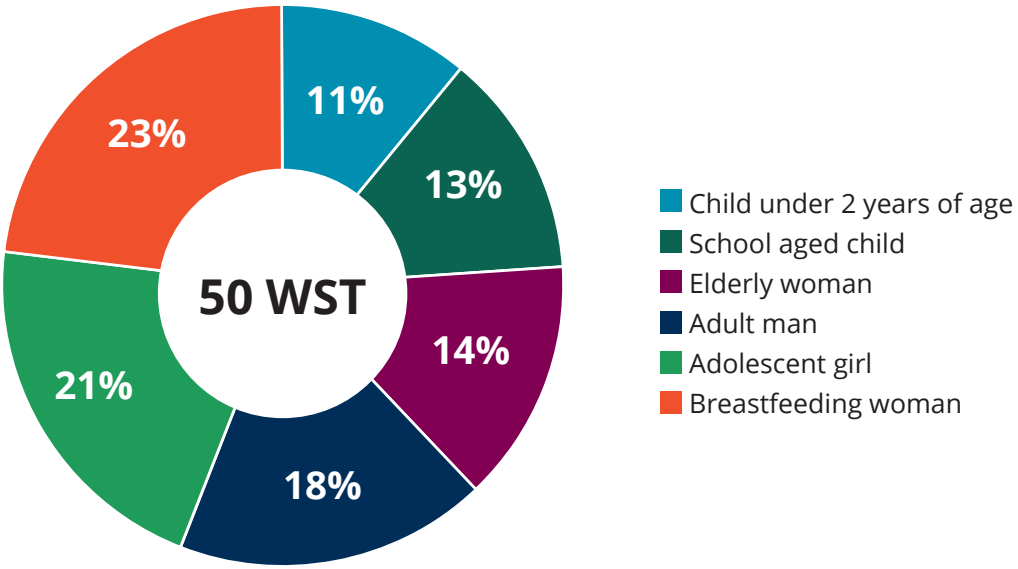
Notably, the Enhance software has not selected any fruit in the nutritious diet basket. This is because the nutritious diet is the cheapest combination of foods which meets nutrient adequacy, meaning it is an optimized diet and not a recommended diet. The micronutrients found in fruit, like vitamins A and C, are also available in vegetables. Enhance found that it is more cost-efficient to get these nutrients from vegetables. Similarly with oil, which provides only fat and kilocalories. Both fat and energy are inexpensive, therefore it is more efficient for the software to pick up foods that have both nutrients and oil, like coconut. In the preliminary analysis, coconut was categorized as a fruit, as it is also botanically a drupe, which is a type of fruit.

Choosing nutrient-dense foods, such as legumes, vegetables, whole grains, and fortified products, can help meet dietary requirements more efficiently and at a lower cost. In contrast, reliance on energy-dense but nutrient-poor foods, like processed snacks or sugary drinks, may appear cheaper in the short term but fails to provide essential nutrients, leading to hidden hunger and long-term health issues.

Cost difference across household members

Nutritional needs vary significantly across different stages of life due to physiological changes, growth patterns, and health demands. Infants and young children require nutrient-dense diets to support rapid physical and cognitive development, with particular emphasis on iron, calcium, and essential fats. Adolescents experience a surge in growth and hormonal changes, necessitating increased intake of calories, protein, and micronutrients like iron, zinc, and folate. Women of reproductive age, especially during pregnancy and lactation, have elevated nutritional needs to support maternal health and foetal or infant development, requiring more calories, protein, calcium, and iron. Adults need balanced diets to maintain energy levels and metabolic function, while elderly people have slower metabolisms. Recognizing these needs specific to life stages is essential to designing diets and policies that promote lifelong health and resilience. As Figure 2 shows, nutritional needs and costs vary across the different stages of life and sex.

FIGURE 2: COST OF THE NUTRITIOUS DIET DISAGGREGATED BY MODELLED HOUSEHOLD INDIVIDUALS



Findings reveal that meeting the nutritional diet of the adolescent girl and the breastfeeding woman are more expensive than for other household members. They have higher micronutrient needs which require diverse and expensive foods. This contrasts with a child aged 12–23 months, whose nutritious diet costs the least due to lower portion requirements despite specific nutritional needs critical for growth and development.

Non-affordability of nutritious diets

METHODOLOGY

To assess the non-affordability of nutritious diets in Samoa, household economic capacity was estimated by combining both monetary and in-kind sources of food access.

This included:

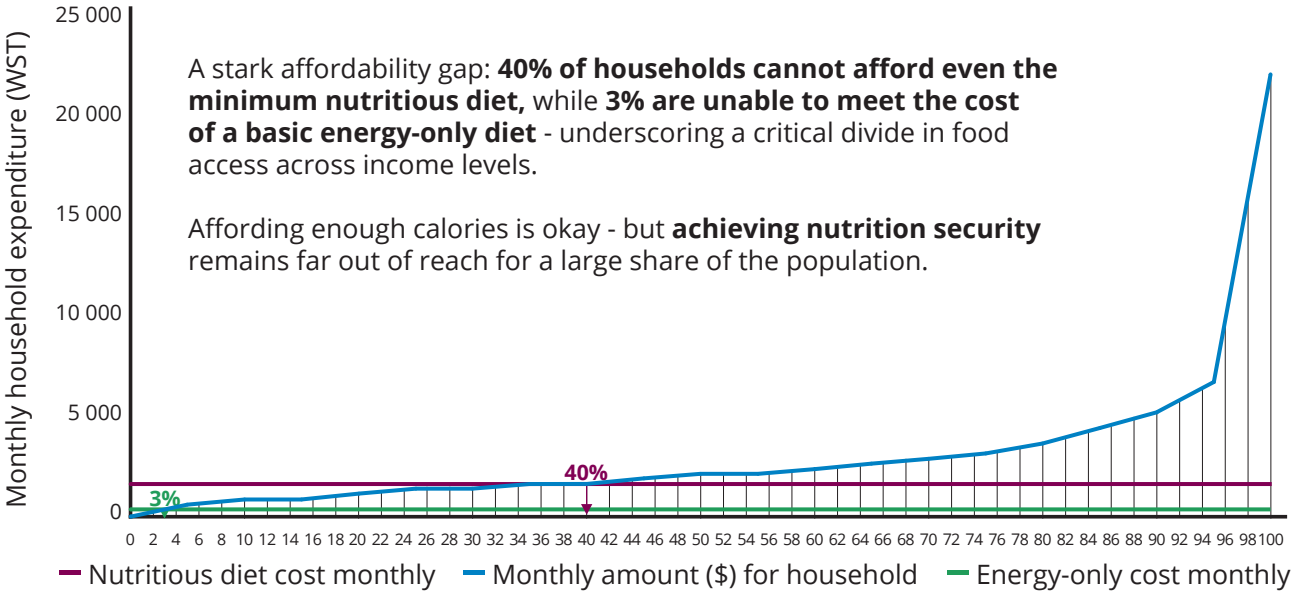
- Total household expenditure on food
- Value of own produced goods consumed by the household
- Income from subsistence-based food production, including agricultural activities, horticulture/floriculture, livestock, fishing, and home processed food. Table 3 shows more detailed information on the included variables.

