



Food and Agriculture
Organization of the
United Nations

FOOD MATTERS

Policy measures for
strengthening food
and nutrition
security in the
Pacific Island
Countries

Food matters

*Policy measures for strengthening food and nutrition
security in the Pacific Island Countries*

TIM MARTYN

AND

STEPHEN ROGERS

SUBREGIONAL OFFICE FOR THE PACIFIC ISLANDS
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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Foreword

Food matters to Pacific Islanders. Throughout the region, family farming and fishing is a way of life, cultural meaning, and a source of enduring food security which has ensured the health and wealth of Pacific Island communities. However urbanization and the transition of the population out of subsistence production have introduced a number of challenges and opportunities for the food sector – and to households, as both consumers and agricultural producers.

This toolkit introduces a number of specific policy strategies and tools for responding to these challenges and opportunities: from pricing policies combined with targeted measures to reduce the incentives to consume food items contributing poor nutrition outcomes; to targeted food supply measures to improve access to healthier substitute food items among at risk population groups such as school children; to measures to facilitate increased investment in productivity enhancing technologies; to methods for improving the development and co-ordination of multi-sector interventions among food sector stakeholders.

The aim of the Toolkit is to showcase examples of good policies for promoting healthy eating, and agriculture sector development, in the Pacific. It provides suggested methodologies, key principles, frameworks for implementation and case study examples of the policy tools designed to achieve improved domestic market opportunities, and better health and nutrition outcomes.

The target audience for this toolkit is policy-makers, researchers and development partners with an interest in the agriculture, health, finance, education, trade and tourism sectors of the Pacific Island Countries.

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Abbreviations

ADB	Asian Development Bank
AFFSSA	French Food Standard Agency
AIDP	Agricultural Insurance Development Programme
ANZ	Australia and New Zealand Banking
AVCF	Agricultural Value Chain Finance
BDS	Business Development Services
BMNZ	Business Mentors New Zealand
CBS	Central Bank of Samoa
CGS	Credit Guarantee Schemes
CNMI	Commonwealth of the Northern Mariana Islands
CYFAR	Children Youth and Families At Risk
DALY	Disability Adjust Life Years
DBS	Development Bank of Samoa
DPAS	Global Strategy on Diet, Physical Activity and Health
DRFI	Disaster Risk Financing and Insurance
FAO	Food Agriculture Organisation
FDB	Fiji Development Bank
FPC	Food Policy Council
FSC	Food Standard Code
FSM	Federated States Of Micronesia
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GIIF	Global Index Insurance Facility
GST	Goods & Services Tax
HFSS	Higher Content Levels of Fat, Sugar or Salt
HS	Harmonised System
IBRD	International Bank Of Reconstruction And Development
IDS	Institute Of Development Studies
IFAD	International Fund for Agriculture
IFC	International Finance Corporation
MGP	Matching Grant Program
MOU	Memorandum Of Understanding
MSE	Micro and Small Enterprise
NCD	Non-Communicable Disease

NGO	Non-Governmental Organisation
NY	New York
PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
PHPT	Public Health Product Tax
PIC	Pacific Island Country
PISBDCN	Pacific Island Small Development Centre Network
PNG	Papua New Guinea
PPS	Personal Properties Securities
PSPI	Private Sector Development Initiative
SBEC	Small Business Enterprise Centre
SBGFC	Small Business Guarantee and Finance Corporation
SCB	Samoa Commercial Bank
SFP	School Feeding Programmes
SIDS	Small Island Development States
SME	Small and Medium Enterprise
SPC	Secretariat of The Pacific Community
SSB	Sugar Sweetened Beverages
UNDP	United Nations Development Programme
USDA	United State Department Of Agriculture
USGS	United States Geological Services
VAT	Value Added Tax
WHO	World Health Organisation

Executive Summary

In recent decades the nations of the Pacific Island Countries (PICs) have gone through a nutrition transition associated with the increased availability of cheap, energy dense foodstuffs;¹ migration to urban centres;² and diversification of income generation away from primary sector activities.³ These trends have contributed to an alarming rate of increase in diet and nutrition related disease.⁴

Household diet and nutrition are increasingly important to health, agriculture and economic policy-makers, worldwide. While the low intake level of dietary energy, protein and micronutrients remains a problem for hundreds of millions of people, the rise in income levels and the growing liberalization of trade in the developing world is fuelling a transformation in food consumption that contributes to weight gain and obesity.⁵ The impact of this trend has major implications on health and agriculture, and it will require appropriate interventions to put policies in place that are designed to effectively incentivize healthier food choices.

While obesity rates have risen, worldwide, over the last three decades, the greatest and most significant increase has occurred in PICs.⁶ Five of the world's ten most overweight nations include PICs, where obesity rates regularly surpass 60 per cent.⁷ As a result, the Disability Adjusted Life Years (DALYs) lost to overweight and obesity are now higher in the Pacific than in any other developing region of the world.⁸

Obesity has become an important public health, national economic, and regional political issue among the PICs.⁹ Diet related Non-Communicable Diseases, such as diabetes and heart disease, are now the leading cause of death and morbidity in the Pacific Islands¹⁰, leading to calls by the regions political leadership for greater public sector intervention. Improving the availability of lower cost,

¹ Popkin, B, Adair, L, Ng, S, (2012) "Global nutrition transition and the pandemic of obesity in developing countries," *Nutrition Review* 70:3-21

² UNESCAP (2011) "People," Chapter 1 in *Statistical Yearbook for Asia Pacific*, United Nations Economic and Social Commission for Asia and the Pacific, Bangkok, Thailand

³ UNESCAP (2008) "Unequal Benefits of Growth – Agriculture Left Behind," Chapter 3 in *Economic and Social Survey of the Pacific*, United Nations Economic and Social Commission for Asia and the Pacific, Bangkok, Thailand

⁴ Pacific Islands Forum (2013) *Towards Health Islands: Pacific Non-Communicable Disease Response*, 10th Pacific Health Ministers Meeting, Apia, Samoa

⁵ Popkin *et al.* 2012. *Op. Cit.*

⁶ Finucane M., Stevens G. Cowan M., *et al.* 2011. "National, regional, and global trends in body-mass index since 1980: systematic analysis of health examination surveys and epidemiological studies with 960 country-years and 9.1 million participants." *The Lancet* 377: 557-67.

⁷ Murray C., Ortblad K., Guinovart C. *et al.* 2014. "Global, regional, and national incidence and mortality for HIV, tuberculosis, and malaria during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013." *The Lancet* 384(9947): 1005-70.

⁸ FAO. 2014. *Op. Cit.*

⁹ Pacific Islands Forum (2011) *Joint Statement of the Pacific Island Forum Leaders and United Nations Secretary General*, Auckland, New Zealand

¹⁰ Pacific Islands Forum (2013) *Op. Cit.*

nutritionally superior and local food products has been identified as critical to improving food security, and health, in the Pacific.¹¹

The fall in productivity in the rural sector in PICs has been a key contributor to the increase in the price of domestic foods that are of nutritious value.¹² The limited capacity of the smallholder agriculture sector to supply and satisfy the needs of the domestic market, at prices that are comparative with imports, is a significant factor that contributes to the increasing dependence on food imports - incidence of poor household nutrition – in PICs.

While food preferences are important, the price and availability of food are steadily driving the transformation patterns of food consumption in the Pacific.¹³ A poor diet, therefore, is not simply a health issue; rather, it is an economic issue. Because of the price differences between local, nutritious food and those foods that are imported – which reduce the availability of healthy alternatives – households make economically rational decisions in their selection of food with are ultimately nutritionally detrimental.¹⁴ Policies that will increase the intake of fruit and vegetables, while reducing the consumption of foods that are high in salt, fat and sugar, will result in better health outcomes.¹⁵ In addition, measures to ensure free or affordable access to nutritious food for select groups, such as youth and low-income households, have received renewed attention from both agriculture and health sector stakeholders.¹⁶

This toolkit explores how PICs can effectively adopt pricing policies used by other developing and developed countries to influence diet and health outcomes. Specifically, it aims to develop a model for the implementation of food pricing policies that increase substitution towards consumption of fruit and vegetables, and which are designed to adequately address the scale of the NCD crisis currently inflicting the Pacific Island region.

Smallholder farmers in the Pacific region continue to lack the capacity to supply produce consistent with the quality and price standards required to effectively compete with imports of fruit and vegetable commodities. Increasing the competitiveness of small farmers in their domestic markets will require greater investment in the adoption of productivity enhancing technologies. To facilitate an increase in agriculture production and processing efficiencies to a level that rivals food imports will require an improvement in the level of access to finance at interest rates that are competitive with those enjoyed by farmers in neighbouring regions. Accessing the capital to purchase inputs (improved planting materials, fertilizer, improved livestock breeds and feed), combined with the

¹¹ Ibid

¹² ADB. 2011. *Food Security and Climate Change in the Pacific: Rethinking the Options*. Pacific Studies Series Manila: Asian Development Bank.

¹³ Evans M., Sinclair R., Fusimalohi C., Liava'a V (2001) "Globalization, diet, and health: an example from Tonga." *Bulletin of the World Health Organization* 79: 856-62.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Pacific Islands Forum (2013) Op. Cit.

adoption of productivity-enhancing equipment (machinery, greenhouses, hydroponic and irrigation systems to prolong seasons and increase yields), is critical to maintain competitiveness in the agriculture sector. Access to these inputs, however, is constrained by the inability of many agriculture producers to obtain the long-term finance required to acquire such assets. The rate of lending to agriculture in the Pacific has been very low – ranging from 0.6 per cent to 3.1 per cent of gross domestic product. This rate of lending is especially short, considering the proportion of gross domestic product derived from agriculture.

Given the largest share of investment in primary production in the region is undertaken at farm level, PIC governments should ensure a policy and institutional environment conducive for investment by small farmers. Global experience indicates that agriculture finance for smallholder farmers is effective and carries less risk when it is incorporated into a broader finance package that includes financial and non-financial services. The objectives of such financial instruments are for farmers to build the skills necessary to manage their business and to improve yields and quality through access to better inputs and extensions.¹⁷ A combination of policy-making, services and financial support that targets market-oriented agro-entrepreneurs will help turn the tide in what is currently a faltering agriculture sector across the region. The ageing of participants in the agriculture sector and the decreasing numbers of new entrants in PICs highlights the need to ensure that agriculture is more competitive and profitable and, therefore, is an attractive choice for young farmers in terms of generating income.

Improving the agriculture sector's access to finance will depend on the measures adopted to reduce risk and improve the credit worthiness of farmers. Agriculture value chain finance offers an opportunity to reduce the cost and risk of financing. It also reaches out to smallholder farmers.¹⁸ For financial institutions, value chain finance creates the incentive to look beyond the direct recipient of finance and better understand the competitiveness and risks in the sector as a whole. External value chain finance is made possible by value chain relationships and mechanisms; for example, a bank will issue a loan to a farmer based on the farmer's contract with a trusted buyer or on a warehouse receipt from a recognized storage facility.¹⁹

Contract farming is one value chain mechanism that has been widely discussed in world agricultural development literature over the last few decades.²⁰ In an effort to improve efficiency in food value chains, food manufacturers, modern retailers, food exporters and food service industry participants have introduced procurement and supply chain management practices which have posed some challenges to small farmers. While contracts offer a security of market access and access to finance,

¹⁷ IFC. 2012. *Innovative Agricultural SME Finance Models*. Global Partnership for Financial Inclusion. Washington D.C.: International Finance Corporation.

¹⁸ Miller C., Jones L. 2010. *Agriculture Value Chain Finance: Tools and Lessons*. Rome: Food and Agriculture Organization.

¹⁹ Ibid.

²⁰ da Silva C, Rankin M (eds.) (2013) *Contract Farming for inclusive market access*, Rome: Food and Agriculture Organization.

compliance with the quality and consistency requirements of contracts has been difficult for small farmers in the Pacific.

The low rate of use of contracts in the Pacific has been identified as the result of contractual arrangements not being honoured due to an inadequate forward price level and of default risks further down the chain.²¹ This can be the consequence of market fragmentation and the scarce knowledge about each stakeholder's risk exposure, as well as a weak legal system for contract enforcement.²²

This toolkit explores how interventions which facilitate the adoption contract farming arrangements, will help to facilitate greater investment in agriculture sector productivity. This toolkit also provides a model for the accompanying programs and interventions which would assist financial institutions to lend to agriculture sector participants at lower rates of interest.

Innovative institutional and contractual reforms, such as the introduction of contract farming schemes and nucleus estate arrangements that efficiently and effectively provide forward linkages between small farmers and domestic marketing activities, should be encouraged in the Pacific.²³ Strong partnerships can be promoted among private and public entities, and local organizations.

Public procurement programmes represent one form of innovative scheme, and can provide small-farmers with market guarantees important for obtaining finance and incentivise investment in improving agricultural production efficiency and quality. Public procurement programs, such as SFPs also help achieve national health and education priorities, such as improved nutrition, and child cognitive development.²⁴ Policy-makers in the developing world have identified that SFPs can ensure that students, who face poor educational and nutritional outcomes, will receive the minimum nutritional inputs they require to lead healthy and productive lives²⁵; and motivate the rest of the population to transition to healthier dietary choices.²⁶

The purchasing process that supplies food to SFPs should be structured in such a way as to remove the barriers that smallholder farmers face in accessing markets. SFPs and other public procurement programs, such as the supply of schools, hospitals, prisons, and government offices, often provide more flexible terms and lead-in times which assists small farmers to make the transition into the formal market. SFPs offer a relatively long-term market (on average, 180 days a year) for a pre-determined food basket (usually concentrating on local and nutritious content). This provides

²¹ Angelucci F, Conforti P (2009) *Assessment and Finance in the Fruit and Vegetable Value Chain: Evidence from Small Island Developing States in the Caribbean and the Pacific*, Rome: Food and Agriculture Organisation

²² Ibid

²³ ADB (2011) *Op. Cit.*

²⁴ World Food Programme (2009) *Home Grown School Feeding: A Framework to Link School Feeding with local Agricultural Production*, Rome: FAO

²⁵ WFP. 2013. *Home Grown School Feeding: A Framework to Link School Feeding with Local Agricultural Production*. Rome: World Food Programme.

²⁶ SPC Statistics' web site www.spc.int/sdd

producers with a relatively large and stable outlet for their products and, therefore, a reliable source of income.²⁷ However, the provision of assistance packages (e.g. improved seeds, fertilizer, training on quality control protocols and post-harvest handling to ensure food safety) is often required in order to increase smallholder participation.²⁸

This toolkit provides examples of school-feeding programs which facilitate increased collaboration among key stakeholders - including Ministries of Agriculture, Health and Education – to deliver improved access among school-aged children to fresh produce (fruits, vegetables and livestock products) as well as providing an opportunity to local farmers and fishers to supply this important national market. The complimentary technical assistance required to ensure the production and marketing of safe, nutritious food in the regular quantities required by SFPs, is also described.

Strategic decision-making and improved policy development for the agriculture sector are critically constrained by the lack of coordination in the Pacific between the public and private sectors and between public sector agencies. The first and perhaps most important step towards encouraging greater investment in improved food security by the public and private sectors, is the effective coordination of stakeholders. A clear communication of policy needs and objectives can be possible only through the collaboration of committed multi-stakeholders in the agriculture, food and health sectors.

The linkage between policy research and analysis and the adoption of policy decisions is complex and often problematic. To achieve the implementation of the necessary policy and regulatory reforms to improve food security and health outcomes, PICs should put in place a high-level and multi-sector statutory agency to offer a formal policy role to the full range of public and private sector stakeholders in the agriculture, food and health sectors. This agency should facilitate the implementation of national policy measures to encourage consumption of locally produced and nutritious food. This, in turn, will reduce obesity and food insecurity, stimulate local markets for food and foster rural development. It will also raise agricultural gross domestic product and national economic growth. The statutory agency would be responsible for the design and implementation of policy, as well as the regulatory and programmatic reforms that have been presented in this paper, among other key priorities.

Information and good sector analysis will provide the evidence base on which better policy decisions can be made. Only a few countries, however, have dedicated policy and planning capacities within their Ministry of Agriculture. Nevertheless, their data and information for decision-making is limited.²⁹ The key role for Ministry of Agriculture in PICs is to create a Secretariat for their

²⁷ Sumberg J. & Sabates-Wheeler R. 2011. "Linking agricultural development to school feeding in sub-Saharan Africa: theoretical perspectives." *Food Policy* 36(3): 341-349.

²⁸ WFP (2009) *Op. Cit.*

²⁹ Rogers, T.S. (2010), *Agriculture Data: Report on a scoping study in six Pacific Island Countries*, FAO Sub-regional Office for the Pacific Islands, Apia Samoa.

respective National Food Policy Council and provide the key information relating to food sector developments, as well as advise on the financial and health impact of suggested policy interventions. To improve the capacity to deliver this service, the Ministries of Agriculture Ministries must work closely with national statistics bureaus and the technical agencies that can furnish the necessary data for policy-making.

Arresting the historic decline in agriculture sector productivity and rapid increase in diet related health issues in the Pacific, demands a new approach from policy-makers. It demands considered and multi-sectoral policy intervention, driven by improved co-ordination between agriculture, health, education and finance sector stakeholders. Thus, real and sustainable improvement in regional food security will depend on identifying and mobilizing the political will for change, and translating it into policy action

This toolkit provides a model for establishing and adequately resourcing multi-sector agencies capable of co-ordinating policy and programme interventions of the scale and breadth required to achieve meaningful change in the PIC food sector, and improve household access to lower priced, nutritionally superior food items.

Recommendations

1. **Invest in programs aimed at fostering improved financial literacy and business management skills amongst farmers**, in order to increase farm profitability;
2. **Work more closely with banks and financial sector stakeholders to build their capacity to assess farmer risk** and to identify good bankable opportunities in the agriculture sector;
3. **Assist in offering low-interest loan products and risk-reduction mechanisms**, such as tax breaks, in an effort to attract investments in labour-saving and off-season production technologies that will improve the supply and quality of local agricultural products, as well as upgrade the cuisine associated with PICs tourism;
4. **Facilitate increased agriculture investment** by introducing disaster risk insurance for agribusiness infrastructure and equipment. In addition, risk sharing arrangements further increase the level of ease between lenders and borrowers in the agriculture sector, such as credit guarantees, matching grants and increased availability of agriculture insurance products, should be explored.
5. **Consider the application of a levy a on the food and beverage products** that contribute to poor nutrition outcomes and non-communicable diseases (NCDs), such as foods high in salt, sugar and fat;
6. **Introduce school feeding programmes (SFP)** that are based on a menu choice that will maximize the use of local fresh produce, and design a procurement and distribution system to facilitate the food purchase from local farmers and fishers.
7. **Establish a multi-stakeholder National Food Policy Council** to oversee the adoption and implementation of these policies and programmes, and others that are relevant to the improvement of food quality and nutritional security.

Policy Tool 1: Providing price incentives for a healthier diet

The burden on Non-Communicable Disease (NCD) and poor nutrition in the Pacific Islands

In 2011, the Pacific Island Countries (PICs) were declared to be in an ‘NCD Crisis’ with the region experiencing growing levels of premature deaths and preventable morbidity and disability from NCDs, principally as a result of rising rates of heart disease and diabetes.³⁰

NCDs account for 75% of all deaths in the Pacific islands.³¹ In addition, obesity and NCD-related mortality and morbidity are rising, presenting many countries in the Pacific region with the prospect of unmanageable health costs in the future.³² These factors led the Pacific Island Forum leaders to acknowledge that “NCDs already undermine social and economic development in the Pacific, and are financially unsustainable. NCDs impose increasingly large, yet often preventable financial costs on national budgets and the economy more broadly.”³³ These health problems are closely correlated with the rising rates of obesity seen throughout the region (Table 1).

TABLE 1: PACIFIC ISLANDS COUNTRY DIABETES AND OBESITY RATES

Country	Diabetes rate (%)	Obesity rates (%)
Cook Islands	23.6	61.4
FSM	32.1	42.6
Fiji	12.9	18.0
Kiribati	20.4	39.9
Nauru	16.2	58.1
Niue	38.4	61.0
Palau	-	-
PNG	13.3	16.2
RMI	37.2	31.6
Samoa	22.0	54.7
Solomon Islands	17.7	23.7
Tonga	17.5	57.6
Tuvalu	-	58.7
Vanuatu	21.2	18.8

Source: WHO STEPS country reports. SPC PRISM National Minimum Development Indicators for Health

<http://www.spc.int/nmdi>

³⁰ Pacific Island Forum (2011) *Op. Cit.*

³¹ World Bank (2012) *The Economic Costs of Non-Communicable Diseases in the Pacific Islands: a rapid stocktake of the situation in Samoa, Tonga and Vanuatu*, Sydney: World Bank

³² Ibid

³³ Pacific Island Forum (2014) *Op. Cit.*

2 Food Matters

The obesity epidemic in the Pacific Islands is caused by many factors, but the nutrition transition towards refined foods high in sugar, salt and fats plays the major role in the current global epidemics of obesity, diabetes and cardiovascular diseases, among other non-communicable

conditions.³⁴ Rice, wheat flour, sugar, refined foods, and fatty meats such as corned beef, turkey tails, and spam, are the most commonly eaten foods in many PICs.³⁵

Against a background of huge global changes in production, marketing and retailing of food, an advocacy approach alone has not been sufficient to change individual consumption behaviour. In virtually every society where it has been broadcast, the “healthy eating” message has faced two formidable obstacles: it has been overwhelmed by the “junk food” message, which dwarfs it in terms of advertising spending, and the public health community has naively assumed that getting the right information to the public would be sufficient to induce cultural change.³⁶ This has prompted policymakers around the world to explore broad-based approaches to improving diets.

The food industry spends over US\$30 billion each year on direct advertising and promotions – more than any other industry. The US fast food companies alone spent \$4.2 billion in 2010 with \$1.6 billion of this targeted at children.

Yale Rudd Center for Food Policy and Obesity, 2010

<http://www.yaleruddcenter.org/>

In the Pacific region, Governments have made commitments to reducing obesity levels in their National Health Strategies and in NCD and Nutrition Plans of Action.³⁷ Approaches considered have included measures such as nutrition education and advocacy on diet and physical activity; use of legislation on food contents to mandate maximum salt and other content in food products; and import bans on certain foods high in saturated fat, such as turkey tails and mutton flaps. However, these approaches face some considerable challenges if they are to have a real impact on diet and health in the region. First, nearly all food manufacturing in the PICs takes place outside of the region, and therefore regulations on food manufacturing standards introduced into Pacific Island jurisdictions will have a limited impact upon dietary change. The enforcement of food content regulations may also result in temporary import bans of those products which do not meet the standards imposed by domestic legislation. Past experience in the Pacific Islands of discriminatory bans on import of specific food products resulted problems with compliance with trade agreements such as WTO (see Boxes 1).

³⁴ Snowdon, W., Raj, A., Reeve, E., *et al.* (2013) “Processed foods available in the Pacific Islands,” *Global Health* 9(1):53

³⁵ *Ibid*

³⁶ Morgan, K. J. and Sonnino, R. (2010) “The urban foodscape: world cities and the new food equation,” *Cambridge Journal of Regions, Economy and Society* 3(2): 209-224

³⁷ Pacific Island Forum (2014) *Op. Cit.*

BOX 1: FIJI AND PAPUA NEW GUINEA BAN MUTTON FLAPS

Notably, when Fiji and Papua New Guinea banned imported fatty lamb and mutton flaps from New Zealand, they did not explicitly justify the bans on the basis of the Sanitary and Phytosanitary Measures Agreement but argued that the fatty mutton was having adverse effects on the human health. New Zealand's threat to challenge the ban at the WTO was not pursued perhaps recognising the validity of the bans for public health reasons. In such situations, however, if the exporting country were to challenge a ban put in place on health grounds, it would be very costly and technically difficult for small developing countries to defend their positions through legal arbitration or lawsuits.

Source: Pacific Trade and the right to health, UN Office of the High Commissioner for Human Rights and the UNDP Pacific Centre,

As a result of the escalating health and financial impacts of NCDs³⁸, there is high level support among political leaders in the PICs for the consideration of taxes on Sugar Sweetened Beverages (SSBs) and foods high in sodium and total fat. At the Joint Forum Economic and Pacific Health Ministers Meeting in the Solomon Islands in July 2014, Finance and Health ministers committed to develop country-specific roadmaps for addressing NCDs. One specific action was to “consider policies that reduce consumption of local and imported food and drink products that are high in sugar, salt and fat content and directly linked to obesity, diabetes, heart disease and other NCDs in the Pacific through targeted preventative measures, taxes and better regulation.”³⁹

Global policy responses to rising obesity

Worldwide obesity has nearly doubled since 1980.⁴⁰ Yet it is in the developing, not developed world, that obesity rates are rising fastest.⁴¹ The overconsumption of often energy-dense but nutritionally poor food, coupled with increasingly sedentary lives, has seen obesity rates in the developing world rise from 250 million in 1980, to 904 million in 2008.⁴² As a result, despite more than 85% of the World's population being located in developing countries, 65% of the world's population live in countries where overweight and obesity kills more people than underweight.⁴³

Obesity caused by the excessive consumption of foods high in fat, sugar and salt, is linked to the rising global incidence of Non-Communicable Diseases (NCDs) including some cancers, diabetes, heart disease and strokes. It was estimated that obesity was the cause of 3.4 million deaths and 3.8% of disability-adjusted life-years (DALYs) worldwide in 2010⁴⁴; and that by 2020 two-thirds of the global burden of

³⁸ World Bank (2012) *Op. Cit.*

³⁹ *Ibid.*

⁴⁰ Finucane *et al.* (2011) *Op. Cit.*

⁴¹ ODI (2014) *Op. Cit.*

⁴² Finucane *et al.* (2011) *Op. Cit.*

⁴³ World Health Organization (2012) *Obesity Fact Sheet*, Geneva: WHO

⁴⁴ <http://www.healthdata.org/gbd>

disease will be attributable to chronic non-communicable diseases, most of them strongly associated with diet⁴⁵.

Governments can help people change their diet by making healthier food options more accessible and affordable. They can also use persuasion, education and information to make healthy options more attractive, although these options have been found to be more expensive, hard to deliver and hard to monitor.⁴⁶ Pricing policies, such as the addition excises that raise the cost of food and beverage products associated with poor nutrition outcomes, are more transparent and easier to implement. Yet, past research indicates that they can have high political and welfare costs.⁴⁷

So far, the global response to tackling obesity and diabetes has given priority to initiatives aimed at school-age children, such as changes in school meals and vending machines, better facilities for physical activity, and health education.⁴⁸ Many governments disseminate nutrition guidelines and health promotion messages such as encouraging “active transport” – cycling and walking – and active leisure.⁴⁹ However, these physical activity and education focussed interventions have failed to reverse the trend of rising global obesity. Recent research has revealed that the primary factors linked to obesity and increased incidence of diabetes is the kind of food and the quantity (portion size) of food consumed⁵⁰ and that obesity leads to inactivity, rather than inactivity leads to obesity.

