

Government of Samoa

SAMOA FOOD SYSTEMS PATHWAY 2030

TRANSFORMING FOOD SYSTEMS FOR A RESILIENT AND HEALTHY SAMOA WHERE NO ONE IS LEFT BEHIND

SUSTAINABLE FOOD AND NUTRITIONAL SECURITY AND AFFORDABLE HEALTHY DIETS

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Foreword

It is my pleasure to present this Samoa Food Systems Report informing the pathway for 'transforming food systems for a resilient and healthy Samoa where no one is left behind' and for achieving sustainable 'food and nutritional security and affordable healthy diets'.

The Samoa Food Systems Pathway 2030 has outlined the following actions for achieving this goal:

- Transform the agriculture sector to boost local production.
- Strengthen the enabling environment for the sustainable development of food systems.
- Improve evidence-based knowledge and understanding of food systems and their components.
- Strengthen food policy and regulatory systems to facilitate a shift towards sustainable consumption patterns.
- Promote the consumption and availability of local traditional foods.
- Enhance nutrition education and promote healthy consumption patterns in the community and in the context of the whole food system.
- Revitalize and promote the use of traditional and indigenous knowledge to boost nature-positive production and sustainable agricultural practices.
- Strengthen extension services for improved knowledge and collaboration amongst farmers, fishers and other key players of the food industry.
- Improve environmental protection policy and regulatory measures including monitoring and evaluation of policy and regulatory impacts.
- Facilitate effective engagement of stakeholders including vulnerable groups in food systems dialogues and exchanges.
- Promote the role of women and youth in agricultural activities and food value chain.
- Enhance the role of communities and culture in developing the food systems and equitable livelihoods.
- Build climate resilient practices and resources for agriculture development.
- Adopt and implement social protection measures in response to the impact of shocks in food supply and consumption.
- We believe that the joint effort of everyone in Samoa is needed to achieve this pathway.

As a food system involves multiple activities from production, processing, transporting and consumption, the real challenge lies in the implementation of these activities. We believe that the collective efforts of all stakeholders and our people are needed to address the many challenges that we will continue to face with ensuring food and nutritional security. The pathway actions reinforce our efforts to work in partnership across sectors in developing and building sustainable and resilient food systems for Samoa.

I wish to acknowledge all stakeholders who contributed to the development of the Samoa Food Systems Pathway 2030, including those who contributed to the national narrative at the 2021 Samoa Food Systems Summit. We ask for your continuous support to work together with us in improving our joint efforts for achieving sustainable food and nutritional security and affordable healthy diets for our people.

Hon. La'aulialemalietoa Leuatea Polataivao Fosi Schmidt MINISTER OF AGRICULTURE AND FISHERIES

Summary

1. Introduction

With more than five years since the adoption of the 2030 Agenda for Sustainable Development, countries are mapping progress. The Agenda emphasizes the importance of looking beyond hunger towards ensuring access to safe, nutritious and adequate food for everyone at all times, and to end all forms of malnutrition. As the impacts of the Covid-19 pandemic continue to unfold, an urgent foresight is needed to assess impacts on food and nutrition security and key actions to address the challenges.

In response, the United Nations will convene the global Food System Summit in September 2021, for country members to collectively discuss key issues, challenges and solutions for transforming food systems to be healthier, safer, sustainable and equitable. Preparations for the Summit involve countries conducting national food systems summit dialogues. Samoa held its National Dialogue in April-June 2021, to inform the development of a **pathway** for **'transforming food systems for a resilient and healthy Samoa where no one is left behind**'. A synthesis of the findings from the National Dialogue and documentary evidence inform the pathway for Samoa, as presented in this Samoa Food Systems Report.

2. Status of the food systems in Samoa

The evidence suggests that Samoa is currently self-sufficient in several food groups. However, current and future trends, vulnerability to climate change, and susceptibility to shocks and other threats, within the inherent limitations of an island and small economy present Samoa with many challenges in ensuring sustainable food systems that can cater for its growing population. The overall status of the current food systems is as follows:

- Food production –areas of holding for agriculture and household engagement in agricultural activities are in decline, with households engaging more in small-scale, rather than large scale, farming. The biggest decline is in fishing and livestock. Sustainable fishing and loss of biodiversity are some of the key concerns with the sustainability of the local food production systems. Food imports contribute to a quarter of the overall food supply in country, with animal and animal products (mostly chicken leg quarters) and processed foods contributing to 80% of food imports.
- Food processing the food processing value chain in Samoa is not as vibrant and diversified as it should be. The sector, which is characterised by a large number of small enterprises producing primarily for the local market', is constrained by a restricted range of available local agricultural products and the small size of the trading market. There is potential for developing niche markets in organic value chains.
- Food consumption the Samoan diet is not nutritionally balanced and fall short of the required micronutrients. The consumption of fruits and vegetables is low. The majority (61%) of the home food consumption are purchased, with only 37% of the top 30 food items (by shared of expenditure) locally produced, suggesting a large consumption of food imports. Prices influence consumption and preference for modern (most are imported) foods over traditional foods are influenced by lower costs and convenient availability. Disparities in food consumption exist between poor and rich households. The shift in the Samoan diet from locally produced fresh foods to imported processed food (coupled with an increased sedentary way of life) have contributed to the burden of malnutrition and rising NCDs in the country.
- **Food safety and waste**-food safety is a becoming a key concern given the ongoing effects of climate change and unsafe agricultural practices on the environment and ecosystem. Fish and

seafood poisoning is becoming a concern given the impact of temperate variations and ocean acidification. Food borne and waterborne diseases are expected to amplify with the disasters (flooding and cyclones) becoming intensified. Land, forestry and soil health are ongoing concerns. Food waste is the largest waste discharged (36%), and postharvest loss (up to 20% of yields) is a disincentive issue for many local farmers.

3. Transforming food systems for a resilient and healthy Samoa

The following solutions were drawn from the findings of the National Dialogue and documentary evidence on the Samoa Food Systems.

- Ensure access to safe and nutritious food for all-inconsistent food supply in the country, decreased consumption of local fresh produce, and increased consumption of cheaper imported processed foods are key ongoing challenges. The declining food tourism, restricted markets for trade, increased demands for cash, changing lifestyles, high production, processing and transaction costs, are key disincentives for local people to remain engaged in the food sector. The key objective is for the food systems to be able to deliver on the right food and sufficient quantities of affordable and safe food for nutritional health. This requires an increase in the supply and consumption of competitively priced, domestically produced food to cater for the growing populations. There is a need for a transformation in the food production sector, strengthening the enabling environment for the sustainable development, and improving evidence-based knowledge and understanding, of the food systems and its components.
- Shift to sustainable consumption patterns Shifting to sustainable consumption patterns require systemic actions and interventions aimed at strengthening healthy, safe and sustainable food environments to enable people to adopt and maintain healthy dietary practices. Changes in dietary attitudes are needed to facilitate and support a transformational shift towards a healthy and nutritional balanced eating lifestyle and food culture. This transformative shift in sustainable consumption patterns requires changes in food policy, food environments, civil society actions, private sector offerings, and consumer behaviours. This includes strengthening food policy and regulatory systems (including the multi-sector approach addressing key issues and development priorities), promoting consumption and availability of local traditional foods, enhancing nutrition education, and promoting healthy consumption patterns in the community.
- Boost nature-positive production Samoa must adopt practices that protect, manage and restore nature, while meeting the fundamental human right to healthy and nutritious food for all. The sustainability of food systems is underpinned by the biodiversity and ecosystem functioning and adaptive well to the ongoing adverse impacts of climate and environmental changes. The challenges for Samoa is improving its food system governance, reducing food losses and other negative environmental impacts, and adopting more nature-positive production practices and behaviours throughout the food sector. Revitalising and promoting the use of traditional and indigenous knowledge in sustainable agricultural practices, strengthening extension services, and evaluation of impacts can help improve the boost for nature-positive production in Samoa.
- Advance equitable livelihoods—Targeting the 22% of the population living below the basic poverty line, and more importantly the 6% living in food poverty is a priority. There is a need to address the systemic barriers preventing women, youth, persons with disabilities and others living in vulnerable conditions, from accessing the needed opportunities to pursue better livelihoods in the food sector. Tailoring food systems policies to reach vulnerable and marginalised groups of the population, most of them are in the informal agricultural sector is a development need for Samoa. This includes bringing them into the formal system to become parts of the formal labour market and social protection systems. For effective targeting, there is a need to improve the

identification and mapping of vulnerable populations. Facilitating effective engagement of vulnerable groups in food systems discussions, promoting women and youth involvement in agriculture and food value chains, and enhancing the role of communities and culture in developing food systems and equitable livelihoods will assist in advancing equitable livelihoods in the food sector.

Build resilience to vulnerabilities, shocks, and stress—Samoa is highly susceptible to climate change, shocks and other threats. In response to the impacts of Covid-19, most local people rely on domestic farming to cope with the strain on finances and to ensure food security. Building resilience of local people and the economy is about building the resilience of food systems to be able to withstand, and recover from shocks and stressors. Building climate resilient practices and resources for agriculture development is needed, including diversification of agricultural practices and food production systems as an important adaptation measure for improving resilient. The adoption and implementation of effective social protection measures is needed to provide contingent responses and safety nets to the impacts of shocks on food supply and consumption.

4. A pathway for transforming sustainable, resilient and healthy food systems in Samoa

Based on the solutions identified above, the pathway for 'transforming food systems for a resilient Samoa where no one is left behind' for achieving sustainable 'food and nutritional security and affordable healthy diets' comprised the following mutually reinforcing pathway actions (see Figure 1):

- **4** Transform the agriculture sector to boost local production.
- 4 Strengthen the enabling environment for the sustainable development of food systems.
- 4 Improve evidence-based knowledge and understanding of food systems and their components.
- Strengthen food policy and regulatory systems to facilitate a shift towards sustainable consumption patterns.
- Promote the consumption and availability of local traditional foods.
- Enhance nutrition education and promote healthy consumption patterns in the community and in the context of the whole food system.
- Revitalize and promote the use of traditional and indigenous knowledge to boost nature-positive production and sustainable agricultural practices.
- Strengthen extension services for improved knowledge and collaboration amongst farmers, fishers and other key players of the food industry.
- Improve environmental protection policy and regulatory measures including monitoring and evaluation of policy and regulatory impacts.
- Facilitate effective engagement of stakeholders including vulnerable groups in food systems dialogues and exchanges.
- 4 Promote the role of women and youth in agricultural activities and food value chain.
- Enhance the role of communities and culture in developing the food systems and equitable livelihoods.
- **4** Build climate resilient practices and resources for agriculture development.
- Adopt and implement social protection measures in response to the impact of shocks in food supply and consumption.

Scaling up investments, increased resourcing commitment, and strong leadership are required for the adoption of these pathway actions and to ensure their full and effective implementation. Monitoring and evaluation of the implementation of these actions is needed. The mechanisms of the national food summit dialogues provide a platform to support regular monitoring of progress and assessing impacts.

Acknowledgement

We acknowledge the support and inputs of all individuals and organisations that contributed to this Report.

The Report presents a pathway for transforming Samoa's food systems, based on the findings of the 2021 National Food Systems Summit Dialogue and documentary evidence on the status of food and nutritional security in the country, and proposed solutions for improving sustainable and resilient food systems in Samoa.