This composite food access indicator was used to compare the cost of two modelled diets: The energy-only diet and the nutritious diet. Diet costs were calculated using linear programming for a model household of six individuals across different life stages and adjusted for inflation using national CPI data from 2018 to 2024.

In Samoa, the cost of an energy-only diet is estimated at WST 361 (USD 131) per household per month, while a nutritious diet costs approximately WST 1,520 (USD 553) per household per month. These estimates are adjusted for inflation using the national annual average food CPI trends from 2018 (CPI = 111) to 2024 (CPI = 158.8).

Despite this inflation adjustment, the nutritious diet remains unaffordable for 40 percent of Samoan households, based on their total monthly food expenditure. While only three percent of households are unable to afford the energy-only diet, a much larger proportion is priced out of nutritionally adequate diets that support long-term health, development, and resilience. The data included in the calculation of food expenditure are presented in Figure 3.

FIGURE 3: NON-AFFORDABILITY OF ENERGY-ONLY AND NUTRITIOUS DIETS IN SAMOA



This affordability gap exists in a context where overweight and obesity levels are among the highest in the Pacific region, reflecting a food environment heavily reliant on energy-dense, imported foods, such as canned meats, sweetened beverages, and processed snacks. While these foods are often more affordable and accessible, they crowd out consumption of nutrient-rich local alternatives and contribute to rising rates of NCDs.

The inability to afford nutritious diets is not limited to the poorest deciles. The curve of household expenditure suggests that nutritional vulnerability extends across the bottom 40–50 percent of the population, indicating the need for broad-based, systemic interventions. These may include:

- Increasing affordability and availability of locally produced nutritious foods through strengthening and diversifying agriculture and fisheries production systems;
- Supporting community and school-based nutrition programmes that integrate locally grown produce and fish, and;
- Designing social protection schemes that are explicitly linked to nutrition objectives, and that incentivise the consumption of healthy, locally sourced foods.

Samoa's population faces a triple burden of malnutrition: widespread obesity - linked to increased risk of diet-related NCDs - coexist with undernutrition and micronutrient deficiencies. Food is abundant in calories but lacking in nutrition and for many people, diets that support health and productivity remain economically out of reach. Addressing this requires a food systems approach that links production, access, and consumption of nutritious foods, particularly from local agriculture and fisheries value chains.

TABLE 3: VARIABLES INCLUDED IN HOUSEHOLD FOOD ACCESS CALCULATION

DATA SOURCE/ VARIABLE	TYPE	PURPOSE IN ANALYSIS
Total household expenditure on food	Cash	Captures direct market purchases for food
Total household's value of own production goods	In-kind value	Represents food obtained from household production or non-purchased consumption
Total household income from agricultural activities	In-kind income	Proxy for crops consumed by the household
Total household income from horticulture/floriculture	In-kind income	Captures household-grown fruits and vegetables
Total household income from home-processing food	In-kind income	Accounts for self-prepared or preserved food
Total household income from livestock	In-kind income	Includes milk, meat, and eggs from own animals
Total household income from fishing and gathering sea products	In-kind income	Reflects household consumption of caught or gathered aquatic foods

Analysis of diets and food system

Micronutrient consumption patterns of vulnerable groups in Samoa

With over 80 percent of Samoans residing in rural areas and approximately 70 percent living in low-lying coastal zones, climate-related shocks — such as cyclones, floods, and sea-level rises — disproportionately impact households already facing economic and social vulnerabilities. For these communities, access to nutritious food is further limited by physical availability, market connectivity, and affordability.

Samoa's food supply is reliant on imports, with domestic agriculture meeting a limited portion of national demand. In 2023, food imports accounted for approximately 30 percent of Samoa's total merchandise imports, with foods such as rice, wheat, dairy products, and meats largely imported or entirely sourced from abroad. Although local crops are essential to the local diet, only 37% are produced and consumed locally compared to imported goods.

In Samoa food secure households generally have greater access to a diverse range of foods. In contrast, food insecure households are often constrained by limited incomes and poor market access, leading them to consume cheaper, calorie-rich staples, typically low in key micronutrients such as iron and vitamin A.

Recent findings from the WFP's mobile Vulnerability Analysis and Mapping (mVAM) survey (Quarter 4, 2024) conducted among 1,200 households highlights that while nearly 90 percent of Samoan families reported acceptable levels of food intake, dietary diversity remains a crucial concern. Micronutrient deficiencies— particularly of iron — remain prevalent, with 22 percent of respondents reporting insufficient intake of heme iron (from animal source food) while another 9 percent reported no consumption of iron-rich foods at all in the seven days preceding the survey.

Nutritional challenges of food insecure households in Samoa are marked by both insufficient caloric intake and imbalanced dietary composition when compared to food secure households. Food insecure households consume an average of 1,867 kilocalories per capita per day, which is 33 percent lower than the intake of the latter (2,783 kilocalories), according to HIES-2018 data. This deficit places individuals at heightened risk of undernutrition and related health consequences. Food insecure households find 80 percent of their dietary energy from roots, fruits and nuts through own produce, with a large proportion of vegetables and fish coming from market purchases, indicating persistent gaps in affordability.

Reliance on low-cost, ultra-processed foods high in sodium, sugars, and unhealthy fats has significantly contributed to the rising burden of diet-related NCDs. National data indicates the obesity rate among adults increased from 55.7 percent in 2012 to 62.4 percent in 2022. Notably, 85.2 percent of Samoan women aged 15–49 were classified as overweight. Currently, more than 55 percent of total dietary energy intake in Samoa comes from foods that should be limited or avoided, according to the Pacific Guidelines for Healthy Living, highlighting the urgency for targeted nutritional interventions combined with systemic food environment interventions.Analysis of food system and food group availability, including of imported products

Analysis of food system and food group availability, including of imported product

