



Healthy Eating Discussion Paper

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Executive Summary

Non Communicable Disease's are a growing health concern for Tonga with the prevalence of NCDs continuing to rise in recent years. Overweight and obesity has been identified as a key risk factor in developing NCDs. This report discusses the changing food patterns being experienced in Tonga and how it relates to the current rise in rates of obesity and overweight.

Tonga has experienced a changing food pattern due to westernisation and increased global trade. There has been a significant shift from the traditional diet of fish, rootcrops, fruit and vegetables to one of processed and packaged foods. This shift has led to a double burden of overconsumption partnered with undernourishment.

Sugar, salt, fruit & vegetables and fat continue to be the key focus in nutritional messaging. The increase in the consumption of processed and packaged foods has led to excess fat, sugar and salt consumption, and a decrease in fruit and vegetable consumption. Emerging evidence in pacific island populations, suggests that shifting towards traditional foods is very effective in addressing the imbalance of these key food groups and subsequently addressing overweight and obesity.

When addressing NCDs and obesity a whole of population approach is essential. However, evidence suggests that whole of population approaches should be combined with targeted interventions for best practice. Identified groups for targeted interventions include children, pre/post natal women and individuals diagnosed with or at risk of developing NCDs.

Success in altering food patterns requires a multifactorial approach incorporating a range of stakeholders. Interventions should be targeted at addressing nutritional labelling, accessibility/availability and policies.

This discussion paper discusses changing food patterns, key nutrition messages, key interventions and key target groups. From the discussion a list of recommendations was put forth. They include evidence based interventions in addition to strategies to address gaps in knowledge, evidence or resources.

Table of Contents

Executive Summary	i
Table of Contents	1
Introduction	1
Changing Food Pattern	2
Evidence Based Nutrition Messages	3
Nutrient Density	3
Sugar	3
Fat	3
Fruit and Vegetables	4
Traditional Diet	5
Dietary Guidelines.....	6
Target Groups	7
Children	7
Pre/ Post - Natal Women	7
Individuals with Non Communicable Diseases	8
Interventions	9
Nutrition Labelling	9
Social norms	9
Accessibility/Availability	10
Policies	11
Recommendations	12
Reference List	13
Annex	1
Annex 1	1

Introduction

Over the past two decades Tonga has seen an increased prevalence in Non Communicable Diseases (NCDs) such as diabetes, obesity and heart disease.^{1,2} This rise in NCDs has been linked not only to increased morbidity and mortality but significant social and economic stress to the individual, families, communities and government.¹⁻³

Overweight/obesity has been identified as a key modifiable risk factor in relation to NCD's, the increasing prevalence of overweight and obesity in Tonga has been posed as a significant contributor to the growing burden of NCDs.¹⁻⁴ Poor diet has been implicated as a key contributor to the rising level of overweight/obesity and subsequently NCDs.¹⁻⁶

Tonga's food environment has seen a shift over recent years, with rising levels of fats, oils and refined sugars prominent within the diet. There has been a significant transition from the traditionally low fat diet of fish and root crops to one of high energy-dense, nutrient-poor foods.¹⁻⁶

This discussion paper will look at depth into the changing food environments, key nutritional messages and their relevance to the Tongan culture, key target groups, intervention methods and gaps in research.

Changing Food Pattern

Tonga's food environment has experienced a significant shift from the traditional diet to one of a more Western influence.³⁻⁹ Traditionally the Tongan diet consisted of root crops, fruit, fish and coconut, while the modern Tongan diet is high in refined carbohydrates, packaged foods high in fat and sugar and fatty meat cuts.^{3, 5-7} This change in diet has led to a decrease in the consumption of healthy foods (fish, fruit and vegetables), and an increase in unhealthy foods (cheap meat cuts, soft drinks, refined carbohydrates, unhealthy oils), which can be attributed to the growing NCD issues.^{9,10} Over time the purchasing of these packaged and processed meats and foods has been associated with high social status, diminishing the importance and use of traditional foods.⁶ There is identified knowledge and preference surrounding healthy traditional food choices, despite the shift towards unhealthy choices.⁶ Studies have found that despite this knowledge and preference for healthy traditional food; cost, convenience and social standing are higher motivating factors when purchasing/sourcing foods and these motivations are leading to increasingly unhealthy food patterns.^{3,6}