Whilst there is no suggestion that exercise is not good for children, the policy implications from this research are far-reaching indicating that nutrition (and calorie reduction), rather than increased physical activity is the key to tackling childhood obesity. The key conclusion from this work is that programs to tackle obesity (and hence diabetes) need to focus more on food consumption behaviour than other behaviour.

Personal adherence to dietary guidelines for health purposes can be influenced by many societal, cultural and religious factors; yet price plays a pivotal role. Indeed, although educational programmes have increased awareness about healthy diets and nutritional foods, people continue to make economically rational, but nutritionally detrimental, decisions to consume certain foods. Thus, poor diet is not simply a health or health-education issue, it is also economic.⁵¹ Discouraging consumers from favouring poor nutritional choices through pricing strategies which change the

⁴⁵ WHO (2007) *Non-Communicable Disease Report*, Geneva: WHO

⁴⁶ Organisation for Economic Co-operation and Development (2012) *Obesity Update*, Paris: OECD

⁴⁷ Darmon N, Lacroix, A, Muller, L, Ruffieux, B. (2014) “Food price policies improve diet quality while increasing socioeconomic inequalities in nutrition,” *International Journal of Behavioral Nutrition and Physical Activity*, **11**:66

⁴⁸ OECD (2012) *Op. Cit.*

⁴⁹ *Ibid*

⁵⁰ Metcalf B, Hosking J, Jeffery A, Voss L, Henley W, Wilkin T (2011) “Fatness leads to inactivity, but inactivity does not lead to fatness: a longitudinal study in children (EarlyBird 45),” *Archive of Disease in Childhood*, 96(10), 942-947

⁵¹ Evans *et al.* (2001) *Op. Cit.*

relative prices of selected foods, therefore offers one promising approach to help address obesity and the NCD issue⁵².

As a result, over the last half decade, governments in the developed and developing world have sought to directly intervene in both the production and consumption of food and beverages high in fat, sugar and salt. Governments in both developed and developing countries have used pricing policies to influence the consumption of a range of health-related commodities, including alcohol, tobacco, sugar sweetened beverages and certain foods, by providing appropriate pricing incentives and disincentives for consumers through the application of specific taxes.⁵³

When taxes are designed to pursue public health goals, they aim at raising prices above some consumers' willingness to pay (price elasticity), in order to put off those consumers and lead others to cut their consumption. Price elasticity is mediated by a range of factors such as income level, urban or rural residence, education of household head and women's control of income, and the relative price of substitutable commodities.⁵⁴

When consumers respond to a change in price by reducing their consumption by the same value, we say the price elasticity of that product is 1. Studies undertaken in different countries provide a range of elasticity estimates for foods, found that staple foods tend to have a less elastic demand than foods that are easier to substitute, such as fats and oils; and that the demand for food consumed away from home is more elastic (-0.81) than the demand for food at home (-0.59).⁵⁵ However, if people are aware that a product was taxed for public health reasons, they may be more likely to change their consumption.⁵⁶ Low-income consumers and children are the most price-sensitive.⁵⁷ The impact of price changes is stronger for consumers in poorer socioeconomic condition, who have a more elastic demand for a range of food products.⁵⁸

Definition of price elasticity of demand

The price elasticity of demand is a dimensionless construct referring to the percentage change in purchased quantity of demand with a 1% change in price. It is determined by a multitude of factors: availability of substitutes, household income, consumer preference, expected duration of price change, and the products share of household income.

For example, when a commodity's purchase quantity falls by 5% owing to a 10% increase in price, the price elasticity of demand is -0.5, being less than 1 it reflects inelastic demand. If the same price increase reduces the commodity's purchased quantity by 15% demand for the product is elastic (-1.5).

Source: Pidyck & Rubinfeld, 1998

⁵² Andreyeva T, Long MW, Brownell KD (2010) "The impact of food prices on consumption: a systematic review of research on the price elasticity of demand for food," *American Journal of Public Health* 100(2):216-22

⁵³ Sassi F, Belloni A, Capobianco C (2013) "The Role of Fiscal Policies in Health Promotion", *OECD Health Working Papers*, No. 66, OECD Publishing

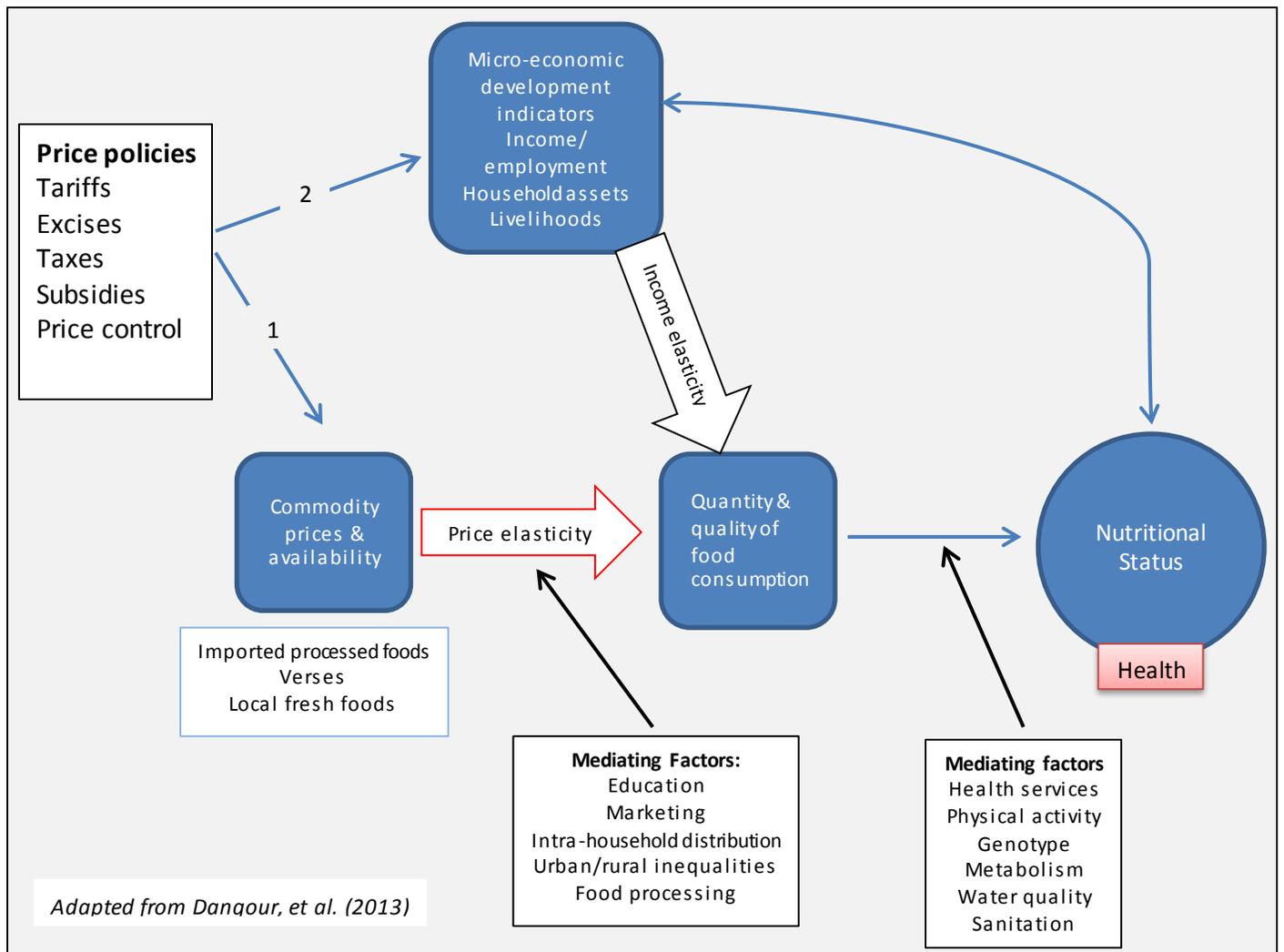
⁵⁴ Dangour AD, Hawkesworth S, Shankar B, *et al.* (2013) Can nutrition be promoted through agriculture-led food price policies? A systematic review *BMJ Open* 2013; 3:e002937. doi: 10.1136/bmjopen-2013-002937.

⁵⁵ Andreyeva *et al.*, (2010) *Op. Cit*

⁵⁶ Thow P, Schultz J, Quested C, Jan S, Colagiuri S (2010) "Trade and the Nutrition Transition: Strengthening Policy for Health in the Pacific," *Ecology of Food and Nutrition*, 50(1):18-42

Unhealthy food choices result, at least in part, from food budget constraints, because high fat-high sugar foods are considerably cheaper sources of calories than fruit and vegetables and other healthy foods. Therefore, unhealthy eating is more prevalent among people with a low socio-economic status. Economists also predict significant public health benefits for taxes on unhealthy foods and beverages as the price elasticity of demand for food and beverages is generally higher than for tobacco. Therefore, a decline in consumption should be the response of the application of a tax at sufficient rates.⁵⁹ A schematic exploring the pathways between price policy and nutrition outcomes is shown in Figure 1.

FIGURE 1: LINKAGES AND PATHWAYS BETWEEN PRICE POLICY, FOOD CONSUMPTION AND NUTRITION OUTCOMES



⁵⁷ Faulkner GEJ, et al. (2011) "Economic instruments for obesity prevention: results of a scoping review and modified Delphi survey", *International Journal of Behavioral Nutrition and Physical Activity*, 8: 109.

⁵⁸ Green R, et al. (2013) "The effect of rising food prices on food consumption: systematic review with metaregression." *British Medical Journal*, 17: 346-370

⁵⁹ Pomeranz JL, (2013) Taxing Food and Beverage Products: A Public Health Perspective and a New Strategy for Prevention, 46 *University of Michigan Journal of Law Reform* 999-1027

Revenue collection from consumption taxes

The revenues generated by taxes on health-related commodities can be substantial in value, and represent a significant proportion of overall tax revenues. Tobacco taxes and alcohol taxes account for 1% to 10% of tax revenues in both developed and developing countries.⁶⁰ Few countries currently apply excise taxes on food and non-alcoholic beverages, but many do apply value-added and sales taxes, which account for substantial revenues. The revenues collected from the Danish tax on saturated fat were 1,223 million DKK in 2012 and accounted for around 0.14% of total tax revenues.⁶¹

Earmarked tax revenues may contribute to funding public health programmes, or limiting the negative impacts of commodity taxes. Alternatively, revenues can contribute more broadly to health or social security spending, as in the cases of the recent tax on soft drinks in France and that on selected processed foods in Hungary.⁶² Examples of earmarking exist in many countries. For instance, the Australian state of Victoria was the first jurisdiction to establish a health promotion agency funded by tobacco taxes.

Earmarking funds in this way may generate problems, as well as opportunities. Many public finance economists have long opposed earmarked taxes because they may limit flexibility in budgetary processes, thus preventing an optimal allocation of resources.⁶³ However, this argument is weakened in the case of earmarking commodity taxes to fund the health sector, because the revenues involved would cover a relatively small proportion of the health sector budget.⁶⁴

“Fat taxes”: what have they achieved so far?

Governments faced with a burgeoning obesity and NCD crises, in countries as diverse as Australia, Brazil, Chile, Denmark, France, Hungary, Mexico, Taiwan, and Thailand, have implemented taxes on food and beverages to reduce obesity and improve health.⁶⁵ A review of studies of the impact of prices on weight and obesity found limited evidence that small price changes, through taxation or subsidies, would produce sufficient changes in consumption to generate health benefits, but found larger effects for people with low socioeconomic status and for those at risk of becoming overweight or obese.⁶⁶ However the use of high value taxation did have an impact on consumption, with an increase in price of 20% being identified to be required to have a significant impact on consumption

⁶⁰ OECD (2013) *Op. Cit.*

⁶¹ Statistics Denmark (<http://statbank.dk/skat>)

⁶² Holt, E. (2011), "Hungary to introduce broad range of fat taxes", *The Lancet*, 378

⁶³ Michael, J. (2012) *Policy Brief*, Research Department Minnesota House of Representatives

⁶⁴ Heady, C. (2013) "The effect of ageing on the financing of social health provision", paper presented at the 2nd Meeting of the OECD Joint Network on Fiscal Sustainability of Health Systems, Paris, 25-26 March 2013.

⁶⁵ Jou J, Techakehakij W. International application of sugar-sweetened beverage (SSB) taxation in obesity reduction: factors that may influence policy effectiveness in country-specific contexts. *Health Policy*

⁶⁶ Powell, L.M. and F.J. Chaloupka (2009), "Food prices and obesity: evidence and policy implications for taxes and subsidies", *Milbank Q.*; No. 87(1): 229–257

behaviour, nutrition and obesity.⁶⁷ For examples, researchers identified that the introduction of a 20% tax on Sugar Sweetened Beverages (SSBs) in the United Kingdom would reduce the number of obese and overweight adults, by 1.3% and 0.9% respectively with likely greater effects in young people (16-29 years) and people of higher socio-economic status.⁶⁸

A recent review of model-based studies concluded that taxes on soft drinks and foods high in fat, possibly combined with subsidies on fruit and vegetables, do have the potential for generating meaningful health gains and reduce health disparities.⁶⁹ A Danish study found that reduced VAT rates on fruit and vegetables and an increased taxation of fats and sugar would cut cardiovascular diseases and nutrition-related cancers in the adult population.⁷⁰

As a result of this evidence and demand for more proactive intervention to prevent rising obesity and the associated health impacts, countries around the world including Australia, Denmark, Finland, France, Hungary and Mexico have taxes on sugar sweetened beverages (SSBs) and other food products (Table 2).

TABLE 2: SUMMARY OF RECENT HEALTH MOTIVATED FOOD TAXES

Country	Tax
Australia	<ul style="list-style-type: none"> Excise duty of 10% on SSBs, confectionery, biscuits and bakery products
Demark	<ul style="list-style-type: none"> Excise duty on saturated fat Euro 2.15 per kg trans fat Excise duty on chocolate and sweets, ice cream and soft drinks
Finland	<ul style="list-style-type: none"> Excise duty on confectionery, ice cream and soft drinks
France	<ul style="list-style-type: none"> Excise duty on sugared and non-sugared sweetened drinks Energy drink tax
Hungary	<ul style="list-style-type: none"> Public health product tax covering: <ul style="list-style-type: none"> -salty snacks -confectionery -sugar-sweetened beverages -energy drinks -flavored beers/alcopops -condiments -fruit jam
Mexico	<ul style="list-style-type: none"> Excise tax of 8% on foods high in saturated fat, sugar and salt

Source: ECORYS, 2014 (more detailed table is available at Annex1)

⁶⁷ Metton *et al.*, (2012) *Op. Cit.*

⁶⁸ Briggs AD, *et al.* (2013) "Overall and income specific effect on prevalence of overweight and obesity of 20% sugar sweetened drink tax in UK: econometric and comparative risk assessment modelling Study," *British Medical Journal* 31: 347

⁶⁹ Eyles, H., *et al.* (2012), "Food Pricing Strategies, Population Diets, and Non-Communicable Disease: A Systematic Review of Simulation Studies", *PLoS Med*, No. 9(12)

⁷⁰ Holm AL, *et al.* (2013) "The health benefits of selective taxation as an economic instrument in relation to IHD and nutrition-related cancers," *Public Health Nutrition* 16(12):2124-31

Denmark introduced a tax on foods containing more than 2.3% saturated fats (meat, cheese, butter, edible oils, margarine, spreads, snacks, etc.) in 2011 (Box 6). Consumers paid 16 kroner (EUR 2.15) per kilogram of saturated fat on domestic and imported food, which is equivalent to up to 30% more for a pack of butter, 8% more for a bag of chips, and 7% more for a litre of olive oil. Tax revenues generated by this tax were expected to be over EUR 200 million per year, and saturated fat consumption was expected to decrease by 4%. Denmark had also increased its excise taxes on chocolate, ice cream, sugary drinks and confectionery by 25% in 2010. Subsequent econometric analysis found that the introduction of the tax led to a reduction in the consumption of saturated fats of 10–15%. However, it was also found that the administrative costs imposed by the tax were significant for the food companies in the retail and wholesale sector: app. DKK 200 million (app. EUR 27 million, US\$ 34.7 million). Subsequently, the tax was abolished on 1 January 2013 with the central governments' budget proposal for 2013, citing the "administrative hassle" for Danish companies which the law had created as the main reason.

In 2011, Hungary introduced a tax on selected manufactured foods (the Public Health Product Tax or PHPT) with high sugar, salt or caffeine content. The tax does not concern basic food stuffs and only affects products that have healthier alternatives, such as take away food, fats and sweets. The explicit aims of the tax are to promote healthier consumption patterns and to stimulate reformulation of products by taxing products that are considered to carry risks to health when over-consumed, and using the revenues raised for health promotion purposes. However, due to some issues with the design of the regulation, it was found that consumers were able to substitute to products which contain those nutrients targeted by the tax (salt, fat, sugar etc.) but do not have product tax levied on them because they are either not pre-packaged products or not subject to the tax based on their customs tariff codes.⁷¹

The experience of the implementation of these health taxes has been mixed, as a result of a public opposition from consumers and industry, and inadequate coverage of the new legislation. In particular, more could have done more to use the funds raised for specific health benefit measures, in order to build public support, for example through the funding of targeted subsidies of preferred substitute products.

Combining health taxes with subsidies of healthier alternatives is the best model

Subsidies on fruit, vegetables and other healthy foods can change people's diets and improve their health.⁷² A review of US studies shows that lower fruit and vegetable prices tend to reduce body

⁷¹ ECORYS (2014) Food taxes and their impact on competitiveness in the agri-food sector, Final Report, Rotterdam

⁷² An R (2013) "Effectiveness of subsidies in promoting healthy food purchases and consumption: a review of field experiments", *Public Health Nutrition*, 16 (7): 1215-1228

weight, particularly in adolescents and low-income people.⁷³ Subsidies of fruit and vegetable retail products have been found to be effective in increasing their consumption, and at the same time reducing the consumption of cereal and bakery products, meat and non-alcoholic drinks.⁷⁴

Subsidies may also be delivered directly to consumers. Income transfer programs for food and beverage are in place in a number of countries, an example being the food stamp programme in the United States, but they are generally aimed at addressing food insecurity and preventing under nutrition, rather than improving diet quality. Restricting individual food subsidies to the purchase of healthier foods has been proposed as a possible way of addressing nutrition quality and health issues.⁷⁵ The combined use of subsidies on healthier foods and taxes on less healthy foods may help achieve the best nutrition outcomes for the largest proportion of the population.⁷⁶

Designing an appropriate health excise

Key factors to consider in developing an effective policy include: the type of tax and how it is administered; how the tax is targeted; and the applied tax rate.

Indirect taxes on health-related commodities can take different forms. An excise is considered an indirect tax, meaning that the producer or seller who pays the tax to the government is expected to try to recover or shift the tax by raising the price paid by the buyer. Excise duties, either per unit of product or a set value per unit, are among the most common, along with value added taxes and sales taxes applied as a percentage of sale prices or per unit of volume of product. Excise duties are commonly applied at point of consumption, and therefore collected through the consumption tax base (VAT or GST); though they may be applied at any point along the supply chain, such as directly from manufacturers or importers.

Excise taxes per unit of product are simpler to administer than per value based excise taxes, but they have to be regularly

Excise tax

Excises are taxes tailored to particular groups of products such as tobacco, alcohol and petrol; they are often set at levels higher than general sales taxes. They may be levied on a certain volume or weight of goods (specific tax) or on their value (*ad valorem* tax). Food-related excise duties can be applied in a number of ways:

- as a tax on a specific nutrient, such as saturated fat or sugar
- as a tax on a combination of nutrients using nutrient profiling, or
- as a tax on a category of food or beverage, such as sugar-sweetened soft drinks.

Source: Landon and Graff, National Heart Forum, 2012

⁷³ Powell LM, et al. (2013) "Assessing the potential effectiveness of food and beverage taxes and subsidies for improving public health: a systematic review of prices, demand and body weight outcomes", *Obesity Reviews*, 14: 110–128.

⁷⁴ Okrent A, Alston J (2012) "The effects of farm commodity and retail food policies on obesity and economic welfare in the United States," *American Journal of Agricultural Economics* 94(3): 611 – 646

⁷⁵ Zagorsky JL, Smith PK (2009) "Does the U.S. Food Stamp Program contribute to adult weight gain?", *Economics and Human Biology*, 7: 246-258

⁷⁶ Faulkner et al., (2011) *Op. Cit.*

adjusted for inflation, otherwise their real value will erode over time.⁷⁷

Excises have generally been used to discourage consumption of goods with public costs, such as the health impacts caused by smoking and alcohol abuse, while also yielding revenue to support government expenditure. Excises are effective at influencing purchasing behavior because they increase the base price of the product, and therefore provide a disincentive for consumption. Excise taxes are currently underutilized in the region, but if judiciously applied (as health taxes) they could be a useful supplement and a major potential source of revenue for PICs⁷⁸.

The use of excise taxes is preferred than the application of import levies, as the WTO's General Agreement on Tariffs and Trade (GATT) prevents imported products from being taxed in excess of the like domestic products. Import duties have traditionally provided a major source of revenue in the Pacific region. More recently, import duties are being progressively reduced and removed to meet trade commitments.⁷⁹ Countries are replacing lost revenue with other domestic taxes, such as excise tax, and/or VAT, sales or goods and services taxes.⁸⁰ Health-related taxes are unlikely to be a problem if they are applied equally to domestic and imported products, if import duties are not greater than what has been agreed as the upper limit⁸¹ and there is a health justification.⁸² Therefore, the use of an excise rather than an import levy would achieve universal coverage, and satisfy the non-discriminatory principle commonly applied in trade agreements.

Sales taxes are commonly applied as a percentage of sale price. Sales tax is imposed at time of payment, after most consumers have decided to make the purchase. Therefore they can be less effective at influencing consumer decision-making.⁸³

All food taxes result in some increase in administrative burden for government and for those private sector businesses that have to implement the tax. But an excise applied as a specific tax, or *ad valorem*, on a category of food or beverage usually is more straightforward and incurs less administrative burden than a tax applied on the content level of individual ingredients. An additional advantage of excises is that they provide more flexibility to policy makers for adjusting tax burdens in a targeted way in response to economic conditions. For instance, in the recent fuel and food price crisis, a number of countries adjusted excises on fuel to moderate the price increase to consumers.

⁷⁷ OECD (2013) *Op. Cit.*

⁷⁸ PFTAC/IMF (2010) *Improving Revenue Collection and Capacity in Forum Island Countries*

⁷⁹ Chaloupka F, Powell L, Chriqui J (2011) "From Tobacco beverage taxation as public policy health policy," *Lessons from tobacco* 26(3)

⁸⁰ Thow *et al.*, (2012) *Op. Cit.*

⁸¹ C-POND, SPC, UNDP, World Health Organization (WHO). Trade, trade agreements and non-communicable disease in the Pacific Islands. Intersections, Lessons Learned, Challenges and Ways Forward. In: Workshop on "Trade, Trade Agreements and Non-Communicable Diseases." Nadi, Fiji Islands; 2013

⁸² Thow *et. al* (2011) *Op. Cit.*

⁸³ Alm J, Melnik M (2005) "Sales taxes and the decision to purchase online," *Public Finance Review*, 33(2): 184–212.

TABLE 3: SUMMARY OF CONSIDERATIONS ON TYPE OF PRICING POLICY AND HOW IT IS APPLIED

Type of tax	Advantages	Disadvantages
Excise	<ul style="list-style-type: none"> ✓ Consumers see the increased price at the point of purchase ✓ Can be applied at the manufacturer, wholesaler, or importer level making it easier to collect ✓ Does not change if industry reduce prices ✓ Generates stable and predictable revenues ✓ Can easily be adjusted 	<ul style="list-style-type: none"> ➤ Must be index linked to inflation to avoid erosion of the impact as prices rise
Import	<ul style="list-style-type: none"> ✓ Consumers see the increased price at the point of purchase ✓ Applied at border, easily collected by customs 	<ul style="list-style-type: none"> ➤ May miss out on adding to the cost of locally produced goods which contribute to poor nutrition outcomes ➤ May be challenged by trading partners for failing to comply with non-discriminatory principle, as not applied equally to local produced goods
Sales	<ul style="list-style-type: none"> ➤ VAT and GST are already applied in many jurisdictions ➤ Rises with inflation 	<ul style="list-style-type: none"> ➤ May not be apparent to consumer before purchase decision is made ➤ Encourages purchase of larger containers because the cost per unit of weight or volume is lower, so tax per unit would also be lower

The advantages of using excise taxes for improving health outcomes

There are a number of advantages of using excise tax as a mechanism for taxing food,⁸⁴ which include:

- Excise taxes are an established mechanism for taxing alcohol and tobacco in the Pacific Islands, and therefore extending this model to cover food and beverages would involve minimal additional administrative costs.
- Excise taxes are often easier to collect than VAT or sales taxes because they can be collected earlier in distribution in process, and therefore involves interaction with fewer vendors. This would result in lower administrative costs relative to other methods.
- The cost of the tax is expected to be incorporated into the price that the consumer sees when deciding what to purchase, rather than being subsequently applied at point of sale

⁸⁴ Chriqui J, Chaloupka F, Powell L, Eidson S (2013) "A typology of beverage taxation: multiple approaches for obesity prevention and obesity prevention-related revenue generation," *Journal of Public Health Policy* 34(3):403-23

- Excise taxes are applied to both local production and imports. This helps ensure universal coverage and also prevents discrimination against foreign products.
- An excise tax is flexible; the rate can be set to increase with inflation automatically to improve its health impact.
- An excise tax can be levied on volume (specific tax) or on value (ad valorem tax) of product.

Therefore, it is recommended that an excise tax be adopted as the preferred model for application of a health tax in the Pacific Islands.

Which foods should be targeted?

How does one determine what products are unhealthy and whose consumption should be reduced through taxation, and those that should not? The science of ranking and/or classifying foods based on their nutrient composition has become known as nutrient profiling.⁸⁵ Much of the impetus for nutrient profiling has come from the European Union, where nutrition and health claims were introduced in 2012.⁸⁶ Creating a composite nutritional quality index for individual foods raises a number of methodological issues, including the selection of index nutrients (e.g. total fat, saturated fat or trans-fats), the choice of reference Maximal Reference Values to use, and the choice of reference amounts: 100 g, 100 kcal, or serving size.⁸⁷

Less healthy foods are those generally associated with higher content levels of fat, sugar or salt (HFSS). According to the Australian and New Zealand Food Standard Code (FSC), the Maximal Reference Values (MRV) of consumption of total fat, sugar and sodium⁸⁸ for an adult male, are:

- Sodium – 2300 milligrams
- Total Fat – 81.6 grams (or 22 grams saturated fat)*
- Total Sugar – 90 grams

Due to large differences in serving sizes reported by food manufacturers, and the perception that the actual size of Pacific Island consumption servings are be larger than the serving sizes recommended by food manufacturers, we adopt the use of the per 100g serve of a product in order

* Based on a Daily Intake of 2100 calories

⁸⁵ Rayner M, Scarborough P, Stockley L, Boxer A, (2008) "Validating a nutrient profile model," *Public Health Nutrition* 11:371–8.