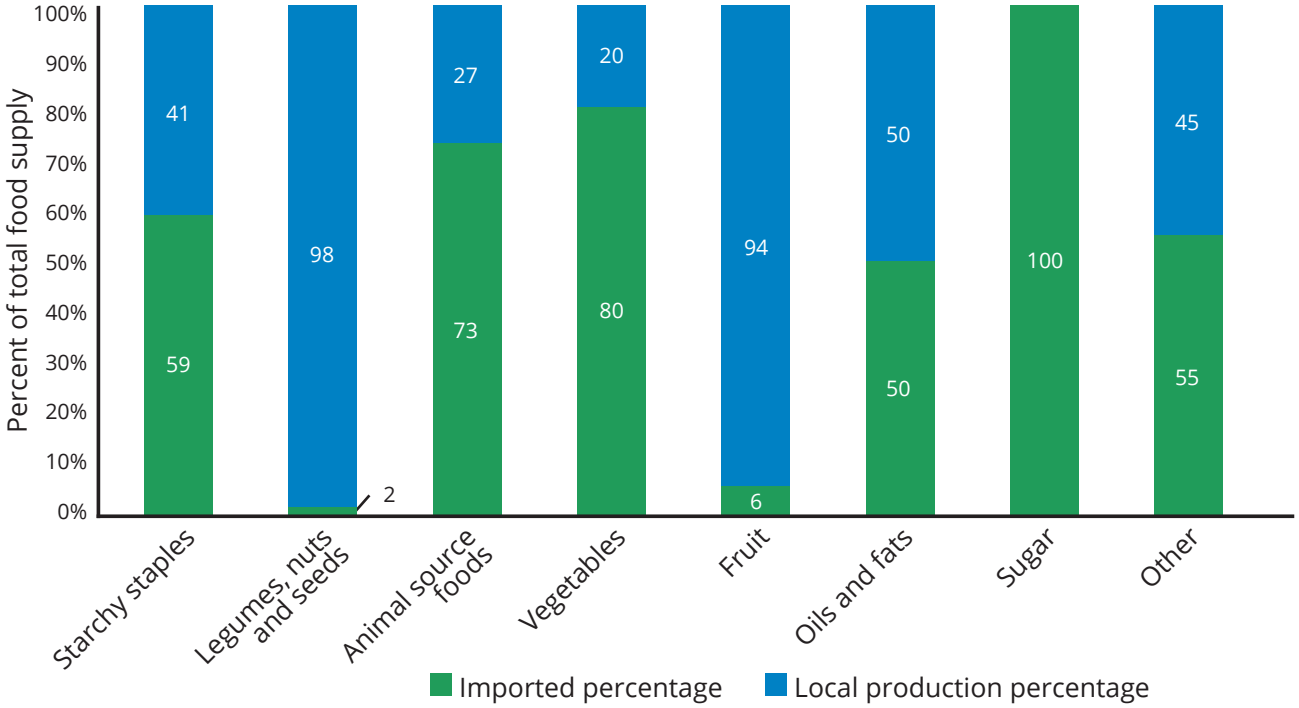
LOCAL VERSUS IMPORTED

In Samoa, traditional diets rely heavily on locally produced foods such as taro, breadfruit, coconut, and seafood, which remain central to household food security and cultural practices. Approximately 31 percent of dietary energy comes from home-grown crops and livestock, particularly in rural areas where small-scale farming and fishing support many families. However, the consumption of imported foods — especially processed, energy-dense items like canned corned beef (pisupo), instant noodles, sugary drinks, and refined cereals — has risen significantly. These imported foods often offer greater affordability and convenience, making them popular among low-income households despite their poor nutritional quality. This dietary shift has contributed to increasing rates of obesity, diabetes, and other diet- related NCDs in Samoa. While traditional local foods are valued for their health benefits and cultural importance, the growing reliance on imported processed foods poses significant immediate and future challenges. Efforts to promote local nutritious food production, support smallholder farmers, and enhance food sovereignty are crucial for improving nutrition outcomes and addressing the burden of malnutrition and diet-related diseases as highlighted in the SBS Food Security and Consumption 2023 report.

Local product consumption is a significant part of the food supply, but imported goods also play a major role. FAOSTAT (2022) data shows that imported foods contribute about 30 percent of total imports, with processed foods, rice, and flour being common imports. While the majority of farmers in Samoa are subsistence farmers, local products like taro, coconut, and copra are also exported, according to the World Bank. The Food Systems Summit dialogues report that while 61 percent of home food consumption is purchased in Samoa, only 37 percent of the top 30 food items (by expenditure) are locally produced, highlighting a significant reliance on imported foods.

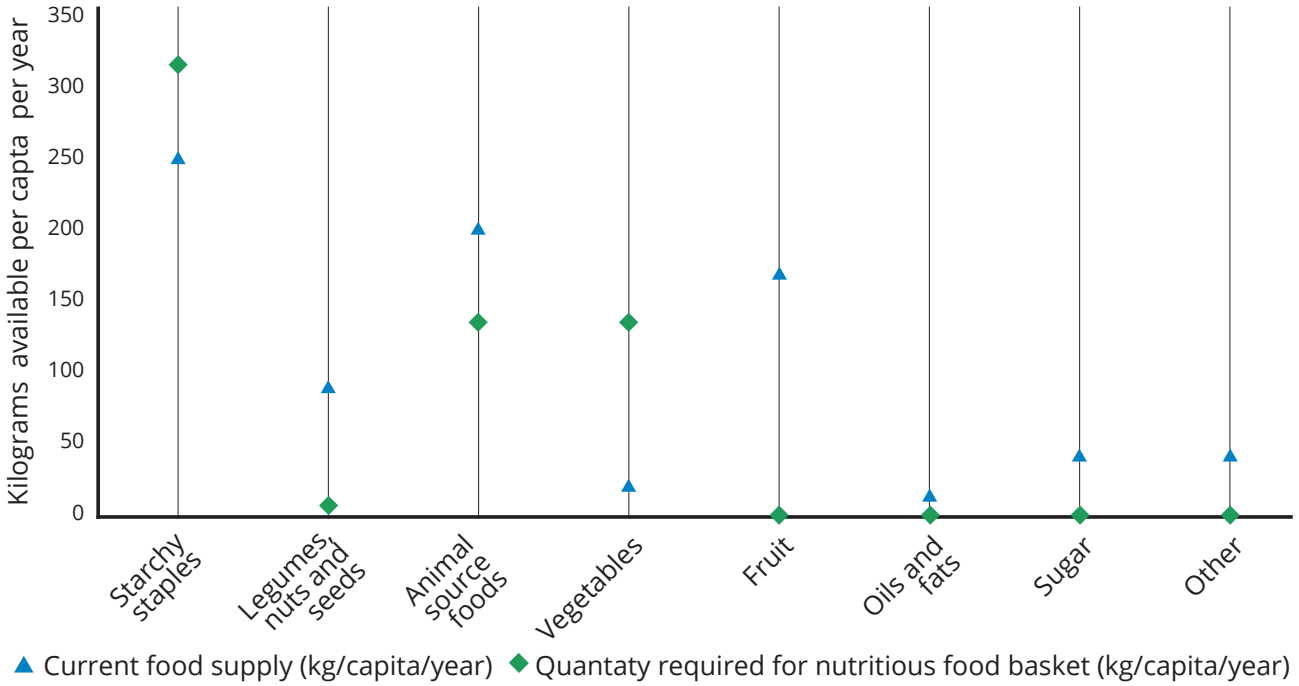
A primary interest of this analysis was to examine how Samoa's dependency on imports characterized the food system (Figure 4).

FIGURE 4: TOTAL NATIONAL FOOD AVAILABILITY BY FOOD GROUP, DISAGGREGATED BY IMPORTS AND LOCAL PRODUCTION



Based on the findings on the cost and makeup of the nutritious diet, it is possible to compare the current food supply in Samoa, comprised of both imports and locally produced foods, and the quantity of foods needed to ensure that each individual could access the nutritious diet. In Figure 5, a comparison of nutritious diets with FAO's 2022 data on Samoan food balance sheets finds that there is a critical shortage of vegetables available, so even if each Samoan citizen had the means and will to consume recommended diets, there would not be enough vegetables available for them to do so.