The largest providers of energy within the Tongan diet are nutritionally inferior cereal products. Imported rice, white bread and noodles are now the leading Pacific staples as opposed to the traditional local taro, manioke and yam.^{3,6} Sugar and confectionary has replaced fruit consumption, leading to a decrease in dietary fibre consumption.^{3,6} Those residing on Tongatapu and the younger generation have been identified as the groups consuming the greatest proportion of imported sugary snacks.⁵⁻⁷ Leading protein sources have transitioned to fatty meat cuts such as mutton, chicken and tinned corn beef replacing locally sourced seafood. Subsequently increasing the level of consumed fat within the diet.⁷ Traditionally the fat source in the Tongan diet has come from coconuts and coconut-based products, modern day diets now consist not only of coconut and coconut based products but also processed foods and cheap cuts of meat both sources high in fat.^{5,6} A proportion of fat is essential in a healthy balanced diet however due to these food sources being consumed in addition to previous fat sources the percentage of fat in the Tongan diet has increased significantly to a level of concern.

The changing food environment can be attributed to a number of socio-environmental factors. These include a decrease in local food production, increases in foods imported from Western countries and urbanisation.^{3,9} In spite of these changes, there are still a number of traditional and religious practices observed within the Tongan culture shaping the social norms surrounding eating habits.³ Consequently any mass media campaigns and/or interventions must take into account and aim to address all of the overarching socio/environmental factors.

Evidence Based Nutrition Messages

Nutrient Density

Tonga is currently battling a double burden of obesity teamed with malnutrition. Once only associated with hunger, malnutrition is becoming increasingly predominant in areas where processed and packaged foods fill a large proportion of the diet.¹⁰ The imbalance of fresh, whole and varied nutrient dense food sources despite high energy intake leads to a diet lacking in key vitamins and minerals.^{10,11} Balanced diets are comprised of foods that are nutrient dense and low in energy.¹¹ Processed and packaged foods high in saturated/ trans fats and/or sugar content have been found to compromise the nutrient density whilst contributing a large proportion of energy.^{5,10}

Sugar

Sugars are carbohydrates and can be found in the form of lactose, fructose, glucose and sucrose. Sucrose is the main source of sugar within the modern day diet. Sucrose is a disaccharide molecule, made up of glucose and fructose. Sucrose is commonly referred to as 'table sugar'. Sugar can be naturally occurring or added to foods. Naturally occurring sugars are those found naturally in the cell of unrefined carbohydrates such as dairy products, whole grains, fruit and vegetables. In comparison the term free sugar refers to sugars added to foods, honey, syrups, fruit juices and fruit concentrates. While naturally occurring sugars are a needed energy source within moderation, free sugars contribute to an increased energy intake whilst negatively impacting the nutrient density of the diet. Studies have found a decrease in the nutrient density as the proportion of added sugars increases within the diet.^{9,11}

The proportion of free sugar within the Tongan diet is high due to the overconsumption of processed and packaged foods.^{9,11,12} For example, import data highlights a significant increase in carbonated soft drink consumption within the Tongan population from 2003 - 2013.¹² Carbonated soft drinks are a high sugar source with little nutritional value. Additionally they provide little satiety leading to an overconsumption of total dietary energy and associated weight gain. Sufficient evidence is available to link energy dense foods and sugary drinks to an increased NCD risk.^{9,11} A focus on limiting high sugar foods and soft drinks has been proven to assist in the prevention and control of weight gain. With this evidence in mind and the increase of imported sugary foods in Tonga, it would be beneficial to target sugar.