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Fa'afetai tele lava!

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Abbreviations

ADB	Asian Development Bank
ASP	Agriculture Sector Plan
CBS	Central Bank of Samoa
CSSP	Civil Society Support Program
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organization of the United Nations
FSS	Food Systems Summit
GDP	Gross Domestic Product
HIES	Household Income and Expenditure Survey
HSP	Health Sector Plan
ICT	Information and Communication Technology
MAF	Ministry of Agriculture and Fisheries
MOF	Ministry of Finance
MOF	Ministry of Finance
МОН	Ministry of Health
NCD	Non-Communicable Diseases
NFNP	National Food and Nutrition Policy
NUS	National University of Samoa
PIC	Pacific island country
POP	Persistent Organic Pollutants
SACEP	Samoa Agriculture Competitive Enhancement Project
SAFPROM	Samoa Agriculture and Fisheries Productivity and Marketing
SAT	Samoan Tala
SBS	Samoa Bureau of Statistics
SDS	Samoa Development Strategy
SDS	Strategy for the Development of Samoa
SFSSD	Samoa Food Systems Summit Dialogue
SPC	Secretariat of the Pacific Community
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nation Development Programme
UNEP	United Nations Environment Programme
USD	United States Dollar
WB	World Bank
WHO	World Health Organisation

1. THE FOOD SYSTEMS IN SAMOA

1.1. The food systems summit – the national dialogue

In 2015, countries, including Samoa, made a commitment to the 2030 Agenda for Sustainable Development, as United Nations (UN) members. The Agenda recognizes the importance of looking beyond hunger towards ensuring access to safe, nutritious and adequate food for everyone at all times, as well as ending all forms of malnutrition (Sustainable Development Goal (SDG) 2 Targets 2.1 and 2.2). It further calls for actions to transform sustainable food production systems and for ensuring proper functioning of agricultural and food commodity markets (Targets 2.3, 2.4, 2.5, 2.a, 2.b and 2.c). With more than five years into the Agenda, countries are assessing progress and whether continuing efforts are contributing to the achievement of these objectives. Also, as the dramatic impacts of the Cov-19 continue to unfold, an urgent foresight is needed to identify the impacts of the pandemic on food security and nutrition, and how to respond to the challenges.

In response, the UN will convene the global Food Systems Summit (FSS) in September 2021, for all country members to come together, to examine their food systems, and how they can work together to take action towards transforming their food systems to be healthier, safer, sustainable, and equitable. The Summit aims to generate significant actions and measurable progress towards the 2030 Agenda for Sustainable Development; raise awareness and elevating public discussions about reforming the food systems; develop principles to guide government and other stakeholders to leverage support through their roles in building sustainable food systems; and create a system of follow-ups and reviews of the Summit outcomes, to drive new actions and progress, and to measure impact.

Preparations for the FSS are underway through different priority work streams, one of which is the 'Food Systems Summit Dialogues' (FSSD). These dialogues are already progressing around the world, for governments and communities to discuss and to better understand their food systems, and to identify ways in which food systems might be strengthened. A key outcome of these FSSD is for UN member countries to present to the September 2021 Summit their pathways towards sustainable national food systems.

Samoa implemented its national FSSD in April-June 2021, within the overall theme of '*transforming food systems to build a resilient and healthy Samoa where no one is left behind*'. A total of 242 representatives from across all sectors (government, private sector, civil society, community, and development partners) participated in the Samoa FSSD (SFSSD), and contributed towards building the national narratives about how the national food systems could be built and managed sustainably for the current and future generations, in ensuring food and nutrition security, building local livelihoods, generating income, and boosting economic development.

A Dialogue Report was prepared documenting the processes, methodologies and approaches that Samoa adopted for the design and implementation of its FSSD (the 'Dialogue'), as well as the Dialogue outcomes. The Dialogue was informed by a 'Synthesis Report' analyzing the status of Samoa's food systems, which also highlighted the key issues and challenges in the development of a sustainable food system for Samoa, based on a review of the available literature. Solutions emerged from this synthesis of the available document evidence were identified. The Synthesis Report and Dialogue Report are to be consulted together with this final report on Samoa Food Systems.

Based on the detailed analysis and findings presented in the above two Reports, this final report provides a synopsis of the current status, key issues and challenges, and solutions, to inform the way forward for building and strengthening sustainable food systems in Samoa. It brings together the key findings of the Synthesis Report and the Dialogue Report to inform the development of a '*pathway*'

towards sustainable national food systems for Samoa for the coming decade of action, in line with the 2030 Agenda for Sustainable Development, and Samoa development agenda as stipulated under the 'Samoa 2040 Vision', 'Strategy for the Development of Samoa (2016-2026)', 14 sector development plans, and all other national policies and strategies.

1.2. Samoa development agenda - for food and nutrition security

The Samoa 2040 (development plan) provides a roadmap to navigate Samoa's development over the next 20 years, 'through opportunities – in tourism, agriculture and fishing, digital economy, and labour mobility – that have the potential to boost economic growth, create employment, generate revenues and raise standards of living'. 'It lays out a platform to ensure the needs of present and future Samoan generations are met and that no one is left behind'. It recognizes that 'there are significant opportunities to boost agriculture and fishing production in Samoa to increase the scope for import substitution, raise exports, ensure food security, and promote nutrition'.

The Samoa 2040 vision document stresses that 'the agriculture and fisheries sector is currently performing below its potential'. And that the sector can contribute more towards fostering human development, household incomes and welfare, business development, export earnings, improved food security and nutrition, and reduced incidence of Non-Communicable Diseases (NCD).

Actions identified in the Samoa 2040 vision document include support to farmers to transition from subsistence agriculture to semi-commercial and commercial production (e.g. through advancement of new technologies, farming techniques, and access to finance, and expanded public infrastructure and extension service provisions); strengthen domestic and export market linkages; boost import substitution and value of exports in fisheries; and manage the overexploitation of fishing.

The Strategy for the Development of Samoa (SDS) 2021-2025 and its vision of 'an improved quality of *life for all'* complements the Samoa 2040 long-term vision. It highlights 14 key outcomes to achieve this vision. Similar to the Samoa 2040 vision, key actions identified under the SDS key outcome 2: 'agriculture and fisheries productivity increased sustainably' include domestic productivity and food security increased and sustained; export quality and value-added products increased; promotion of sustainable agriculture and fisheries practices strengthened; and import substitution development strengthened. Key outcome 8.1: 'inclusive community development' further emphasizes building more resilient communities, strengthening adaptation, and supporting self-sufficiency to ensure food security and income generating opportunities against the backdrop of Samoa's unique cultural and traditional structure'.

All the 14 sector development plans are to contribute to the achievement of the 20-year Samoa 2040 vision and the 5-year SDS vision. As such, all sectors have a role to play in the sustainable development and management of the national food systems (see Table 1).

Sec	ctor	Function and role in the food system	Vision	Lead implementing Agency
1.	Agriculture	Agriculture development – crops, livestock, fisheries, etc.	A sustainable agriculture and fisheries sector for food security, health, prosperity, job creation and resilience'	Ministry of Agriculture and Fisheries (MAF)
2.	Water	Sustaining water for life and sanitation.	Reliable, clean, affordable water and improved sanitation within the framework of integrated water resources management, for a resilient Samoa, sustaining health and alleviating poverty.	Ministry of Natural Resources and Environment (MNRE)
3.	Environment	Environmental management and conservation.	Samoa's natural and built environments are well protected and resilient to natural and human-induced hazards and supporting a	Ministry of Natural Resources and Environment (MNRE)

Table 1: Samoa 14 development sectors and their roles in the food system

			sustainable and healthy human population.	
4.	Health	Public health and curative care.	A healthy Samoa.	Ministry of Health (MOH)
5.	Education	Education for all.	All people in Samoa are educated and productively engaged.	Ministry of Education, Sports and Culture (MESC)
6.	Transport and infrastructure	Transport and infrastructure development.	A transport network to future prosperity.	Ministry of Transport a
7.	Trade, commerce and industry	Trade, commerce and industry development for the food system.	Sustainable trade, commerce and manufacturing for enhanced growth and development.	Ministry of Commerce, Industry and Labour (MCIL)
8.	Communication	Information and communication technology.	Affordable and Appropriate Information and Communication Technology (ICT) Accessible to All.	Ministry of Communication and Information Technology (MCIT)
9.	Tourism	Food tourism.	Samoa will have a growing tourism sector, which engages our visitors and people and is recognized as the leading Pacific destination for sustainable tourism.	Samoa Tourism Authority (STA)
10.	Energy	Sustainable energy.	Sustainable energy for Samoa.	Ministry of Finance (MOF)
11.	Community development	Social and community- based development.	Empowering communities to lead inclusive development for quality of life for all.	Ministry of Women, Community and Social Development (MWCSD)
12.	Law and justice	Law and justice uphold the food system regulatory system.	Safe, secure, fair, just and inclusive Samoa.	Ministry of Justice and Court Administration (MJCA)
13.	Finance	Economic and financial development and management.	Fostering economic resilience.	Ministry of Finance (MOF)
14.	Public administration	Human resource management, good governance, leadership and management, etc.	A trusted, citizen-focused, public administration.	Public Service Commission (PSC0

In particular, the Agriculture Sector Plan (ASP) 2016-2020 vision was 'a sustainable agriculture and fisheries sector for food security, health, prosperity, job creation and resilience'. It stipulated four outcome areas to achieve the sector vision: sector coordination improved and investment in food security and inclusive commercial agriculture/fisheries production systems increased; an increased supply and consumption of competitively priced domestically produced food; a sustained increase in production, productivity, product quality, value adding and marketing of agriculture and fisheries products; and sustainable agricultural and fisheries resource management practices in place and climate resilience and disaster relief efforts strengthened. A review of the ASP 2016-2020 is underway, including the development of the next ASP 2021-2025.

Similarly, the Health Sector Plan (HSP) 2019-2030 vision of '*a healthy Samoa*' underscores the government priority for improving the health standards of all Samoans. The HSP highlights improved prevention, control and management of communicable and non-communicable diseases as one of its key outcome areas to contribute to the achievement of 'a healthy Samoa' vision. The National NCD Control Policy 2018-2023, National Food and Nutrition Policy 2021-2026, and all other national health policies outline the specific policy directions and detailed action plans for the achievement of the overall health sector plan of a healthy Samoa. This same goes to all other sectors meso-level policies directing policy and programming priorities for achieving sectoral development outcomes.

Samoa's development agenda continues to stress developing agriculture, fisheries, tourism and other services industries to boost social and economic development performances. Agriculture and

fisheries remain a significant sector of the economy, for maintaining local livelihoods, informal employment, income generation, and food security. Contextual challenges that Samoa continues to face include high vulnerability (to disasters, climate change, external shocks and other threats such as pests and diseases), small markets, high transportation and transaction costs, limited economies of scale and economic diversification, imperfect competition, little power to compete on the global level, income volatility, and limited locally available specialists. The impacts of the ongoing frequent occurrences (and effects) of cyclones and floodings, including the recent 2019 measles epidemic, as well as the unfolding effects of Covid-19have adversely affected national development performances. Despite these inherent limitations, Samoa continues to perform well when compared to other small island developing countries, and has the potential to overcome the many challenges of ensuring that its people enjoy an improved quality of life, which involves ensuring food and nutritional security for everyone.