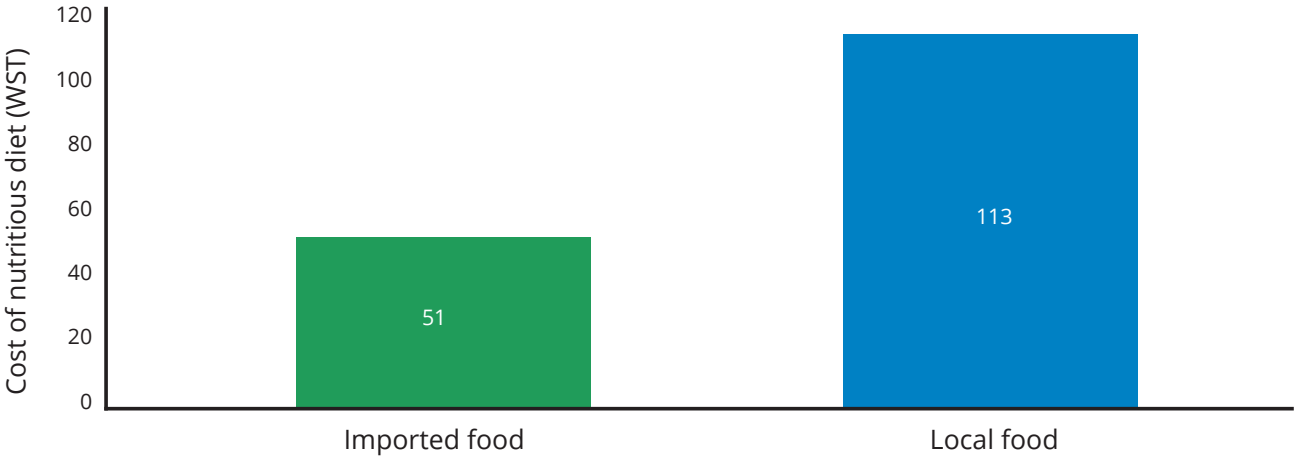
FIGURE 5: PER CAPITA ANNUAL FOOD AVAILABILITY (IN KILOGRAMS) – COMPARISON OF SAMOA'S CURRENT FOOD SYSTEM VS. POPULATION-LEVEL NUTRITIONAL REQUIREMENTS



MODELLING: LOCAL VERSUS IMPORTED FOODS

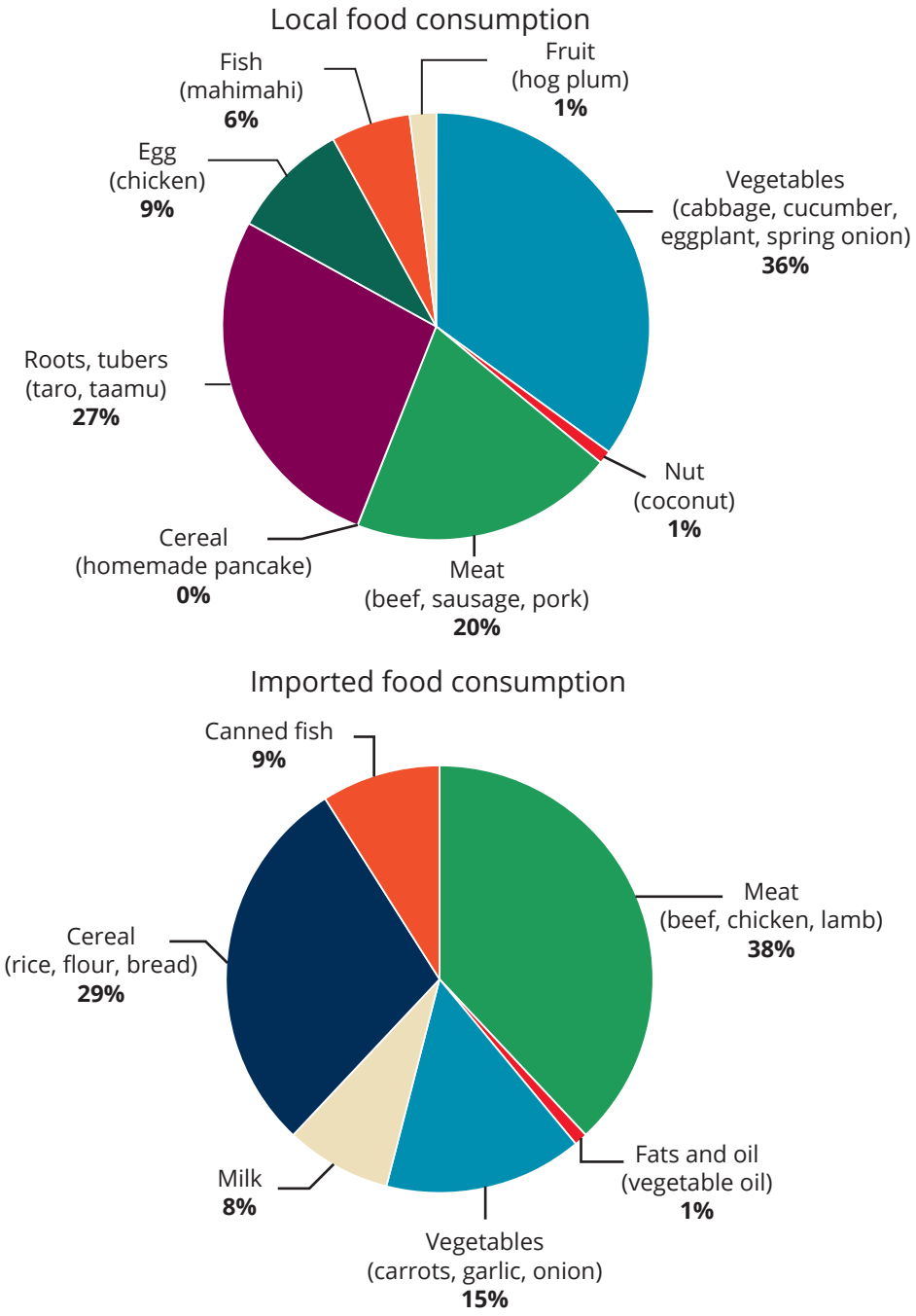
A key concern raised by stakeholders during the consultation process was Samoa's dependence on imported foods. To uncover what drives individuals to demand imported foods, an analysis was run on the least cost of meeting nutrient needs if a household ate only locally produced foods, versus if the household had access to the whole market. Results in Figure 6 show that eating only a locally sourced diet is more than twice as expensive (WST 113) as the nutritious diet obtained through the imported products (WST 51). Since the standard nutritious diet (WST 50) is already out of reach for more than 40 percent of households, a locally sourced nutritious diet would be out of reach for a large majority of households

FIGURE 6: COMPARISON OF COST OF A NUTRITIOUS DIET FROM ONLY LOCALLY SOURCED FOOD VERSUS IMPORTED FOOD



This may reflect limited local supply or higher production cost and present challenges for promoting healthier diets with local foods when low-income households prefer cheaper imported products with less nutritional value. This also highlights the need for systemic changes in the food system to improve affordability of local nutritious foods.

FIGURES 7A AND 7B: COMPARISON OF COMPOSITION OF THE LEAST-COST NUTRITIOUS DIET FROM LOCAL VERSUS IMPORTED FOODS



The comparison highlights challenges for achieving dietary diversity from local foods. Local nutritious diets are composed of fresh, plant-based staples with limited variety, while diets from imported foods are half the cost but rely heavily on processed foods. This highlights the need to increase the supply of nutritious foods such as fruit, vegetables, and animal source foods such as eggs and chicken through local production, and to ensure households have adequate resources to afford foods which meet their nutritional needs.