⁸⁶ Drewnowski A, (2007) "What's next for nutrition labeling and health claims: an update of nutrient profiling in the European Union and the U.S." *Nutrition Today* 42:206–14

⁸⁷ Drewnowski A, Fulgoni V (2008) "Nutrient profiling of foods: creating a nutrient-rich food index. *Nutrition Review* 66: 23–9

⁸⁸ <http://www.foodstandards.gov.au/code/Pages/default.aspx>

to be able to identify what percentage of the daily MRV for total sugar, fat and salt is produced by a single serve of food and beverage products in question.

Do we have the required nutrition labeling information?

Labels to indicate the composition of foods have become commonplace internationally, and have been made mandatory in several countries. This has become easier since the Codex Guidelines on Nutrition Labeling were promulgated by the FAO in 1985.

Many PICs import food products from Australia and New Zealand which are covered by the *Australia New Zealand Food Standards Code* which establishes the general labeling and information requirements that are relevant to all foods, including specific labeling and information requirements that apply to certain food products. Under this standard, food manufacturers are required to provide information per 100g of product, a figure for total fat, total sugar and sodium contained in the product (an example is provided in Figure 3)

FIGURE 2: EXAMPLE OF NUTRITION LABEL AUS/NZ

NUTRITION INFORMATION		
Servings per can: 2		
Serving size: 210g		
	Average Quantity Per serving	Average Quantity Per 100g
ENERGY	895kJ	425kJ
PROTEIN	10.8g	5.1g
FAT: TOTAL	1.2g	0.6g
-SATURATED	0.2g	0.1g
CARBOHYDRATE	33.7g	16.1g
-SUGARS	15.5g	7.4g
DIETARY FIBRE	11.9g	5.7g
SODIUM	1300mg	620mg
POTASSIUM	650mg	310mg
IRON	2.7mg	1.3mg

The overwhelming majority of Pacific Island food products bare some nutrition information.⁸⁹ Snowden (*et al.* 2013) collected data from 6041 foods and drinks commonly available in five Pacific Island Countries, in order to establish whether nutrient content was available per 100 g of product. They found that nutrient data were not provided for only 6% of products. What this study found was that while some nutrition information was available for nearly all products, the majority of products were missing information on the transfat and saturated fat content of products; with only a minority missing information on the sodium content of the product.⁹⁰ In addition, all the labels

⁸⁹ Snowden W, Raj A, Reeve E, Guerrero R, Fesaitu J, Cateine K, Guignet C (2013) "Processed foods available in the Pacific Islands," *Globalization and Health* 9:53

⁹⁰ Ibid

from products originating in the US had nutrient information given per serve only, and had to be subsequently converted into per 100g standard quantities. This research also found that relatively little of the packaged foods were made within the 5 study countries or Pacific region, which can make it more difficult to control or influence the nutrition value of food consumed through regulation upon food manufacturing.⁹¹

Targeting foods and beverages with high total sugar content

Sugary beverage intake is associated with weight gain, overweight, and obesity and is an independent risk factor for diabetes and heart disease.⁹² Research also indicates that people with the highest sugar intake have the lowest micronutrient intake.⁹³ Globally, many public health advocates have focused on sugar-sweetened beverages (SSBs) as a target for health tax interventions because the health risks associated with sugary drink consumption have been more comprehensively established than the risks from any other food products.^{94,95} SSBs are a non-essential food item with no beneficial nutrients; a reduction in consumption of SSBs will not cause any detrimental health effects as the product substitutes are most likely to be healthier options⁹⁶

TABLE 4: SUGAR CONTENT OF A SINGLE SERVE OF SELECT POPULAR BEVERAGES

Food category	(g/100g serve)	(g/12 ounce or 354ml can)
Fanta orange	15.4	52.5
Pepsi	12.1	41.0
Coca Cola	11.9	40.5
Starbucks Frappuchino	11.9	40.5
Dr Pepper Root Beer	11.9	40.5
Sprite	11.4	39.0
7-Up	11.0	37.5
Red Bull energy drink	10.6	37.1
Nestle Sweet Iced Lemon Tea	10.1	34.5
Schweppes Tonic Water	9.7	33.0
Schweppes Ginger Ale	9.7	33.0
Orange Juice	8.3	28.3
Gatorade, lemon lime	6.5	22.0

Source : California Center for Public Health Advocacy (2011) Sugar Content of Sugary Drinks by Brand

⁹¹ Ibid

⁹² Vasanti S. Malik et al. (2010) *Sugar Sweetened Beverages, Obesity, Type 2 Diabetes Mellitus, and Cardiovascular Disease Risk*, 121 CIRCULATION 1356, 1356 (2010), cited in Pomeranz JL, (2013)

⁹³ Steyn NP, et al. (2003) Evidence to Support a Food-Based Dietary Guideline on Sugar Consumption in South Africa, *Bulletin of World Health organization*:599, 604-05 (2003).

⁹⁴ Pomeranz JL, (2013) *Op. Cit.*

⁹⁵ Brownell KD, et al. 2009. The Public Health and Economic Benefits of Taxing Sugar-Sweetened Beverages, *New England J. Medicine*. 1599

⁹⁶ Briggs et al., 2013

Research to date suggests that a tax on sugar-sweetened beverages would have strong positive effects on reducing consumption.⁹⁷ In relation to product substitution of SSB taxes, it is generally found that if a tax only affects regular carbonated soft drinks, consumers will substitute to similarly high calorie sports/energy drinks and sugary fruit juices or to diet versions of the carbonated soft drinks. Therefore taxing of all SSBs according to sugar content is recommended specifically to prevent product substitution to other high sugary beverages.

As of September 2014, there was evidence that SSB taxes have been adopted in ten of fourteen Pacific Island Countries and Territories (Table 5). Six Pacific Island Countries had adopted excise taxes (American Samoa, Cook Islands, Fiji, Kiribati, Tonga and Samoa), and similarly four PICs with no local soft drink production had adopted import tariffs (Federated States of Micronesia, Republic of the Marshall Islands, Nauru and Vanuatu). In addition to these countries, Tokelau has introduced a complete import ban on soft drinks. The most commonly taxed beverage was carbonated soft drinks.

TABLE 5: DETAIL OF SSBs TAXES IN SELECTED PACIFIC ISLAND COUNTRIES

Country	Year of adoption	Import tariff	Excise tax	SSBs taxed
Cook Islands ⁹⁸	April 2014	Previously: Between August 2012 and April 2014 there was a 15% import duty to be increased by 2% per year thereafter; before that there was a 77% import levy on carbonated soft drinks	NZD 9.80/kg of sugar content in soft drinks	Soft drinks (HS code 22.02)
Fiji ⁹⁹	2011	32% import duty (same tax is applied to bottled water)	15% excise tax	soft drinks and juice (imported only), excludes sweetened milk
Federated States of Micronesia ¹⁰⁰	Dec 2004	25% import duties specific to SSBs	N/A no domestic production	soft drinks, drink mixes, drink preparations, coffee, tea and non-alcoholic beverages, excluding 25+% fruit juice (which is taxed at 3% similar most food)
Kiribati ¹⁰¹	2014 (decrease)	In April 2014 a 70% import duty specific to soft drinks was reduced to 0% (and replaced by VAT & excise)	40% excise duty since April 2014	soft drinks HS 22.02 i.e. waters sweetened
Papua New Guinea ¹⁰²	-	No specific import tax: 12.5% tariff on imported soft drinks, 15% fruit juice (will both be 10% from 1/1/15),	No	Waters containing added sugar, fruit juice (no tariff on sweetened milk drinks, yoghurt

⁹⁷ Brownell et al. (2009) *Op. Cit.*

⁹⁸ FAO (2014). *Linking farmers to markets: Realizing opportunities for locally produced food on domestic and tourist markets in Cook Islands*, Apia: FAO Sub-regional Office for the Pacific Islands

⁹⁹ Thow A., Quested C., Juventin L., Kun R., Khan N., Swinburn B., (2011) "Taxing soft drinks in the Pacific: implementation lessons for improving health," *Health Promotion International* 26(1):55-64

¹⁰⁰ Federated States of Micronesia (2004). *Thirteenth Congress of the Federated States of Micronesia Fifth Special Session C.B. NO. 13-123. Amendment Public Law No. 9-139 to Change import duties Applied to Certain Products*

¹⁰¹ Kiribati Customs (2003) *Council CC. Customs Tariff Schedule: Harmonizes System Nomenclature of Kiribati Section VI*

¹⁰² PNG Customs Service (2012) *Papua New Guinea Import & Export Customs Tariff: Custom Tariff Act 1990*

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				drinks, syrups)
Nauru ¹⁰³	July 2007	30% special import sugar levy. Removed a levy on bottled water.	N/A no domestic production	carbonated soft drinks, cordials, flavoured milks and drink mixes (also sugar and confectionary)
Niue	Apr 2009	No specific import tax: all import taxes are gradually being reduced to zero	No	-
Republic Marshall Islands ¹⁰⁴	2004-5	\$0.01666 per 1 ounce (20c on a can - which normally costs \$1)	N/A no domestic production	carbonated beverages
Samoa ¹⁰⁵	2008	0.30 T/L excise on imports	0.40 T/L (\$US 0.25) excise on local production	soft drinks
Solomon Islands ¹⁰⁶	-	No specific import tariff: 10% import tariff on all beverages.	No	
Tokelau ¹⁰⁷	2009	Soft drink ban - In 2008 soft drink importation was calculated at 43 L/person/year and presented to each Taupulega (Council of Elders) following the 2009 NCD Meeting. Since then, one atoll has banned soft drinks and the other two followed.	No	soft drinks (fruit juice is allowed to be imported)
Tonga ¹⁰⁸	Aug 2013	No specific tariffs, average import tariff of 10% on food and beverages	1 Pa'anga/L excise duty up from a 15% duty before	carbonated drinks (also lard and dripping)
Tuvalu	-	No	No	-
Vanuatu ¹⁰⁹	1988	75% import duty. However, no import tariffs on SSBs from main supply source - Fiji.	No (Excise tax of 20vt/kg on syrups only)	- HS 22.02 - sugar or otherwise sweetened or flavoured beverages (cf. 30% on non-sweetened waters, 20% fruit juice,)

Source: Secretariat of the Pacific Community. (2014). Sugar sweetened beverage tax in Pacific Island Countries and Territories: A discussion paper. Noumea.

However, there are a range of other consumption products high in sugar which escape any sort of taxation, given the focus on SSBs. A list of food products containing high levels of total sugar are presented in Table 6.

¹⁰³ Thow *et al.*, (2011) *Op. Cit.*

¹⁰⁴ Marshall Islands (2012) *Import Duties License Act 1989 [48 MIRC Ch.2] 2012 Revision*, Majuro

¹⁰⁵ Thow *et al.*, (2011) *Op. Cit.*

¹⁰⁶ Ministry of Commerce Industries, Labour & Immigration (2006) *Overview of Solomon Islands Duties and Excises*. Honiara

¹⁰⁷ Rush E, Pearce L, Drewnowski A (2012) *Foods Imported into the Tokelau Islands: 10th May 2008 to 1 April 2012*

¹⁰⁸ "Tonga raises 'health' taxes on lard, fizzy drinks, tobacco," Ministry of Revenue and Customs Press release 2013

¹⁰⁹ Vanuatu Customs & Inland Revenue Department (2013) *Vanuatu 2007 Harmonized coding system: Import Duties Act Cap 91. Harmonised System*, Port Vila

TABLE 6: TOTAL SUGAR CONTENT SELECTED POPULAR FOOD PRODUCTS (GRAMS PER 100G SERVE)

Food category	Mean total sugar (g/100g)	% of daily Upper Limit for sugar (90g)	Total sugar in 100g serve of food product as a % of 100g of Coca Cola
Skittles	75.8	84%	637%
Milky way bar	59.7	66%	502%
Chocolate cake, with icing	55.1	61%	463%
Snickers Bar	50.5	56%	424%
Chocolate chip cookie	39.8	44%	334%
Glazed donut	31.9	35%	268%
Chocolate ice cream	25.4	28%	213%
pineapple	9.9	11%	83%
Beef jerky	9.0	10%	76%
cornflakes	7.8	9%	66%
Papaya	7.8	9%	66%
Watermelon	6.2	7%	52%
White bread	5.0	6%	42%
Cheese burger	4.8	5%	40%
Sweet potato	4.2	5%	35%
Cabbage	3.2	4%	27%
Cassava	1.7	2%	14%
Taro	0.4	0%	3%

Source: United States Department of Agriculture National Agricultural Research Service, National Nutrient Database for Standard Reference, <http://ndb.nal.usda.gov/ndb/> accessed 07/11/14

Table 6 indicates that there a large number of food products which make a major contribution to daily intake levels of sugar in Pacific Island households. The comparison between food products and a beverage commonly associated with SSBs – Coca Cola – reveals that a very large number of commonly consumed snack and sweet products contain more sugar per unit of consumption than SSBs. Therefore, excises targeted at reducing sugar consumption by focusing on SSBs at the exclusion of food products high in sugar, are failing to effectively reduce the contribution of sugar to NCDs in the region. Future health excises should also take into account food products high in sugar, in addition to SSBs.

Targeting foods with high sodium content

Salt or excessive intake of salt has been identified as being one of the main risk factors in these cardiovascular diseases. The Food and Nutrition Board at the Institute of Medicine, the health arm of the National Academy of Sciences, has established that the maximum amount of sodium that adults should consume in a single day - Maximal Reference Value - is 2200 mg of sodium, which is equivalent to 5 grams or 1 small teaspoon of salt, per day.¹¹⁰ High salt intake is also associated with a range of NCD illnesses such as heart disease, high blood pressure, stomach cancer, osteoporosis

¹¹⁰ WHO (2007) Prevention of cardiovascular disease: guidelines for assessment and management of cardiovascular risk. Geneva, World Health Organization (WHO)

and asthma (WHO, 2010). High blood pressure is a public health problem in many PICs with the prevalence being as high as 45% of the adult population in some countries. Reducing salt intake in the region has therefore become a regional priority and PICs have agreed to the global target of salt reduction of 30% by 2025.¹¹¹

Different public health actions are being introduced to reduce sodium content in processed foods and sodium intake in general. Strategies such as establishing salt targets leading to the reformulation of foods towards acceptable salt levels, imposing control measures on imported goods, creating enabling environments, surveillance, and improving awareness programmes on the risks of dependency on processed foods have been proposed.¹¹² However, global experience has indicated that taxing unhealthy foods led to a reduction in consumption of those foods while lowering consumers' salt intake¹¹³ hence this strategy should be considered in the Pacific. Foods high in salt which are commonly consumed in the Pacific include instant noodles, canned and processed meat products, white bread and tinned tuna (Table 7) and are therefore likely to be major sources of salt in the diet.

As of September 2014, there was no evidence that health taxes targeting salt have been adopted in Pacific Island Countries and Territories. Given the proportion of the maximal reference value (MRV) for daily consumption of sodium contributed by just a single serve of many common food products, establishing an excise for disincentivising the consumption of food products with high sodium content should be adopted.

TABLE 7: SODIUM CONTENT OF A SINGLE SERVE OF SELECT POPULAR FOOD PRODUCTS (MG/100G SERVE)

Food category	Mean sodium (mg/100g)	% of daily MRV for sodium (2200mg)
Beef jerky	2 081	95%
Instant noodles	1 855	84%
Spam (canned pork product)	1 369	62%
Breakfast cracker	941	43%
Corned beef (canned)	897	41%
Hot dogs	819	37%
Cheddar cheese	644	29%
Frozen salami pizza (14")	618	28%
Cornflakes	571	26%
Chicken nugget	566	26%
Potato chips, salted	527	24%
Cheeseburger	518	24%
White bread	478	22%

¹¹¹ WHO Salt reduction in the Pacific Urgent need for action leaflet, undated

¹¹² WHO (2013) Salt Matters for the Pacific Islands: Media and Advocacy Toolkit

¹¹³ Myton O, Gray A, Rayner M, Rutter H (2007) "Could targeted foods improve health?" Journal of Epidemiological Community Health Vol. 61 No. 1 pp.689-694

Tinned tuna in oil	416	19%
Turkey tail	384	17%
French fries	357	16%
Fried chicken wing	320	15%
Lamb flap	69	3%
Sweet potato	55	3%
Skipjack tuna	37	2%
Taro	11	1%
Cabbage	18	1%

Source: United States Department of Agriculture National Agricultural Research Service, National Nutrient Database for Standard Reference, <http://ndb.nal.usda.gov/ndb/> accessed 07/11/14

Targeting foods with a high total fat content

Adequate amounts of dietary fat are essential for health. In addition to their contribution to meeting energy needs, intakes of dietary fat must be sufficient to meet requirements for essential fatty acids and fat soluble vitamins (FAO). Fat contains more than twice as many calories of energy per gram as carbohydrates and protein (which both contain 4 calories per gram) meaning immoderate consumption of fat leads more quickly to weight gain, and associated health problems. A diet rich in saturated fats (dairy products and fatty cuts of meat, such as corned beef and lamb flaps) raises cholesterol levels and risk for heart disease. Sedentary individuals should not consume more than 30 percent of their energy from fat, particularly if it is high in saturated fatty acids which are derived primarily from animal sources. The maximum amount of total fat in the daily consumption of an adult male, based on an average energy intake of approximately 2100 kilocalories and average levels of activity, is 86.1 grams (WHO 2004) containing no more than 22 grams of saturated fat.

Abnormal blood lipid (fat) levels, resulting from overconsumption of foods high on saturated and total fat leads to high levels of cholesterol and associated health problems. Studies of general populations consuming diets high in fat, particularly saturated fat, have shown increased risk of cancer,¹¹⁴ diabetes,¹¹⁵ and heart disease.¹¹⁶ Comparisons between a diet low in saturated fats and with plenty of fresh fruit and vegetables, and the typical diet of someone living in the developed world (high in fat and low rates of consumption of fruits and vegetables), show that in the former there is a 73% reduction in the risk of new major cardiac events.¹¹⁷ Foods high in total fat which are

¹¹⁴ World Cancer Research Fund/American Institute for Cancer Research. Food, Nutrition, and the Prevention of Cancer (1997) A Global Perspective. World Cancer Research Fund/American Institute for Cancer Research, Washington, D.C., pp. 216–251

¹¹⁵ Report of a Joint WHO/FAO Expert Consultation (2003) Diet, Nutrition and the Prevention of Chronic Diseases, WHO Technical Report Series 916

¹¹⁶ Ibid

¹¹⁷ World Heart Foundation, Cardiovascular risk factors

commonly consumed in the Pacific include lamb flaps, canned and processed meat products, cheese and potato chips (Table 8) and are therefore likely to be major sources of fat in diets.

TABLE 8: TOTAL FAT CONTENT OF A SINGLE SERVE OF SELECT POPULAR FOOD PRODUCTS (G/100G SERVE)

Food category	Mean 'Total Fat' (g/100g)	% daily MRV for total fat (81.6 for 2100 kcal diet)
Beef jerky	49.6	58%
Potato chips, salted	37.0	43%
Cheddar cheese	33.8	39%
Lamb flap	32.6	38%
Hot dogs	27.6	32%
Turkey tail	27.5	32%
Spam (canned)	26.6	31%
Fried chicken wing	22.4	26%
Chicken nugget	21.8	25%
14" salami pizza	16.9	20%
Cheese burger	16.1	19%
French fries	15.5	18%
Instant noodles	15.4	18%
Corned beef (canned)	14.9	17%
Breakfast crackers	8.6	10%
Tinned tuna in oil	8.2	10%
White bread	2.2	3%
Skipjack tuna	1.0	1%
Cornflakes	0.9	1%
Taro	0.2	0%
Sweet potato	0.1	0%
Cabbage	0.0	0%

Source: National Nutrient Database for Standard Reference, Agriculture Research Service, United States Department of Agriculture <http://ndb.nal.usda.gov/ndb/> accessed 07/11/14

As of September 2014, there was no evidence that health taxes targeting fat have been adopted in Pacific Island Countries and Territories. Given the proportion of the recommended MRV of total fat contributed by just a single serve of many common food products, establishing an excise for disincentivising the consumption of food products with high in total content should be adopted.

What model should be applied?

Developing a scientifically valid and transparent method for selecting food products to subject to health taxation is critical if countries are to maintain compliance with the non-discriminatory principle introduced by trade agreements. The restriction upon WTO members from applying policy measures adjudged to be 'discriminatory' towards specific products or trade origins and destinations, has led Samoa to be required to repeal its import ban on turkey tails. The WTO does permit, however, the use of tariff measures and other controls on the import or sales of a range of

products believed to impact upon national health outcomes (under Article XX of GATT 1994) as long as such controls are justified by scientific evidence and applied in a non-discriminatory way. WTO members are therefore within their rights to establish a set of criteria for increasing tariffs and levies on food and beverage products which, the available scientific evidence indicates, contribute to NCDs, in order to protect human health – as long as these tariffs or taxes are applied in a non-discriminatory manner, which is applied to all products. In addition, selective product bans are of limited value in restricting the consumption of products that contribute to obesity. Controls on high-fat, salt and sugar products need to be implemented after consideration of the whole market, and of the likely consequences of any product ban, in order to avoid substitution effects.

Health authorities (USDA) consider that a serving of any food item which contains more than 20% of the recommended maximum daily intake of that ingredient, is considered to contain a high-level of that ingredient, and should be consumed only in moderation.¹¹⁸ In Table 9 below, we applied this standard to the food products presented in tables 6, 7 and 8 in order to identify those products which a single serve of 100g contained more than 20% of the MRV for sodium, total fat and total sugar. The application of this threshold resulted in almost all of the processed food products failing to score below 20% of the MRV for all of total fat, sugar and sodium. If a health tax was applied on this basis, then a significant proportion of the average food basket of households would increase in cost.

Simulation modeling studies have suggested that taxes based on a single nutrient or a single food tend to generate undesired effects on the demand for other nutrients or foods, due to substitutions between taxed and non-taxed foods, and due to heterogeneous consumer responses depending on their income level.¹¹⁹ Indeed, researchers from the University of Oxford and Nottingham found that taxation models that targeted just one factor in poor nutrition, such as saturated fat, would result in consumers simply switch to buying other unhealthy foods, such as those containing high levels of salt.¹²⁰

“Any society where a healthy diet is more expensive than an unhealthy diet is a society that must mend its price system”
Special Rapporteur of the Right to Food, 2011,
Human Rights Council, UN

¹¹⁸ USDA (2011) Dietary Supplement Factsheets, US Department of Agriculture, Washington D.C

¹¹⁹ Myton *et al.* (2007) *Op. Cit.*

¹²⁰ Mytton, O., Clarke, D. Rayner, M. (2012) “Taxing unhealthy food and drinks to improve health,” *British Medical Journal* 344

TABLE 9: SELECTING FOOD ITEMS FOR HEALTH TAXATION USING THE 20% CONTRIBUTION OF A 100G SERVE TO AN ADULT MALE REACHING THE DAILY MAXIMAL REFERENCE VALUE (MRV) FOR TOTAL FAT, SODIUM OR SUGAR

Food Item	Total Fat (g)	Total Fat % MRV (81.6g)	Sodium (mg)	Sodium % MRV (2200mg)	Total Sugar (g)	Total sugar% upper limit (90g)	Health taxed (>20% MRV)
Skittles	2.7	3%	9	0%	75.8	84%	Yes
Milky way bar	17.2	21%	167	8%	59.7	66%	Yes
Chocolate cake, with icing	20.1	25%	480	22%	55.1	61%	Yes
Snickers bar	23.8	29%	239	11%	50.5	56%	Yes
Chocolate chip cookie	49.6	61%	342	16%	39.8	44%	Yes
Glazed donut	41.6	51%	402	18%	31.9	35%	Yes
Beef jerky	49.6	61%	2 081	95%	9	10%	Yes
Potato chips, salted	37	45%	527	24%	0.3	0%	Yes
Chocolate ice cream	11	13%	76	3%	25.4	28%	Yes
Cheddar cheese	33.8	41%	644	29%	0.2	0%	Yes
Lamb flap	32.6	40%	69	3%	0	0%	Yes
Turkey tail	27.5	34%	384	17%	0	0%	Yes
Frankfurter	27.6	34%	819	37%	0	0%	Yes
Spam (canned)	26.6	33%	1 369	62%	0	0%	Yes
Fried chicken wing	22.4	27%	320	15%	0	0%	Yes
Chicken nugget	21.8	27%	566	26%	0.8	1%	Yes
14" salami pizza	16.9	21%	618	28%	5.4	6%	Yes
Cheese burger	16.1	20%	518	24%	4.8	5%	Yes
Instant noodles	17.5	21%	1 855	84%	2	2%	Yes
Corned beef, can	14.9	18%	897	41%	0	0%	Yes
French fries	15.5	19%	357	16%	0.3	0%	No
Papaya	0.2	0%	8	0%	7.8	9%	Yes
Breakfast crackers	8.6	11%	941	43%	1.3	1%	Yes
Cornflakes	0.9	1%	571	26%	7.8	9%	Yes
Pineapple	0	0%	1	0%	9.9	11%	Yes
Tinned tuna in oil	8.2	10%	416	19%	0	0%	No
White bread	2.2	3%	478	22%	5	6%	Yes
Watermelon	0.1	0%	1	0%	6.2	7%	No
Sweet potato	0.1	0%	55	3%	4.2	5%	No
Cabbage	0	0%	18	1%	3.2	4%	No
Cassava	0.2	0%	17	1%	1.7	2%	No
Skipjack tuna	1	1%	37	2%	0	0%	No
Taro	0	0%	11	1%	0.4	0%	No

Source: National Nutrient Database for Standard Reference, Agriculture Research Service, United States Department of Agriculture <http://ndb.nal.usda.gov/ndb/> accessed 07/11/14

The current weight of expert opinion suggests that adopting a broader approach to taxing unhealthy foods going beyond targeting just one ingredient such as fat content would be more effective in reducing obesity and improving health outcomes.¹²¹ Subsequently, in the next section we explore a way of establishing the contribution of a single 100g serve of a food product across all three factors, simultaneously, using a method developed by French authorities: the LIM or Score of the nutrients which should be LIMited in a healthy diet, nutrient profiling system.¹²²

The LIM method for identifying food products to be subject to a health tax

Using the LIM method, a food product LIM sub-score is calculated from the mean percentage of maximal recommended values for 3 nutrients whose intake should be limited: total fatty acids, total sugar and sodium, calculated per 100 grams.¹²³ This system, introduced by the French Food Standard Agency (AFSSA), allows the calculation of a LIM score for each product, using the following method:¹²⁴

$$\text{LIM} = \frac{(\text{Na} + \text{Fat} + \text{Sugar})}{3} \times 100$$

2200 86.1 90

Using this method, a LIM score equivalent to or lower than 7.5% for 100 g of a food item (based on 100% of the Maximum Reference Value for total fat, sugar and sodium from a daily consumption of 1330 g of food) identified that product as having a low content of nutrients recommended for limited consumption, or resulting in a consumption outcome which would not likely result in the consumer surpassing the MRV for salt, sugar and fat.¹²⁵ However, while this methodology has been used to identify which products should not be approved to display positive nutrition claims as part of their labeling information, this threshold of 7.5% has not been used to identify which products are considered to make a negative contribution to nutrition and should therefore be subject to a 'health tax.'