1.3. Samoa food systems - the current status

The key question is this: 'Is Samoa food systems able to sustain the food and nutritional needs of its growing population within the changing globalized and local food environments?'. Food systems 'encompass the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded'.

A sustainable food system 'is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised'. This means that: it is profitable throughout (economic sustainability); it has broad-based benefits for society (social sustainability); and it has a positive or neutral impact on the natural environment (environmental sustainability)(FAO, 2018).

Examining the status of Samoa food systems can provide some answers to the above question. Provided below is a summary of the status of the food systems in Samoa, based on the findings from a Synthesis Report of the Samoa Food Systems (literature review) and Samoa Food Systems Summit Dialogue (SFSSD) Report (primary data). The Synthesis Report and the Dialogue Report must be consulted for a detailed evidence-based analysis of the findings summarised in the following sections.

1.3.1. Food production and supply

Samoa has a small population of only 195,979 people, and a population density of around 67 people per square kilometers. With high labour mobility, there are more Samoans living overseas than incountry, which makes remittances as one of the key contributors to the economy and as an informal social protection mechanism for the local people. The informal system which provides for the livelihoods of 80% of the rural population remains the backbone of Samoa's economy. The agriculture sector contributes to only 10% of the Gross Domestic Product (GDP)but employs the largest proportion (22%) of Samoa's labour force.

The evidence suggests that Samoa is currently self-sufficient in several food groups; starchy roots, oil crops, fruits, fish and seafood (FAO, 2017) which are the make-up of staple foods. However, Samoa should not be complacent but be proactive in ensuring the sustainability of its food systems to cater for the nutritional needs of its growing population. Summarised below is the status of food production and supply in the country:

• Agricultural land is estimated at 26.7% of Samoa's total land area; 1.5% higher than the average across the Pacific island region, but 11% lower than other low-and middle-income countries.

- The overall trend of the last 30 years shows a declining pattern in the average areas of holding for agriculture land, suggesting that households are engaged more in small-scale rather than large-scale farming.
- The domestic production of fresh produce traded in local markets is estimated at up to 500 tonnes a year, with staple crops accounting for 60% and fruit and vegetables making up 40% of supply.
- The domestic production of meat (beef, pork and poultry) traded in local markets is estimated at up to 6,000 tonnes a year. A total of 67% of the retail beef and 95% of chicken meat consumed are imported, with an estimated per capita meat consumption of 100kg per head a year.
- Fresh fish is Samoa's largest merchandise export (37%) and about a quarter of Samoan households received some income from fishing.
- Fisheries production continue to increase over the years, estimated at around 9,779 tonnes in 2018; almost all (99.9%) are captured fisheries, which is considerably low when compared to the average of 62,572 tonnes of fisheries production in other Pacific island countries.
- While a large number of local families remain engaged in some level of agricultural activities, that engagement is declining over time as society evolves. The biggest decline is noted in fishing and livestock. For crops, a major decline is noted in households growing taamu and taro palagi crops.
- Overfishing, unsustainable fishing, and increased loss of biodiversity with real risks of the extinction of native species are some of the key issues concerning the sustainable management of the natural landscape underpinning the food systems. Data gaps present limited understanding of the status of other food resources (land, soil, marine, animals, forestry, weather, etc.) in country.

1.3.2. Food processing, imports and exports

The food processing value chain in Samoa is characterised by 'a large number of small enterprises producing primarily for the local market', frequently using imported raw materials, and exports dominated by either simple or more complex processing of traditional commodities, (primarily coconut oil, coconut cream, copra and taro) and fish. The sector is constrained by a relatively restricted range of available local agricultural products and the small size of the local market (UNCTAD, 2003). Summarised below is the status of the food processing, imports and exports in Samoa:

- There is potential to develop niche markets such as organic value-added products, however, the scope for expanded development in niche market areas is fairly restricted due to a lack of technology and mechanisation, as well as the labour intensive and high production cost issues.
- The total value of selected agricultural and fish exports in the first quarter of 2020 fell by 47% compared to the same quarter in 2019. With the exception of fish exports, the value of taro, nonu juice, coconut and kava (main export commodities) were all in decline throughout 2019 and 2020.
- Samoa is import food dependent with food items contributing to around 25% of overall imports a year. Most food imports are live animals and animal products (e.g. chicken leg quarters and mutton) and prepared processed food stuffs (rice, sugar, salt, flour, canned foods, etc.).

- The majority of food imports (45%) are from the Asian countries, with 27% from New Zealand, 10% from Australia and 7% from Fiji.
- Limited data on local food processing does not provide for a complete picture what is being processed and made available in the local markets for convenient accessibility by consumers.

1.3.3. Food consumption and nutritional security

Samoa faces the double burden of malnutrition – under nutrition (stunting, anaemic and other nutrient deficiencies) and increasing burden of NCD. Overweight and obesity across all age groups now exceed global averages. Over 70% of the population are overweight and around half are obese. NCD contribute to around 80% of deaths; more than half are premature deaths. NCD is estimated to cost 8.5% of the GDP by 2040. Poor nutrition is the leading risk factor of malnutrition. The evidence gives the following overall patterns about food consumption and nutritional status in the country:

- A total of 24.2% of Samoan are food insecurity at moderate levels, while 2.6% (1 in 40 persons) face severe levels of food insecurity, and with around 5% of the population undernourished. Poverty measures show that 22% of the population are living below the national basic poverty line, with 6% living in extreme poverty (or food poverty).
- The Samoan diet is not nutritionally balanced it falls short of the required micronutrients and it is too rich in fats and too low in carbohydrates. The consumption of fruits and vegetables is low and is declining; only 1% of Samoans consume at least 20 servings of fruits and vegetables a week.
- The Samoan diet is not diversified. Only five food groups contribute to 67% of the total dietary energy consumed with cereals and their products, oil products, and meat contributing 56%, while roots and tubers contribute only 11%. Fish contribute only 4%, which is way below the recommended intake; that up to 50% of the daily intake will need to come from fish.
- The Samoan diet has moved away from a more traditional diet (of root crops, starchy fruit, and seafood) towards a modern diet consisting of white rice, bread, chicken leg quarters, sugars and processed food.
- The majority (61%) of the home food consumption are purchased, with only 37% of the top 30 food items (by shared of expenditure) are locally produced, suggesting a large consumption of food imports, most of them are processed energy-dense food.
- Prices influence consumption. Within limited household/consumer purchasing power, and low minimum wage in the local labour market, preferences for modern food (most are imported) over traditional food are influenced by lower costs as well as by convenient availability.
- Disparities exist between poor and rich households. The share of food expenditure for the poorest is 53% compared to 31% for the richest households. The richest households spend 22% more than the poorest households on food, and therefore have more access to healthy and diversity of food than the poorest households.
- Samoa's food culture further contribute to food insecurity and nutritional health issues, especially given the large bulk preparation, sharing and consumption of food, during family, communal and public feastings, events and ceremonies.

• The significant nutritional shifts over the years from traditional foods to imported foods (coupled with a more sedentary way of life) have resulted in the increased consumption of canned foods, sugar-sweetened beverages (SBB) and micronutrient poor processed foods.

1.3.4. Food safety and waste

Food and nutrition security is without food safety. This means that the environment (land, soil, sea/ocean, infrastructure, transport, etc.) in which food is cultivated, extracted, produced, stored, distributed, processed, packaged, sold, and consumed should be safe. It is often assumed that food when produced is generally safe for consumption and it is only in some minor cases of foodborne diseases where reactions are directed at the need to examine the safety of food.

However, concerns about food safety are also about whether the kinds of foods that are consumed do contribute to the healthy development and well-being (i.e. long-life) (or otherwise) of the population. These concerns are becoming more prevalent with the increased use of chemicals and other inputs in agriculture, as well as the ongoing impacts of climate change and environmental degradation on the quality and health of the ecosystems. Threats from invasive species, pests and diseases, as well as waste and sanitation issues are other concerns. These food safety threats and risks are intensified by the increased globalisation of the food supply and processing value chains.

The available evidence to date gives the following status on food safety and waste in Samoa:

- Fish and seafood poisoning are becoming a major threat due to temperate variations, with marine resources affected by growing ocean acidification and worsening coastal eutrophication.
- Land and soil health is an ongoing concern given increased use of unsafe farming practices (e.g. chemicals, mechanisation, and poor waste discharged) and limited rehabilitation of the ecosystem to facilitate a regenerative, circular and food system environment.
- Foodborne and waterborne diseases are expected to increase with intensity and frequent occurrences of disasters (floodings and cyclones) and their effects/impacts.
- Popostharvest loss, especially for fresh fruits and vegetables is an issue, estimated at up to 20% (1/5) of total yields. The lack of basic postharvest infrastructure, understanding of good postharvest handling practices, and access to simulated storage capacity with appropriate conditions, and delays in transport logistics or rate of market throughput are key contributing factors to loss.
- Food waste amounts to the largest amount of total waste discharged across Samoa, amounting to 36%, compared to plastic (16%), paper and cupboards (13%), and diapers (13%).

1.4. Conclusion

The above section provides a synthesis of the status of the food systems in Samoa, providing an overall profile of food production/supply, food processing, food consumption, food safety and food waste in the country. Hunger is not a real issue in Samoa. The real issue is access to a balanced and nutritional diet which requires a nutritional shift from eating processed imported foods to locally produced fresh products, which will hope to address the rising burden of NCD. The sustainable management of natural resources especially overfishing or unsustainable fishing is a concern. Efforts to address postharvest loss and food waste are needed, including building awareness, adaptation and resilient responses against the ongoing impacts of climate changes, and other shocks and threats.

2. TRANSFORMING FOOD SYSTEMS FOR A RESILIENT AND HEALTHY SAMOA

The 2021 Samoa Food Systems Summit Dialogue (SFSSD) (the national 'Dialogue') validated and reinforced the key findings and messages presented in the previous sections about the status of the national food systems. The national conversations at the SFSSD strengthen a shared understanding about the key issues and challenges that Samoa faces with building the sustainability of its food systems, to support economic development, livelihoods, income generation, and food and nutritional security. The full participant narratives of the SFSSD is documented in the Dialogue Report. The solutions on how to transform the national food systems for a resilient Samoa as presented in the following sections are drawn from the collective national narrative made at the national Dialogue.

2.1. Ensure access to safe and nutritional food for all

Samoa's food systems must ensure access to safe and nutritional food for every citizen. The aim is to reduce (and prevent) hunger, inequality, and all health risks. The challenge is how to ensure that access by the growing population that is subjected to the ongoing NCD crisis and other health risks. Access to safe and nutritional food by everyone is under extreme pressure with the ongoing threats of climate change and other shocks, together with increased globalization and monetization of the food system, declining engagement of households in agricultural activities, and decreasing agricultural labour.