The comparison also highlights that the supply of nutritious products like milk and dairy depends primarily on imported sources. There is therefore a need to establish regulatory frameworks that enable trade and import of nutritious foods that may be lacking in the local food environment. It is equally important to implement measures that limit the influx of unhealthy imported foods. Such a balanced approach is necessary to shape an enabling food environment for healthy diets

Analysis of programmes and initiatives

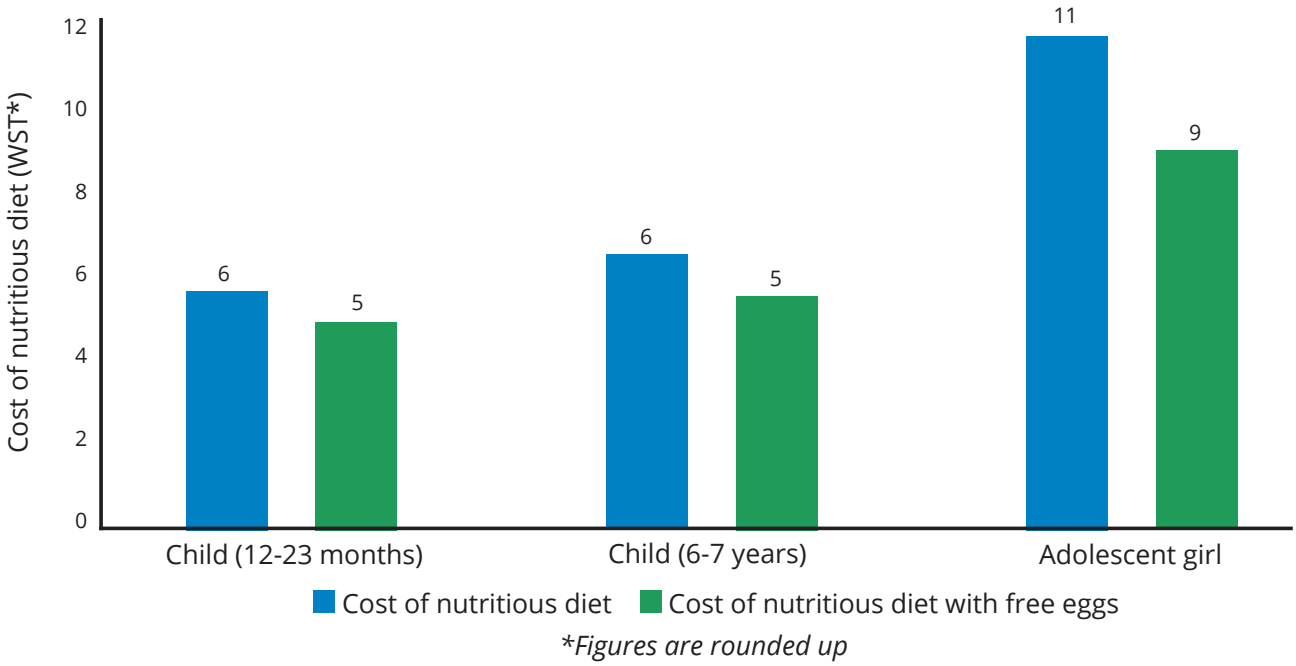
The following section presents the impact of certain interventions on the cost of the nutritious diet for individuals specific to the model. The priorities for the modelling were defined by the Ministry of Agriculture and Fisheries and WFP, with considerable inputs from the Ministry of Health and other stakeholders during consultations conducted as part of this research. The assumptions from the models were gathered from documentation provided by technical experts from ministries and from secondary data desk review. The specifics of each model are presented by relevant section.

Local food production – chicken (eggs) rearing

Consultations with stakeholders indicated that the Government of Samoa is currently investing in and supporting households' poultry rearing initiatives. Using data provided by the Samoa Ministry of Agriculture and Fisheries on the average number of hens per household and their weekly egg laying rates, an estimate has been made of how household egg production could help lower the cost of a nutritious diet. In the modelling exercise, it was assumed that eggs produced by households were allocated to children. Figure 8 presents the potential cost reduction in the nutritious diet for the modelled individuals when locally produced eggs are included through household chicken rearing.

For the children modelled, daily egg portions were set at 69 grams for the child under 2, 114 grams for the 6–7 year old, and 187 grams for the adolescent girl. The adolescent girl had the largest cost reduction of 24% in her daily diet cost. Modelling indicates that rearing chickens can contribute to a 9 percent reduction in the overall cost of a nutritious diet for the household.

FIGURE 8: COMPARISON OF THE COST OF A NUTRITIOUS DIET WITH AND WITHOUT CONSUMPTION OF HOME-PRODUCED EGGS



**Figures are rounded up*

Childhood nutrition

BACKGROUND ON THE STATE OF CHILDHOOD NUTRITION

Childhood nutrition in Samoa presents a complex landscape marked by both progress and ongoing challenges. Recent data indicate that 7.3 percent of children under 5 experience stunting, reflecting chronic undernutrition, while 3.1 percent are affected by wasting, indicative of acute malnutrition. Conversely, 8.7 percent of children under 5 are overweight, highlighting two aspects of the triple burden of malnutrition in the country.

A study focusing on Samoan children aged 5 to 11 years during 2019–2020 revealed a significant prevalence of overweight and obesity, with rates exceeding 30 percent. Underweight and stunting were also present, albeit at lower rates, underscoring the coexistence of undernutrition and overnutrition within this age group. Further concerns arise from findings that Samoan children as young as 6 are exhibiting elevated risks for diabetes and high blood pressure, conditions traditionally associated with adults. This early onset of NCDs is alarming and points to the urgent need for preventive interventions targeting children's health behaviours and environments. Strategies to address high rates of adult obesity must focus on childhood obesity prevention as the main window of opportunity where evidence shows that prevalence can be reduced. The concept of child food poverty, defined as the lack of access to a nutritious and diverse diet in early childhood, is particularly relevant in Samoa.

Children in severe food poverty often consume diets dominated by starchy staples with minimal intake of nutrient-rich foods like eggs, dairy, and flesh foods, leading to deficiencies that can impair growth and development.

Addressing these multifaceted nutritional issues requires a comprehensive and integrated approach. It must include promoting balanced diets, enhancing food security, and implementing public health strategies to prevent both undernutrition and the early onset of diet-related chronic diseases among Samoan children. Policies and investments should aim to create sustainable food environments that support healthy diets from early childhood, reduce reliance on ultra- processed foods, and promote traditional and local food knowledge. Enhanced collaboration across health, education, agriculture, and community sectors is also crucial to design and implement interventions that prevent undernutrition and the early onset of diet- related chronic diseases.