Fat

Fat is an essential macronutrient in providing energy, maintaining weight, the absorption of fat-soluble vitamins and minerals and maintaining cell membranes. Fat is energy dense containing 37kj/g in comparison to protein and

carbohydrates that are 17 and 16kj/g respectively. Fat can be found as a proportion of foods, or can be a term for whole fat sources such as butter, oil, lard etc. There are three groups of fat those being saturated, trans and unsaturated with a number of categories within these.¹¹

Saturated fats are primarily sourced from animals and include butter, cream, milk, meat products, chicken skin, lard etc. Unsaturated fats, commonly termed 'good fats', are generally plant sources and include nuts, avocado, olive oil and canola oil. Trans Fats are forms of unsaturated fat that behave as saturated fats. This group of fats can be found in baked goods, processed food, margarine and fried foods. Saturated fat and trans fats have been linked to both weight gain and increased cardiovascular disease (CVD) risk.^{9, 11-13} Limiting saturated fats and replacing these with mono and poly unsaturated fats has been shown to have positive effects on blood lipids and a decreased risk of CVD.^{9, 11-13}

The coconut despite being a plant source is a source of saturated fat, the level of saturated fat will differ depending upon the age of coconut. There is conflicting evidence surrounding coconut, and its effect on the body.^{14,15} However, with the available evidence it can be said that the consumption of coconut within a balanced traditional diet with minimal other sources of saturated fat is of no concern. Within the Tongan context, traditionally the coconut is used in various forms to add flavour to cooking. If the intake of saturated fat from meats and fried foods were to be decreased, it would be suitable to encourage the use of coconut for this.

Fruit and Vegetables

Fruit and vegetables are nutrient dense food sources generally low in kilojoule content. It is recommended to consume 5+ serves of combined fruit and vegetables a day, in a range of colours and varieties while excluding starchy options such as potato. Eating a diet with the recommended serves of 5+ fruit and vegetables in replacement of energy dense processed foods is effective in lowering and maintaining weight and meeting essential vitamin and mineral intake.¹⁶ Sufficient evidence is available to link increased consumption of fruit and vegetable consumption with a decreased NCD risk.^{9,11}

Surveys conducted in Tonga highlight a lack in consumption of fruit and vegetables in all Island groups except the isolated group of the Niuas.^{3,5,6} Fruit and vegetables have been replaced with sweets and packaged foods. Resulting in decreased fibre, vitamin and mineral intake and increased sugar, fat and salt. A strong push needs to be made to increase the consumption of fruit and vegetables. To successfully achieve this strategies would need to be in place to increase accessibility and availability of fruit and vegetables, whilst decreasing the predominance of high fat/sugar snacks in falekoloas. This is discussed in further detail later in the paper.

Traditional Diet

Recent evidence is suggesting that people think of and eat food rather than its components.¹⁷ Consequently, food guidelines are shifting to focus on whole foods in contrast to the singular components such as fat, salt and sugar. These are not expected to be decreased in isolation, rather as a balanced diet of whole foods.^{11, 17, 18} One method of achieving this within the Tongan culture is to follow the messaging of 'Eat local and traditional'.

Two pacific countries, Hawaii and Pohnpei, have adopted this approach in their 'Eat Local and Traditional' campaigns. Both countries witnessed positive changes within the attitudes and diets when using this approach.^{5, 19, 20}

Pohnpei experienced a nutrition transition with a shift from root crops, fish and banana to a diet predominantly filled with processed foods. With this shift there was an evident rise in overweight/obesity. The town adopted a multi prong approach including an inter-agency, community-based approach with multiple methods, slogans, social marketing, conservation of rare varieties by means of a 'gene bank' field collection, and the involvement of adults and young people.

The program was successful in achieving increased consumption of two major local staple foods (banana and giant swamp taro), increased dietary diversity, and improved community attitudes toward local food. Additionally positive changes in BMI's were observed over a 2 year duration.^{19, 20}

If an 'Eat Local and Traditional' campaign was carried out successfully, there would be an expected increase in fruit and vegetable consumption along with decreased sugar, fat and salt consumption. An additional benefit would be stimulus for the local economy, due to traditional dishes drawing on local produce.^{19, 20} There are limitations associated with this messaging however. Firstly, ensuring there is sufficient understanding of what constitutes *local* and *traditional* to the Tongan population at present. As shifts in the diet, may have compromised the nutritional value of certain dishes. For example, Lu prepared with mutton flaps, may now be perceived as traditional despite the use of unhealthy meat cuts. Secondly, this messaging must be complimented through scientific research on the nutritional content of local foods ensuring they meet the dietary requirements of the Tongan population.²¹ Additionally research into energy requirements must be undertaken as urbanisation and technological advances have led to changes in physical activity and consequently energy output. And lastly, although studies conducted within the Tongan population have identified a preference for traditional and local foods, identified barriers include cost, accessibility and social norms. This suggests that without changes to the environment and social norms the messaging may prove to be ineffective.