The ongoing implications are the inconsistent food supply in the country, decreased consumption of local fresh produce, increased consumption of cheaper imported processed foods, which further exacerbate the already imbalanced Samoan diet and inequalities in accessing nutritional food. The declining food tourism (which is intensified by the ongoing impacts of the Covid-19), restricted markets for trade(and hence limited return on produce), postharvest loss, increased demands for cash, and movements to sedentary lifestyles, and high production, processing and transaction costs have provided disincentives for local people to remain engaged in the agriculture sector.

The key objective is for the Samoa food systems to be able to deliver on the *right* food to ensure that *all people* at *all times* have access to sufficient quantities of *affordable* and *safe* food for their *nutritional* health and well-being. This requires an increase in the supply and consumption of competitively priced, domestically produced food to cater for the current and future generations. Changes in dietary attitudes (at the individual, family and society levels) are needed to facilitate and support a transformational shift towards a healthy and nutritional balanced eating lifestyle and food culture.

Solutions proposed through the Dialogue and supported by available research and documentary evidence are discussed as follows:

2.1.1. Transform the agriculture sector to boost local production

The transformation of the agriculture sector to boost local production requires sustainable actions that go beyond business as usual. Investments in the sector have remained low and boosting local production and value chains requires sustained resourcing that go beyond existing commitments. Improving the consistent local supply of healthy foods is to be addressed through strengthening the incentive mechanisms for farmers and fishers, and encouraging the commercialization of the agriculture sector. Government needs to provide specific interventions targeting capacity development for value chain actors and addressing key issues facing production, including high labour costs, water and irrigations, transport and infrastructure, and facilitating local and overseas markets

for farmers and fishers. Transforming the agriculture sector will further involve developing opportunities in using digital and technological innovations to boost local production and to strengthen value chains. Accessing finance and improving capacity for good governance, management systems and business models in agriculture, and other development needs for farmers and fishers. Boosting food production and influencing consumption patterns at the local level require significant involvement of community and civil society, hence the resources, funding, capital and technology investments, and technical assistances are to be scaled up and directed at the community and civil society levels, where major impacts on food and nutritional security must take place.

2.1.2. Strengthen the enabling environment for the sustainable development of food systems

While agriculture and fisheries remain the backbone of Samoa's development agenda, they have yet to achieve their growth potential despite government reforms to improve the enabling environment for business development including the allocation of public investments to support the sector. Participants at the Dialogue pinpoint to the need for government to play a more significant role in strengthening the enabling environment to support the transformation of the food sector and to encourage and facilitate a more productive and commercially oriented agriculture sector should be a key focus for the Government. Strengthening the enabling environment will require:

- A strong and robust policy and legislative framework facilitating the sustainable development and regulating the different elements of the food system;
- A strong and robust monitoring and evaluation system with clear mechanisms and processes carried out to determine progress made with the achievement of sector outcomes including the identification of learnings to be fed back into ongoing improvement of interventions;
- Clear implementation arrangements inclusive of enforcement and compliance instruments and procedures; and
- Operational instruments that are well-understood by key implementing actors to facilitate collaborative efforts of key partners and stakeholders who are implementing key programmes and other initiatives contributing to sustainable development of the food system.

The coordination of the implementation of whole-of-government policies, legislation, processes and operating systems, and investments (relating to improving access to safe and nutritious food for all) across sectors are key components of strengthening the enabling environment for the food system. A clear understanding of key implementing actors of the policies spanning the food system is required, including the identification of linkages and tradeoffs in policies and their implementation. Strengthening a bottom-up approach to policy development will facilitate national and community ownership of policies and their implementation requirements. Ongoing resource allocation for policy implementation and monitoring efforts is a key focus in improving action. At the same time, there is a need to formulate clear macro and meso level indicators and targets for the sustainable development of the food systems, including strengthening the proper monitoring and evaluation of progress made towards achievement of food sector indicators and targets at the macro and meso levels.

Reviews and assessments have identified that a number of key policies have yet to be completed or updated spanning across the different components of the food system. Fiscal policy for the food system (e.g. food pricing and taxation) is still under-development but necessary to support the nutritional security movement. Strengthening the food safety policy and regulatory system requires the identification and development of further standards for food, better enforcement of standards across the food industry, and improving awareness and coordination of the performance of roles and responsibilities for food safety among relevant partners.

2.1.3. Improve evidence-based knowledge and understanding of the food systems and their components

Building evidence-based knowledge and awareness of the food systems is an ongoing need. Knowledge that is based on well-founded evidence is a powerful tool for informing key actors about the problems at the heart of having a sustainable food system. It is crucial that everyone have a shared understanding of the complexity of the production-consumption-nutrition loop and how it is linked to issues concerning access to safe and nutritional food for all. Understanding the key issues, and providing the right solutions require solid evidence derived from scientific data and analysis, as well as valid social constructs of the realities and experiences of local people (farmers, fishers, etc.) who are developing and maintaining the food systems. Examples of data and evidence gaps which require research and development, and improved knowledge sharing include:

- Limited understanding about current and future capacities of the food resources (land, soil, seas, animals, forestry, weather, manpower, etc.) to sustain production and consumption. This understanding is needed to better inform adverse implications of existing policies and practices (e.g. overfishing, soil, land and forestry degradation), appropriate actions and sustainable practices that emphasize conservation and biodiversity.
- Little is known about the compliance level of most of the imported processed food with national food standards and nutrient profile.
- Lack of evidence to establish the reach by vulnerable people of the support and development programs, including incentives that will help with improving their livelihoods.
- Better understanding of the nature and characteristics of the problem of food waste in Samoa, and ways to utilise waste in the food cycle.
- Research about the role of culture in developing the food systems including a proper documentation of traditional knowledge in sustainable food systems.
- Research and development in local value chain products and processed organic food products.

2.2. Shift to sustainable consumption patterns

Shifting to sustainable consumption patterns for the whole of society require systemic actions and interventions aimed at strengthening healthy, safe and sustainable food environments to enable people to adopt and maintain healthy dietary practices. Improving customer motivation and capability for nutritious food will increase demand for healthier diets and lifestyle choices, and for the food environments to enable the making of those choices. Transition to sustainable consumption is about empowering people to take ownership of what they eat for their own health, including becoming more informed about the impacts of the food environments on their diets and life cycle health risks (and vice versa). Sustainable consumption requires a transition towards diets that are healthier, safer, and climate and nature-positive, including eliminating food waste and building circular food economies. This transformative shift in sustainable consumption patterns requires changes in food policy, food environments, civil society actions, private sector offerings, and consumer behaviours.

Solutions proposed through the Dialogue and supported by available research and documentary evidence are presented as follows:

2.2.1. Strengthen food policy and regulatory systems to facilitate a shift towards sustainable consumption patterns

Food choices and consumption are influenced by prices (affordability) and convenient availability of food. As such, and given low minimum wage and limited household purchasing power, Samoa's fiscal policy for food needs strengthening to influence and encourage consumer behaviours to shift

towards sustainable, safety and nutritional consumption patterns. The enforcement of food legislation requires building wider understanding of food regulatory requirements. At the same time, the food industry needs support and capacity development so that they have the right understanding and support systems in place to facilitate compliance with food legislation.

Managing trade-offs in food policy and regulatory measures (e.g. increased taxation for unhealthy food versus increased business and employment interests in the food industry) require strengthening inter-sectoral public policy measures. Strengthening the sector-wide approach to Samoa's development agenda is needed for building integrative and holistic public policy responses to address the complex issues and multi-faceted solutions that the food systems require. The multi-sectoral approach provides a vital governance and strategic leadership support platform to the policy and regulatory systems for food production and consumption, where the joint effort and contribution of every sectors of society (government, private sector, civil society and community) should be solicited, coordinated and monitored.

2.2.2. Promote the consumption and availability of local traditional foods

A shift to sustainable consumption patterns will require a shift in the Samoan diet from the consumption of (convenience and imported) processed energy-dense foods to local traditional foods comprising of fresh organic produce. The processing of traditional foods is relatively labour intensive and time consuming, and hence not convenient to the busy modern lifestyles, especially for working families. A significant transition of the Samoan diet to the consumption of local traditional foods will require making local traditional food into value-added products that are affordable, easily available for convenient consumption of the public, and are healthier, fresh and tasty choices for consumers.

The consistent supply and availability of those products in the local markets, supermarkets and other popular food outlets, including public settings such as schools, public hospital inpatient kitchen foods, and public event caterings will promote the processing and consumption of local traditional foods, and will hopefully encourage a cultural shift in society. The food industry will need investment and capacity development support in the reformulation of local traditional foods to improve nutritional content, limit processing time and costs, improve mass production, and implement behavioural nudge strategies that can influence consumer choices for traditional foods.

2.2.3. Enhance nutrition education and promote healthy consumption patterns in the community and in the context of the whole food system

The vision of a healthy Samoan should be promoted across all sectors and when looking at the entire food system; that a healthy population is dependent on environmental (land, soil, forestry, water, sea, etc.) and animal health. This requires strengthening nutrition education by building an understanding about the contribution of a healthy and quality food system to population health. Having a sufficient supply of a diverse range of locally grown fresh produce does not necessarily translate into better nutritional behaviours across the community, given local food culture and behavioural factors. Continuous and sustained wide community-based education and health promotion messaging are necessary to encourage positive attitudinal changes in dietary patterns.

Children are more vulnerable to the progressive nutritional shifts and a possible intergenerational malnutrition problem in Samoa, hence priority should target school nutrition education and food programmes within the governance and support systems of the community and village institutional settings, starting from early childhood education across to senior school in order to instil healthy eating behaviours at a young age. The involvement of parents and food vendors in the formulation, implementation and monitoring of school nutrition and feeding programmes needs encouragement. Building sustainable and healthier consumption patterns amongst school children requires locally available foods to be used in school food programmes with linkages to local producers becoming an integral part of the school feeding system.

Children diets and nutritional health are largely influenced by what is consumed at home, extended family and community settings. As such, promoting healthy consumption across the wider community settings is an inevitable need. Providing food, nutrient content and dietary information, nutrition education programmes, and nutritional counseling, can encourage a shift toward healthier diets. The use of multi-media campaigns can have considerable potential impact on public health promotion.

With increased consumption of imported food, especially from less regulated markets, and impacts of climate change, environmental degradation and chemicals on food, people need to become more aware and well-informed about what is safe to eat, the food and nutrients that they are consuming, and how they impact on their life-cycle health and well-being. Food literacy and targeted consumer awareness will assist consumers to make informed decisions about what to purchase and to prepare healthier, tastier and affordable meals. Clear messaging and programmes using attractive and easily understood awareness materials for both urban and rural populations are an ongoing need for building wide civic understanding about the nutritional problems and the change that needs to happen.

2.3. Boost nature positive production

Nature positive production is 'a form of food production that is characterised by regenerative practices that manage soil and water and enhance biodiversity. It is the non-destructive uses of natural resources that protects and build upon natural and social capital' (UN Food System Summit Secretariat, 2021). Samoa must adopt practices that protect, manage and restore nature, while meeting the fundamental human right to healthy and nutritious food for all. The sustainability of Samoa food systems is underpinned by its biodiversity and ecosystem functioning and adaptive well to the ongoing adverse impacts of climate and environment changes. The survival of many species including micro-organisms, animals, plants, fish, and others is importance to the vitality of the natural food system and the human species. As the basis of food production, the health and productivity of land, forestry, soil, water and sea resources are critical for the sustainability of the food system and value chains. The Dialogue encouraged discussions of the constraints and opportunities facing smallholder farmers and small-scale enterprises along the food value chains, including improving food system governance, reduced food losses and other negative environmental impacts, and adopting more nature-positive production practices and behaviours.