MODELLING ON SCHOOL-BASED PROGRAMMES

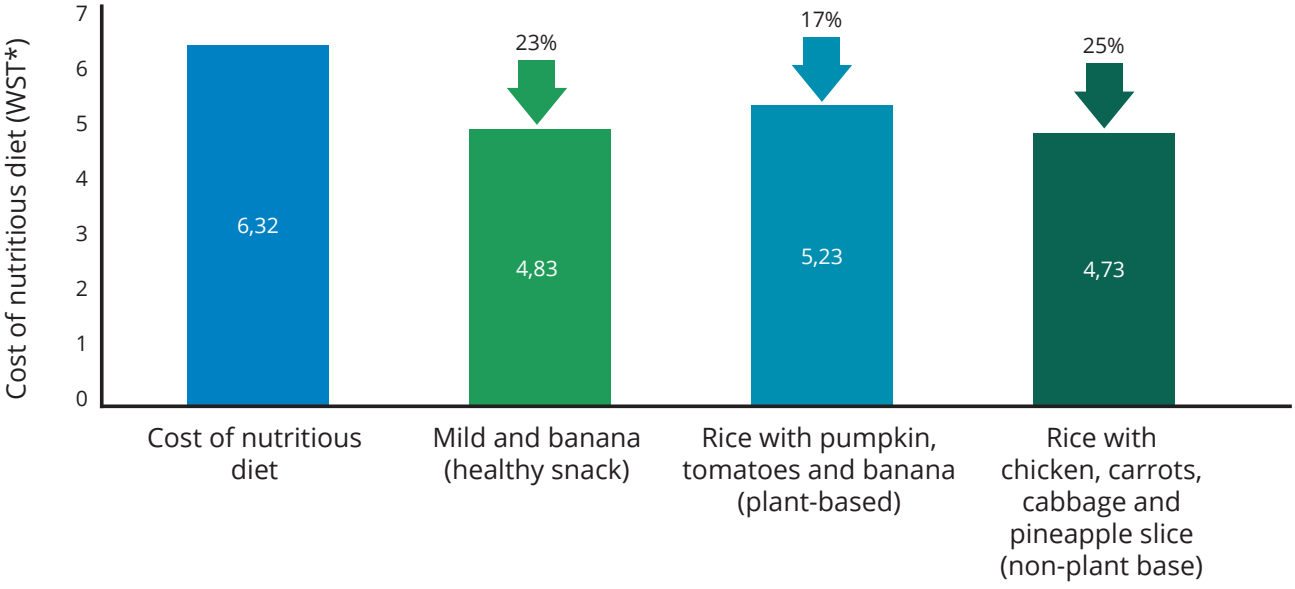
Dialogues with stakeholders note that the Ministry of Health actively monitors the promotion of healthy eating within schools. However, a significant challenge is consistency of provision of healthy meals in school canteens. This results in the lack of nutritious diets available to school age children. Table 4 below presents the modelled school meal and snack options. Figure 9 illustrates their costs and compares them to the calculated cost of a nutritious diet. The assumption is that each of these options would be given to children free of charge.

TABLE 4: MODELLED SCHOOL MEALS AND SCHOOL SNACK OPTIONS

HEALTHY SNACK 1	PLANT BASED BASKET	NON-PLANT BASED BASKET	UNHEALTHY SNACK 1	UNHEALTHY SNACK 2
1. Milk	1. Pumpkin	1. Chicken	1. Bag of chips	1. Cream filled chocolate cookie
2. Banana	2. Tomatoes	2. Carrots	2. Cola can	2. "Minute Maid" style fruit juice
	3. Rice	3. Cabbage		
	4. Banana	4. Rice		
		5. Pineapple slice		

Figure 9 shows the cost of the nutritious diet for a child aged 6–7 years under different school feeding scenarios. Each bar represents the cost for the household of feeding a child, if the meal or snack option was provided for free to the child, thereby showcasing the benefit that a school meal can provide in lessening the economic strain of households. Results for the adolescent girl are shown in Figure 10

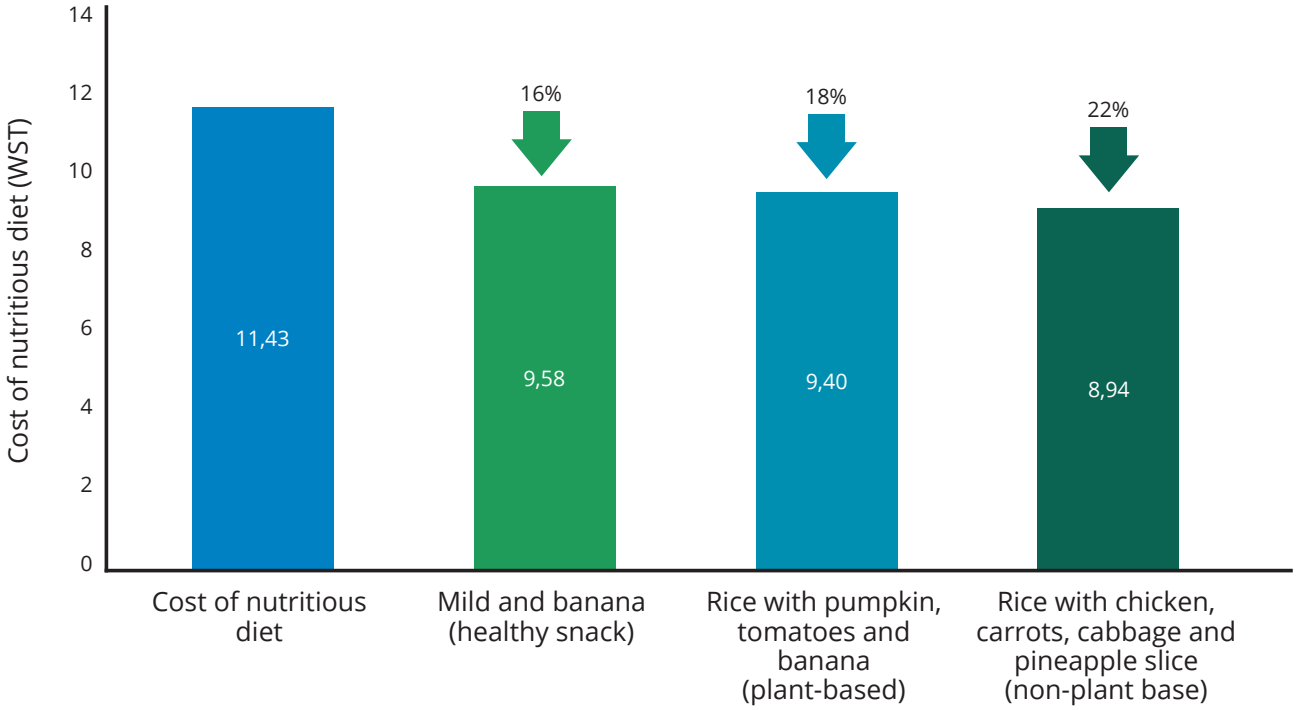
FIGURE 9: MODELLED IMPACT OF DAILY COST OF NUTRITIOUS DIET FOR A CHILD AGED 6–7 YEARS WITH SCHOOL MEAL OPTIONS