Dietary Guidelines

Dietary guidelines are utilised in many countries as a means of encouraging healthy eating behaviours.^{11, 22-26} Guidelines can vary from country to country, in terms of format and content. Tonga's current dietary guidelines consist of the Healthy Eating Shell and a list of guidelines. These resources were modelled from previous versions of Australia and America's healthy food pyramids. Both of these pyramids have since been updated, highlighting the need for a review and update of the Tongan Healthy Food Shell, and dietary guidelines.

Australia's Food Pyramid has shifted to encourage a plant based diet, with fruit and vegetables filling the bottom section. The previous carbohydrate section has been shifted upwards, and is now termed whole grains, highlighting the push for the consumption of whole grains over refined carbohydrates.^{22, 23} Protein and dairy fill the next level up – with a variety of meat and non- meat sources encouraged. The top of the pyramid consists of healthy fats. Previous models of the pyramid may have seen 'extra' foods at the top or to the side. These are no longer included, there is instead a note to limit salt and added sugar.^{22, 23}

Whilst the pyramid is beneficial for guidance in overall food consumption and purchasing, it is believed that resources incorporating a dinner plate broken into the different food groups are beneficial for meal planning. Australia and America both currently utilise the plate and pyramid to compliment each other and as a means of portraying nutritional messaging.²³⁻²⁶ The content of the Australian plate is aligned with the Australian Dietary Guidelines and is relatively synonymous with the Australian Food Pyramid.

From the evidence put forth earlier in this paper surrounding key nutrition messages in relation to fruit, vegetables, fat, sugar and salt; it would be beneficial for Tonga to adapt similar guidelines with localised foods. Findings have suggested the pyramid is most effective with people with low-literacy and children, however consumer research would need to be undertaken to determine the best layout for the Tongan context – plate, pyramid or both, or cultural adaptations of either or both (such as the shell). Regardless of the layout, it is strongly recommended for in-depth evidence based worded guidelines to accompany the picture resource.

Target Groups

Children

Despite NCDs being a disease linked to later life, increasing cases are being observed of diagnosis within younger age groups.⁴ Additionally, the incidence of overweight/obesity in childhood has been linked to increased risks of developing NCDs in later life.⁴ Emerging evidence has highlighted children as a cost effective target group in the prevention of NCDs. Children as a target group, is often linked to school based interventions. Although evidence is available on the success of such interventions, it has been highlighted, for greater results, in reducing childhood overweight and obesity, there is a need to broaden interventions to reach further than the school setting.⁴ Findings from the OPIC study, further highlighted this need to expand strategies wider than the school setting.^{3, 27, 28} This would include, but is not limited to engaging parents/caregivers in the school/home/community setting, engaging canteen/food vendors near the school, mass media campaigns and putting policies and legislation in place that positively affect the socio-environmental factors impacting children's nutrition.

Pre/ Post - Natal Women

It has been found that the provision of nutrients in the womb along with what we consume from birth onwards can influence our bodies shape and size over a lifetime. Nutritional deprivation and maternal metabolic status in early intrauterine life, has been associated to increased NCD risk.^{4,5, 29, 30}

...low birth weight and malnutrition in the first 1,000 days of life contribute significantly to diabetes and cardiovascular problems later in life. Hypertension and diabetes during pregnancy also increase the risk of diabetes and cardiovascular disease later in life...³¹