Solutions proposed through the Dialogue and supported by available research and documentary evidence are presented as follows:

2.3.1. Revitalise and promote the use of traditional and indigenous knowledge to boost naturepositive production and sustainable agricultural practices

Traditional and indigenous knowledge about regenerative, circular and rehabilitation agricultural practices for resilient landscapes, and environmental conservation and restoration practices (e.g. soil fertility improvement, crop rotations, intercropping, and planting nitrogen-fixing crops) have long existed in Samoa. This knowledge is part of the oral culture. The Dialogue discussions suggest that nature-positive production is about using traditional and indigenous knowledge to sustainably manage and preserve food from the land and ocean, including farming and fisheries practices and methods that are safe and healthy for the environment and humans. Boosting nature-positive production thus requires a revitalisation and promotion of the use of traditional and indigenous knowledge in agriculture for sustainable land, marine and terrestrial management production practices to go in parallel with conventional best practice methods of production. It is also important to look at utilising traditional and indigenous knowledge of the various aspects of the food system (e.g. natural farming, food preservation and cooking) for improving health and nutritional security in Samoa. This includes incorporating traditional knowledge into contemporary ways of food

preparations and processing to make local nutritious food more conveniently accessible and affordable, and to promote the movement towards organic farming, fishing and other agricultural activities. It is important that this knowledge is captured, documented, preserved and shared with the current and future generations.

2.3.2. Strengthen extension services for improved knowledge and collaboration amongst farmers, fishers and other key players of the food industry.

The rural subsistent agricultural economy remains the backbone of all development efforts directed at boosting nature-positive production in Samoa. The importance of extension services in the effective implementation of those efforts cannot be emphasised, in providing technical support and on-the-field trainings and expert assistances to rural farmers and fishers to address the many issues and challenges of food production, especially managing climate change risks and impacts. Extension (and veterinary) services remains limited in Samoa and need strengthening for improved provisions of assistances to farmers and fishers, including generating cross-fertilisation of agricultural knowledge and skills, collaboration, networks, learnings and sharing amongst farmers and fishers, including dissemination of new technology, information, research, planting materials, seedlings and stocks, as well as facilitating access to resources, markets and other opportunities, It is important to take stock of the key gaps with existing extension services and what is needed to revitalise and improve these services. Opportunities exist for the Ministry of Agriculture and Fisheries to partner with farmer and fisher organisations in building and strengthening extension services across Samoa.

2.3.3. Improve environmental protection policy and regulatory measures including monitoring and evaluation of policy and regulatory impacts

There is recognition of the problems concerning nature-positive productive, such as overfishing or unsustainable fishing, biodiversity and habitat loss, poor waste management, environmental degradation and the ongoing adverse impacts of climate changes. However, responding to these concerns will involve systemic improvements in environmental protection policy and regulatory measures, and strengthening monitoring and evaluation of the impacts of those measures. A classic example is the inconsistent enforcement of the ban of the use of plastics in Samoa. Improving environmental protection also involves an improved and better management of food waste. Provisions of training and knowledge building are needed on how local people should manage their food waste, including options on how foods can be utilised in the food cycle and for regenerative purposes. An important part of improving environmental protection policy and regulatory measures for sustainable food systems, which should be a key subject of sector-wide dialogues is the management of the trade-offs between boosting food production and adverse impacts on the environment.

2.4. Advance equitable livelihoods

It is important to recognise that in every society, including Samoa, there is always a segment (families and individuals) of society lacking the space, power structure, or enabling environment in which to exercise their voice and rights, and to access opportunities to improve their standards of living. This group may refer to the 22% of the population living below the national basic poverty line, or importantly, the 6% of the population living in extreme (i.e. food) poverty which require special attention and targeted assistances. Building sustainable food systems is about inclusivity; that every citizen is able to participate and contribute to the sustainable development of their food systems, and thereby benefit concurrently from their contributions. Advancing equitable livelihoods is about building the agency of the underrepresented. It is about empowering them, by strengthening their capacities to contribute and to make an impact. Developing sustainable and inclusive food systems involve efforts that will contribute to poverty eradication, enabling entrepreneurship, promoting

employment and decent work for all actors along the food value chains, reducing risks for the poorest, and addressing inequitable access to resources and distribution of value.

Solutions proposed through the Dialogue and supported by available research and documentary evidence are presented as follows:

2.4.1. Facilitate effective engagement of stakeholders including vulnerable groups in food systems dialogues and exchanges

There are institutional and systematic barriers (access to land, social norms about roles stereotyping, traditional divisions of labour, etc.) preventing women, youth, persons with disabilities, and others living in vulnerable conditions, from accessing the needed resources to pursue better livelihoods in the food sector. Strengthening effective engagement of everyone especially vulnerable groups in food system discussions where those barriers are confronted in open forums is an important part of building equitable participation in the sustainable development of livelihoods through inclusive involvement in food systems. A question raised at the Samoa Food Systems Summit Dialogue was 'how are the voices of the vulnerable people being heard during the discussions'. It is important to ensure that these groups are given the opportunity to be represented at dialogues and be given the space to present their concerns, and how they can better contribute to the building of inclusive food systems.

Tailoring food system policies to reach the marginalised population will create empowerment opportunities for them to participate along the food value chain, while addressing key challenges that they face, such as intergenerational cycle of poverty; malnutrition; and lack of basic income, education and access to information and basic services. It is important to recognise that with 49% of the Samoa working aged population involved in the agriculture sector (SBS, 2018a), most of them are the vulnerable ones involved in subsistent agriculture and fisheries activities. Special targeting of these groups (small-scale farmers; small family farmers; livestock keepers; women and single mothers who are smallholders; youth farmers, etc.) remains an ongoing need in development policy, programming and targeted assistances; in providing the necessary support that will enhance their livelihoods through the food systems. At the same time, the large portion of Samoa's labour force in the subsistent agriculture and fisheries sector and other informal domains of the food systems must be recognised and registered in the formal system as part of the formal labour market and social protection systems. This can improve their decent work conditions, including the protection of their rights as workers and citizens, and improving their access to opportunities that will enhance their skills base in agricultural industries and food value chain.

There are gaps that need addressing in the identification and mapping of vulnerable populations, including having solid evidence to establish the reach by vulnerable people of the economic, financial and investment support and development assistances, including incentives (small grants, stimulus packages, etc.) that could assist with improving their livelihoods. Evidence from the implementation of community-based programmes such as the Civil Society Support Program (CSSP) show that there are barriers (e.g. lack of awareness and basic understanding of concepts, inability to access and to put through an application, and not meeting criteria for entry into a programme) with vulnerable people accessing support programmes and services as well as incentive packages. It is critical that these barriers are recognised and addressed. The development and the effective implementation of a Vulnerability Indicator Index will assist with the identification of vulnerable groups and individuals, and for the effective means testing and targeting of assistances to those that are in great need of support.

2.4.2. Promote the role of women and youth in agricultural activities and food value chain

The development of sustainable and inclusive food systems must provide opportunities for the effective participation of everyone in that development process. However, women participation in

the production side of agriculture across Samoa is low (11% females to 89% males). While on the value chain side, most market vendors and food processors are women, and as such, they can play an important influential role in determining and shaping what the family eat for healthy growth. Women participation in the food supply chains including their roles in promoting nutritional food requires further attention and development. Evidence from community-based project implementation have shown that women involvement and leadership in project management do contribute to effective project governance, management and implementation at the local level.Providing the needed support (access to land and finance, capacity building, networking etc.) will empower more women to become engaged in agriculture and the food value chain and thereby enhance their livelihoods and standards of living, which could have spill over effects on boosting local food production, processing and retailing.

Developing unique and niche value chains for markets and international supply will assist the large proportion of the youth population working in agriculture, forestry and fisheries. However, limited markets, impacts of shocks (e.g.Covid-19) and availability of decent work in other industries (e.g. seasonal workers schemes) are not helping with encouraging more youths to become involved in developing value chains in agricultural and fisheries industries. Encouraging more youths to engage in food system industries will require iimproving the image of agriculture and fisheries as attractive career options and provide a clear pathway for students to capture their interest in studying food-related curriculum from a young age.

2.4.3. Enhance the role of communities and culture in developing the food systems and equitable livelihoods

Communities and culture play a major role and thus have the potential to contribute to the development of food systems and equitable livelihoods, such as the distribution and redistribution of food between and amongst families. The sharing of key stakeholders at the National Food Systems Summit Dialogue suggests that projects that attempt to use the Samoan culture are successful in their implementation. Local village communities are governed by the *fa'amatai* system within the overall *fa'aSamoa* cultural framework, and as such, engagements with key institutions at the village community levels are critical to the effective implementation of community interventions. The participative narrative at the Dialogue suggest that there is a need to find best practices and strengths from the Samoan culture in food security that can be scaled up and replicated across village communities.

For instance, there are a number of established village farming and fishing cooperatives (e.g. Poutasi Development Trust, Savaii Koko, Savaii Coconut Cluster, Faleasiu-uta Farmers' Cooperative, and other village youth planting projects) that have long known to have contributed to the sustainability of food supply and food security at the community level. It is important for the transformation of the agriculture sector that these established local mechanisms are revitalized, encouraged and promoted through the strengthening of agricultural extension services and coordinated programmes providing targeted support in finance, technical assistance, technology, market access, civic education and training, and information dissemination.

2.5. Build resilience to vulnerabilities, shocks and stress

As an agriculturally dependent small economy, Samoa is high susceptibility to shocks, stress and other threats. The adverse effects of Cov-19 on Samoa economy continue to unfold especially with the pandemic showing no sign of weakening. In response, the government has re-calibrated the development priorities for the country, one of which is the continuous re-echoing and re-emphasizing of the needed transformation of the agriculture sector to ensure food security and to support the import substitution agenda (Samoa 2040). The evidence shows that domestic farming has been the main safety net mechanism used by the majority of local people who experienced decreased income

as a result of the Covid-19 pandemic, in order for them and their families to cope with the strain on finances and to ensure that there is food on table. Building the economy and local people resilience to vulnerabilities, shocks and stress is thus about investment in agriculture and fisheries as the backbone of sustaining food and nutritional security, local livelihoods, safety nets and for putting Samoa economy back on track. Samoa's food systems need to be transformed to ensure all people are empowered to prepare for, withstand, and recover from shocks and stressors, and are able to remain engaged with the sustainable development of their food systems (for food and nutritional security) despite the adverse effects of shocks and stressors.