A higher threshold of 15% could be applied to identify products with a high content of nutrients recommended for limitation. In Table 10, a threshold of a 7.5% and 15% LIM score are identified as possible thresholds for the application of a tax.

¹²¹ Smed S, Jensen J, Denver S (2007) "Socio-economic characteristics and the effect of taxation as a health policy instrument," *Food Policy*, 32(5-6):624-639

¹²² Rayner *et al.* 2008

¹²³ Darmon *et al.*, 2014

¹²⁴ Darmon N, Lacroix A, Muller L, Ruffieux B (2009), "Nutrient profiles discriminate between foods according to their contribution to nutritionally adequate diets: a validation study using linear programming and the SAIN,LIM system," *American Journal of Clinical Nutrition* 89(4): 1227-1236

¹²⁵ Ibid

TABLE 10: IDENTIFICATION OF FOOD ITEMS FOR HEALTH TAXATION USING THE LIM METHOD

Food Item	Total Fat (g)	Sodium (mg)	Total Sugar (g)	LIM score	Health taxed (LIM >7.5%)	Health taxed (LIM >15.0%)
Skittles	2.7	9	75.8	29%	Yes	Yes
Milky way bar	17.2	167	59.7	31%	Yes	Yes
Chocolate cake, with icing	20.1	480	55.1	35%	Yes	Yes
Snickers bar	23.8	239	50.5	32%	Yes	Yes
Chocolate chip cookie	49.6	342	39.8	39%	Yes	Yes
Glazed donut	41.6	402	31.9	34%	Yes	Yes
Beef jerky	49.6	2 081	9	54%	Yes	Yes
Potato chips, salted	37	527	0.3	22%	Yes	Yes
Chocolate ice cream	11	76	25.4	15%	Yes	
Cheddar cheese	33.8	644	0.2	23%	Yes	Yes
Lamb flap	32.6	69	0	14%	Yes	
Turkey tail	27.5	384	0	16%	Yes	Yes
Frankfurter	27.6	819	0	23%	Yes	Yes
Spam (canned)	26.6	1 369	0	31%	Yes	Yes
Fried chicken wing	22.4	320	0	14%	Yes	
Chicken nugget	21.8	566	0.8	17%	Yes	Yes
14" salami pizza	16.9	618	5.4	18%	Yes	Yes
Cheese burger	16.1	518	4.8	16%	Yes	Yes
Instant noodles	17.5	1 855	2	36%	Yes	Yes
Corned beef, can	14.9	897	0	19%	Yes	Yes
French fries	15.5	357	0.3	12%	Yes	
Papaya	0.2	8	7.8	3%		
Breakfast crackers	8.6	941	1.3	18%	Yes	Yes
Cornflakes	0.9	571	7.8	12%	Yes	
Pineapple	0	1	9.9	4%		
Tinned tuna in oil	8.2	416	0	9%	Yes	
White bread	2.2	478	5	10%	Yes	
Watermelon	0.1	1	6.2	2%		
Sweet potato	0.1	55	4.2	2%		
Cabbage	0	18	3.2	1%		
Cassava	0.2	17	1.7	1%		
Skipjack tuna	1	37	0	1%		
Taro	0	11	0.4	0%		

Source : National Nutrient Database for Standard Reference, Agriculture Research Service, United States Department of Agriculture <http://ndb.nal.usda.gov/ndb/> accessed 07/11/14

The LIM method simultaneously considers a range of nutrition factors when considering the nutritional value of a food product, though it has not been previously used to identify food products to be subject to health taxation. Either a 7.5% 15% LIM score could be a useful threshold. However, Pacific Island countries may wish to weigh the sodium, sugar and total fat content of a food product against its positive contribution to nutrition, as a result of the proportion of the Recommended Daily Intake of Calcium, Iron, Vitamin C, Fibre and Protein content provided by a 100g or 100kcl

serve of the product, for example. This approach, known as the SAIN, or Nutrient Adequacy Score for Individual Foods method, is used in combination with the LIM methodology to identify those products which health authorities wish to increase consumption.¹²⁶ French authorities identified that, for French consumers, the RDI for Calcium was 900mg, 12.5mg for Iron, 111mg for Vitamin C, 25g for Fibre and 65g for Protein. This method allows the calculation of a SAIN score for each product, using a similar method:

$$\text{SAIN} = \frac{(\text{Ca} + \text{Fe} + \text{VitC} + \text{Protein} + \text{Fibre})}{5} \times 100$$

This mixed SAIN/LIM approach helps to avoid applying the tax to food which, though high in nutrients that health authorities wish to limit, may make some positive contribution to health; and those food products which have both a low value for both positive and negative nutrients, i.e. those nutrients which authorities wish to limit, as well as those they wish to increase in diets, such as Calcium, iron, Vitamin C, Protein, Fibre. A product which receives a LIM score of below 7.5% may be evaluated for its SAIN score to identify whether it qualifies as a category 1 food, for prioritization in health promotion and agricultural production interventions. Under this method, those products which receive a SAIN score equal to or higher than 5%.¹²⁷ Foods which have a Lim of lower than 7.5 and a SAIN equal or higher than 5, can be recommended for health. Previous research has identified that these include most fruits and vegetables, yoghurts and low-fat low-sugar dairy products, legumes, potatoes, fishes and shellfish, lean meats, eggs and wholemeal bread.¹²⁸ In Table 11, we investigate the SAIN scores for those products identified in Table 10 as having a LIM score ≤ 7.5 .

TABLE 11: IDENTIFICATION OF FOODS FOR HEALTH PROMOTION THROUGH COMBINED LIM/SAIN METHOD

Food Item	Total Fat (g)	Sodium (mg)	Total Sugar (g)	LIM score	Calcium (mg)	Iron (mg)	Vitamin C (mg)	Protein (g)	Fibre (g)	SAIN Score	Promoted
Papaya	0.2	8	7.8	3%	20	0.25	60.9	0.47	1.7	13%	Yes
Pineapple	0	1	9.9	4%	13	0.29	47.8	0.54	1.4	11%	Yes
Watermelon	0.1	1	6.2	2%	7	0.24	8.1	0.61	0.4	3%	
Sweet potato	0.1	55	4.2	2%	30	0.61	2.4	1.57	3	5%	Yes
Cabbage	0	18	3.2	1%	40	0.47	36.6	1.28	2.5	11%	Yes
Cassava	0.2	17	1.7	1%	16	0.27	20.6	1.36	1.8	6%	Yes
Skipjack tuna	1	37	0	1%	29	1.25	1.0	22.0	0.0	10%	Yes
Taro	0	11	0.4	0%	43	0.55	4.5	1.5	4.1	6%	Yes

Source: National Nutrient Database for Standard Reference, Agriculture Research Service, United States Department of Agriculture <http://ndb.nal.usda.gov/ndb/> accessed 07/11/14

¹²⁶ Darmon *et al.*, (2009) *Op. Cit.*

¹²⁷ Ibid

¹²⁸ Darmon *et al.* (2012) *Op. Cit.*

This method identifies that there are a number of food items which represent an important part of Pacific Islander diets, which should be selected for promotion on health grounds (Table 11). These food products are largely locally produced, and include both fruit and vegetable products, and meat products. Therefore, agriculture and fishery authorities should work together with national health authorities to identify how to incentivize the consumption of these food products through the use of pricing policies and strategic interventions. These strategies are also explored in subsequent sections of this toolkit.

What Rate of tax should be applied?

The rate at which tax should be applied will depend on whether the tax is designed principally to deter consumption or collect revenue, or both. An important key to understanding the likely impacts on consumer responses to a tax is what sort of demand price elasticity's apply to different foods across different socio-economic groups and the cross-price elasticity across alternative products that may be consumed.¹²⁹ Changes in demand are in almost all cases strongly correlated with price changes, whereby an increase in the product price coincides with a decrease in demand for that product. A more difficult question to answer is by how much demand changes in response to a certain tax/price change. The answer to this question is not straightforward due to the difficulty in establishing a definite causal link between tax change, price change and demand change. However, decreases in demand following the introduction of food taxes are generally proportionally smaller than the price increase, which is evidence of inelastic food demand¹³⁰. Modeling of taxes on SSBs has indicated price elasticity is approximately -0.8, so a 10% increase in price should reduce consumption by around 8%.^{131, 132} Studies on the impact of taxes on fat indicate that the price of a product would need to increase by at least 20% in order to make an impact on consumption volumes¹³³. Tax rates on SSBs in the Pacific have ranged from as low as 5% in Fiji to as high as 82% in Cook Islands. Specific taxes on SSBs in Europe have ranged from US\$0.14/l in Denmark to US\$1.37/l in France (refer to table at Annex 1). Lower levels of tax are generally associated with a priority for revenue collection while the higher tax rates suggest a stronger health motivation to reduce product consumption.

¹²⁹ Cross-price elasticity's calculate the change in consumption of one product in response to a 1% change in the price of a related good.

¹³⁰ ECORYS (2014) *Op. Cit.*

¹³¹ Andreyeva *et al.* (2010) *Op. Cit.*

¹³² Smith TA, Lin BH, Lee JY (2010) Taxing calorie sweetened beverages: Potential effects on beverage consumption, calorie intake, and obesity. USDA Economic Research Report 100: 1-23

¹³³ Mytton *et al.* (2007) *Op. Cit.*

How much revenue could be collected?

In the absence of accurate consumption data for many countries, trade data can be used to estimate a large proportion of the total revenue to be collected, given that the majority of the food products identified as subject to a health tax are imported. Every Pacific Island Country collects, through national Customs authorities, information on the total volume and value of imports itemized at a 6-digit level using international HS (Harmonised System) codes for classifying food products. National Statistic Officers throughout the Pacific collect this data, and use it for tracking and reporting on import volumes and values. Therefore, this information is available to all Pacific Island countries.

Using the value of current imports for 13 PICs of three product groups known to have a high sugar, salt or fat content (canned meat, instant noodles and SSBs) we can estimate the potential revenue that could be collected if a 20% excise was levied on these three product groups (Table 12) if we presume no change in consumption behavior (a price elasticity of zero).

TABLE 12: REVENUE FROM A 20% HEALTH EXCISE ON CANNED MEAT, INSTANT NOODLES AND SSBs ASSUMING A PRICE ELASTICITY OF ZERO

Country	Data Year	Currency	Canned meats Imports HS 1602	Instant noodles HS 190230	SSBs Imports HS 2202	Total value Imports Local Currency	Revenue local currency 20% Excise	Revenue US\$ 20% Excise
Cook Islands	2007	NZ\$	1 714 706	156 359	1 196 993	3 068 058	613 612	502 961
FSM	2011	US\$	2 642 546	2 581 550	2 347 422	7 571 518	1 514 04	1 514 304
Fiji	2012	FJ\$	474 836	413 826	2 119 584	4 008 246	801 649	428 689
Kiribati	2010	A\$	1 657 370	891 024	345 693	2 894 087	578 817	512 227
Niue	2008	NZ\$	145 055	14 904	230 950	390 909	78 182	64 083
Palau	2012	US\$	980 227	321 295	2 173 326	3 474 848	694 970	694 970
PNG	2012	PGK	23 035 794	25 876 448	72 733 007	121 645 249	24 329 050	9 654 384
RMI	2009	US\$	1 010 000	254 147	1 339 424	2 603 571	520 714	520 714
Samoa	2011	WST	1 222 206	187 510	1 640 166	3 049 882	609 976	258 464
Solomon Is.	2013	SBD	18 558 021	7 069 253	29 252 962	54 880 236	10 976 047	1 497 414
Tonga	2009	TOP	2 559 787	1 031 751	2 495 402	6 086 940	1 217 388	630 771
Tuvalu	2007	A\$	548 661	146 809	202 820	898 290	179 658	158 989
Vanuatu	2007	VUV	111 216 737	19 791 924	97 206 351	228 215 012	45 643 002	471 665
Total								16 909 635

Sources: National Customs Import Data for the latest years provided

Past modeling of changes in consumer behavior in low and medium income countries indicate that when food prices go up there is a significant degree of substitution.¹³⁴ It is this substitution that provides the mechanism by which fiscal measures (taxes and subsidies) can be employed to encourage healthy diets. Examples of such substitution might be low-fat meats for high-fat meats, or unsweetened beverages for sweetened beverages. While it remains unclear how much revenue health taxes would collect it is clear that they have the potential to collect substantial amounts of additional revenue.

What would an excise tax on unhealthy food accomplish in the Pacific Islands?

The health gains from disincentivizing consumption of products identified for as of low nutritional value, are likely to be maximised if funds are used towards paying for programmes to encourage consumption of healthier substitute products, such as fruit and vegetables and fresh fish. Results from modeling studies on the potential health outcomes of targeted taxes and subsidies on foods in the UK show that a tax on unhealthy foods, combined with the appropriate amount of subsidy on fruits and vegetables, could lead to significant population health gains¹³⁵.

Whilst it is generally agreed that food taxes are regressive, meaning that low-income households pay a greater proportion of their income on food taxes than high-income households¹³⁶, there is also evidence that food taxes will benefit low-income populations the most in terms of lowering consumption and improving nutrition outcomes and hence be progressive from a health perspective¹³⁷.

Furthermore, health taxes are more likely to receive public support and thus be politically more acceptable when the health benefits are emphasized and the revenues raised are used for health-related purposes. Additionally, taxes are more likely to be publicly acceptable if they are levied on products that are not considered to be essential (e.g. SSBs) or where there is a healthy alternative, so that the tax policy is aligned with public health messages and other supporting public health policies.

Health taxes: common arguments against

Any proposal to introduce a new excise on a range of popular food products is likely to elicit some strong responses from the public, the food manufacturing industry and trade partners. A summary of the common arguments against the introduction of health taxation, and of the important

¹³⁴ Andreyeva T, Long MW, Brownell KD. The impact of food prices on consumption: a systematic review of research on the price elasticity of demand for food. *Am J Public Health*. 2010;100:216–222.

¹³⁵ Nnoaham EK et al. (2009) Modelling income group differences in the health and economic impacts of targeted food taxes and subsidies, *International Journal of Epidemiology* 2009;38:1324–1333

¹³⁶ Ibid

¹³⁷ ECORYS (2014) *Op. Cit.*

conclusions on the evidence provided by the available research, is provided below for your ease of reference.

Price policy interventions won't influence consumption habits: The critique that taxes are not useful for public health purposes because they elicit a limited response by consumers is unfounded. Demand for food is inelastic. An inelastic demand makes taxes more likely to be passed on to consumers, and pay more for taxed products; and it means that consumers are less likely to substitute the taxed product with other like product. As a result, a health tax of 20% or greater is likely to have a significant impact on consumption and contribute substantial revenues to government in order to address the regressive effects of poor nutrition and food taxation.

Consumption taxes hurt the poor the most: Welfare losses may be an issue in the case of food taxes, but the evidence is inconclusive and derived from economic modeling of developed country consumer behavior. In addition, the impact of food taxes on the capacity of poorer households to purchase the luxury goods identified as contributing to poorer health outcomes, has to be balanced with the health gains those taxes may produce. Poorer households are more price-conscious and are therefore likely to be responsive to an increase in the price of food by substituting in favour of alternative lower priced goods. Where health taxes are accompanied by complimentary interventions to reduce the price of healthier substitute products, health taxes would produce both a positive welfare and health effect for consumers.

The political costs of making our favourite foods more expensive are too great: Political and electoral considerations may heavily influence governments' decisions about the taxation of health-related commodities. As food taxes tend to be unpopular, they are used sparingly by governments. Public support is likely to be greater when the health benefits are emphasised and the revenue raised is used to invest in improving access to healthier substitute foods, particularly for at risk groups. This double approach – raising the cost of some goods and decreasing the cost of others – is the overall aim, in order to rebalance the incentives faced by households and ensure that nutritious food choices are also economically rational ones. These complimentary approaches will generate both economic and political benefits, in addition to the health benefits, e.g. increased investment in producing and marketing local food will generate rural employment and other livelihoods improvements.

The arguments in favour of health taxes

While the opponents of intervention are numerous, the arguments in favour of intervention are compelling.

The costs of doing nothing are too great: In the Pacific, NCDs impose costs on governments that are high in absolute and relative terms, especially as a disease progresses or becomes chronic. The health care costs related to these diseases is formidable, with as much as 60% of the health care budgets in some Pacific Island countries going towards expensive, overseas care.¹³⁸ In Samoa dialysis is now being provided in country for patients with diabetes related kidney failure at an estimated total cost to the Government of US\$8,686 per patient per year in 2010/11.¹³⁹ A health tax would go some way toward accounting for these externalities and correcting this market failure¹⁴⁰. This is particularly important in the Pacific where governments (with assistance from development partners) pay for most of health care costs.

The potential benefits for health and agriculture are great: The revenue raised by a health excise could be used to fund numerous interventions critical to improving agriculture sector productivity, and providing subsidised or free healthy alternative food products, in order to reduce the cost of a more nutritious diet. These include the provision of free or low-cost school meals to students, in order to ensure that young Pacific Islanders are obtaining the minimum daily requirement (RDI) of nutrients critical to physical and mental development, whilst also establishing healthy eating patterns. Revenue raised through such an approach could also be used to fund awareness and education programs designed to limit demand for foods with poor nutritional profiles, while increasing demand for more nutritious products; or encouraging exercise. Revenue could also be used to support productivity enhancing measures such as marketing infrastructure, encouraging increased local demand for domestic agricultural produce amongst strategic markets, and improving the capacity of the agriculture sector to invest in more efficient and sustainable production systems. A summary of potential interventions which could be supported by such an excise is provided below.

Conclusions

The greatest public health challenge in the Pacific Islands stems from the increase in obesity and chronic diseases driven by the over-consumption of energy-dense processed foods and beverages high in sugar, fat or salt, and the under-consumption of fruits and vegetables. The application of a health excise tax on less healthy food choices, combined with public support for increasing the supply of and access to healthier alternative products, could be an effective way to change diets and health outcomes in the region. It certainly offers a new tool for changing household food consumption behavior by using the pricing policy tools so effective at changing consumption of other substances which contribute to poor health outcomes, such as alcohol and tobacco. The cost of not doing anything is simply too great.

¹³⁸ WHO & SPC (2007) Pacific Framework for the Prevention and Control of Non-communicable Diseases

¹³⁹ World Bank (2012) *Op. Cit.*

¹⁴⁰ Pomeranz (2013) *Op. Cit.*

Priority areas that could be supported by a health tax

- *School-based interventions – subsidised local fresh fruit and vegetable in school feeding programmes & farm to school programmes*
- *Food stamps – low-income households could be supplied with e-vouchers for purchase of prescribed nutritious food items*
- *Market infrastructure – improving market and marketing infrastructure and facilities for local farm and fish products*
- *Low interest loans – for smallholders and commercial farmers to help improve production efficiencies and reduce cost of local fruits and vegetables*
- *Nutrition awareness programmes – and social marketing campaigns to encourage reduced application of added salt and sugar to meals*
- *Fortification of flour and rice – with missing micronutrients, such as iron and vitamin A*

Recommendations

1. Communicate a clear health and economic goal

Clearly explain that the aim of health taxation is to reduce obesity, NCDs and the associated health costs, as has successfully been pursued through the taxation of cigarettes and other products.

2. Propose the use of an excise tax

Excise taxes are the preferred option for Pacific Island Countries because they are commonly used for raising the prices of other products, such as cigarettes and is therefore the most administratively easy method; as well as being consistent with trade commitments, and easily adjusted in line with inflation.

3. Tax a broad range of products using scientific basis for establishing nutritional content

Establishing a science based system, such as the LIN/SAIN system for identifying food product nutrition, is critical to ensuring that the application of health taxes is evidence-based and applies to wide range of goods with the same nutritional profile. This will maximise the health impact of the tax by reducing the likelihood that consumers will simply switch to other unhealthy products which are untaxed.

4. *Apply an adequate tax rate*

The greater the level of tax, the greater the reduction in consumption and the more likely there will be measurable health benefits. However because of the political implications and potential impact on low income households, PICs should adopt a tax at the minimum threshold required to change consumption behavior: 20%.

5. *Invest revenue in providing affordable healthy alternatives*

Governments should allocate a proportion of tax revenue to investing in making healthy alternatives more affordable and accessible to consumers. The same SAIN/LIM methodology for identifying products for health taxation can be used to identify those food products which should be promoted and made more affordable, through the provision cheaper access to inputs, subsidies and provision through structural markets, such as school-feeding programs

Policy Tool 2: Facilitating investment in more efficient local food systems

Lack of finance for agriculture remains a significant barrier

Smallholder farmers in the Pacific continue to lack the capacity to supply produce consistent with the quality and price standards required to effectively compete with imports of a range of fruit and vegetable commodities. Accessing working capital to purchase inputs (improved planting materials, fertilizer, improved livestock breeds and feed) combined with the adoption of productivity enhancing equipment such as machinery, greenhouses, hydroponic and irrigation systems to prolong seasons and increase yields, is critical to maintaining competitiveness in the agriculture sector. However, access to these inputs is constrained by the inability of many agriculture

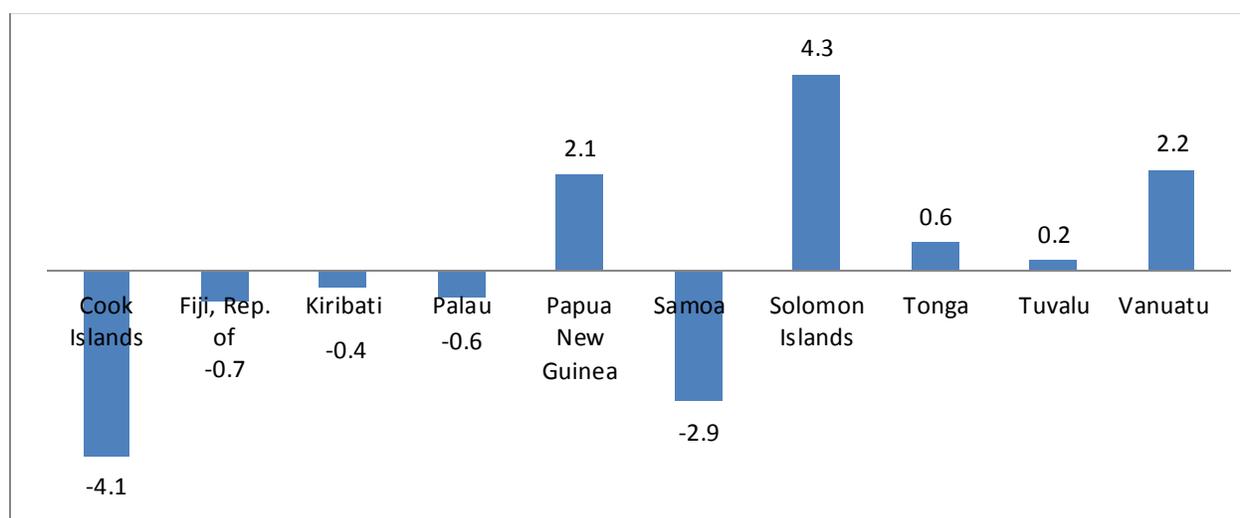
producers to obtain the long-term finance required to acquire such assets.

The inability of Pacific Island farmers to utilize the capital-intensive methods employed by farmers in competitor countries has led to a relative and absolute declining agriculture sector productivity and efficiency in the Pacific.¹⁴¹ Farming in the region thus largely remains small-scale, dependent on family labour and predominately focused on subsistence staples, with a minority of household produce being sold in local markets. This dependence

upon family labour, coupled with the declining availability of rural labour resulting from increasing migration of labour to off-farm employment, has led to poor growth outcomes of the agriculture sector in the Pacific (Figure 3).

Finance is important for growth of the agriculture sector, but access to finance in PICs remains low and credit is costly, plus access to financial and business services is also limited.

FIGURE 3: AVERAGE AGRICULTURE SECTOR GROWTH RATES, 2000-2010, SELECTED PICs



Source: Asian Development Bank (2011) *Key Indicators for Asia and the Pacific*, Manila, ADB

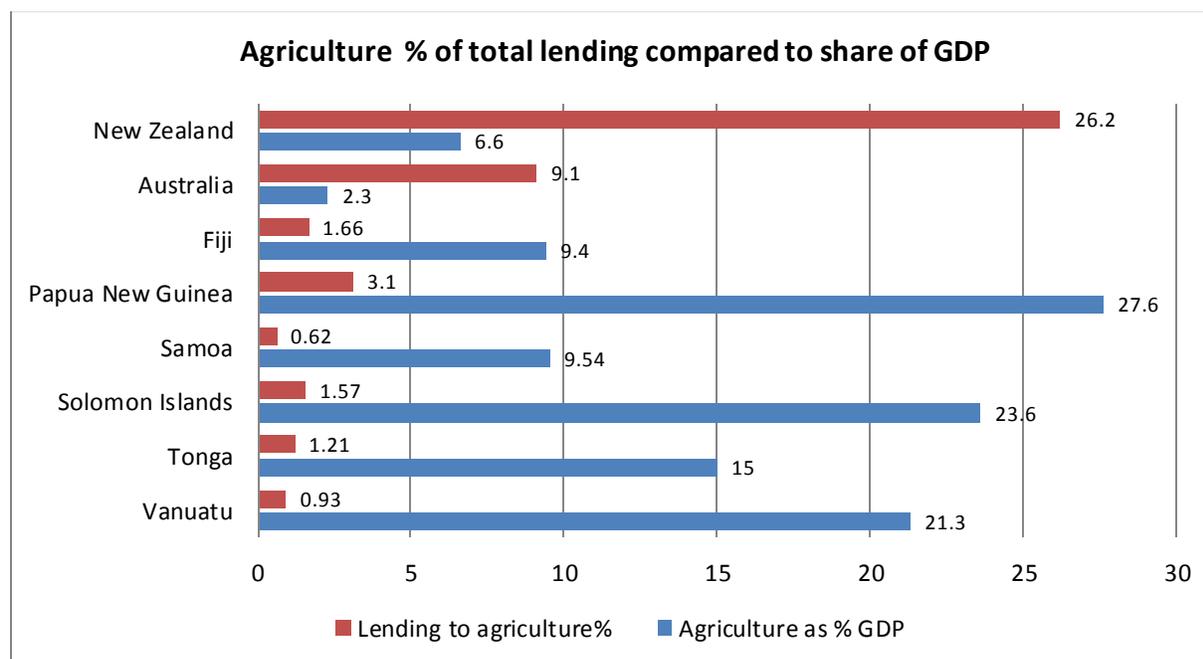
¹⁴¹ Sharma, K.L. (2006) *Food Security in the South Pacific Island Countries with Special Reference to the Fiji Islands*, UNU-WIDER Research Paper No. 2006/68, United Nations University

One reason for this is the inability of the agriculture sector in the Pacific Islands to access competitively priced finance. The high cost of access to domestic and international finance in the Pacific Islands has been identified as a result of a number of factors, including: low domestic savings rates, poor availability of collateral, controls over bank lending, restrictions on foreign investment, and strong capital account regulations.¹⁴²

In addition, lack of access to secure, long-term leasehold over land combined with legal and customary restrictions against the full transferability of land leases, has limited the incentives for investment in agricultural land development, as well as reducing the incentives for the banking sector to provide loans with agricultural land as a security.¹⁴³ In addition, the transaction costs of registering property, settling contract disputes and recovering unpaid loans have also been identified as a significant barrier to financing the agriculture sector.¹⁴⁴

Subsequently the rate of lending to agriculture in the Pacific has been very low – ranging from 0.6 – 3.1% of GDP. This rate of lending is especially when one considers the proportion of GDP derived from agriculture (Figure 4).