Infant growth studies undertaken in Tonga in 1998 show that 26.6% of infants were born macrosomic (excessive intrauterine growth beyond a threshold of 4000 – 4500g regardless of gestational age). Additionally the birth weight had increased by 300g between 1972 and 1998.⁵ Increased birth weights and macrosomia have been linked to obesity in childhood, adolescence and adulthood. There is a gap in recent infant growth data, however assuming that this trend has continued, this evidence highlights the importance of focusing on interventions targeting pre-natal women.⁵

Breastfeeding plays an important role in the health of mothers and their children. Breastfeeding not only lowers the mother's risk of developing breast cancer but promotes a healthy growth trajectory in the infant linked to a lower risk of later obesity.^{4,5,9, 29, 30}

With NCD and NCD risks, not only do we need a focus on nutritional health, we also need to consider Gestational Diabetes Mellitus (GDM). The prevalence of GDM in Tongan women has grown in recent years. This imposes an increased risk to both mother and baby in developing Type 2 diabetes in later life.³¹

These links to pre and post natal nutrition and NCD risk, stress the importance of working with this target group to ensure the nutritional needs of both mother and baby are being met pre and post natal. Cultural beliefs and norms surrounding pregnancy and breastfeeding may be a limitation that needs to be considered when developing strategies for this target group.

Individuals with Non Communicable Diseases

Nutritional intervention is important whether it is primary, secondary, tertiary and/or palliative prevention.

Due to the existing high prevalence of NCD's within the Tongan population, concentrated efforts will need to remain in place to continue to support those diagnosed with NCD's or at high risk of being diagnosed.^{1, 2, 30, 31} Although it is too late to prevent the onset within this group, dietary interventions will assist in the management of the disease and decrease likelihood of complications and the associated costs.

Individuals with Type 2 Diabetes for example, have the ability to manage their disease through diet, physical activity and if needed pharmacological interventions. Such individuals would benefit from targeted interventions assisting in modifying their diet to better manage their condition. If successful individuals dependence on pharmacological products will decrease and quality of life will increase. This is synonymous across the many NCDs.

Interventions

Nutrition Labelling

Nutrition labelling is an effective public health tool used to promote balanced diets and is a recommended intervention under the World Health Organization Global Action Plan for Prevention and Control of NCDs (Global Action Plan).³³⁻³⁶ Labelling is used to describe the content of the food and assist consumers with food choice. It can include nutrient information panels, control of health claims or a front of pack labelling schemes like a tick. A number of countries worldwide have brought in regulated labelling, ensuring standards are kept consistent across the market, limiting false claims and creating ease for consumers.³³⁻³⁷ At present there are no regulations surrounding the labelling of foods sold within Tonga. With no regulations, comes the threat of excessive and misleading claims and consumer confusion. Packaged and processed foods are predominantly imported from Australia, New Zealand, America, Fiji and Asia, leading to a lack of coherence across products.^{12, 37} Introducing food label regulations would not only filter out products not meeting regulations and assist in making consumers more aware of ingredients and better able to make healthier choices but may provide an avenue for local food producers to enter the food market.³³⁻³⁷ In 2014 Tonga introduced a Food Act, under the provisions of this act food labelling can be introduced through the Act's regulations and the Codex Committee is now working towards the development of Food Standards and Regulations, which will dictate food labelling. It is important that these regulations take into account global NCD prevention and control recommendations and that the impact of labelling on health related behaviours is assessed and reported through the National NCD Strategy 2015-2020.

Social norms

There is an extremely strong food sub culture within the Tongan culture. Food is viewed as a sign of nurturing, hospitality and love among family and friends and is linked to special events.^{3,5,6} In the Tongan Culture traditionally, value is placed on specific foods. As a result of this, a hierarchy exists within the food system. Traditionally this has meant that yams would be placed before manioke, or pork before chicken. However in modern times this has extended to include packaged and processed foods. Despite evidence in health knowledge relating to nutrition there has been a shift over time, linking processed and packaged food to that of wealth and social standing.^{5,6,8} This has led to the perception that if you were to turn up with healthy food to a feast or event, it would be thought that you cannot afford to provide for your community.

These social norms bring a unique set of challenges. Effective social marketing strategies will need to be put in place to achieve a change in these norms and subsequently dietary patterns. Without these social norms and cultural practices addressed, nutritional messaging may be deemed ineffective.