Solutions proposed through the Dialogue and supported by available research and documentary evidence are presented as follows:

2.5.1. Build climate resilient practices and resources for agriculture development

Building resilience of the food systems is not only about building the resilience of the human species, but it is also about building agroecosystem resilience; all interconnected food system elements such as plants, crops, fishes and other marine life, land, animals, birds, organisms, and other species that are all parts of biodiversity and biological systems. Raised by various stakeholders at the Dialogue is the need to build resilient in agricultural systems. This building of more sustainable and resilient farming, fishing and livestock systems require attention being paid to smallholder-related research and development, seeds and stocks availability, and capacity building. The diversification of agricultural practices and local food production is an important adaptation measure for improving resilient. This involves growing a variety of crops and promoting other types of fisheries production (e.g. aquaculture) and livestock practices that are more resilient to climate change (flooding, temperate variations, etc.) and other environmental impacts (e.g. pests and diseases). Diversifying farms has the potential to contribute to environmentally sustainable and resilient food systems. For Samoa to make a significant movement towards the adoption and scaling up of climate resilient agricultural practices, increased public and private investments are needed, to be enabled by the rights policy mix and incentives, and supported through strong leadership commitment and good governance mechanisms.

2.5.2. Adopt and implement social protection measures in response to the impact of shocks in food supply and consumption

Building and strengthening nationally owned and sustainable social protection systems in Samoa in response to shocks and stress is needed, to complement and reinforce efforts aimed at addressing resilience through the food systems, and to mitigate the negative impacts of shocks on food security and healthy consumption. Social protection, if implemented and targeted well, can reduce families and individuals chronic vulnerability, severe food insecurity, and exposure to risk. Social protection kicks in as contingent safety nets for local people when they do experience hardships especially when expose to crises, emergencies and other hazards.

With 40% of the population considered as vulnerable (which is expected to increase), social protection floors, schemes, programs and mechanisms must be established and strengthened, targeting the large proportion of the population involved in subsistent agriculture and fisheries, with priority consideration given to the most vulnerable and poorest segments of the population. With children becoming more vulnerable to the rising malnutrition and NCD crisis as the nutritional shift progresses, targeted social protection measures for children (e.g. school feeding programmes based on targeted public food procurement of healthy and nutritional lunches based on locally produced food) are needed to support the overall goal of reducing and preventing malnutrition, making a significant shift to healthy diets in the young generations, and encouraging the production and consumption of local fresh healthier food.

2.6. Conclusion

Section 2 above provides a synthesis of the game changing solutions for transforming food systems for building a resilient Samoa, based the available documentary evidence and the national narrative emerged from the National Food Systems Summit Dialogue that took place in Samoa in April-June 2021. The solutions/recommendations are interwoven into the five-action tracks (or thematic areas) of the Global (UN) Food Systems Summit: ensure access to safe and nutritious food for all; shift to sustainable consumption patterns; boost nature-positive production; advance equitable livelihoods; and build resilience to vulnerabilities, shocks, and stress. These proposed solutions shape and inform the development of a pathway for transforming sustainable and resilient food systems in Samoa, as presented in the next Section 3 of this Report.

3. A PATHWAY FOR TRANSFORMING SUSTAINABLE AND RESILIENT FOOD SYSTEMS FORHEALTHY DIETSIN SAMOA 2030

3.1. Pathway

The Samoa pathway for 'transforming food systems for a resilient and healthy Samoa where no one is left behind' for sustainable 'food and nutritional security and affordable healthy diets' comprises of 14 interconnected and mutually reinforcing pathway actions:



Figure 1: Pathway for transforming food systems for a resilient Samoa

3.2. Action Plan

Table 2 below outlines the specific indicative actions that should be considered for implementation to contribute to the realisation of the 14 interconnected and mutually reinforcing pathway actions under the five Action Tracks:

Table 2: Pathway Action Plan 2021-2030

Pathway actions Indicative specific actions for implementation		Key policy and planning framework	Lead agency /agencies	Implementing partners
1. Ensure access	to safe and nutritious food for all			
1.1. Transform the agriculture sector to boost local production.	 Strengthen incentive mechanisms for farmers, fishers and other key actors of the agriculture sector. Strengthen measures for improved commercialization of the agriculture sector. Scale-up capacity development opportunities for value chain actors. Address key issues facing production, including high labour costs, water and irrigations, transport and infrastructure. Facilitate local and overseas markets for farmers and fishers. Assess and consider the use of digital technological innovations to boost local production and strengthen value chains. Improve access to finance and capacity for good governance, management systems and business models in agriculture and other development needs of farmers and fishers. Strengthen engagement of community and civil society involvement in local good production and value chains through targeted programmes and other support measures providing scale-up resources, funding, capital and technology investments, and technical assistances. 	 Agriculture sector plan. Communication Sector Plan Transportation and Infrastructure Sector Plan. Water Sector Plan. Community Development Sector Plan. Trade, Commerce and Manufacturing Sector Plan. Finance Sector Plan. Relevant national policies on different areas of agriculture or the food systems. 	 Ministry of Agriculture and Fisheries. Ministry of Finance. Ministry of Works, Transports and Infrastructure. Ministry of Natural Resources and Environment. Ministry of Women, Community and Social Development. Ministry of Commerce, Industry and Manufacturing. 	 Agriculture sector members. Farmers and fishers stakeholders.
1.2. Strengthen the enabling environment for the sustainable development of food systems.	 Strengthen the coordination of the implementation of whole-of-government policies, legislation, processes and operating systems and investments (relating to improving access to safe and nutritious food for all) across sectors. Strengthen awareness and understanding of key implementing actors of policies spanning the food systems. Identify linkages and tradeoffs in policies and their implementation, and address tradeoffs and contradictions through the sectoral coordination processes. 	 All 14 sector plans. Relevant national policies on different areas of the food systems National Food and Nutrition Policy, Fisheries Policy, Waste Management Policy, etc. 	• All 14 sector coordinators/ lead agencies.	 Key public sector, private sector, civil society and community stakeholders.

	 Strengthen bottom-up approaches to policy development and implementation in the food sector. Strengthen policy implementation through improved resource allocation, capacity development, partnerships and other measures. Formulate macro and meso level indicators and targets for the sustainable development of the food systems. Improve monitoring and evaluation of progress made with the achievement of food sector indicators and targets. Conduct a stock take of policy requirements spanning across all different components of the food systems. Strengthen the food safety policy and regulatory system. 			
1.3. Improve evidence- based knowledge and understanding of food systems and their components.	 Develop evidence-based knowledge and understanding of the current and future capacities of the food resources for sustainable production and consumption. Assess the compliance levels of imported processed foods with national standards and nutrient profile. Strengthen evidences on the reach by vulnerable people of the support and development programmes including incentives for improved livelihoods and engagement in the food sector. Improve evidence and understanding of issues concerning food waste in Samoa. Conduct research about the role of culture in developing the food systems. Ensure proper documentation of traditional knowledge in sustainable food systems. Foster research and development in local value chain products and processed organic food products. 	 Agriculture sector plan. Health Sector Plan. Environment Sector Plan. Community Development Sector Plan. Trade, Commerce and Manufacturing Sector Plan. All relevant national policies. 	 Ministry of Agriculture and Fisheries. Ministry of Health. Ministry of Natural Resources and Environment. Ministry of Women, Community and Social Development. Ministry of Commerce, Industry and Labour. Scientific Research of Samoa. Ministry of Education, Sports and Culture. 	 Key public sector, private sector, civil society and community stakeholders.
2. Shift to sustai	nable consumption patterns	·		
2.1. Strengthen food policy and regulatory systems to facilitate a shift towards sustainable consumption patterns.	 Strengthen fiscal policy for the food system. Strengthen enforcement of food legislation. Build wider understanding of food regulatory requirements. Provide targeted support to the food industry including capacity development to facilitate and enable their compliance with food legislation. Strengthen inter-sectoral approaches 	 Health Sector Plan. Agriculture sector plan. Community Development Sector Plan. Trade, Commerce and Manufacturing Sector Plan. All relevant 	 Ministry of Agriculture and Fisheries. Ministry of Health. Ministry of Commerce, Industry and Labour. 	 Key public sector, private sector, civil society and community stakeholders.

2.2. Promote the consumption and availability of local traditional foods.	 for improved coordinated and collaborative efforts and leadership for the management of the trade-offs and to address contradictions in food policy and regulatory measures. Implement targeted interventions that will assist with making local traditional food into value-added products that are affordable, easily available for convenient consumption of the public, and are healthier, fresh and tasty choices for consumers. Consider and implement interventions that will improve the consistent supply and availability of those products in the local markets, supermarkets and other popular food outlets, including public settings. Consider investments and capacity development support in the reformulation of local traditional foods to improve nutritional content, limit processing time and costs, improve mass production, and implement behavioral nudge strategies that can influence consumer choices for traditional foods. 	 national policies. Agriculture sector plan. Health Sector Plan. Environment Sector Plan. Community Development Sector Plan. Trade, Commerce and Manufacturing Sector Plan Finance Sector Plan. All relevant national policies. 	 Ministry of Agriculture and Fisheries. Ministry of Health. Ministry of Women, Community and Social Development. Ministry of Commerce, Industry and Labour. Scientific Research of Samoa. Ministry of Natural Resources and Environment. 	• Key public sector, private sector, civil society and community stakeholders.
2.3. Enhance nutrition education and promote healthy consumption patterns in the community and in the context of the whole food system.	 Strengthen school nutrition education and food programmes within the governance and support systems of the community and village institutional settings. Provide targeted programmes to strengthen the involvement of parents and vendors in in the formulation, implementation and monitoring of school nutrition and feeding programmes. Provide targeted programmes as part of the food nutrition and good programmes to e courage the use of locally available foods and to improve linkages to local producers in the above those programmes. Strengthen public and community nutrition education and awareness programmes and services. 	 Agriculture sector plan. Health Sector Plan. Education Sector Plan. Community Development Sector Plan. Trade, Commerce and Manufacturing Sector Plan. All relevant national policies. 	 Ministry of Health. Ministry of Agriculture and Fisheries. Ministry of Education, Sports and Culture. Ministry of Women, Community and Social Development. 	 Key public sector, private sector, civil society and community stakeholders. Village governance institutions.
3. Boost nature-	positive production			
3.1. Revitalise and promote the use of traditional and indigenous knowledge to boost nature- positive production and	 Implement targeted programmes/ interventions aimed at revitalizing and promoting the use of traditional and indigenous knowledge in agriculture for sustainable land, marine and terrestrial management production practices to go in parallel with conventional best practice methods of production. Develop and implement programmes and mechanisms where traditional 	 Agriculture sector plan. Health Sector Plan. Education Sector Plan. Community Development Sector Plan. Environment 	 Ministry of Agriculture and Fisheries. Ministry of Natural Resources and Environment. Ministry of Health. Ministry of 	 Key public sector, private sector, civil society and community stakeholders. Village governance institutions.