FIGURE 4: AGRICULTURE GDP COMPARED TO PROPORTION OF LENDING TO AGRICULTURE SECTOR: SELECT PICs



Source: Pacific Regional Statistics Service (PRISM) www.spc.int/prism, FAO Credit to Agriculture Database <http://www.fao.org/economic/ess/ess-economic/credit/en/> plus selected Central/Reserve Bank reports

¹⁴² Duncan, R. and Nakagawa, H. (2006) *Obstacle to economic growth in six Pacific Island Countries*, Sydney: World Bank

¹⁴³ Ibid

¹⁴⁴ Ibid

These levels of finance for agriculture in PICs are significantly less than those even in Africa where about 10 per cent of the total portfolio of commercial banks goes to agriculture, including agro-industries, but loans are still rarely extended to smallholders.¹⁴⁵ National Development Banks throughout the region have been charged with ensuring that key strategic sectors such as agriculture, obtain greater access to finance than they would through commercial banks. However, the level of lending to agriculture by Development Banks remains stagnant.

There is, however, no shortage of liquidity in the banking sector in most Pacific island countries. Many banks are highly liquid, and bankers, in general, lament the shortage of “bankable projects.” However, banks continue to deem the credit risks in lending to the agriculture sector higher than for other sectors because of the inherently high level of risk the sector itself faces.¹⁴⁶ These risks include: weak farmer’s business skills and a lack of access to useable collateral, together with covariant systemic production, climate and price risk¹⁴⁷. In particular, production and price risks are difficult to predict and can have a large impact on the profit and repayment capacity of the borrower, whilst risk mitigation mechanisms such as crop insurance are rarely available.¹⁴⁸ This means that agricultural finance falls outside of the traditional balance sheet lending approach and hence bank’s comfort zone. With few instruments at their disposal to manage these various risks, financial institutions therefore tend to protect themselves through excessive credit-rationing and by relying heavily on traditional land collateral. As a result, smallholders are typically disenfranchised from flexible credit services and formal financial service providers due to heavy collateral requirements, onerous repayment schedules and/or high interest rates, and an absence of credit history reporting.¹⁴⁹

¹⁴⁵ World Bank (2009) cited in MFW4A Policy Brief On Agricultural Finance in Africa

¹⁴⁶ Agfin Discussion Note – Managing Credit Risks in Financing Agriculture: Lessons from Five Countries, Prepared by Michael Marx, FAO

¹⁴⁷ Risks from adverse weather or prices affecting large numbers of farmers in similar ways.

¹⁴⁸ IFC (2012) Innovative Agricultural SME Finance Models

¹⁴⁹ USAID (2014) Firm to Farm Finance Toolkit

Key factors that reduce access to loans for agriculture:

- *Banks' perception of agriculture as a high-risk sector*
- *Inability to pledge collateral (moveable assets or fixed assets – land or buildings)*
- *Lack of credit information on potential borrowers*
- *Low financial literacy and business skills among potential clients*
- *Limited awareness of good bankable projects amongst both lenders and borrowers*
- *Lack of specialised financial products for agriculture*
- *High cost of delivering financial services in rural areas*

Policy response to lack of improved financial services in rural areas

Policies and instruments for enhancing rural finance have been slowly evolving away from large scale public intervention provision of subsidised credit, towards a focus on facilitating private sector financial institutions to improve their capacity to offer loans and microcredit to the rural sector. In addition, financial service industry participants have been supported to develop new financial products and services, such as value chain finance and weather insurance schemes, coupled with innovative delivery channels such as mobile financial services, in order to increase the level of access to financial services enjoyed by farmers and agribusinesses. This new approach has been identified as the Financial Systems Approach.¹⁵⁰

Over the last 10 years the financial systems approach has made some limited inroads in PICs with a rise in microfinance institutions operating in several countries and more recently an introduction of mobile banking services (including using mobile phone, see Box 2) offering a range of improved financial services in rural areas. However the transition from the old to the new paradigm is progressing unevenly with continuing political pressure in many countries for public credit subsidies and directed lending to the agriculture sector. Meanwhile commercially oriented financial institutions in the region still tend to avoid rural and agricultural finance, as long as other, less risky business opportunities are available and thus credit to the sector remains critically low.

¹⁵⁰ Coffey, E (1998) Agricultural Finance: Getting the Policies Right. AFR Series No 2, Rome Italy: FAO/GTZ

BOX 2: THE RISE OF MOBILE PHONE BANKING IN FIJI

At present, consumers in Fiji have access to a wider range of services at their disposal through their mobile phones for many purposes such as insurance repayments, bill payments, international remittances, domestic transfers, online shopping payments, savings, and payments for judicial fines and for municipal council services. The Fiji Development Bank is the first financial institution to open up Vodafone's M-PAiSA service as a medium for its clients to repay their loans through a mobile phone. In 2012, a total of 27,437 Person to Person (P2P) transfers valued at FJ\$ 2,292,172 were recorded, compared to 10,923 transfers valued at FJ\$ 820,545 in 2011. The average P2P transfer was FJ\$ 81.14, up from FJ\$ 65.36 in 2011. The number of activated mobile money customers was at 287,178 from 241,823, whilst the number of active agents grew to 653 from 511 in 2011. The total value of electronic money in circulation was FJ\$ 3.1 million at the end of 2012, up from FJ\$ 1.9 million in the previous year.

Source: Fiji Reserve Bank, 2012

Interest rates on agriculture sector loans in the Pacific

The limited returns from agricultural primary production, long gestation periods before income flows are realised and often lumpy flow of income due to seasonal harvesting, constrain small agriculture producers' ability to access and service commercial loans. The interest rates in PICs, often ranging from around 9% for a well secured loan to in excess of 17% for higher risk borrowers, make commercial loans too costly for small farmers to profitably bear.

While microfinance lending has expanded significantly in PICs in recent years, the high transaction costs involved in managing a large portfolio of small rural loans means that sustainable microfinance institutions must charge even higher interest rates to remain viable (Box 3).

BOX 3: MICROFINANCE LENDING IN VANUATU

Access to credit and financial services to rural areas has improved significantly in recent years particularly through the extended reach of the National Bank of Vanuatu which now operates through 28 branches covering 6 provinces, and the continued growth of the Vanwods Microfinance programme for women group saving and lending programmes. However, to be sustainable the microfinance lending products provided by these organisations have to maintain very high interest rates (about 23-28 percent) to offset the risks and costs of managing a large number of small loans. This means that small business enterprises which take advantage of this source of credit must have opportunity to generate high margins to enable them to service loans and make a business profit. This source of credit therefore remains out of reach for many in the small farm sector, given low rates of return their enterprises generate and the very real risk of defaulting at such high rates of interest.

Source: FAO Sub-regional Office for the Pacific, 2014

Classical microfinance techniques to cope with delinquency risks include highly standardised loan products based on small credit amounts, frequent (often weekly or bi-weekly) repayments without grace periods, short maturities, and collateral substitutes such as joint liability mechanisms. While these techniques work quite well in peri-urban areas and for a few rural economic activities, they are difficult to apply in rural economies characterised by strong seasonalities and low population densities, and they are unsuitable for larger loan amounts and longer maturities which is typical for agricultural finance.¹⁵¹

Consequently, the bulk of microfinance for commercial lending tends to go to the trade/retail and service sectors (e.g. small shops and taxis etc.) which generally have higher profit margins and smoother income flows and can thus better service short-term loans with frequent repayments (Tables 13).

TABLE 13: FSM DEVELOPMENT BANK 2013 LOAN APPROVALS BY SECTOR

Loan Sectors	Number	% of total number	Amount \$	% of total amount
Agriculture/fisheries/forestry	12	3.5	55 332	0.56
Services	12	3.5	317 974	3.2
Manufacturing	9	2.6	70 502	0.71
Real Estate	6	1.7	1 517 222	15.4
Wholesale & retail	23	6.6	3 378 270	34.2
Tourism	5	1.4	1 699 100	17.2
Transportation	2	0.57	112 976	1.1
Construction & mining	1	0.28	50 000	0.51
Residential & housing	4	1.2	227 100	2.3
Consumer & personal	272	78.6	2 446 484	24.8
Total	346		9 874 970	

Source: FSMDB 2013 Annual Report

A major barrier to finance in the Pacific is that lenders tend to impose collateral requirements which are not compatible with the traditional land tenure systems governing 98 per cent of the agricultural land in the Pacific. For example, in Palau clients wishing to access a loan greater than US\$10,000, from either a commercial bank or the National Development Bank of Palau need to

¹⁵¹ Hollinger, F (2011) Agricultural Finance – Trends, Issues and Challenges, GIZ, Eschborn

have clear title (in the sole names of the borrowers) to the agricultural land for the project and which is available for use as collateral.¹⁵²

Few agriculture sector borrowers in the Pacific have access to land with clear and transferable titles that could be acceptable collateral. Furthermore, reforms to promote economic use of customary land have been a difficult and highly sensitive issue. Hence PICs are working to deal with land tenure issues in a manner that reflects reality, i.e. that change will come via a slow normalization process. This implies that one cannot base current policy proposals on access to finance (solely) on something that will take a long time to bring about. Thus there is a need now for policies that look at replacing traditional collateral with new types of security, or look at unsecured lending approaches, linking with savings and transactional products (e.g. contracts for delivery of farm outputs). It is also important that financial institutions become better acquainted with agricultural value chains and the risks and potential returns of agricultural finance. This will require closer cooperation between agriculture ministries, central banks, development banks and commercial banks to develop appropriate tailor-made financial products to meet the specific needs of agricultural borrowers for each level of development – microfinance, working capital and medium to longer-term capital investments. Global experiences thus far have indicated that it is also important to help financial institutions identify bankable opportunities in the agriculture space to quickly develop a pipeline of projects to finance.¹⁵³

¹⁵² FAO (2014) Linking farmers to markets: Realising opportunities for locally produced food on domestic and tourist markets in Palau, FAO Sub-regional Office for the Pacific Island, Apia

¹⁵³ IFC (2012) *Op. Cit.*

Innovative solutions to collateral issues

Movable property¹⁵⁴ in the form of equipment, inventory, accounts receivable, crops, livestock etc. may serve as effective bank collateral where a supportive legal and institutional framework in place. Improving lenders' ability to use moveable asset as security for loans through reform of the secured transactions framework is therefore one of the most important means by which access to credit can be broadened in the Pacific Islands. It allows businesses, partnerships, and sole proprietorships to use business assets as collateral against loans. It also provides lenders with more security because their ability to repossess collateral that has been pledged increases to the point where recovery and sale become relatively easy and inexpensive (Box 4).¹⁵⁵

BOX 4: SECURED TRANSACTION FRAMEWORK IN PICs

Reforms of the secured transactions framework or, as it is more commonly known in the Pacific, the personal property securities (PPS) framework, is now well advanced in the Pacific island economies. Starting with the Federated States of Micronesia (FSM) in 2006, six Pacific countries (Tonga, Marshal Islands, Palau, Solomon Islands and Vanuatu) have fully implemented the reforms. In addition, Papua New Guinea (PNG) passed a PPS Act in December 2011. The registry has been procured and expected to be operational by early 2014. Samoa passed its PPS Act in March 2013. Assisted by the Pacific Private Sector Development Initiative (PSDI) PICs have undertaken the most extensive programme of secured transactions reform of any region in the world. Ongoing work is taking place to ensure that the electronic registries keep pace with the needs of lenders and borrowers. Registry upgrades were rolled out regionally in 2012 and 2013. The secured transactions reforms have resulted in more than 20,000 outstanding secured loans in the region as of 30 June 2013.

Source: PSDI Annual Report, Asian Development Bank, 2013

Secured transaction law

There are four key elements to a well-designed secured transactions law:

1. Creation — the law must define the assets that are being secured;
2. Priority — the law must set logical and clear priorities among the different claims on pledged assets;
3. Publicity — the law must provide a practical, effective and sustainable system for publicizing rights so that other potential lenders can determine whether an asset has already been pledged to somebody else;
4. Enforcement — the law must set out a workable system for enforcing lenders' rights, including the repossession and sale of the property in the event of default.

The legislative change is supported by the implementation of an on-line registry, which is critical to the success of the reforms and the overall efficiency gains.

Source: PIFS/ADB, 2014

¹⁵⁴ Movable assets can be anything from equipment to small infrastructure and commodities (post-harvest).

¹⁵⁵ ADB (2013) Private Sector Development Initiative (PSDI) Annual Report, Asian Development Bank

Secured transaction frameworks with improved collateral registries for moveable assets are important, but because many small farmers in PICs have limited property of economic value sufficient to act as collateral, the development of alternative forms of moveable assets as collateral, such as crops, livestock and timber trees, is necessary to increase lending in the agriculture sector. Currently limited efforts are being made in some PICs to use crops and livestock as collateral for loans. However, bankers remain cautious about using crops, livestock and trees as collateral because of the vulnerability of these assets to severe weather events and the logistical constraints of liquidating such assets on default (see Box 5 and 6).

BOX 5: SANDALWOOD PLANTINGS FOR USE AS COLLATERAL IN VANUATU

With a rotation of at least 15 years before making any return, the economic benefits of plantation sandalwood may only be realised well into the future. Many smallholders in Vanuatu have expressed interest in using their immature sandalwood plantings as collateral for securing a personal loan. The use of sandalwood in this way can help to bring forward the benefits of planted sandalwood to support business opportunities and stimulate local economic activity. The Personal Property Securities Act (No. 17 of 2008) allows crop assets to be used as security for loans, and the National Bank of Vanuatu can use immature sandalwood planting as security for microfinance. However, the likelihood of a smallholder farmer securing such a loan is limited, since the bank considers them as unemployed with little capacity to service the loan. Wage earners with interests in sandalwood planting are more likely to be successful in meeting the requirements of the bank for these loans. Other financial institutions currently will not consider sandalwood, at any stage of maturity, as security for loans. These institutions often cited the high vulnerability of these assets to natural disaster, the logistical constraints of liquidating these assets on default, and that many smallholder farmers have no reliable source of income to repay these loans.

However, within the microfinance sector, Vanwoods and established microfinance institution operating on the Grameen Bank model, is aiming to distribute 100 sandalwood seedlings to each member, who will plant and maintain the trees. Standing sandalwood aged 5 years will then be used as security for members seeking to secure modest loans in the future.

Source: Page et al., 2012

BOX 6: PIGS USED AS COLLATERAL IN FEDERATED STATES OF MICRONESIA

The Small Business Guarantee and Finance Corporation (SBGFC) located in Pohnpei, Federated States of Micronesia provide business development services and small loans to encourage Micro, Small and Medium Enterprise (MSME) development. They are keen to see more finance going to the agriculture sector in which a large proportion of the population are active, but predominately for subsistence rather than commercial markets.

Ioanis, a livestock farmer wishing to expand his piggery managed to secure a small loan of US\$ 4,000 from SBGFC using his current stock of sows, valued at US\$8,000, as collateral for the loan. The loan was repayable over a two year term with an interest rate of 15%. Ioanis successfully grew his business and repaid his loan and interest in full. However, the SBGFC have subsequently set a one year maximum term for loan repayment when using livestock such as pigs as collateral.

Source: Ricky Jano, Director SBGFC, 2014

Government-backed (partial) credit guarantee approach

Loan guarantee schemes can help alleviate collateral deficiencies, which are one of the main reasons small and medium enterprises in the agriculture sector are unable to obtain credit. The schemes decrease the lending risk for financial institutions, through providing a loan repayment guarantee in the case of default and can thus play an important role in expanding access to funds for creditworthy agriculture MSMEs. The loans should come at lower interest rates and require less restrictive collateral requirements because of the security of the guarantees. Credit guarantee schemes (CGS) can therefore be a useful policy tool to attract commercial financial intermediaries (e.g. commercial banks) to develop loan products and increase lending to prioritised sectors (Box 8). National public and international funds are major sources for guarantee funds (Box 8 & 9). CGS organisation will depend on country context, but the legal forms and arrangements for fund management should aim to ensure efficient administration with fast and trustworthy claim procedures. Sound governance is particularly important with sufficient autonomy for fund administration to operate by maintaining a firewall between credit operations and political interference.

Credit Guarantee

A credit guarantee simply substitutes part of the collateral required from a borrower; if the borrower fails to repay, the lender can resort to partial repayment from the guarantor.

BOX 7: FIJI GOVERNMENT SMALL AND MEDIUM ENTERPRISE (SME) LOAN GUARANTEE SCHEME

In an effort to encourage greater commercial bank lending to the private sector, in early 2012 the Fiji Government established a FJ\$3 million loan guarantee scheme aimed at improving SME access to credit. The guarantee fund will pay 50% of the principal on defaulted SME loans up to a limit of FJ\$50,000 per enterprise. The scheme is managed by the Reserve Bank and the ANZ Bank commenced participation as a commercial lender in April 2012.

Additionally, in March 2012 the Government introduced the Agriculture and Renewable Energy Ratio under provision 44 of the Reserve Bank Act mandating that commercial banks are required to hold 4% of their deposits in loans to the agriculture sector (including forestry and fishing), and 2% of deposits in loans to the renewable energy sector. Banks were given 12 months to achieve these targets. The Reserve Bank considered that the establishment of both lending ratios was a pragmatic policy action that aimed to facilitate lending to important sectors of the economy and specified that collaboration between local authorities such as Investment Fiji, local business councils, Government agencies and foreign trade missions, could assist banks in the identification of viable projects in these sectors.

The Government anticipated a wide positive impact on the economy given the potential for gains from this policy initiative by other sectors of the economy that rely on the agriculture and renewable energy sectors, especially the tourism industry. Overall, facilitating lending to both these sectors should not only increase economic activity, but also promote import substitution, improve food security, encourage export growth and investment and contribute to macroeconomic stability.

Source: Fiji Reserve Bank, 2012

“Credit guarantees should decline rapidly over time, and should be designed to develop sustainable business relationships between providers and recipients through building trust and good credit history. Guarantees are only useful if a substantial portion of the credit risk remains with the lending institution, to avoid moral hazard and to allow for the build-up of good credit practices”

World Bank, 2004

Banks in the region generally have good liquidity and should be interested in participating in guarantee schemes that open up new potential credit market areas. However, the principal interest of profit-oriented lenders is to find creditworthy borrowers and not just to recover loan losses through credit guarantees. Therefore the informational needs of lenders on targeted clients – such as their financial performance, business models and marketing channels – need to be addressed as well as providing guarantees. Hence building the lender’s capacity to assess credit worthiness of agriculture enterprises is essential to develop a sustained interest of commercial banks in financing the agriculture sector.

While credit guarantee systems present an opportunity to increase access to finance for small agriculture enterprises by compensating the lender for much of the risk in case of loan defaults, they also introduce a threat of moral hazard¹⁵⁶ by reducing the incentives of both lenders and borrowers to diligently appraise loan applications and pursue repayments (Box 9). Therefore it is important to ensure that sufficient capacity is available under CGS to undertake appropriate appraisals on requested loans and that participating commercial lending institutions retain an appropriate level of risk.

The guarantee coverage ratio can be an important instrument of risk minimisation. Retaining part of the risk with the lender can increase their incentives to properly assess and monitor borrowers and thus reduce loan losses. However, too low a coverage ratio may reduce the value of the guarantee and dampen take-up. Thus guarantee funds (GFs) should only cover a proportion of the loan principal, with global experience indicating coverage of 50-80% is best practice.¹⁵⁷

¹⁵⁶ The economic concept of moral hazard reflects a situation when the borrower (or lender) knows that someone else will pay for the mistake he makes. This in turn gives him the incentive to act in a riskier way.

¹⁵⁷ FAO (2013) Credit guarantee systems for agriculture and rural enterprise development. Rome

Credit Guarantee Scheme (CGS)

A CGS is any scheme under which guarantees are provided to investments according to certain conditions of duration, amount, nature of transaction, the type or size of the enterprise such as MSMEs which often lack the kind of collateral required by banks.

There are four main types of guarantees: (1) individual guarantees that provide partial coverage on the underlying principal loan amount with both borrower and lender clearly identified; (2) a guarantee directed at an investment facility is normally employed when a developing economy already has functional capital markets in place, and medium to long term placements of investment funds need to be generated; (3) portfolio guarantees in which lending to a specified priority development sector is supported by providing a partial guarantee for a number of loans (one lender, many borrowers); (4) portable guarantees where one specific and identified borrower is given access to a guarantee and can then compare competing loan terms and offers from various lenders. However, this type of guarantee has the disadvantage of relatively high transaction costs for borrowers and lenders when dealing with new applications.

Source: FAO, 2013

BOX 8: SAMOA SMALL BUSINESS LOAN GUARANTEE SCHEME

The Small Business Enterprise Centre (SBEC) in Samoa has administered a loan guarantee scheme for over a decade. The operation commenced in a small way in 1998 with an initial grant (ST 200,000) provided by New Zealand, but grew rapidly following a much larger injection of guarantee funds (over ST 8 million) in 2002 from development project funds provided by the Asian Development Bank (ADB). The Central Bank of Samoa (CBS) is the manager of the guarantee scheme fund (which has been held in term deposits in commercial banks). The SBEC was tasked with the principal roles of identifying and appraising loan applicants, assisting clients with the preparation of business plans and loan applications for presentation to participating lending institutions; these included the Development Bank of Samoa (DBS), and four other commercial banks (two local and two international banks). Targeted clients were in the micro and small enterprises (MSE) sector.

Between 2002 and 2008, when the scheme was supported by project funds, 838 guarantees were issued for ST11.6 million covering loans totaling ST15.8 million. About 293 (35%) of the guarantees were issued to new businesses and 545 (65%) to existing businesses. Of the 838 guarantees issued during 2002-2008, in September 2008 at project completion, 27% of the accounts were in arrears and 7% (60 loans) had been foreclosed. As of 30 September 2010 (the time of the evaluation), 171 loans were in arrears out of 517 current loans, or about 33% of the total loans and 8.5% of the current loan balances.

A project evaluation conducted in 2010 reported that several aspects of the design affected the efficacy of the system. This included the creation of a moral hazard for the financial industry, given that the full value of the loan was covered by the guarantee and banks had no incentive to fully evaluate likelihood of loan default. This led to a high rate of underperforming loans. Subsequent investments in improving the capacity of SBEC and partner financial institutions to undertake credit risk assessment and loan appraisal has improved the performance of loans. However, the time taken to carry out assessments of agriculture sector clients is a barrier to the participation of commercial banks in the scheme.

The Government (with assistance of additional development partner support) has continued to provide support to the SBEC (to build their institutional capacity) and provided additional injections of loan guarantee funds. Currently SBEC staff numbers have grown from an initial two persons in 1998 to a current staff of 20 in 2014, with expertise spanning the major areas of business support provided and including the legal aspects of loan management and debt recovery. Additionally, SBEC have revised their memorandum of understanding (MOU) with participating banks so that it defines more clearly roles, arrangements and monitoring etc. In September 2014, SBEC had 600 current guarantees for ST7.8 million covering loans totaling ST10 million. About 20% of loans are to the agriculture sector, but with most of these being provided by the DBS rather than the commercial banks.

Overall, the guarantee scheme has provided access to financing for small businesses that otherwise would not have been granted loans by banks without a guarantee. However, the initial rapid growth of the loan scheme without a concomitant increase in SBEC's administrative capacity reduced the quality of the loan portfolio. SBEC still relies heavily on government (and donor) grants to sustain its operations with only about 30% of its operating costs being generated from core activities including a one off per-loan fee of between 2-5% levied on guarantees. Additionally, the SBEC and participating banks have gained valuable experience in the guarantee of credit for small business and banks remain interested in the scheme, but have become more cautious.

Commercial lenders have tended not to trust government-supported credit guarantee systems and have lacked confidence that guarantees will be paid out quickly when a claim is made. Therefore building a co-operative relationship between guarantor and lenders is essential to foster trust and also to help reduce the threat of moral hazard.

CGS are generally considered one of the most market-friendly types of credit intervention and a large number of countries around the world have made CGS a central part of their strategy to alleviate MSME financing constraints.¹⁵⁸ However, ensuring the sustainability of Credit Guarantee Systems will require

“Coverage ratios should preserve incentives for effective loan origination and monitoring while providing sufficient protection against risk of default.

Linking the fee price of the guarantee to the risk exposure is a basic insurance principle that should generally be adopted by CGS.”

low loan default rates. In order to achieve this outcome, guarantors and lenders must properly screen and monitor potential clients, and select borrowers motivated to pay back the loans. Funding of the scheme through proper pricing of the guarantees and limiting government funding to set-up costs might be important in giving the lenders the proper incentives to monitor borrowers, avoid excessive risk taking and thus minimise loan losses.¹⁵⁹ Varying the pricing of the guarantee and level of coverage in relation to the borrowers risk profile should also help improve sustainability. In countries where there is a strong market presence of commercial lenders with good liquidity banks may be requested

to bid for a given amount of guarantees indicating the coverage ratios they are willing to accept for a given level of fees. Banks requesting the lowest coverage ratio are those who would win the auction.

Recommendations drawing on international experience on good practice in the design and implementation of CGS are summarised in Table 14.