**Figures are rounded up*

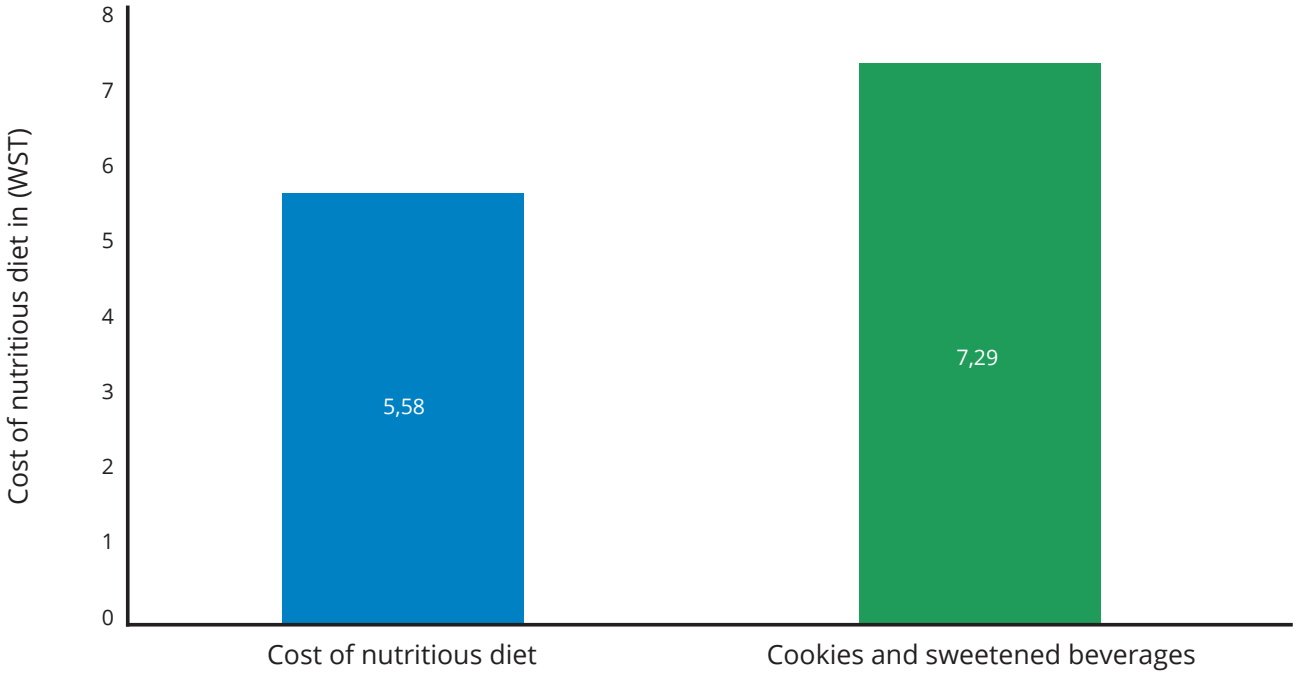
For a child aged 6–7 years not receiving school meals, the daily cost of a nutritious diet is estimated at WST 6.32. Including school meals — whether plant-based, non-plant-based, or a healthy snack — can help lower this cost. Among the options, the non-plant-based school meal is the most affordable. It brings the cost down by 25 percent and still provides a well balanced mix of macronutrients and essential vitamins and minerals. The plant-based meal reduces the cost by 17 percent and covers most micronutrients but falls short on protein.

FIGURE 10: MODELLED IMPACT OF DAILY COST OF NUTRITIOUS DIET FOR AN ADOLESCENT GIRL WITH SCHOOL MEAL OPTIONS



For an adolescent girl, the daily cost of a nutritious diet is estimated at WST 11.43. Among the modelled school meal options, the non-plant-based basket is the most affordable, bringing the cost down to WST 8.94 (22 percent reduction). It also provides a well balanced meal that contains essential macronutrients, vitamins, and minerals. The plant-based basket is slightly more expensive at WST 9.40 and doesn't offer quite the same nutritional balance, particularly in terms of protein. Still, it remains a cost-effective option that contributes positively toward meeting dietary needs. Healthy snack options also help lower the cost of the diet, though not as significantly. Unhealthy snacks, despite being free in the model, don't reduce the cost as much.

FIGURE 11: MODELLED IMPACT OF DAILY COST OF DIET WITH UNHEALTHY DIET SNACKS FOR CHILDREN 12-23 MONTHS



Eating unhealthy food makes it more difficult to meet nutrient needs without exceeding kilocalorie needs. Even though unhealthy snacks are free in the model, they don't reduce the cost of a nutritious diet . These snacks mostly provide calories and fat without contributing important nutrients. The cost of the diet increases, because a household would have to buy more nutrient-dense, more expensive foods to fill the nutrient gaps. Unhealthy foods provide sugar and calories, but very few nutrients, and make it difficult not to exceed daily calorie limits.

Social and behaviour change (SBC)

BACKGROUND OF SBC BASKET

Stakeholders raised the question of how nutrition education and consumer behaviour and preferences could impact household diets. SBC communication, Cookies and sweetened beverages such as posters, radio programmes, advertisements, nutrition education programmes are used to influence consumers to make choices which improve nutrition. To showcase the importance of behaviour and preferences as a driver of nutrition outcomes, the analysis modelled baskets of varying micronutrient content which cost WST 5.63 per person per day, the average food expenditure of the poorest quintile in Samoa. The model assumed that the household would spend the entire amount on food and then share the food among the six household members. Based on retail food prices from the market collection, different quantities of food that could be purchased using the cash were determined. The quantity of each food item included in the baskets is shown in Table 5

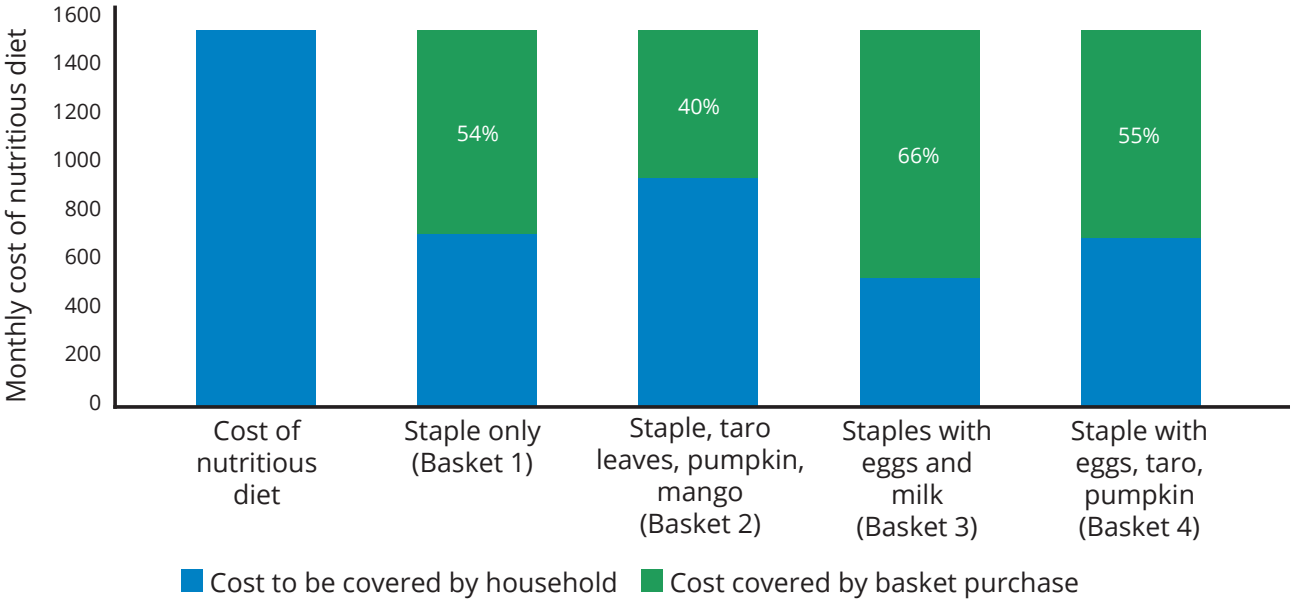
TABLE 5: DAILY FOOD BASKETS WHICH CAN BE PURCHASED WITH THE CURRENT FOOD EXPENDITURE OF THE POOREST QUINTILE, BASED ON SPENDING FOR A 6 PERSON HOUSEHOLD