sustainable agricultural practices.	 and indigenous knowledge of the various aspects of the food system (e.g. natural farming, food preservation and cooking) are utilized for improved health and nutritional security. Design and implement interventions that facilitate the sharing of traditional/indigenous knowledge to the current and future generations. 	Sector Plan. • Other relevant national policies.	Women, Community and Social Development. • Ministry of Education, Sports and Culture.	
3.2. Strengthen extension services for improved knowledge and collaboration amongst farmers, fishers and other key players of the food industry.	 Strengthening agriculture extension services, programmes, capacities and other mechanisms. Scale-up programmes and support mechanisms for improved knowledge and collaboration amongst farmers, fishers and other key players of the food industry. Foster public private partnerships and community collaborations across different developmental areas of the food sector. 	 Agriculture sector plan. Trade, Commerce and Manufacturing Sector Plan. Community development sector plan. All relevant national policies. 	• Ministry of Agriculture and Fisheries.	 Key public sector, private sector, civil society and community stakeholders. Village governance institutions.
3.3. Improve environmental protection policy and regulatory measures including monitoring and evaluation of policy and regulatory impacts.	 Carry out a comprehensive assessment of existing environmental protection policy and regulatory measures, to identify areas for improvement. Consider programmes/ interventions including strengthening of existing measures for improved food waste management. 	 Agriculture sector plan. Environment Sector Plan. Health Sector Plan. All relevant national policies. 	 Ministry of Natural Resources and Environment. Ministry of Health. 	 Key public sector, private sector, civil society and community stakeholders. Village governance institutions.
4. Advance equita	ble livelihoods			
4.1. Facilitate effective engagement of stakeholders including vulnerable groups in food systems dialogues and exchanges.	 Ensure the representation of vulnerable groups in dialogues on food systems. Ensure food system policies include tailored/targeted mechanisms and programmes supporting improved reach of the marginalized population. Strengthen coverage/inclusion of the informal sector in the formal labour market and social protection systems. Strengthen the identification/ mapping mechanisms of vulnerable populations. 	 Agriculture sector plan. Community Development Sector Plan. Trade, Commerce and Manufacturing Sector Plan. All relevant national policies. 	 Ministry of Women, Community and Social Development. Ministry of Agriculture and Fisheries. Ministry of Commerce, Industry and Labour. 	 Key public sector, private sector, civil society and community stakeholders. Village governance institutions.
4.2. Promote the role of women and youth in agricultural activities and food value chain.	 Implement targeted programmes for improved engagement/involvement of women in the different development areas the food sector. Implement targeted programmes for improved engagement/involvement of youth in the different development areas the food sector. 	 Agriculture sector plan. Community Development Sector Plan. Trade, Commerce and Manufacturing Sector Plan. All relevant national policies. 	 Ministry of Women, Community and Social Development. Ministry of Agriculture and Fisheries. Ministry of Commerce, Industry and 	 Key public sector, private sector, civil society and community stakeholders. Village governance institutions.

			Manufacturing.	
4.3. Enhance the role of communities and culture in developing the food systems and equitable livelihoods.	 Identify best practices and strengths of the Samoan culture in food security. Consider those best practices and strengths in the scale-up of programmes aimed at improving village communities' engagement and involvement in the different development areas of the food systems. As part of the above programmes, consider the replication of successful village communities' practices in other communities and assess ongoing impacts. A part of the above programmes, promote and revitalize local mechanisms supporting the sustainable development and maintenance of the food systems. 	 Agriculture sector plan. Community Development Sector Plan. All relevant national policies. 	 Ministry of Women, Community and Social Development. Ministry of Agriculture and Fisheries. 	 Key public sector, private sector, civil society and community stakeholders. Village governance institutions.
5. Build resilience	to vulnerabilities, shocks, and stress	l	l	
 5.1. Build climate resilient practices and resources for agriculture development. Ensure ongoing smallholder-related research and development, seeds and stocks availability, and capacity building, including consideration of the scale-up of existing measures. Provide ongoing support for improved diversification of agricultural farms and value chains. Facilitate increased public and private investments for significant movements toward the adoption and scaling up of climate resilient agricultural practices. Consider and adopt the right policy mix, incentives and support neasures that ate needed for improved climate resilient agricultural practices. 		 Agriculture sector plan. Trade, Commerce and Manufacturing Sector Plan. Finance Sector Plan. Environment Sector Plan. All relevant national policies. 	 Ministry of Agriculture and Fisheries. Ministry of Natural Resource and Environment Ministry of Finance. 	 Key public sector, private sector, civil society and community stakeholders. Village governance institutions.
5.2. Adopt and implement social protection measures in response to the impact of shocks in food supply and consumption.	 Strength social protection measures for improved resilience of the food systems, and to mitigate the negative impacts of shocks on food security and healthy consumption. Social protection floors, schemes and programmes to target the large proportion of the population involved in subsistent agriculture and fisheries. 	 Agriculture sector plan. Community Development Sector Plan. Trade, Commerce and Manufacturing Sector Plan. Social Protection Policy All other relevant national policies. 	 Ministry of Women, Community and Social Development. Ministry of Agriculture and Fisheries. Ministry of Commerce, Industry and Labour. 	 Key public sector, private sector, civil society and community stakeholders. Village governance institutions.

3.3. Way forward

Challenges in transforming Samoa's food system are immense and the Government cannot do it alone. For this to be successful, it requires collective commitment, investment and adequate

resourcing, strong leadership, and a willingness to work collaboratively among stakeholders to adopt and effectively implement pathway actions.

Strong partnerships come from sharing common goals and understanding of priority areas where targeted interventions can amplify development impact. Opportunities therefore exist for scaling up innovations, to collaborate and increase investments across the proposed fourteen (14) Pathway Actions in working towards the goal of a sustainable food and nutritional security, and affordable healthy diets for Samoans.

Bibliography

- ADB. (2011). Food Security and Climate Change in the Pacific, Rethinking the Options. *Pacific Studies Series*.
- CBS. (2021). Balance of Payments. Apia, Samoa. Retrieved May 21, 2021, from https://www.cbs.gov.ws/index.php/statistics/quarterly-bulletin/b-external-trade-andpayments/
- CBS. (2021). *Imports by commodity.* Apia: Government of Samoa. Retrieved from https://www.cbs.gov.ws/index.php/statistics/foreign-trade-report/
- CBS. (2021). *Imports-classified by groups of importers.* Apia: Government of Samoa. Retrieved from https://www.cbs.gov.ws/index.php/statistics/foreign-trade-report/
- CBS. (2021). Merchanise exports. Apia: Government of Samoa.
- Choy, C. C. (2017). Child, maternal and household-level correlates of nutritional status: a crosssectional study among young Samoan children. *Public Health Nutrition, 20*(7), 1235-1247.
- Choy, C. C., Desai, M. M., Park, J. J., Frame, E. A., Thompson, A. A., Reupena, M. S., . . . Hawley, N. L. (2017). Child, maternal and household-level correlates of nutritional status: a cross-sectional study among young Samoan children. *Public Health Nutrition, 20*(7), 1235-1247.
- Chung, K. (2012). *An Introduction to Nutrition-Agriculture Linkages. Research Report.* Republica de Moçambique.: Direcção de Economia, Ministério da Agricultura.
- FAO. (2017). Dietary patterns of households in Samoa, Identifying the factors and food items most important to understanding nutrition. Apia: Subregional Office for the Pacific Islands.
- FAO. (2018). Fishery and aquaculture country profiles: Samoa. Apia: FAO Pacific Office.
- FAO. (2018). *Postharvest waste hinders farmers and consumers in Samoa*. Apia: FAO Regional Office for Asia and the Pacific.
- FAO. (2018). Sustainable food systems. Concept and framework. FAO.
- FAO. (2019). Samoa food security profile. Retrieved May 1, 2021, from http://www.fao.org/publications/card/en/c/CA7206EN/
- Federico, D., & Bronwyn, W. (2020). COVID-19 and food systems in Pacific island countries.
- Foodborne Disease Burden Epidemiology Reference Group 2007-2015. (2015). WHO Estimates of the Globl Burden of Foodborne Diseases. Geneva: WHO Press.
- Gibson, J. (2006). Are Pacific island economies growth failures. *Paper presented at the Pasifika* Interactions Projects, New Zealand.
- High Level Panel of Experts on Food Security and Nutrition (HLPE). (2017). *Nutrition and food systems.* A report by the high level panel of experts on food security and nutrition of the Committee on World Food Security. Rome: FAO. Retrieved from http://www.fao.org/3/i7846e/i7846e.pdf
- Independent Expert Group. (2020). 2020 Global Nutrition Report: Action on equity to end malnutrition. UK: Bristol. Retrieved from https://globalnutritionreport.org/reports/2020global-nutrition-report/
- Jaffee, S., Henson, S., Unevenhr, L., Grace, D., & Eassou, E. (2019). The Safe Food Imperative -Accelerating Progress in Low-and Middle-Income Countries. *Agriculture and Food Series*.
- Khondker, B. H. (2021). *Review and Development of Social Protection Systems in Samoa*. Apia, Samoa: United Nations Development Programme (UNDP).
- Laki, L. (2019). Agriculture Sector Plan 2016-2020 Mid-term Review. Apia: MAF.
- Legislative Assembly of Samoa. (2020). *Approved Estimates of Receipts and Payments of the Government of Samoa*. Apia: Ministry of Finance.
- Lin, S., Naseri, T., Linhart, C., Morrell, S., Taylor, R., McGarvey, S., . . . Zimmet , P. (2017, May). Trends in diabetes and obesity in Samoa over 35 years, 1978-2013. *Diabet Med., 34*(5), 654-661. doi:10.1111/dme.13197
- MNRE. (2004). Samoa's National Implementation Plan for Persistent Organic Pollutants. Apia: Government of Samoa.
- MNRE. (2004). Samoa's National Implementation Plan for Persistent Organic Pollutants. Apia: Government of Samoa.

- MNRE. (2017). Water for Life: Water & Sanitation Sector Plan: Framework for Action 2016-2020. Apia: Government of Samoa.
- MNRE. (2019). National Waste Management Strategy 2019-2023. Apia: Government of Samoa.

MOF. (2021). Draft Strategy for the Development of Samoa 2021-2025. Apia: Government of Samoa.

MOF. (2021). Samoa 2040. Apia: Government of Samoa.

MOH. (2018). NCD Control Policy 2018-2023. Apia: Government of Samoa.

MOH. (2021). National Food and Nutrition Policy 2021-2021. Apia: Government of Samoa.

Needham, S., & Funge-Smith, S. (2015). *The consumption of fish and fish productions in the Asia-Pacific region based on household surveys.* Bangkok: FAO REgional Office for Asia and the Pacific.

NUS. (2018). Building the Evidence Base on the Agricultural Nutrition Nexus: Samoa. CTA Working Paper 18/01. Apia: EU Technical Centre for Agricultural and Rural Cooperation (CTA).