TABLE 14: GOOD PRACTICES IN DESIGN AND IMPLEMENTATION OF CREDIT GUARANTEE SCHEMES

Aspect	Issue	Detrimental practices	Good practices
Scheme design	Guarantee coverage	✗ Guarantee extends to loan interest and/or the high % coverage of principal reduces lenders risk sharing to the extent of creating a moral hazard	✓ Guarantee coverage should extend to principal only (coverage in range of 50-80%). ✓ If extended to interest should be for a maximum of 6 month with the same risk-sharing proportion as for the principal
	Criteria for approving guarantee claims	✗ Claims can be made too rapidly, before initiating legal process, or too slowly, reducing the value of the system for the	✓ Legal process (foreclosure of loan, liquidation of collateral) has to be initiated and borrower reaction awaited ✓ Overdue borrowers must be

¹⁵⁸ Saadani Y, Arvai Z, Rocha R (2010) A review of credit guarantee schemes in the Middle East and North Africa, World Bank

¹⁵⁹ Beck T, Kalpper L, Mendoza J, (2008) The typology of partial credit guarantee funds around the world. The World Bank Development Research Group Finance and Private Sector Team and Latin America & Caribbean Region Finance and Private Sector Development Department, Policy Research Working Paper 4771, November 2008

Aspect	Issue	Detrimental practices	Good practices
Considerations other than costs and risks		banks concerned	contacted to call in the balance of the outstanding loan ✓ Risk classification of arrears should be recorded in bank books
	Flexibility and fine-tuning		✓ Good systems have mechanisms for adjusting guarantee agreement components with lenders and fund borrowers
	Political interference	✗ Political interests and systems for special lobby groups influence the day-to-day affairs of a GF	✓ Public funding of GFs and publicly deputed management are the norm, but management and supervision must be independent of politics
	Building trust among the main contract parties	✗ Banks and GFs are forced to collaborate by the political powers of the day	✓ Building trust in the tripartite relations among the GF, the lending institution and the final borrower reduces risks and appraisal costs
Legal form	Appropriate treatment of GFs as small financial institutions	✗ Many GFs are incorporated as societies or trusts without adequate supervision	✓ Ensure that professional GFs are licensed by financial institutions and supervised by the central bank
	Steep entry barriers Discouraging private entrants into the guarantee market	✗ In developing economies, privately owned and managed GFs are rare	✓ Promote flexible access conditionalities for private parties, at least in the establishment and starting phases
	Fee levels for GFs	✗ High fee levels deter both end borrowers and lenders; low fee levels deprive the GFs of a principal source of income	✓ Fees should relate to expected defaults and overall interest rate levels in the relevant domestic financial sector
Operating and implementing procedures	Pending claims	✗ Many claims are submitted but are not paid out by the GF system	✓ Design should ensure that claim submission is not premature and that it follows due legal process, etc., but does not delay payments
	Net claim rates	✗ Incidence from a few countries suggests that net claim rates are up to 15 percent	✓ Claim rates (defaults) should not exceed 3 percent at least 5 years into scheme implementation
	Recovery after settlement of claims	✗ Generally no vigorous attempts are made to recover overdue loans outstanding after payment of claim to lending bank	✓ Great effort should be made to recover overdue loans after guarantees are paid out
Monitoring and	Absence of clear objectives	✗ Current arrangements generally specify only fund levels, target claims and operating expenses	✓ The MIS should be based on transparent and comprehensive parameters, and should directly relate to the defined main goal of the CGS

Aspect	Issue	Detrimental practices	Good practices
supervision	Advantage of GF managers with data sets on banks and borrowers	✗ GF management has no prior knowledge of the workings of partner lending institutions and/or the technical and financial profiles of end borrowers	✓ CGS work increasingly with established SME ratings and are sometimes also involved as an SME rating agency

Source: adapted from FAO, 2013. *Credit Guarantee Systems for Agriculture and Rural Enterprise Development*

When loan guarantees enable sustained lending to new sectors or new borrowers they can serve as a catalyst for the development of local credit markets. After experiencing positive relationships with returning customers under CGS banks should be more willing to give out future loans to creditworthy borrowers in the sector.

Financing farmers in their value chains

An agricultural value chain is a way of describing the different 'links' along a chain required to take a product from the farm to the end consumer.¹⁶⁰ The term "value chain finance" refers to the flows of funds to and among the various links within a value chain. It relates to any or all of the financial services, products and support services flowing to and/or through a value chain to address the needs and constraints of those involved in that chain, be it to obtain financing, or to secure sales, procure products, reduce risk and/or improve efficiency within the chain.

The chain may include input suppliers, producers, traders, processors, wholesalers, retailers and final consumers. Agricultural Value Chain Finance (AVCF) is a financial approach and set of financial instruments that can be applied for agricultural and agribusiness financing. AVCF can facilitate increased financial access and lower agricultural costs and financing risks.¹⁶¹

The AVCF concept emphasizes the vertical dimension of agricultural finance to and between different segments of agricultural value chains. Value chains with strong linkages and

Value chain finance

- Internal value chain finance is financing that takes place within the value chain, such as when a supplier provides credit to a farmer or when a lead firm advances funds to a market intermediary.
- External value chain finance is financing from outside the chain made possible by value chain relationships and mechanisms; for example, when a bank issues a loan to a farmer based on a contract with a trusted buyer or a warehouse receipt from a recognized storage facility.

This definition of value chain finance does not include conventional agricultural financing from financial institutions such as banks and credit unions to actors in a chain unless there is a direct link with the value chain as noted above.

Source: Miller, 2012

¹⁶⁰ McGregor A, Stice K (2014) *Agriculture Value Chain Guide for Pacific Islands*, Koko Siga Pacific

¹⁶¹ Miller (2012) *Agricultural Value Chain Finance Strategy and Design*, IFAD Technical Note.

relationships between chain participants, who realize that the success of the entire chain is dependent on each link operating efficiently, can contribute to all participant's creditworthiness. Also in tightly integrated chains the collateral of the strongest partners can be used for attracting finance, which can also be a benefit to others in the chain; most often these are larger businesses farther up the chain with strong credit histories who are experts in the chains in which they operate.¹⁶²

While trust among participants in a value chain is important, to better enable financing, particularly from external financial institutions, a formal contract is normally required. In the case of a producer supplying a buyer in a chain the contract would spell out the specific conditions for the sale. With a supply contract in hand a farmer should present a less risky proposition for a loan from a financial institution.

BOX 9: EXTERNAL VALUE CHAIN FINANCE KENYA

A typical case of external value chain finance is exemplified in Kenya where small fruit and vegetable growers are able to access bank finance for agro-chemicals thanks to their export contract. The exporter pays the farmers through the bank, which deducts the scheduled loan payments before releasing the net proceeds to the farmer group.

Source: Marangu, 2007, cited in Miller and Jones, 2010

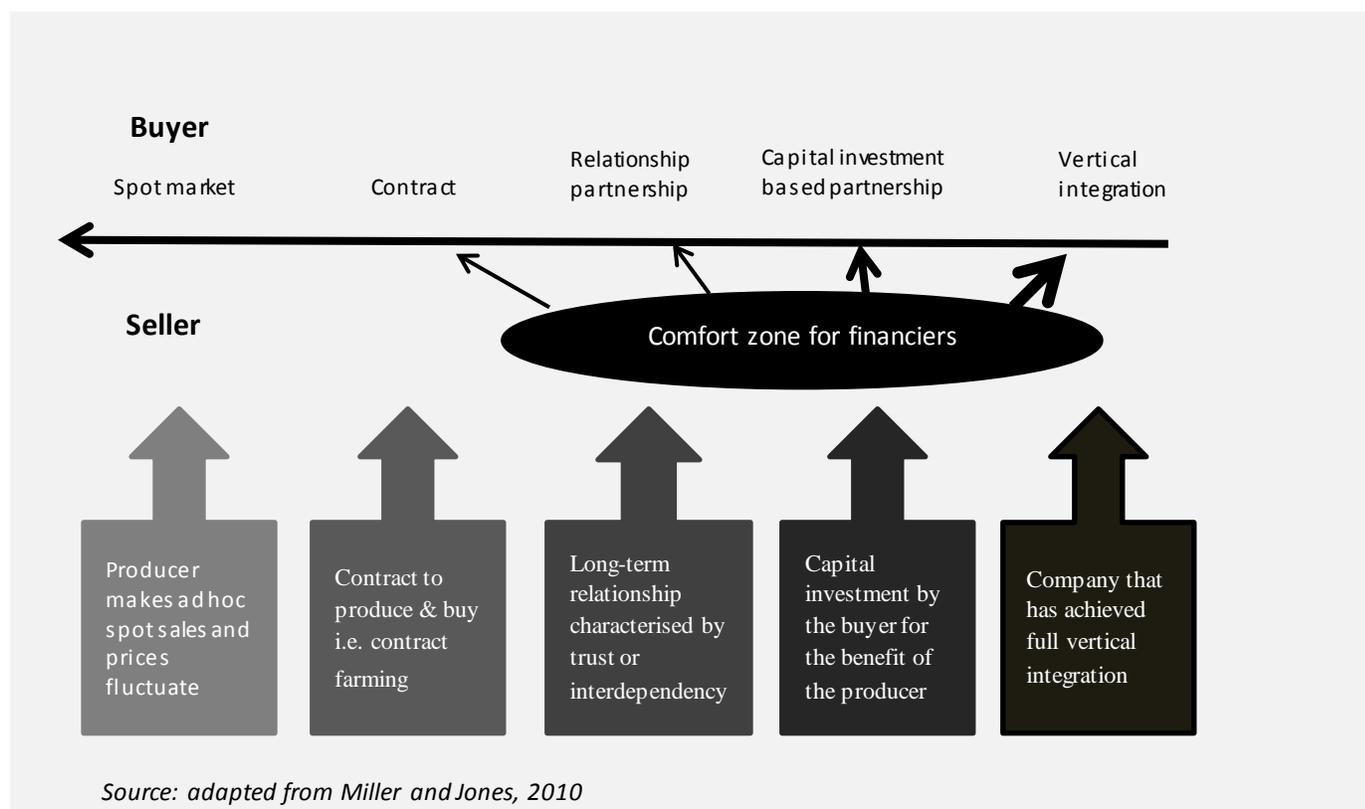
A buyer in a value chain may also provide a credit advance directly to a producer in order to ensure timely supply of quality produce. Increasing financial access and inclusiveness through AVCF may thus start with such embedded finance (e.g. processors financing farmers' operations), that helps smallholders to develop a track record of financial responsibility and competitiveness.

*Successful agricultural lending
depends on "knowing your
customer"*
USAID/FS Share, 2012

However, to work well AVCF requires a good degree of organisation of market linkages within the value chain and an institutional environment that enables contracting. When production and marketing is dependent upon an *ad hoc* spot market with fluctuating prices and demands, financiers are uneasy; they prefer a contractual or partnership structure in a value chain where the market risks can be more controlled (see Figure 5).

¹⁶² Ibid.

FIGURE 5: LEVEL OF FINANCIER'S CONFIDENCE DEPENDING ON STRUCTURE OF VALUE CHAIN



But contracts and contract farming¹⁶³ are still relatively absent from Pacific agriculture and spot market sales continue to dominate smallholder farm trade. Therefore, linking small farmers to structured institutional markets such as school feeding programmes could be the catalyst necessary to facilitate a transformation from fragmented and informal marketing relationships to more integrated and structured value chains. The power of a public sector forward purchase order to individual farmers, or more probably farmer groups, should enhance access to finance, particularly if the intended government payments for the purchases were made through the same bank providing credit to the farmers, so that loan payments could be easily deducted.

Training and capacity development of bankers

Prudent lending decisions need to be based on an assessment of the management capacity of the farmer and the strength of the value chain in which they operate. In the Pacific region, however,

¹⁶³ "Contract farming" refers to a particular form of supply chain governance adopted by firms to secure access to agricultural products, raw materials and supplies meeting desired quality, quantity, location and timing specifications.

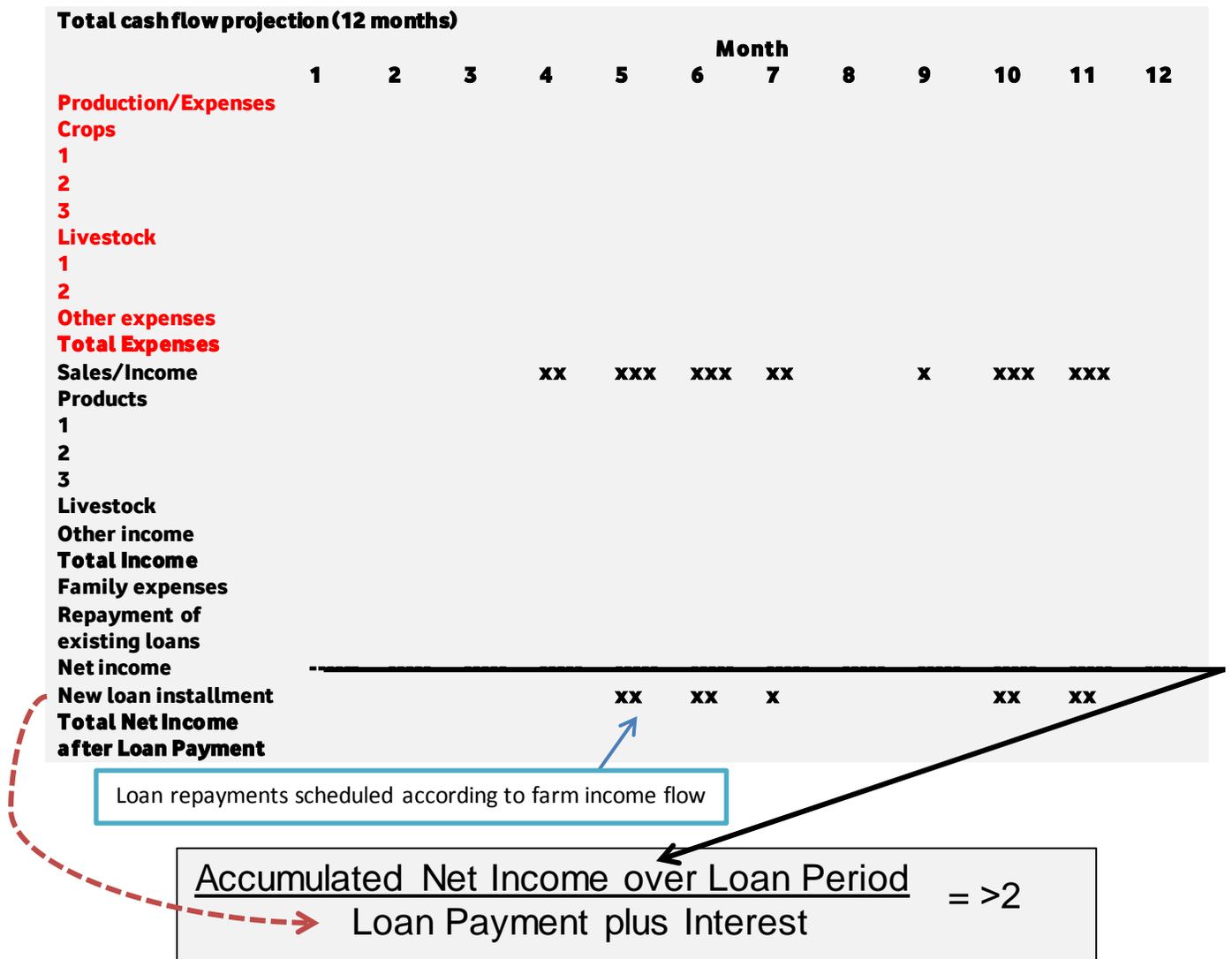
most banks remain largely unaware of the potential of the agriculture sector and the problems and realities related to production, products, and the economic organisation of the value chain. Banks generally tend to have a conservative, corporate approach to lending, only slightly adapting their products for agricultural SMEs and maintaining the same risk analysis methodologies relying on a high percentage of collateral coverage and larger clients. To increase their agriculture lending portfolios banks will need to focus more on the capacity of the borrower to repay and design of appropriately structured loans rather than collateral or asset-based lending. This will require that they gain a deeper understanding of how AVCF can provide additional guarantees and access to supplementary resources and technical competencies (e.g., tripartite agreements with technical service providers and input dealers).¹⁶⁴ The bank's credit officers will also need to better understand the specific agricultural crop/livestock production cycle, yields, budgets, gross margins, cash flows and other issues unique to agriculture so loan products and terms can be tailored to a farmer's needs. Lending to agriculture also demands a highly efficient operational model, which allows a proper and speedy assessment of risks while keeping distribution costs low (see Annex 2 for a guide to risk management approaches). If loans are not processed and disbursed in a timely way this can interrupt the flow of farm production activities and result in severe yield penalties which might jeopardise the client's ability to repay.¹⁶⁵

The structure of an agriculture loan can be critical to the success or failure of the borrower in meeting loan payments. Agricultural loans in particular must be structured to suit cash flow needs of the borrower. Because agricultural production is by its nature seasonal, loans must be structured to allow repayment when cash flow is at its peak. Figure 6 below presents a schematic of a hypothetical farm family's total cash flow (income and expenses) and loan repayments, illustrating that total loan payment plus interest must be manageable as a proportion of accumulated family net income, and that repayment installments must be synchronized to match the seasonality of farm income flows – for example using an incremental payment system with no/ or low payments early in the loan term to coincide with farming process, followed by larger payments after harvests.

¹⁶⁴ USAID (2012) *Strengthening Agricultural Value Chain Lending Tool Kit*, Prepared by Chemonics International Inc. for the Financial Knowledge Sharing Project

¹⁶⁵ Hollinger (2011) *Op. Cit.*

FIGURE 6: SCHEMATIC REPRESENTING THE TOTAL CASH FLOW PROJECTION FOR A HYPOTHETICAL FARM FAMILY



Source: adapted from USAID FS Share, 2012.

Clearly it is important that increased focus is placed on building the capacity of bankers in the region to understand farmers within their value chains in order that they can better manage risks by designing appropriate context specific loan products for the agriculture sector. Additionally, agriculture ministries, with support from their technical assistance partners, should be prepared to work more closely with financing institutions to help them prepare crop and live stock profiles for specific priority products and value chains. Loan officers should be encouraged to visit all clients and be able to evaluate farm business and household income flows. Success will ultimately be dependent on the bank’s willingness to invest time and resources to understand the needs of the farmers and the primary cash flow strengths and weaknesses in order to adequately underwrite

cash flow and rely less on traditional collateral. This reduces the financial risk of granting loans with unrealistic terms and/or inadequate amounts. By basing loans on both the participants' real needs and capacity to pay, the bank is more likely to increase the farmer's productivity and capacity for repayment. In sum, it is essential to build the capacity of banks to enable them when working with agriculture loans, to think more about what to lend for, rather than what to lend against.

Designing training programmes for management and staff is one way to build the capacity of local financial institutions. Entering into partnerships with international organizations and transnational banks is also an efficient way to strengthen the management of the banks and to disseminate financial innovations in SME banking (Box 10).

BOX 10: CAPACITY BUILDING FOR RURAL LENDING INSTITUTES

Providing financial institutions with the training and technical skills required to effectively service the micro- and small enterprises active in the agriculture sector will be critical to improving the proportion and value of loans financing agricultural productivity gains. A recent nationwide rural bank training and management development project implemented by Germany's KfW Banking Group in India transferred the essentials of modern banking systems and procedures for micro- and small enterprise finance to Indian financial service providers. The project leveraged €55 million in additional lending resources from 11 participating rural Indian banks. Three rounds of increasingly complex training and examination of case studies with the banks' credit departments, zonal heads and credit officers established the necessary comfort level among the banks to start or expand lending to a hitherto neglected clientele, using their own funds.

The involvement of different national-level bank training institutions has helped to deliver training messages after the project's closure. The net additional funding of €55 million mobilized from participating banks to finance microenterprises was generated from a KfW investment in technical assistance of slightly more than €800 000 from 2008 to 2010.

Source: FAO, 2013

Financial literacy and farm business education

Building the business management capacity of agriculture value chains market participants is critical to the process of farm commercialization and agribusiness development in the Pacific. Significant investment in improving financial literacy and farmer business education is required to assist agriculture sector participants in the Pacific effectively link their business to modern value chains.

Many of the PICs already have small business development centers or offices. In the northern Pacific seven small business development centers have formed the Pacific Islands Small Business Development Center Network (Box 11).

BOX 11: PACIFIC ISLANDS SMALL BUSINESS DEVELOPMENT CENTER NETWORK (PISBDCN)

The Pacific Islands Small Business Development Center Network provides business advice and guidance in all areas of business management, including pre-venture feasibility, business plan development, marketing, record keeping, financial and human resource management, operations management, and access to capital (loans & investors), as well as specialized areas such as international trade and technical services. The services are provided by offices in 7 locations throughout Micronesia (Guam, Palau, Marshall Islands, Yap, Chuuk, Kosrae in the Federated States of Micronesia and CNMI).

Key customer groups for the PISBDCN include tourist-related businesses, value-added businesses (local handicrafts), agri-businesses, and businesses with export potential, minorities, low-to-moderate income households, and youth organizations. Special programs operated by the PISBDCN include two programs directed at youth entrepreneurship: the Shell LiveWire Business Planning Competition, Sanctuary and Children, Youth, and Families at Risk (CYFAR) through which entrepreneurial training is provided to at-risk youths. Additionally, the Bank of Guam continues to grant financial support for the Women in Business programme that provides counseling and training to female entrepreneurs.

Source: <http://www.pacificsbdc.com/>

Mentor

The word mentor taken from Greek mythology means – “experienced and trusted adviser”. When translated into a business sector a mentor refers to someone who is experienced in business, trustworthy and professional, trained and up-to-date in their advice. Confidentiality and code of conduct are also critical, as are professional skills and relevant hands-on business experience.

Mentors usually work voluntary or on a low fee, but not a full fee consultancy service.

Source: Brian Dunsby, Institute of Business Advisors, UK, 2001

The SBDCs can play a vital role in the region building financial and business skills for those just starting out in small business whilst also delivering more advanced training aimed at enhancing the growth potential of established businesses. However, SBDCs need to have predictable, adequate and sustainable budgets to maintain and expand their services in the region. There is also a need to better define the specific skill sets that are needed for youth to participate in and earn a good living from commercial agriculture. The agriculture sector in the PICs offers many as yet under exploited opportunities for small business development and therefore the training capacity of the SBDCs in this sector needs to be strengthened and expanded to help more young entrepreneurs take advantage of these services.

Due to the key importance of providing appropriate training to young agro-entrepreneurs to reduce lenders’ risk and better enable them to access finance, SBDCs should work closely with banks and the government agriculture services to develop specific training courses for this sector. Improving agricultural entrepreneurs’ management skills and their financial awareness will make a significant improvement in their access to finance and the profitability of their farm enterprise.

A major reason for agriculture MSMEs being overlooked by banks is that they are perceived as high-risk customers generating relatively low profitability due to substantial transaction costs.

Partnerships between banks and business development services (BDS) providers have the potential for reducing these problems.

BDS providers have a comparative advantage in pre-screening potential clients, helping in providing clear business plans and in improving financial information generated by the MSMEs as well as providing risk assessment and monitoring services for banks. Outsourcing these activities to BDS providers reduces the transaction costs and information asymmetry of lending to MSMEs and has the potential to improve their access to finance.¹⁶⁶

Business mentoring

Farmers live and work in isolated rural areas and frequently lack any kind of business support. This leads to poorer business decisions, reduced farm productivity and profitability. Business mentoring is a proven way of utilising the skills and experience of successful seasoned business people to pass on the benefit of their own experience to small and growing businesses in their field of operation. The New Zealand government has been supporting a program of one-on-one business mentors operating in several PICs (Box 12). More similar subsidised programmes are needed across the region with a specific rural focus that can match the needs of agribusiness clients with appropriately skilled and experienced business mentors from within the region and overseas.

BOX 12: PACIFIC BUSINESS MENTORING PROGRAMME

In early 2010 the Pacific Business Mentoring Programme was established in The Cook Islands and has since been established in Tonga, Samoa, Solomon Islands, Papua New Guinea, Vanuatu, Fiji, Kiribati and Tuvalu. The programme is funded by New Zealand Government and run by Business Mentors New Zealand (BMNZ). The program brings business volunteers from New Zealand to help small and medium-sized businesses in the Pacific grow. The programme has successfully supported growth and development of small businesses in the agriculture trade and processing sectors in PICs. The results of an independent survey showed that just six months after a “mentor match” was made, average employee numbers had grown by 1.5 full time equivalents in 128 businesses; 98% of clients said they would recommend the programme to others; and 51% of clients reported profits had increased.

Source: <http://www.businessmentorspacific.org.nz/>

Matching grants

Matching grants provided to smallholder farmers to implement a specific development initiative (e.g. build a new piggery, invest in irrigation equipment etc.), under the agreement that the applicant will also contribute in money or kind, can be effective at achieving agricultural development outcomes. Matching grants are considered particularly suitable for financing capital investments (e.g. equipment) rather than working capital. They provide a less market distortionary approach than artificially lowered interest rates because the subsidy is used to purchase goods and assets whilst any additional loan finance is obtained at market rates.

¹⁶⁶ United Nations Conference on Trade (2001) Improving Competitiveness of SMEs in Developing Countries, the Role of Finance to Enhance Enterprise Development, UNCTAD/ITE/TEB/Misc.3

BOX 13: GHANA EXPERIENCE WITH MATCHING GRANTS

IFAD and the World Bank first introduced matching grants in the context of a pre-existing co-financed intervention, the Village Infrastructure Programme. Despite pressure to subsidise interest rates, it was opted to use matching grants. Smallholder investments were financed by three sources: (i) an individual contribution of equity by the applicant, (ii) a loan from a financial institution at market interest rate; (iii) a matching grant provided by the project to help purchase assets or goods (for example machinery for food processing). The role of the matching grant was to reduce the proportion of the investment to be financed through a loan. This was expected to reduce the risk for both the borrower and the lender and encourage lending to rural poor clients without artificially lowering market interest rates. This model was later extended to other projects supported by IFAD in the areas of rural enterprises, roots and tubers, cereals, and vegetables.

The Ghana country programme evaluation, conducted by IFAD's Independent Office of Evaluation, validated the rationale for matching grants and considered that they may prove to be an effective instrument for persuading policy makers that financial subsidies do not need to take the form of subsidised interest rates. *Source: IFAD*

Source: IFAD, 2012

Matching Grant Programmes (MGPs) help introduce farmers to loan products, improve their financial literacy skills, and assist them to build sustainable relationships with financial institutions and other business service providers. Thus MGPs can help create new opportunities for financing the agriculture sector by building new demand for financial products from farmers capable of acquiring and servicing loans.

However, prioritizing loan recipients in a transparent fashion is critical to the success of these programs. The use of objective eligibility criteria, including requirements for partial co-payments by recipients and independent evaluation of applications, will help to reduce the misallocation of grants delivered through these programs.

Government and development partners' subsidies (e.g. grants and matching grants) to farmers and other value chain participants are justified, when appropriately formulated, to improve economic efficiency or for long-term redistributive objectives. However, they can put the wrong incentives in place and encourage a culture of dependency on handouts.¹⁶⁷

Furthermore, there is likely to be a window of opportunity beyond which the public external benefits of subsidy interventions (such as grants) decline. Therefore any subsidy should be time limited. A sunset clause should be included in all grant programs, with the time limit tied to indicators of domestic market expansion and capacity development.¹⁶⁸

¹⁶⁷ MFW4A (2012) Making Finance Work for Africa Policy Brief On Agricultural Finance in Africa

¹⁶⁸ Phillips DA (2001) An Evaluation of Ten Matching Grant Schemes, World Bank Policy Research Paper 2589

BOX 14: MATCHING GRANTS IN SAMOA

Samoa's Matching Grant Program (MGP) has funding of US\$2.9 million provided by the World Bank with the purpose of supporting subsistence/semi-subsistence farmers interested in becoming more commercially oriented. It has three specific objectives:

1. To support demand-led investments to improve on-farm production and marketing of livestock and fruit and vegetable products. It is envisaged that these improvements will lead to improved productivity, quality and efficiency in these value chains and to enable participating farmers to access identified markets.
2. To reduce the risk to farmers/agro-entrepreneurs with undertaking new investments in livestock, fruit and vegetable and plant nursery operations by providing grant funding towards the total cost of investment.
3. To promote better understanding and develop sustainable relationships between farmers and lending institutions by facilitating this association.