Accessibility/Availability

Falekoloa's are in high concentration throughout Nuku'alofa, stocked with processed and packaged foods high in fat, sugar and salt. Fish, fruit and vegetables in comparison are found sporadically on the roadside or in the main market areas. The fruit and vegetables available are largely dependant on the seasons and climate, which consequently impact both the price and availability.^{5, 38} Traditionally, many Tongans grew their own vegetables/fruit. However due to urbanisation and changed lifestyles this is believed to have shifted. A number of programs have attempted to address this through grants encouraging fruit and vegetable growing via Apu uta or home gardens. There is limited reporting behind the impact of such programs however.^{3, 38} The consumption of fish has decreased in everyday households due to price rises, sold fishing rights, decreased supply and reductions in subsistence fishermen. The availability of cheap, unhealthy imported meat cuts far outweighs the availability of locally caught fish with half of locally caught fish being exported outside of the country.^{3, 38}

A change in the accessibility and availability of foods is needed, to compliment any nutritional health promotion messages. Achieving this will require a number of intertwined policies and strategies relating to investment, trade, urban design, transport and legislation.³⁸ These may include strengthening the diversity of food grown in home gardens and 'api 'utas, increasing import duties on unhealthy items, implementation of a food cooperative, regulations surrounding nutrition labelling, decrease in import duties on healthy items, school food policies surrounding vendors near schools and licencing requirements for roadside vendors.^{3, 38-40} Policy initiatives for improving the accessibility and availability of healthy food choices will benefit not only the health of the population but also the local agriculture and food industries and are critical to bringing about behavioural change by making healthy food choices easier and cheaper.

Policies

Policies play an important role in changing the environment to be supportive of healthy behaviours.³⁸⁻⁴⁰ Interestingly, in terms of creating a healthy food environment, while a number of relevant policies sit within the health sector a large proportion sit outside of the health sector.³⁸⁻⁴⁰ Putting policies in place can be ineffective if it is done in isolation. Take for example the below case study of the banning of turkey tail imports in Samoa.

In 1997, for a short time Samoa put in place a policy banning the import of turkey tails into the country. The policy reduced supply of turkey tails by 98%, raising awareness of fat as a contributor to poor health. With the decrease in availability and increased awareness there was a change to the diet. 50% of consumers switched to other cheap unhealthy meats such as chicken and mutton, while 25% switched to healthier seafood alternatives. While this is still a significant at a population level, putting this policy in place in conjunction with other policies (limiting mutton and cheap chicken cuts) and multi-factorial interventions may have seen greater impact.^{39,40}

There was research undertaken in 2009 by Snowden, investigating effective policy interventions to tackle obesity and NCD's in Tonga.³⁸ The report investigated the current policy environment and identified which ones could be contributing to an unhealthy food environment; solutions to these identified policies and highlighted areas of action. The outcome was 39 different policies across a number of sectors addressing food costs, accessibility to foods and health information and regulating advertising³⁸ Snowden's recommendations are in close alignment with the recommendations of the WHO Global Action Plan, as demonstrated in Annex 1 and would be essential in addressing the accessibility/availability issues surrounding falekoloas. As such, when developing and implementing policies they need to:

- Discourage and decrease purchase and consumption of unhealthy food items
- Increase accessibility and availability of healthy alternatives for the unhealthy foods
- Be monitored – this involves a clearly defined framework for implementation and evaluation.

Recommendations

The list of recommendations below has been developed from the information discussed through out this paper. They include evidence-based best buy strategies to address the current obesity burden, along with strategies to address identified gaps in knowledge, resources or evidence.