- Roberts-Aiafi, P. (2020). Review of the National Food and Nutrition Policy 2013-2018. Apia: MOH.
- Samoa Observer. (2019). *Government looks to increase foreign fishing catch*. Apia: Samoa Observer Newspaper.
- SBS. (2016). Samoa Household Income and Expenditure Survey 2013/14 Tabulation Report. Apia: Government of Samoa.
- SBS. (2017). Samoa 2016 Population and Housing Census. Apia: Government of Samoa.
- SBS. (2018a). 2016 Census Brief 2: Population dynamics and trends. Apia: Government of Samoa.
- SBS. (2018b). 2016 Census Brief No.3: Education and economic characteristics. Apia, Samoa. Government of Samoa. Apia: Government of Samoa.
- SBS. (2020). Factsheet Samoa Demographic and Health Survey-Multi-Indicator Cluster Survey (DHS-MICS), 2019-20. Preliminary Results. Apia: Government of Samoa.
- SBS. (2020). Household Income and Expenditure Survey 2018 HIES (preliminary findings). Apia: Government of Samoa.
- SBS. (2020). Samoa Househod Income and Expenditure Survey 2018 Tabulation Report. Apia: Government of Samoa.
- SBS, & MAF. (2012a). Agriculture Census Analytical Report 2009. Apia: Government of Samoa.
- SBS, & MAF. (2012b). Agriculture Census Tabulation Report 2009. Apia: Government of Samoa.
- SBS, & MAF. (2016). Report on agricultural survey 2015. Apia: Government of Samoa.
- SBS, & MAF. (2020). Agriculture census 2019 tables. Apia: Government of Samoa.
- SBS, & MOH. (2015). Samoa Demographic and Health Survey 2014. Apia: Government of Samoa.
- SBS, & UNDP. (2016). Samoa Hardship and Poverty Report Analysis of the 2013/14 Household Income and Expenditure Survey. Apia, Samoa. Apia: SBS/UNDP.
- SPC. (2008). Fish and food security in the Pacific. Suva, Noumea, Pohnpei: SPC.
- SPC. (2014). Pacific Regional Food Security Policy Brief. Suva: SPC.
- SPC. (2019). *Pacific Island Countries and Territories Exclusive Economic Zones*. Retrieved from https://pacificdata.org/data/dataset/pacific-island-countries-and-territories-exclusive-economic-zones
- Troubat, N., Faaola, E., & Aliyeva, R. (2019). Food security and food consumption in Samoa. Based on the analysis of the 2018 household, income and expenditure survey. Apia: FAO & SBS.
- UN. (2020). Samoa Covid-19 Economic Impact Assessment: Key findings and policy recommendations. Apia: UN Office.
- UN. (2020). Samoa's Second Voluntary National Review on the implementation of the Sustainable Development Goals. Apia: UNDP.
- UN Food System Summit Secretariat. (2021). *Action Track 3: Boost Nature-Positive Production at Scale.* FAO.
- UNCTAD. (2003). Challenges and opportunities arising from Samoa's accession to the World Trade Organization. National Conference on WTO Accession and Preparations for the Fourth WTO. Apia: United Nations.
- Underhill, S. J. (2015). *Final Project Report: Postharvest loss and food safety risks in Samoa's fruit and vegetable value chains.* Apia: FAO.

- Underhill, S. J., Patolo, S., Molimau-Samasoni, S., & Burkhart, S. (2020). COVID-19 impacts on farmers, market vendors and consumers in Tonga, Fiji and Samoa. Technical Project Report. . Apia, Suva: FAO.
- UNDP. (2020). 2020 Human Development Report. New York: UNDP. Retrieved May 25, 2021, from http://hdr.undp.org/en/content/latest-human-development-index-ranking
- UNEP Chemicals. (2003). *Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases.* Geneva: UNEP Chemicals.
- Volentras, L. A. (2021). -eview of the Agriculture Sector Plan 2016/17-2020/21: Comprehnsive review and lessons learned from implementation (Draft Report). Apia: MAF.
- WB. (2018). Agricultural land (% of land area) Samoa, 1965-2016. Retrieved May 25, 2021, from https://data.worldbank.org/indicator/AG.LND.AGRI.ZS
- WB. (2018, May 25). Data for Samoa, Upper middle income. Retrieved from https://data.worldbank.org/?locations=WS-XT
- WB. (2019, March 19). GDP per capita growth (annual %) Samoa, 1983-2019. Retrieved May 25, 2021, from https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=WS
- WB. (2019, March 19). GNI per capita, Atlas method (current US\$) Samoa. Retrieved May 21, 2021, from https://data.worldbank.org/indicator/NY.GNP.PCAP.CD?locations=WS
- WB. (2019). Personal remittances, received (% of GDP) Samoa, 2000-2019. Retrieved May 21, 2021, from https://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS?locations=WS
- WB. (2019). Program Appraisal Document. Samoa Health System Strengthening Program. Apia: World Bank.
- WB. (2019). *Project Appraisal Document Samoa Agriculture & Fisheries Productivity and Marketing Project (SAFROM).* WB East Asia and Pacific Region Office.
- WB. (2021). Total fisheries production (metric tons) 1960-2018. Retrieved May 21, 2021, from https://data.worldbank.org/indicator/ER.FSH.PROD.MT
- WHO. (2015). *Human health and climate change in Pacific island countries.* Geneva: WHO Press.
- WHO. (2019). Samoa the burden of malnutrition at a glance. Retrieved March 1, 2021, from https://globalnutritionreport.org/resources/nutrition-profiles/oceania/polynesia/samoa/

Annex 1: Samoa's development performance and food system profile

Samoa's development performance		
Development indicators	Samoa	
Human Development Index (HDI)	111 (out of 188 countries) (2018)	
Gross domestic product (GDP) growth	3.5% (2018/19); -3.3% (2019/20)	
Gross National Income (GNI)	USD4,190 (2019)(WB, 2019)	
Classification by income level	Middle income country (2018)	
Population living below the national basic needs poverty line	18.8 (2016); 22.7 (2018)	
Population living in extreme poverty (below national food poverty line)	4.3 (2016); 6.0 (2018)	
Population that are vulnerable (Vulnerability Rate)	42% (2018)	
Population economically active rate	41% (2011); 47% (2016)	
National unemployment rate	8.7% (2012); 14.5% (2017)	
Inequality	47% (2008); 56% (2013/14)	

Food system characteristics	
Characteristics	Status
Climate	Tropical
Land area	2,934 km ²
EEZ	120,000 km2 - 0.4% of total Pacific EEZ (the smallest EEZ in the region)
Population	195, 979
Population growth (annual)	1%
Population density	69 people per km ²
Rural population	80% (SBS, Samoa 2016 Population and Housing Census, 2017)
Agriculture land area	26.75% (2016)
Agriculture sector contribution	10% of GDP (2019); 22% of labour force (2017)
Main domestic export commodities	60% domestic exports and 40% re-exports. Domestic exports - fresh
	fish (37%), taro (6%), beer (3%), coconut & coconut-by-products (2.8),
	nonu juice (2%), and others (8.7%)
Trade deficit	-SAT312.9 million (2018/19); -SAT421.1 million (2019/20)
Merchandise trade deficit	-SAT783.7 million (2018/19); -SAT728.3 million (2019/20)
Agriculture fisheries and forestry as a	42% (2016)
share of the workforce	

Food production profile		
Production aspects	Status	
Average area of holding (acres)	5.8 (2009); 8.0 (2015); 4 (2019)	
Number of households growing crops	84% (2009); 97% (2015); 94% (2019)	
Number of households with livestock	69% (2009); 68% (2015); 50% (2019)	
Number of households engaged in fishing	25% (2009); 21% (2019); 10% (2019)	

Food security and consumption profile				
Indicators	Status			
Population with food security	73.2% (2018)			
Population with moderate food insecurity	24.2% (2018)			
Population with severe food insecurity	2.6% (2018)			
Population that is undernourished	5% (2018)			
Average national daily consumption per capita	2,800 kcal			
Share of food consumption by food groups	 28% cereals and products (mainly rice & bread); 18% oil crops (coconuts); 11% meat (mainly chicken) 10% roots and tubers (mainly taro); 7.6% sugars and syrups; 7.5% vegetables and vegetable products 5.9% processed food; 3.7% fish and fish products 2.7% fruits and fruit products; 2.5% vegetable oils and fats; 2.7% others 			
Nutrient consumption	55% carbohydrates; 34% fats; and 11% protein*			
Fruits and vegetables per capita Consumption	300 grams per day*			

At least 20 servings of fruits per week Consumption	1.7% women and 0.5% men (2019)
At least 20 servings of vegetables per week consumption	1.5% women and 0.7% men (2019)
Share of food expenditures in total household	45% (53% poorest; 31% richest).
expenditures	
Average cost to acquire 1,000 calories kcal	SAT2.2

* WHO recommended intakes is 400 grams per day per capital for fruits and vegetables, 55-75% for carbohydrates 15-30% for fats, and 10-15% for protein.

Nutritional health profile								
Nutrition indicators	N	М	F	N	М	F	Global average	Global Targets
Infant (%)	1999-	1999-2013*		2019**		2015-2018	2025	
Under-five wasting	3.9 [2013]	3.0	4.9	3.1 [2019]			7.3 [2018]	5.0%
Under-five stunting	4.9 [2013]	5.6	4.1	7.3 [2019]			21.9 [2018]	4.0% (40% reduction)
Under-five overweight	5.3 [2013]	6.2	4.3	8.7 [2019]			5.9 [2018]	5.5%
Under-five with anaemia	23.2 [1999]			$34.1 [2015]^{+}$	32.5	35.8		
6 months exclusive breastfeeding	70.3 [2013]			51.7 [2019]			42.2 [2018]	At least 50%
Low birth rate							14.6 [2015]	10.5%
Childhood/adolescent (%)	200	2000*		201	2014*		2016	2025
5-19 aged underweight		2.2	1.6		1.4	0.9	31.6 (M); 25.9 (F)	
5-19 aged overweight		25.4	37.1		47.5	57.6	19.2 (M); 17.5 (F)	
5-19 aged obesity		8.8	6.4		23.3	19.9	7.8 (M); 5.6 (F)	
Maternal (%)	2000*		2016*		2015-2018	2025		
Reproductive women with anaemia			22.1			31.3	32.5	15.0%
Pregnant women with anaemia			34.1			42.5	40.1	15.070
Adults (% and grams)	2000-	2017*	1	2014-2016*		2014-2017	2025	
Adult diabetes		15.5	18.7		22.7	26.6	9.0 (M); 7.9 (F)	9.0% (M); 7.9% (F)
Adult overweight		65.3	74.5		73.6	82.0	38.5 (M); 39.2 (F)	
Adult obesity		28.3	45.5		39.9	55.0	11.1 (M); 15.1 (F)	10.4% (M); 14.4% (F)
Adult raised blood pressure		25.2	19.4		26.6	21.0	24.1 (M); 20.1 (F)	18.2% (M); 15.2% (F)
Sodium intake (grams per day)	2.2 [2017]						5.6 [2017]	3.95g per day
Life expectancy	73 (2011)			75 (2016)				
N – National. F – Female. M – Male. * Source: WHO (2019). ⁺ Source: Choy, et al.(2017). Global averages/targets were obtained from 2020 Global Nutrition Report: Action on equity to end malnutrition. ⁺⁺ SBS (2019). Blank means data not available.								

Risk factors driving the most death a	nd disability in Samoa		
Metabolic risks			
Environmental/occupational risks			
Behavioral risks			
2007 ran	2007 ranking 2		% change 2007-2017
High fasting plasma glucose	0	 High fasting plasma glucose 	17.5%
High body-mass index	2	2 High body-mass index	11.1%
Dietary risks	3	Oietary risks	13.9%
Tobacco	4	4 Tobacco	12.3%
High blood pressure	5	6 High blood pressure	13.9%
Malnutrition	6	6 Malnutrition	-4.5%
Air pollution	0	Air pollution	0.2%
Impaired kidney function	8	Impaired kidney function	13.6%
High LDL	9	Itigh LDL	15.9%
Occupational risks	10	Occupational risks	-8.3%

Source: Institute for Health Metrics and Evaluation, 2017