Under the MGP, the ceiling for grants to individuals will be USD\$7,000 and the scope will be specific to fruit and vegetable growers and livestock producers. It is estimated that approximately 1,500 farmers/agro-entrepreneurs (500 fruit and vegetable farmers and about 1,000 livestock producers) would directly benefit from the MGP. The assistance is for capital investment (e.g. improved livestock, fencing, covered houses and irrigation equipment etc.). To participate in the MGP individuals or farmers organisations have to demonstrate that they have a feasible business plan and the requisite technical skills to implement the proposed activities. All participants must complete a Concept Note, participate in the Investor Training Program and have their business plan approved. The MGP provides matching grants equal to 50 percent of the capital investment and start-up working capital costs of eligible investments in fruit and vegetable and livestock production and marketing. Of the remaining investment and start-up working costs required, 30 percent could be financed by a bank loan from a participating financial institution (the Development Bank of Samoa) and 20 percent would come from farmer equity. Recipients of matching grants that can provide 50 percent equity would not require a loan. Applicants with approved business plans are eligible for loan guarantees under the Small Business Enterprise Centre's (SBEC) existing loan guarantee program. In-kind labor contributions could account for the 20 percent equity contribution.

Sources: Ministry of Commerce Industry & Labour, Directory for Technical & Financial Assistance to the Private Sector of Samoa, 2014 and the World Bank.

Agriculture insurance

Smallholder farmers have to make decisions in very risky and uncertain environments (Table 15). However, few farmers in the Pacific Islands have agricultural insurance. The region's subsistence and semi-subsistence farmers largely rely on farm diversification and off-farm employment¹⁶⁹, coupled with traditional support mechanisms such as inter-household transfers of food and other

¹⁶⁹ Clarke, W. Thaman, R. (eds) (1993) *Agroforestry in the Pacific Islands: Systems for Sustainability*, Tokyo: United Nations University Press

resources, to mitigate risks¹⁷⁰. Yet these traditional safety nets have become less efficient at reducing household vulnerability to shocks, as rising population density and land pressures have reduced the capacity of farmers to manage multiple landholdings, and remittances from overseas relatives have begun to replace rural inter-household transfers.¹⁷¹

TABLE 15: RISKS FACED BY FARMERS

Risk	Examples/factors	Effects
Weather	Idiosyncratic: hail Systemic: drought, cyclone, flood	Lower yields, loss of productive assets, loss of income
Biological	Crop pest, disease, contamination, livestock epidemic disease	Lower yields, death of livestock, loss of income
Natural	Fire, earthquake, volcano, tsunami	Lower yields, death of livestock, loss of income
Price	Low prices, market supply and demand, volatility	Lower prices and less income
Labour & health	Illness, death, injury	Loss of productivity, loss of income, increased costs
Policy & political	Regulatory changes, political upheaval, disruption of markets, unrest	Changes in costs, taxes, market access, loss of net income

Source: World Bank, 2013

Insurance can be an effective way of reducing risk for both debtors and creditors by providing supplement collateral. When farmers have crop insurance protection they are less likely to default on their loans in the event of weather induced crop failure, therefore financial institutions are more willing to lend to them.

Whilst agricultural insurance can play an important role in farm commercialisation through leveraging small farmers' access to finance, the opportunity to develop agriculture insurance products in the Pacific remains fairly limited. The likely low demand from a small dispersed population of commercial farmers, and the lack of quality data on farm production and losses for risk assessment purposes, presents a very challenging environment for potential private insurance providers. However, a few sub-sectors do possess the required production and loss information, as well as numbers of participants, required to incentivize the private sector to provide insurance products tailored to agriculture sector participants (Box 15).

¹⁷⁰ Ratuva, S. (2005) Traditional Social Protection Systems in the Pacific – Culture, Customs and Safety Nets, Suva, Fiji: ILO, August

¹⁷¹ Gibson, J. (2006) Are There Holes in the Safety Net? Remittances and Inter-household Transfers in Pacific Island Economies, Macmillan Brown Centre for Pacific Studies Working Paper #1 University of Waikato, New Zealand

BOX 15: FIJI AGRICULTURE SECTOR INSURANCE FEASIBILITY

Fiji enjoys a tropical maritime climate without great extremes of heat or cold. Rainfall is highly variable and mainly orographic (i.e. influenced by the island topography and the prevailing south-east trades). The ENSO (El Niño Southern Oscillation) phenomenon also has an influence on the fluctuations of climate, especially rainfall in Fiji. Fiji is also prone to natural hazards such as droughts, cyclones, and flooding. In the last 15 years, cyclones and floods caused damages to the crop and livestock sectors of more than FJ\$ 251 million - equivalent to more than FJ\$ 16.7 million a year, with further losses attributed to the impact of droughts and fires.

Fiji does not have, or has ever had, an agriculture insurance system. The insurance sector has shown significant growth over the years; yet all insurers have so far shied away from agriculture. Whilst the Government of Fiji has provided funds to farmers for rehabilitation of agriculture in response to past natural disasters, this support has been sufficient to cover only a fraction – 2.81% - of the value of the losses faced.

However, the development of micro-level (i.e. individual) crop insurance for sugar cane farmers has been identified as one opportunity. Sugar is still the most important agricultural sector in Fiji. In 2013, there were 12,314 active sugar growers farming 37,244 hectares of cane, or an average 3.02 hectares per farmer, with an average production cost of FJ\$ 11,455.20 per hectare. Assuming a premium rate of 5%, the average sum insured per farmer would be FJ\$7,417.20 with a premium of FJ\$ 370.86 p.a. (i.e. FJ\$ 122.16 per hectare).

Whilst this is a relatively high cost per farmer, such an insurance system would provide substantial coverage to Fiji's sugar cane growers. A working group for the sugar sector is currently looking into the feasibility of a micro-level insurance product in more detail, in order to identify whether there is sufficient demand from farmers to warrant the establishment of such a scheme.

Source: FAO (2014) Feasibility study for the Introduction of Agricultural Insurance in Fiji, Apia: FAO Sub-regional Office for the Pacific

The bundling of crop insurance with credit and input supplies has been shown in many parts of the world to provide a win-win for farmers, credit providers and insurers. The farmer gains access to seasonal crop credit, lending institutions are more willing to lend to small farmers because their loans are protected by crop insurance and finally the insurer benefits from (a) there is less need for pre-inspections (b) the costs of promoting and marketing the agricultural insurance programme are reduced and (c) the insurance uptake and spread of risk and premium volume is generally much higher than under a purely voluntary programme.¹⁷²

Global experience suggests that sustainable, scaled up agricultural insurance programmes require a strong partnership between the public and private sectors, with engagement, innovation, and action from both sectors. The World Bank suggests that governments should integrate agricultural insurance in their overall agricultural development policy; and under its Agricultural Insurance Development Programme (AIDP) supports countries in implementing sustainable, cost-effective public private partnerships in agricultural insurance that increase the financial resilience of rural households, as part of their broader agricultural risk management strategy (Box 16).

¹⁷² Ibid

BOX 16: SUPPORT TO DISASTER RISK FINANCING AND AGRICULTURAL INSURANCE DEVELOPMENT

The Global Index Insurance Facility (GIIF) is a multi-donor trust fund managed by the International Finance Corporation (IFC) that promotes index-based insurance specifically, within the broader agenda of the agricultural insurance framework implemented by the World Bank Agricultural Insurance Development Program (AIDP), which aims to support the sustainability and scalability of agricultural insurance through public-private partnerships. On the IFC side, the GIIF provides funding to support financial institutions and local capacity-building efforts on the development of market based index based solutions. On the International Bank of Reconstruction and Development (IBRD) side, the GIIF provides advisory services on policies and insurance regulations to develop index-based insurance. *Source: [World Bank GIIF](#)*

Weather index-based insurance

Contrary to traditional indemnity-based insurance, index-based insurance does not require farm-level loss adjustment which enables insurance services to be distributed on a mass-market basis. This, and other factors associated with this product, can make it less costly to underwrite and most appropriate for highly correlated risks. The sustainability of these schemes, however, requires a very large number of clients to subscribe to policies in order to maintain low-cost premiums. In addition, the lack of availability of climatic weather time series data for risk assessment and rating purposes, and the relative poor quality and coverage of weather data that is collected, may be barriers to the establishment of these schemes. Given that the collection of this data can be costly relative to potential premium volume, a long-term public commitment would be required to build a useable supply of quality data for index-based insurance products. Experience from both developed and developing countries indicates that public support granted through reinsurance and/or premium subsidies reduce the costs of premiums to farmers and makes agricultural insurance more affordable accessible (Table 16).¹⁷³

¹⁷³ Sanmark T, Debar J and Tahin-Jaleran C, (2013 The Emergence and Development of Agriculture Microinsurance, A Discussion paper, Microinsurance Network

Index-based Insurance

Index-based insurance has proven to be an efficient risk management solution, as benefits are paid out on the basis of transparent parameters (rainfall, wind speed, etc) or a pre-assigned value for losses resulting from weather and catastrophic events. The following are examples of index products:

- **Area yield index insurance** – The indemnity payout is based on the realized average yield of an insured unit such as a province or district, not the actual individual yield of the insured party. Indemnities are paid whenever the realized area average yield is less than the threshold defined in the insurance contract.
- **Weather index insurance** – The indemnity payout is based on realizations of specific weather parameters (such as rainfall level or temperature) measured over a pre-specified period of time at a particular weather station.
- **Satellite-based index insurance** - insurance products have also been developed using satellite imagery instead of data collected by weather stations. Unlike other sources of information, satellite imagery offers detailed data for entire continents over many years.

Governments also have a critical role in establishing the legal and regulatory frameworks necessary for agricultural insurance.

TABLE 16: GOVERNMENT SUPPORT TO AGRICULTURAL INSURANCE (AI) PREMIUMS

Country & size of AI market	Support to AI Premiums
USA & Canada US\$13.6 billion	US\$7,800 million (73% of total AI Premiums)
Asia US\$5.6 billion	US\$1,800 million (50% of total AI premiums)
Europe US\$4.0 billion	US\$1,500 million (37% of total AI Premiums)
LAC US\$770 million	US\$260 million (36% of total AI Premiums)
Africa US\$180 million	US\$1 million (3% of total AI Premiums)
Aus. & NZ US\$160 million	US\$0 millions (0% of total AI Premiums)

Source: Sandmark et.al., 2013

Catastrophe insurance

One major barrier to investment in agriculture sector development in the PICs is the high rate of risk of damage to capital equipment as a result of the frequency of natural disasters (principally cyclones). In order to provide greater security to investment in capital equipment, the PICs could investigate the feasibility of establishing a public-private agricultural insurance facility. The Pacific Disaster Risk Financing and Insurance Programme has enabled access for participating PICs to multi-million dollar aggregate sovereign risk insurance coverage¹⁷⁴ provided through the global reinsurance market; this can provide them with immediate budget support following a major disaster (Box 17). Given that the sector which commonly experiences the highest rate of economic losses as a result of cyclones is the agricultural sector, establishing a dedicated agricultural insurance fund linked to this sovereign risk facility would transfer risk and thus help facilitate greater investment in the sector. Insurance and government risk-sharing arrangements should increase a banks' level of comfort and enable them to increase their lending rates to the agricultural sector.

¹⁷⁴ Aggregate insurance coverage of the 6 PICs currently in the pilot programme is US\$67 million

BOX 17: THE PACIFIC DISASTER RISK FINANCING INSURANCE PROGRAMME

The Pacific Disaster Risk Financing and Insurance Programme (DRFI) builds on the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI). PCRAFI is a joint initiative between the Secretariat of the Pacific Community (SPC/SOPAC), the World Bank, and the Asian Development Bank, with financial support from the Government of Japan and the Global Facility for Disaster Reduction and Recovery (GFDRR). The PCRAFI aims to provide a full spectrum of both financing and physical disaster risk management tools to PICs. The DRFI has two main components: (i) Technical assistance and capacity building on public financial management and natural disasters; and (ii) pilot implementation of market based sovereign catastrophe risk insurance solutions. The pilot aims to test the viability of market based insurance solutions for PICs. The World Bank acts as an intermediary between PICs and a group of reinsurance companies, which were selected through a competitive bidding process. The pilot is designed to provide limited, but immediate budget support following a major disaster (earthquakes, tsunamis and tropical cyclones).

The pilot programme uses parametric triggers (based on size of event) linking immediate post-disaster insurance payouts to specific hazard events. Unlike traditional insurance settlements that require an assessment of individual losses on the ground, the pilot's parametric policies do not pay out based on actual losses incurred. Instead, the payout disbursements are triggered by specific physical parameters for disaster (e.g. wind speed and earthquake ground motion) taken from the joint Typhoon Warning Center and the US Geological Services (USGS).

Tonga was the first PIC to benefit from an insurance payout following Tropical Cyclone Ian in January 2014. The Government of Tonga received US\$1.27 million from the catastrophe risk insurance policy on January 27, 2014, only two weeks after the event.

Source: [World Bank PDRFI Program Page](#)

Conclusions

Farmers in the Pacific can access higher value markets and improve their incomes by increasing farm productivity and the quality of crops they produce if they can gain greater access to affordable finance to invest in new technologies and better inputs. Without finance, agricultural MSMEs face barriers to the adoption of productivity enhancing technologies and in establishing supply relationship in modern markets.

PIC farmers would also benefit from improved financial literacy and business management skills to increase farm profitability. The poor quality of business proposals presented by agriculture sector participants to financial institutions, coupled with the paucity of suitable collateral provided by farmers, are the major barriers to improving access to finance by the agriculture sector. Therefore, assisting banks to build their capacity to assess farmer risk and identify good bankable opportunities in the agriculture sector will be an essential step to enable them to extend their lending reach to the sector. In this way, loans can be tailored better to specific client needs and also avoid the heavy reliance on traditional collateral values. This will allow banks to shift away from a product-based focus to a more customer oriented focus of providing packages of financial services tailored to the specific needs of agricultural borrowers. Adopting this approach would improve banks' ability to construct profitable and efficient agriculture lending programmes.

In addition, risk sharing arrangement such as credit guarantees, matching grants and increased availability of agriculture insurance products together with more formal contracts would further increase the level of comfort for both lenders and borrowers in the agriculture sector. The use of contracts and their importance for obtaining value chain finance are explored in more detail in the next section.

Policy Action Area 3: Linking smallholder farmers to institutional markets

The challenges of linking smallholders to markets

Linking small farmers to markets through the use of contracts to supply institutional markets is critical to facilitating improved access to finance and investment in agricultural value chains in the Pacific. Public procurement programs typically purchase large quantities of local produce to supply public institutions such as schools, hospitals, prisons, and government offices, and typically are not driven by the same profit motives as other buyers in the market.¹⁷⁵ As a result, they are able to offer contracts on more flexible terms and with a significant lead-in time, assisting small farmers to make the transition into formal markets.

National governments in developing countries are increasingly looking at ways to link school feeding programmes with local agricultural production to generate a stable and sustainable market for small-scale farmers.¹⁷⁶

Similarly, policy-makers in the developing world have identified that school-feeding programs can ensure that students facing poor educational and nutritional outcomes receive the minimum nutritional inputs they require to lead healthy and productive lives.¹⁷⁷

When combined with complimentary services (training, credit, access to improved technology), public procurement of fruits and vegetables for school feeding programmes could provide a secure, contracted market necessary on the more flexible terms required to assist participants in the smallholder sector in the Pacific Islands to move towards more modern and commercially oriented farming systems.¹⁷⁸

Structured Demand

The aspects that can be used to structure demand so as to encourage or facilitate engagement by small farmers include specification of:

- The type, intrinsic qualities (e.g. quality standards etc.) and extrinsic qualities (e.g. type of producer or geographical area of production) of commodities to be purchased
- The quantity to be purchased (including number and size of lots)
- Delivery requirements (e.g. place, quantity, frequency, packaging)
- The mechanism of price determination
- Any requirements to become a “registered” or “licensed” supplier; any other restrictions on who can tender
- Contract details (e.g. mode and frequency of payment, upfront payments, default penalties, insurance requirements and so on)

Source: Sumberg & Sebates-Wheeler, 2011

¹⁷⁵ Anaadumba, P. Gallat, S. (2014) *Institutional Procurement of staples from smallholders: the case study of progress in Ghana*. FAO, Rome.

¹⁷⁶ Gelli A, Al-Shaiba N, Espejo F. (2009) “The costs and cost-efficiency of providing food through schools in areas of high food insecurity,” *Food Nutrition Bulletin* 30: 68–76

¹⁷⁷ World Food Program (2013) *Home Grown School Feeding: A Framework to Link School Feeding with Local Agricultural Production*, WFP, Rome

Public procurement as an instrument of agricultural development and nutritional improvement in the Pacific

The public sector is emerging as a powerful actor in the food chain notably through public procurement policies which can create new markets for local farmers whilst improving the nutrition outcomes amongst target groups, such as school-aged students.¹⁷⁹ Public procurement programmes connect farmers with large, predictable sources of demand for agricultural products, thereby reducing risk and encouraging investment improved production and marketing systems¹⁸⁰ Subsequently, there is considerable global interest in the potential of using public procurement as part of a demand-assisted growth strategy in both developed and developing countries. Such procurement models could provide the catalyst required to assist PIC farmers to improve their linkages to formal markets.

The numerous challenges of distance and scale faced by Pacific island smallholders lead them to compete for a share of domestic fresh produce markets which are relatively thin and volatile, leading them to be exposed to significant risks with threaten the profitability of their agro-enterprises.¹⁸¹ School Feeding Programs (SFP), however, provide a relatively long-term market (to supply schools for, on average, 180 day a year) for a pre-determined food basket (usually emphasizing local and nutritious content), providing producers with a relatively large, stable outlet for their products. SFPs can therefore provide a regular market opportunity and a reliable source of income for smallholder farmers.¹⁸² International experience underlines the importance of combining structured demand for food with supply side agricultural interventions to boost productivity, collective marketing, food safety, storage, and management of contracts.¹⁸³ Therefore school-feeding programs must be supported by a broader program of interventions focusing on improving the capacity of farmer organizations, the adoption of Good Agricultural Practices, upgrading the logistical system for delivering and storing food, as well as capacity building and complementary finance.¹⁸⁴

Whilst purchase of local food through a SFP will in itself offer increased market opportunities for local farmers, the impact of these programs on both agriculture sector development will depend

¹⁷⁸ Sumberg J, Sabates-Wheeler R (2011) Linking agricultural development to school feeding in sub-Saharan Africa: theoretical perspectives. *Food Policy* 36(3): 341-349

¹⁷⁹ FAO (2013) *Sustainable Local Procurement*, Sustainability Pathways Factsheet, Rome: FAO

¹⁸⁰ Drake L, McMahon B, Burbano C, Singh S, Gelli A, Cirri G, Bundy D (2012) School Feeding: Linking Education, Health and Agricultural Development Research Foundation

¹⁸¹ Coordination risk – “the risk of failure of one player’s investment due to the possible absence of complementary investments by other players in different stages of the supply chain” – Dorward and Kydd (2004) cited in Sumberg J, Sabates-Wheeler R (2011) *Op. Cit.*

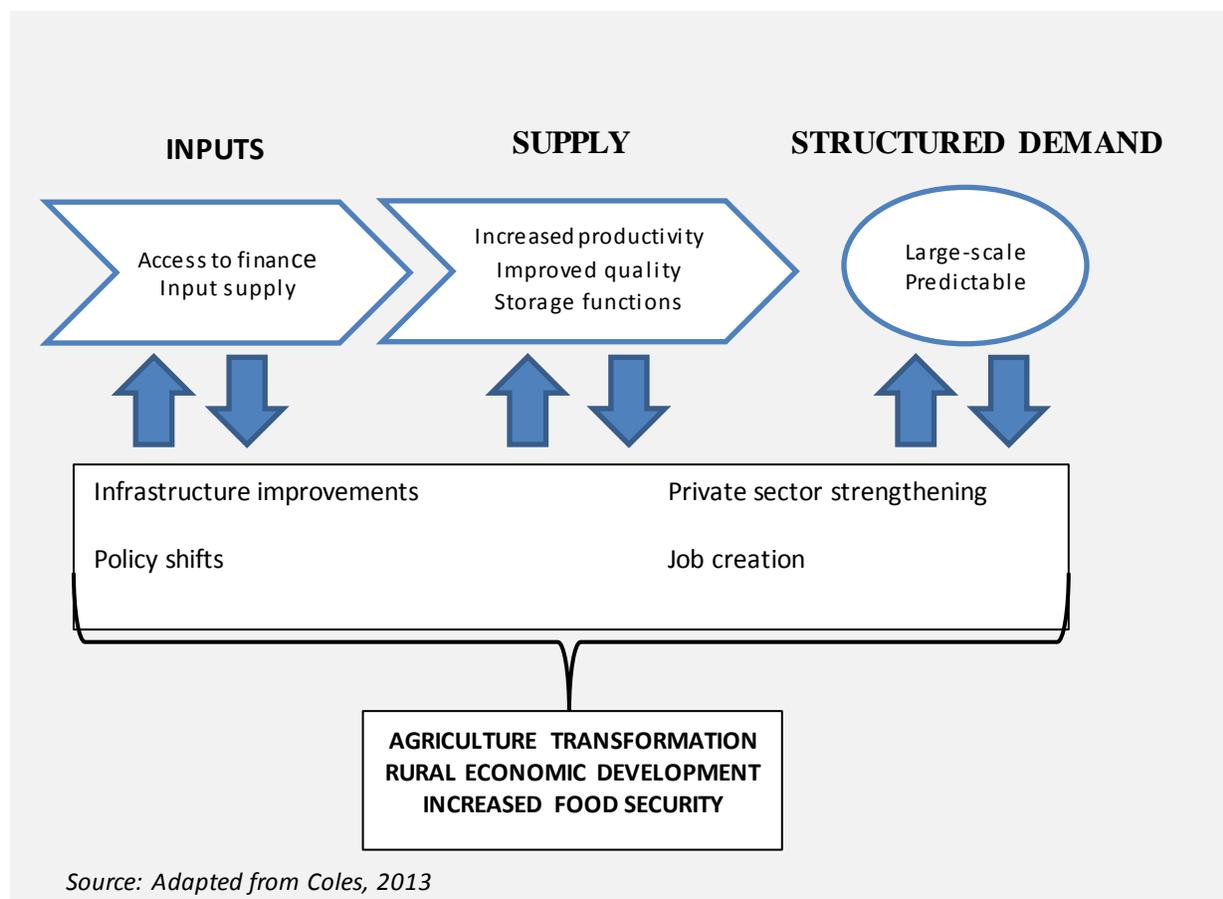
¹⁸² Sumberg and Sabates-Wheeler (2011) *Op. Cit.*

¹⁸³ Coles C (2013) What is known about the impact of structured demand activities on resilient food systems? Overseas Development Institute (ODI), London, UK

¹⁸⁴ Dorward et al. (2006) cited in Sumberg J, Sabates-Wheeler R (2011)

upon the scale of demand.¹⁸⁵ A schematic depicting the theory of change of a structured demand approach is shown in Figure 7.

FIGURE 7: THE THEORY OF CHANGE OF STRUCTURED DEMAND



Given the importance of food in contributing to positive health outcomes, and the prioritization of obesity and NCDs in the Pacific, School Feeding Programmes (SFPs) could play a critical role in improving the diets of school aged children and assisting the rest of the population make the transition towards healthier foods dietary practices.¹⁸⁶

The available international research shows that improving nutrition and health can lead to better academic performance, fewer repeated grades and reduced dropout rate.¹⁸⁷ On this evidence, there is a compelling case for investment in the establishment of school feeding programs which School feeding programmes can help to get children into school and help keep them there, through

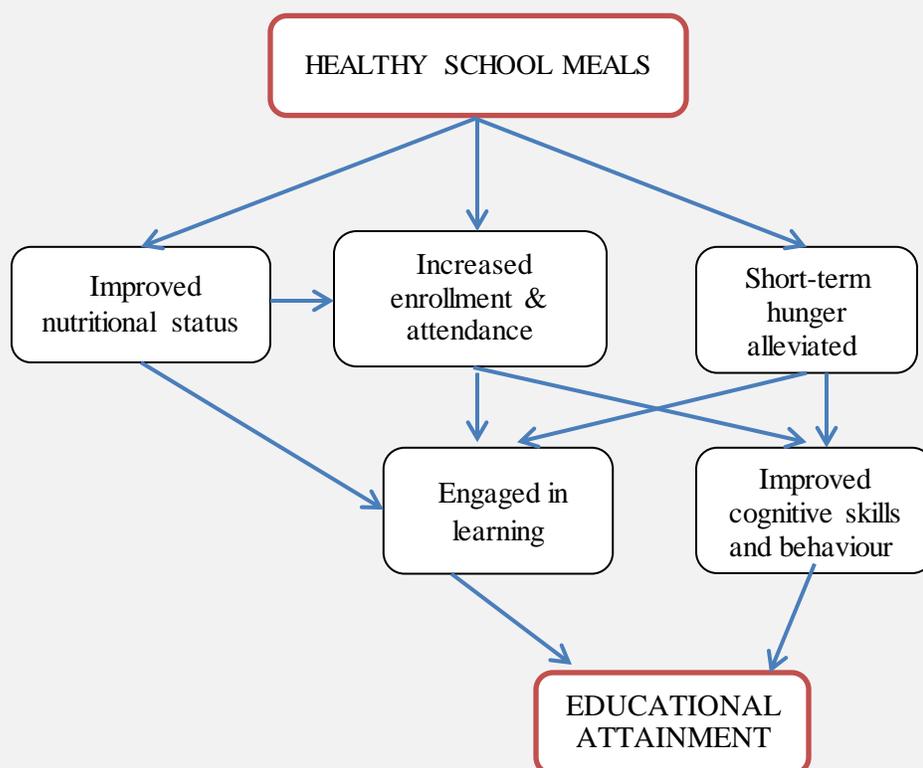
¹⁸⁵ Sumberg J, Sabates-Wheeler R (2011) *Op. Cit*

¹⁸⁶ SPC Statistics' web site www.spc.int/sdd

¹⁸⁷ Del Rosso, JM (1999) School Feeding Programs: Improving effectiveness and increasing the benefit to education. *A Guide for Program Managers*, the Partnership for Child Development.

enhancing enrolment and reducing absenteeism; and once the children are in school, the programs can contribute to their learning, through avoiding hunger and enhancing cognitive abilities.^{188 189}

FIGURE 8: RELATIONSHIP BETWEEN SFPs AND POTENTIAL OUTCOMES AND IMPACTS ON SCHOOL CHILDREN



Source: Lawson, TM, (2012) Adapted from Grantham-McGregor et al. (1998) and Jacoby et al. (1998).