- Nutrition strategies targeting NCD's should consist of cost-effective health-care interventions combined with population wide multi-pronged prevention strategies.
- A life course approach to NCD prevention and control, ensures that policies and strategies promote health from the earliest stages of life and continue through all life stages. Targeting pre/post natal women and children is a key strategy to achieve this.
- Key nutrition messages need to address a decrease in fat, salt and sugar consumption and an increase in fruit, vegetable and wholegrain consumption. This would be most effective in a whole food approach, as opposed to focusing on each component.
- Nutrition messaging needs to challenge identified social and cultural norms associated with food and food behaviours.
- There is a need to ensure what is being promoted is cheap and easy to access, campaigns will not be viable if the foods being promoted are more expensive and difficult to source than the current items being consumed within the diet. A healthy food basket survey would be a simple yet effective strategy in determining this.
- If the eat local and traditional messaging is implemented, scientific research through a nutritional analysis of local foods and traditional recipes would be needed to compliment this.
- A review and update of the current Tongan Dietary Guidelines is needed to ensure they are up to date, evidence based and consistent with messaging delivered to the population. There is evidence of areas of overconsumption however limited evidence behind deficiencies within the Tongan diet. A bottom up approach is needed to develop a clear understanding of what is being consumed, in what quantities, how it is prepared and who is preparing it.
- Comprehensive investigations into malnourishment and nutritional deficiencies is needed.
- Nutrition messaging needs to be complimented with policies and strategies aimed at creating a healthy food environment.

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Annex Alignment of findings from *Policy interventions to tackle obesity and NCDs in Tonga: Findings from local research* paper to the WHO Global Action Plan

Annex 1

Expected Benefits	Stakeholder Policy Change Recommendation	WHO Global Action Plan for the Prevention and Control of NCDs 2013-2020 (Pg 32, 33)
<p>Increasing intake fruits and vegetables</p>	<p>1. Lower cost of imports</p> <ul style="list-style-type: none"> • Reduction import duty for fresh and frozen vegetables, and fresh fruit. (only those not grown locally) to 0% (also 0% for those grown locally, when off-season) • Addition imported vegetables and fruit to price control list (only those not grown locally) 	<p>As appropriate to national context, consider economic tools that are justified by evidence, and may include taxes and subsidies, that create incentives for behaviours associated with improved health outcomes, improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.</p>
	<p>2. Increase access to local fruits and vegetables</p> <ul style="list-style-type: none"> • Establishment and support for Farmers co-operative • Stronger enforcement of licensing requirement for ‘middlemen’ selling fruits and vegetables • Addition to price control system control of mark – up (by middlemen) for local fruits and vegetables • Removal license requirement for roadside vendors selling local fresh produce (uncooked, unprocessed) 	<p>Develop policy measures in cooperation with the agricultural sector to reinforce the measures directed at food processors, retailers, caterers and public institutions, and provide greater opportunities for utilization of healthy agricultural products and foods.</p> <p>As appropriate to national context, consider economic tools that are justified by evidence, and may include taxes and subsidies, that create incentives for behaviours associated with improved health outcomes, improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.</p>
<p>Increasing intake of fish and seafood</p>	<p>1. <u>Lower cost of fish and seafood imports</u></p> <ul style="list-style-type: none"> • Reduction import duty tinned fish and seafood to 0% (fresh/frozen only those not caught locally) • Addition imported seafood and tinned fish to 	<p>As appropriate to national context, consider economic tools that are justified by evidence, and may include taxes and subsidies, that create incentives for behaviours associated with improved health outcomes, improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.</p>

	price control list	
	<p>2. <u>Increasing access to local fish and seafood</u></p> <ul style="list-style-type: none"> • Establishment and support for Fishermen’s co-operative • Stronger enforcement of licensing requirement for ‘middlemen’ selling fish • Addition to price control system control of markup by middlemen for fish 	<p>Develop policy measures in cooperation with the agricultural sector to reinforce the measures directed at food processors, retailers, caterers and public institutions, and provide greater opportunities for utilization of healthy agricultural products and foods.</p> <p>As appropriate to national context, consider economic tools that are justified by evidence, and may include taxes and subsidies, that create incentives for behaviours associated with improved health outcomes, improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.</p>
Reduced intake of unhealthy oils and fats	<p><u>Making healthier fats cheaper and less healthy ones more expensive</u></p> <ul style="list-style-type: none"> • Change margarine import duty from 15% to 0% • Change butter import duty from 0% to 15% • Removal unhealthy oils from price control list • Removal dripping from price control list • Introduction excise duty of 15% for dripping and other animal fats 	<p>As appropriate to national context, consider economic tools that are justified by evidence, and may include taxes and subsidies, that create incentives for behaviours associated with improved health outcomes, improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.</p> <p>As appropriate to national context, consider economic tools that are justified by evidence, and may include taxes and subsidies, that create incentives for behaviours associated with improved health outcomes, improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.</p>
Reduced intake of high-fat meats (and replacement with fish)	<p><u>Increasing cost of high-fat meats</u></p> <ul style="list-style-type: none"> • Reintroduction 15% import duty for mutton flaps and turkey tails • Introduction 15% excise duty for mutton flaps • Introduction 50% excise duty for turkey tails • Change import duty corned beef/mutton from 0% to 15% • Introduction 15% excise duty for corned beef/mutton • Removal less healthy meats from price control 	<p>As appropriate to national context, consider economic tools that are justified by evidence, and may include taxes and subsidies, that create incentives for behaviours associated with improved health outcomes, improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.</p>