	FOOD SELECTION	GRAMS AVAILABLE TO HOUSEHOLD PER DAY
Basket 1	Taro root	800
	Breadfruit, with seeds	1300
	Rice	1000
Basket 2	Rice	1000
	Taro root	900
	Vitamin A-rich fruit	850
	Pumpkin	850
	Leafy green vegetables	1000
Basket 3	Rice	1000
	Taro root	1500
	Chicken egg	1300
	Whole milk	1300
Basket 4	Rice	900
	Taro root	1000
	Leafy green vegetable	1000
	Chicken egg	800
	Pumpkin	900

MODELLING ON SBC

Figure 12 highlights how the choice of food baskets significantly influences the cost and quality of a nutritious diet. Each basket represents a different combination of foods and their varying impacts on nutrition to which they reduce the cost of meeting dietary needs.

FIGURE 12: CONTRIBUTION OF DIFFERENT FOOD BASKETS TO COVERING THE COST OF A NUTRITIOUS DIET FOR THE HOUSEHOLD



The significant cost reduction for basket 3 indicates that households are best able to cover their nutrient needs when they select diverse food baskets that include both animal source foods and fruit or vegetables. Although basket 1, based on staples, does cover a large share of the cost of the diet, the greatest contributions are provided by the more diverse baskets 3 (staples with eggs and milk) and 4 (staples with eggs, taro leaves and pumpkin).

The results emphasize the crucial role of food choice in nutrition. Choosing a diverse food basket supports better health outcomes and improves the affordability of nutritious diets.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Conclusion

This cost and affordability analysis of diet offers a set of evidence-based recommendations to inform Samoa's national dialogue on nutrition, food affordability, and food systems. While data suggest that a nutritionally adequate diet remains out of reach for many households, these findings are intended to support ongoing efforts to improve access to healthy, diverse diets. The analysis highlights opportunities for multisectoral collaboration across agriculture, health, education and trade to strengthen the availability and affordability of nutritious foods. Developed with national data and validated in consultation with local stakeholders, the report provides guidance to support future policy and programme planning aligned with Samoa's nutrition and development goals.

Key recommendations to improve cost and affordability of nutritious diets in Samoa

The findings from this analysis were presented during a validation workshop in June 2025 to sectoral working groups representing the Government of Samoa, UN agencies, NGOs, CSOs, academic institutions, the private sector, and donors. Following in-depth discussions, the groups proposed key recommendations, which were subsequently reviewed and validated by the Samoa Ministry of Agriculture and Fisheries. The final consolidated recommendations are presented in Table 6

TABLE 6: FINAL KEY RECOMMENDATIONS

THEMATIC AREA	RECOMMENDATION	BRIEF DESCRIPTION
1. Policy and programme	1.1 Align CotD findings with national frameworks	Harmonize CotD findings with existing policies (e.g., Food & Nutrition Policy, Agriculture Sector Plan, School Gardening).
	1.2 Support local nutritious food supply	Explore subsidies and support for fresh produce, especially for vulnerable populations.
	1.3 Enforce food environment regulations	Regulate pricing, labelling, and marketing of ultra-processed foods; promote healthy alternatives.
2. Agriculture and production	2.1 Scale up climate-resilient local food production	Support local producers with inputs, skills, and technologies to increase affordable healthy food supply.
	2.2 Promote diversified, nutrition-sensitive farming	Support traditional crops and link to local markets (e.g., taro, breadfruit, leafy greens).
	2.3 Strengthen cross-sectoral collaboration	Coordinate actions between health, agriculture, education, women and youth stakeholders.
	2.4 Promote farmer cooperatives	Strengthen supply chains and market access through farmer groups and inclusive models.

3. Awareness and advocacy	3.1 Use digital media for dietary change	Develop apps and social media content targeting youth for healthy low-cost diets.
	3.2 Empower local nutrition ambassadors	Train community leaders and champions to promote local food use and healthy diets.
	3.3 Use traditional media for outreach	Expand reach to rural/older populations through radio, TV, and community events.
4. Health, education and school programmes	4.1 Local sourcing for sustainable and diversified school meals	Link schools with local farmers to improve children's diets and support livelihoods.
	4.2 Nutrition education in schools	Integrate food, agriculture, and health education into curricula (e.g., School Gardens, Eat the Colours of the Rainbow).
	4.3 Promote early nutrition behaviour change	Campaigns on breastfeeding, child feeding, and nutrition practices integrated with health programmes, including WASH, deworming and micronutrient supplementation.
	4.4 Train school staff on nutrition	Build capacity of teachers and school cooks on healthy meal preparation and food safety.
5. Monitoring and evaluation	5.1 Develop integrated nutrition monitoring and evaluation system	Collect and analyse data on food prices, availability, access, and intake to guide programmes and policies.
	5.2 Ensure equity in nutrition data	Design tools that are gender and agesensitive to capture disparities and tailor interventions.
6. Financing and investment	6.1 Mobilise blended finance	Leverage public-private partnerships and donor funding for nutrition-sensitive agriculture.
	6.2 Incentivise private sector in local food	Provide tax breaks or grants for small and medium enterprises investing in local food processing and distribution.
	6.3 Track nutrition budgets	Monitor government spending across sectors to ensure adequate nutrition investment.

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Acronyms

ACEO	Assistant Chief Executive Officer
APARO	Asia and Pacific Regional Office
CotD	Cost of the Diet
CPI	Consumer price index
FAO	Food and Agriculture Organization
FBDG	Food-based dietary guidelines
FNG	Fill the Nutrient Gap
GDP	Gross Domestic Product
HIES	Household Income and Expenditure Survey
MAF	Ministry of Agriculture and Fisheries
MoH	Ministry of Health
mVAM	mobile Vulnerability Analysis and Mapping
NCDs	Non-communicable diseases
NFNP	National Food and Nutrition Policy
PMCO	Pacific Multi-Country Office
SBC	Social and behaviour change
SBS	Samoa Bureau of Statistics
SDG	Sustainable Development Goals
SIDS	Small Island Developing States
SOFI	The State of Food Security and Nutrition in the World
USD	United States dollar
VAM	Vulnerability Analysis and Mapping
WFP	World Food Programme
WST	Western Samoa Tala

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