Replacement of soft drinks with bottled water	1. <u>Increase cost soft drink</u> <ul style="list-style-type: none"> • Introduction 15% excise duty for soft drinks (all sweetened drinks, including sweetened flavored milk) 	
Reduced exposure of children (and the wider population) to advertising and misleading information regarding less healthy foods and drinks. Resulting in healthier choices and preferences.	1. <u>Regulate advertising and sponsorship activities for less healthy food and drinks</u> <ul style="list-style-type: none"> • Low cost advertisements available for health promotion for healthy diets • Broadcasting censorship system (to review advertisements prior to use) • Enforceable guidelines regarding advertisement content and accuracy • Prevention of use of children in unhealthy food advertising and sponsorship 	Implement WHO's set of recommendations on the marketing of foods and non-alcoholic beverages to children, including mechanisms for monitoring.
	2. <u>Improve school environment</u> <ul style="list-style-type: none"> • School food policy (specifying food and drink availability, safe drinking water access, enforceable) 	Promote the provision and availability of healthy food in all public institutions including schools, other educational institutions and the workplace. ^{>1}
	3. <u>Increase access to information on foods</u> <ul style="list-style-type: none"> • Comprehensive food safety legislation; including regulations regarding food handling, storage, preparation and distribution • Regulation that all packaged foods sold in Tonga provide nutritional information 	Promote nutrition labelling, according to but not limited to, international standards, in particular the Codex Alimentarius, for all pre-packaged foods including those for which nutrition or health claims are made.

Reduced intake of sugars and high-fat and sodium foods	1. <u>Increase cost of sugar</u> <ul style="list-style-type: none"> • Change import duty from 0% to 15% for sugar • Introduction 30% excise duty for confectionary 	As appropriate to national context, consider economic tools that are justified by evidence, and may include taxes and subsidies, that create incentives for behaviours associated with improved health outcomes, improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.
	2. <u>Increase cost of high-salt foods</u> <ul style="list-style-type: none"> • Introduction 15% excise duty for fried packet snack foods • Removal cheese from price control list 	
Other	1. <u>Improve diets of government workers</u> <ul style="list-style-type: none"> • Policy for food provision at meetings/workshops (government only) 	Promote the provision and availability of healthy food in all public institutions including schools, other educational institutions and the workplace.>
	2. <u>Reduce access to unhealthy snacks</u> <ul style="list-style-type: none"> • Licensing and enforcement for roadside food vendors 	Develop policy measures that engage food retailers and caterers to improve the availability, affordability and acceptability of healthier food products (plant foods, including fruit and vegetables, and products with reduced content of salt/sodium, saturated fatty acids, trans-fatty acids and free sugars).
	3. <u>Increase use of nutritious foods</u> <ul style="list-style-type: none"> • Reduce import duty on all dried beans, lentils and pulses from 20% to 0% • Reduce import duty on all breakfast cereals from 20% to 0% 	As appropriate to national context, consider economic tools that are justified by evidence, and may include taxes and subsidies, that create incentives for behaviours associated with improved health outcomes, improve the affordability and encourage consumption of healthier food products and discourage the consumption of less healthy options.