The potential social and economic value of School Feeding Programmes

School feeding interventions are typically framed as social protection or poverty reduction programmes with multiple objectives across education, and school health and nutrition dimensions.¹⁹⁰ It is only recently that school feeding programmes have also been viewed as vehicles

¹⁸⁸ Bundy D, Burbano C, Grosh M, Gelli, A, Jukes M, Drake L (2009) Rethinking school feeding: Social safety nets, child development and the education sector. Directions in Development. Human Development, World Bank

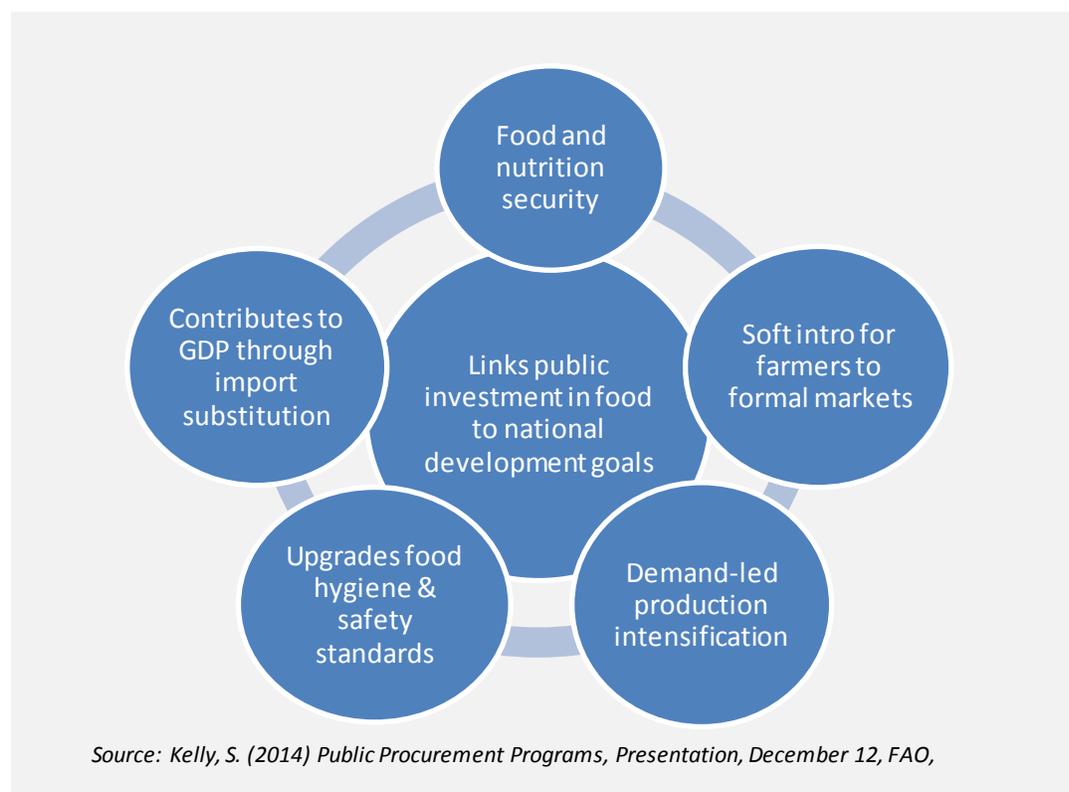
¹⁸⁹ Adelman S, Gilligan D, Lehrer K (2008) How effective are food for education programmes? A critical assessment of the evidence from developing countries, Washington, DC, International Food Policy Research Institute

¹⁹⁰ Gelli, A., Kretschmer, A., Molinas, L., Mothe, M. (2012) "Analysis of School feeding Supply Chains," FAO Working Paper. FAO, Rome

to support community development and small-holder farmers. SFPs can thus be a powerful instrument for achieving many multi-sector benefits – education, gender equality, food security, poverty reduction, nutrition and health, and agricultural development. Such programs act as both a social safety net for children living in poverty and food insecurity, and as a tool for stimulating local agricultural production and economic opportunities in rural communities.¹⁹¹

As a result SFPs can deliver a wide variety of outcomes, and are implemented in response to a number often complementary, policy objectives (Figure 9).¹⁹²

FIGURE 9: TYPICAL OBJECTIVES OF SCHOOL FEEDING PROGRAMS



However, school feeding is a complex intervention and designing effective programmes requires careful management of trade-offs among design objectives, targeting approaches, feeding modalities, and costs.¹⁹³

¹⁹¹ Demek, M, Spinelli, A, Crose S, *et al.* (2014) Food and agriculture policy decisions trends, emerging issues and policy alignments since the 2007/08 food security crisis. Food and Agriculture Organization of the United Nations Rome, 2014.

¹⁹² WFP (2013) *Op. Cit.*

¹⁹³ Alderman H, Bundy, D. (2011) School Feeding Programs and Development: Are We Framing the Question Correctly? World Bank Research Observer. Washington, DC: The World Bank

There are various ways of implementing school feeding that incorporate local agricultural production into the food basket. Some governments send cash to schools so the schools can buy the food from local markets, while others direct the resources to districts or regions which are responsible for local procurement, or use catering companies at different levels to provide food to schools. All of these models have trade-offs that need to be considered. The Brazilian example, perhaps the best known global example of a school feeding program, indicates that it is possible to link food production, school meals, nutrition education and community participation (Box 18).

BOX 18: SCHOOL FEEDING PROGRAMMES SUPPLIED WITH PRODUCE BY FAMILY FARMERS IN BRAZIL

The Brazilian school feeding programme is the second biggest school feeding programme in the world, reaching 47 million students – including in day care, kindergarten, elementary school, high school and adult education institutions - every year.

Its objectives are to contribute to the growth, development and learning capabilities of students; support the formation of healthy habits through food and nutrition education; and promote local family farming through food purchase

At least 30 percent of the US\$2 billion in resources transferred by government are required by law to be used to procure food from family farmers. Buying food locally from family farms has led to lower school meal costs and an increase in the availability and consumption of fruits and vegetables.

In order to promote healthy eating habits, menus are designed according to local taste and production, with maximum values for sugar and fats and mandatory inclusion of fruits and vegetables. For this purpose, each executing unit must have a nutritionist who is responsible for the elaboration of menus in line with nutritional norms.

Source: State of School Feeding Programmes Worldwide, WFP, 2013

SFPs must guarantee an uninterrupted supply of food of an appropriate quality and nutritional profile, to targeted children. Preparation and distribution involves the range of different activities generally undertaken at the school level to provide the meals to the schoolchildren. Activities can include cooking of meals, preparing servings and distributing to the beneficiaries. As well as having cooks trained to provide adequate meals, preparing food in schools involves providing fuel, pots, pans, dishes for the children and cooking utensils, for example. Ideally, cooks would be trained in hygiene and sanitation, and the kitchen equipped with fuel efficient stoves and chimneys as well as a source of potable water. At the school level, onsite meals are therefore more resource intensive relative to other modalities, in terms of cash and in-kind contributions required for adequate service delivery. This difference in complexity is usually reflected in the magnitude of the costs associated with delivering the alternative modalities at school level. Though there is a dearth in the evidence on the benefits of school service provision at the community level, conceptually, school feeding service provision can direct financial resources in the school community through two main channels, funds for food procurement and funds for support services in terms of food management

and preparation¹⁹⁴. In terms of food preparation, emerging evidence suggests the potential for community development benefits but this remains another important area of future research¹⁹⁵.

Although the food basket can and should be modified to be home-grown and correspond as much as possible with local and traditional tastes, given the rising incidence of obesity in the developing world and the importance of establishing good eating habits in youth populations, the nutrition impact of the food provided through SFPs is a key consideration (Box 19)

Box 19: LOCALLY SUPPLIED SCHOOL FEEDING PROGRAMMES – CAPE VERDE

In September 2010, the Government of Cape Verde took over the management of the national school feeding programme, and selected pilot schools to participate. A menu was developed by nutritionists, and was designed to include a significant proportion of local produce, including fruits, vegetables, beans and fish. By 2014 34 pilot schools were covered in 4 islands, benefitting about 10,000 students, with 9 contracted vendors delivering in schools 15,756 kg of vegetables, 12,935 kg of fruit, 6500kg of beans and 2412 kg of fish. In 2014, 340 cooks responsible for the school meals were trained on good hygiene practices and handling of food; and a review of the integration of the program and nutrition education in Preschool, Elementary and Secondary classes was performed, in order to provide guidance for future improvements. As a result, 54 school gardens and nurseries were installed as an educational model, teaching both traditional and hydroponic vegetable production. A guide on educational school gardens was also developed.

Source: FAO (2014) Institutional Procurement from smallholders: a case study of Cape Verde. FAO, Rome

Measures to improve smallholder participation in supplying SFPs

Facilitating increased participation by small-holders in institutional procurement programs such as SFPs is a perennial challenge. Smallholders typically are not able to successfully prepare a tender or bid to participate in a public procurement program, have difficulty meeting the higher quality and service standards required to supply the market; or as per other formal markets, lack the cash flow required to provide a delivery of goods on credit and await payment. As a result, a wide range of agriculture support activities aimed at improving small holder food production have been used within the framework of locally supplied school feeding programmes. These issues, and the approaches used to assist smallholders overcome them in order to increase the level of participation by smallholders in public procurement programmes such as SFPs, are explored in Table 17.

¹⁹⁴ A detailed analysis on the food procurement dimension, and potential benefits to small-holder farmers is provided in a complementary paper (Sumberg and Sabates-Wheeler, 2010).

¹⁹⁵ See Studdert *et al.* (2004) for an evaluation of community based school feeding in Indonesia.

TABLE 17: SMALL HOLDER SCHOOL FEEDING MARKET ACCESS: CHALLENGES AND OPPORTUNITIES

CHALLENGE FOR SMALLHOLDER FARMER ACCESS	POSSIBLE MEANS TO ADDRESS CHALLENGES - FARMER SIDE	POSSIBLE MEANS TO ADDRESS CHALLENGES - SCHOOL FEEDING PROGRAM SIDE
Informal status and consequently non-eligibility	Reduced requirements for tenders	Simplify registration requirements and process
Lack of experience with bidding proposals and competitive processes	Partnership with private company, invest in good proposal writing, link with technical assistance	Simplify proposal requirements, training, easy templates, for smallholders
Insufficient quantity, quality, continuity and processing capacity to meet the requirements	Collect products of organized smallholders, connect with other smallholder organizations, invest in quality and processing, partnerships with private companies	Reduce lot size, adapt to period of availability, menu based on local products, adjust standards for packaging, use of cereal banks, promote partnerships and associations
Gender and cultural gap with public procurement officers	Self-esteem, gaining experience, involve professionals, including women	Change of attitude, creativity, leadership for linking with smallholders
Higher transactions costs	Efficient management for activities at organization level, scaling up of collector	Incentive mechanisms, preferences, facilitate transport and storage
Lack of liquidity to pre-finance delivery	Link with credit institutes, sales contract as collateral, arrangements with members for delayed payments	Timely and frequent payments to the suppliers, flexibility for including credit institutes in contract arrangements
Lack of bank guarantees	Link with financial institutes, formalize assets as collateral	Reduce requirement for financial guarantees (e.g. along with reduced lot sizes), guarantee from local government

Source: Gelli *et al.* (2012) Analysis of School Feeding Supply Chains

In order to assist smallholders to be able to overcome the initial barriers to supplying SFPs posed by the need to satisfy a formal contract and assist smallholders to establish more formal linkages with public procurement programmes, parties managing the tendering and bidding process can establish a series of graduated contracting options, and improve the rapidity of payment following delivery of goods.

This was the strategy undertaken by the Purchase for Progress (P4P) programme implemented by the World Food Program (WFP), with assistance from FAO, in Africa, Asia and Latin America. This programme has mainly used four procurement modalities when sourcing produce from small holders, in order to encourage greater participation:

- i. *Direct contract*: Under this approach, WFP negotiates directly with a farmer group to supply a specified quantity of product at a given price and quality standard, without seeking the usual 3 tenders. After the signature of the contract, the farmer organization

- also receives technical support to fulfill WFP requirements such as bag-marking, if required and maintaining the quality of the produce.
- ii. *Soft tendering*: This is a competitive process used to invite several farmer groups / small-scale traders to bid for the supply of food commodities to WFP. The farmer organizations that have acquired experience through direct contracting are encouraged to participate in these tendering processes, to further strengthen their marketing capacities.
 - iii. *Forward Contract*: This contractual mechanism includes specifying a price/ pricing formula that WFP will pay the farmer organization upon delivery of the commodity at a future date. FOs have used this contract as collateral to access credit.
 - iv. *Warehouse receipt system (WRS)*: This is a system whereby sellers deposit their food commodities in a certified warehouse. The warehouse gives the seller a receipt verifying the amount of produce deposited and its quality, and takes a small fee in order to cover the cost of storage and quality control. The seller can use the receipt as collateral to secure credit and have cash in advance and can wait until the lean season to sell the produce when prices are higher.

WFP typically also provides payment to FOs within 14 days, which is slower than the 'cash on delivery' provided by traders, but quicker than the 30 or 60 days usually provided under other formal market contracts.

Box 20: SCHOOL FEEDING PROGRAMME PROMOTING INCREASED SMALLHOLDER PARTICIPATION IN TANZANIA

Agricultural production is a source of livelihood for approximately 80 percent of the Tanzania's population, which is dominated by small-scale farmers especially for staple food crops. Approximately 70 per cent of the country's crop area is cultivated by hand.

An integral component of commercializing smallholder agriculture in Tanzania is producer collective empowerment and linking small-scale farmers to reliable markets, given their poor bargaining power and high rate of transportation costs they face.

Between 2009 and October 2012, WFP Tanzania locally procured food valued at US\$ 11.5 million for its school feeding programme, purchasing 9 254 tonnes of maize and 2 244 tonnes of beans directly from the participating farmers through direct and forward contracts or modified, smallholder-friendly tenders.

In the first year of operation, all the food purchased under P4P was through direct contracts with farmer groups to test their capacity to supply and acquaint WFP staff with the dynamics of procuring from smallholders. In subsequent years, WFP moved to procuring through more competitive contracts such as soft tendering and forward contracts.

As a result of the initiative, farmers have experienced alternative purchasing models different from spot contracts applied by the majority private traders. WFP has also introduced farmers to weight measures as opposed to volume measures for maize purchases. A significant milestone achieved with the P4P approach, is the standards and quality of grains produced by the farmer groups under the P4P initiative.

Source: FAO (2014) Institutional procurement of staples from smallholders: the case of purchase for progress in Tanzania, FAO, Rome

Measures to improve logistical arrangements for ensuring high quality supply

SFPs face a number of ongoing logistical issues resulting from the need to deliver food to multiple locations on an almost daily basis. These include: the need to introduce quality control and grading of produce to ensure that only high quality food is supplied to students; efficiency issues resulting from the number of collection and transfer points along the supply chain; the establishment of systems for carrying out inspections at critical control points along the supply chain; and huge cost of delivering meals or ingredients to schools.

There are a number of different models used in procuring food to supply SFPs, but these can generally be characterized as either centralized or decentralized models. Centralised models describe those where procurement of food is managed by one agency and delivered to schools from one location; whilst decentralised models describe those where multiple groups in multiple locations are responsible for purchasing. Centralised models tend to provide opportunities for improved quality control and efficiencies through economies of scale. However, these advantages may be offset by the additional costs of transporting food from centralised warehouses to the recipient schools. Decentralised models face lower transportation costs, but face more quality control issues and must rely on more variable, local sourced perishables to provide balanced meals. Storage in decentralised models can be a concern, particularly when food procurement occurs infrequently and food stocks are kept in school for relatively long periods.¹⁹⁶

Box 21: REDUCING SUPPLY CHAIN LOSSES IN SCHOOL FEEDING PROGRAMMES IN KENYA

A key component of the P4P programme in Kenya is to improve smallholders' capacities on post-harvest handling and marketing in order to reduce losses and improve product standards to a level acceptable to institutional markets.

Given the lack of national storage facilities and the importance of storage for ensuring the quality of product, P4P has made concerted efforts in trainings to sensitize the farmer groups on the importance of storage for supplying institutional markets and have committed to provide 30 percent of the cost of a storage facility, on condition that 70 percent of the required funds are raised by the Farmer Organisation. Fourteen groups have since applied for the grant, of which 2 groups have completed their construction of a warehouse while two other groups in the process of building theirs. Random quality testing is also conducted by PFP on the available stock maintained by FOs' at their storage facilities.

To facilitate transport from smallholders, PFP has facilitated a bulk transportation tender from a private company who will collect produce at a set cost per km, with a different rate for transport on a tarmac road and transport on an unsealed road. Shipments from FOs need to be of a minimum of 10 tonnes and a maximum of around 28 tonnes to qualify. This has helped to ensure smallholders supply markets in a timely fashion, at the lowest possible transport cost per km of distance travelled.

Source: FAO (2014) Institutional procurement of staples from smallholders: the case of purchase for progress in Kenya, FAO, Rome

Other design factors critical to the success of SFPs

Establishing a policy and legal framework

Successful SFPs require political commitment and should be embedded within national policy frameworks and legislation to enhance the quality of implementation and sustainability. In many developing countries, school feeding is mentioned in the countries' sustainable development strategies, often linked to the agriculture, education, nutrition, or social protection sectors, or in sectoral policies or plans¹⁹⁷.

Financial capacity

Delivering safe and nutritious food through SFPs is not cheap. The largest costs resulting from SFPs are typically associated with the procurement of food. However, other significant costs are also incurred, including from transport, storage, processing into meals and overheads. On average, SFPs in low-middle and low-income countries cost around US\$56 per child per year¹⁹⁸.

Successful SFPs require a stable and secure funding source. The long-term sustainability of SFPs depends upon the source of the funding being independent of external support. Revenue collected from excise taxes levied on unhealthy food products could provide a valuable source of funding for SFPs in the PICs.

Institutional capacity and coordination

The complexity of managing school feeding programmes should not be underestimated. They require considerable institutional capacity for management and day-to-day oversight. Therefore an initial planning phase should be used to establish how to increase the existing resources – human, physical and financial – of the ministries that will be involved.¹⁹⁹

There is need to match farmers who are being supported with technical advice (by the agriculture sector) and other services (business support and credit) with purchases being made by the education sector. This sort of coordination is needed, but not always easily achieved.²⁰⁰

Geographic Preference

Geographic preference refers to any policy or initiative in which a school or other institution seeks to purchase food from farms and producers within a certain geographic proximity by making it easier for such local producers to meet its bids.

Geographic preference policies ensure that fresher foods are available to the students while helping local, often small-scale farmers, find a stable market for their goods.

Schools and institutions can implement a geographic preference by taking into account the origin of foods in the bidding process or by giving a percent price preference to locally grown foods, making their bids comparatively cheaper than those of non-local foods

Source: The Harvard Law School Food Policy Clinic, 2012

¹⁹⁷ Bundy *et al.* (2009) *Op. Cit.*

¹⁹⁸ World Food Programme (2013) *Op. Cit.*

¹⁹⁹ World Food Programme (2013) *Op. Cit.*

²⁰⁰ Ibid

Institutional Arrangements

- ✓ *A legal mandate embedded within a specific government ministry*
- ✓ *A national policy framework/strategy which recognizes the important education, health and agriculture sector roles.*
- ✓ *A national multi-sector body mandated to coordinate and manage the implementation of the SFP policy and strategy*

Conclusions

School feeding programmes offer, at relatively low cost per person, significant potential health, educational, employment and earnings benefits which can help PICs halt the rise in obesity rates and NCDs, particularly amongst young people.

Public procurement of locally produced foods provides to supply SFP an opportunity for the agriculture sector in the PICs to establish market linkages which will improve their knowledge and experience of the use of contracts, provide opportunities to use these contracts to access bank finance, and subsequently invest in their capacity to meet the supply consistency and quality required by formal markets. Thus, if appropriately designed, SFPs can open new markets to small farmers and thus stimulate their investment in productivity enhancing technology.

It is clear that there will be few if any agricultural development benefits from public procurement (to supply SFPs) if there is no accompanying increase in farm productivity and efficient delivery of goods to market. Agricultural development efforts must therefore focus on helping farmers increase their yields and quality so that they become adequate and reliable suppliers to SFPs. The provision of complimentary services (access to information, training, credit, access to inputs and technology), to help small farmers increase productivity, should be linked to the process of structuring demand through public procurement. Where transport infrastructure or costs limit supply opportunities from outer islands or rural areas, opportunities for upgrading infrastructure or subsidising freight cost should be investigated.

Public procurement of local produced food by other institutional markets, such as hospitals, colleges, prisons, government offices, would help to multiply the benefits for the local economy provided by SFPs not only to farmers, but for those involved in the transportation, processing, and preparation of food along the entire supply chain.

The four critical success factors for SFPs using local food procurement

- ✓ Programmes must be designed for the country and the specific conditions in which the programme will be operating. Although programmes will be different from country to country, their underlying principles should be the same.
- ✓ Programmes are created by building on existing interventions, strategically linking them to optimise resources and benefit from synergies.
- ✓ To increase the income of small-scale farmers, programmes must increase small-scale farmers' access to the school feeding market. This can be done by providing information, specific training, support to farmer groups and rules and regulations that facilitate selling practices.
- ✓ Programmes must avoid causing an unintended rise in food prices, which could negatively affect smallholders who are buyers or net buyers.

Policy Action Area 4: Strategic coordination of food policy stakeholders

The challenges of coordinating food policy stakeholders

Policy reform is rarely a linear process from problem identification, policy-making, to implementation. Good public policies carefully balance competing considerations of political feasibility, economic efficiency and social effectiveness.²⁰¹ However, setting the agenda through public and private consultations, and co-operation, is crucial to building support for policy reform.

Policy making and policy learning occur within a web of interacting forces, involving multiple sources of information, complex power relations, and changing institutional arrangements
Porter and Hicks, 1994

Policy agenda setting involves a focus on consulting, and building co-operative relationships with, key decision-makers. Key decision-makers include Heads of Department and their policy and political advisors, as well as Ministers. The support of key decision-makers in government is critical of a new policy idea is to appear on the public policy agenda, as they act as

guardians of the formal agenda.²⁰² Yet support from outside of the formal policy system, such as through NGOs and think tanks, is also critical to build public support for change.

Multi-stakeholder partnerships can be useful for bringing together diverse actors into a forum for co-operation and mutual benefit. The central challenge of these forums revolves around the nurturing of a working relationship based on trust, mutual respect, open communication, and understanding among stakeholders about each other's strengths and weaknesses.²⁰³

Working in a well-established forum where research/analytical work and policy advocacy can be brought together to forge strategic alliances involving key stakeholders from relevant government agencies, private sector and civil society will help mobilise the attention of policy makers, and sustain their interest in an issue over the longer run. Political consensus for action is therefore more likely mobilised when there is a cross-sectoral advocacy coalition united in their interest to affect policy change through collaborative policy making.

Indeed the input of stakeholders with an intimate knowledge of, and interest in, new policy settings can assist public sector decision makers effectively identify the parameters of the policy problem, the indicators of success, and the urgency necessary for achieving meaningful change. As a result, public-private multi-stakeholder bodies, as well as inter-agency taskforces, represent a crucial piece of the puzzle towards the adoption and implementation of the policy options outlined in this toolkit.

²⁰¹ Porter and Hicks (1994) Knowledge Utilisation and process of Policy Formation, HRAA Project of the African Bureau, US Agency for International Development

²⁰² Cobb, R.W.; Elder, C. (1971) "The politics of agenda-building: An alternative perspective for modern democratic theory" *Journal of Politics* **33**: 892–915

²⁰³ Overseas Development Institute (2003) *Multi-Stakeholder Partnerships*, ODI Issue Paper Global Knowledge Partnership Secretariat, Kuala Lumpur, Malaysia

Creating strategic partnerships: the power of multi-stakeholder action

The ‘nexus’ concept helps us identify and manage trade-offs between often competing sectors to instead build synergies through our responses, allowing for more integrated and cost-effective planning, decision-making, implementation, monitoring and evaluation (see Box 23). It promotes the use of cross-sectoral consultation mechanisms in order to ensure that decisions are taken as part of an integrated, long-term and multi-sectoral strategy. A nexus approach to sectoral management, through enhanced dialogue, collaboration and coordination, aims to ensure that co-benefits and trade-offs are considered and that appropriate safeguards are put in place.

BOX 22: THE ENERGY-WATER-FOOD NEXUS

Agriculture is currently the largest user of water at the global level, accounting for 70% of total withdrawal. The food production and supply chain accounts for about 30% of total global energy consumption.

If water, energy and food security are to be simultaneously achieved, decision-makers, including those responsible for only a single sector, need to consider broader influences and cross-sectoral impacts.

Managing the energy-water-food nexus in the pursuit of great global food security is a key focus of FAO's programs. There are many synergies and trade-offs between water and energy use and food production. Water is an input for producing agricultural goods in the fields and along the entire agro-food supply chain. Energy is required to produce and distribute water and food: to pump water from groundwater or surface water sources, to power tractors and irrigation machinery, and to process and transport agricultural goods. Using water to irrigate crops might promote food production but it can also reduce river flows and hydropower potential. Growing bioenergy crops under irrigated agriculture can increase overall water use and impact and on access to water food security. Converting open irrigation channels into more efficiency piped irrigation may save water, but may also result in higher energy use. Recognizing these synergies and balancing these trade-offs is central to jointly ensuring water, energy and food security.²⁰⁴

There are three complementary areas of work, interlinked by stakeholder dialogue, which are critical to identifying, assessing and managing Nexus interactions: a) evidence, b) scenario development, and c) response options.

The evidence-based analysis of Nexus interactions and the development of scenarios, strategic visions and response options are carried out through a stakeholder dialogue. The dialogue process helps to make explicit the different goals, interests and uses of stakeholders and offers a process to reconcile these differences. It helps to raise awareness of the interlinked nature of the different parties' interests and build common ground among the different stakeholders. Stakeholder dialogue also helps to create a sense of ownership among stakeholders and to legitimise decision-making processes.

²⁰⁴ FAO (2014) The Water-Energy-Food Nexus: a new approach in support of food security and sustainable agriculture, FAO, Rome

Scenarios can be useful to explore strategic questions, to review policies and investment decisions, and to create improved understanding of the interrelations between stakeholders. Scenarios present plausible future progressions from the present situation, assuming a number of driving factors. The development of scenarios poses a methodological challenge, which can be addressed using systematic approaches that strengthen cross-sectoral perspectives and highlight links between sectors, such as the forward-looking scenario-thinking approach.²⁰⁵ This can help decision-makers to anticipate, plan and manage transitions successfully.

Data, analysis and scenarios are part of a Nexus assessment, which inform stakeholders about Nexus interactions, highlighting tradeoffs and synergies. This can provide the basis for dialogue and the development of shared strategies, in a more coordinated and sustainable manner.

In order to assess and analyse Nexus interactions, reliable, pertinent and timely data is needed. Linking to existing data collection and dissemination systems, while supporting the development of new systems, tools and services is essential given issues with data availability and quality in food production and nutrition in the Pacific (Box 23).

BOX 23: FRAMEWORK FOR A FOOD SECURE PACIFIC

In 2008 at the 39th Pacific Islands Leaders Forum, Pacific leaders issued a call for action on food security. An action plan for improving regional food security was discussed at the Pacific Food Summit held in Port Vila in April 2010, which culminated in the adoption of a regional Framework for Action called “Towards a Food Secure Pacific 2010-2015”. A Food Secure Working Group was formed, comprised of various development and technical partners, to coordinate the drafting and implementation of the plan. The themes, strategies and actions contained in this Framework for Action were formulated through a process of technical consultations and a series of national food summits, and were reviewed and finalized at the Pacific Food Summit in Port Vila, Vanuatu (21-23 April 2010). This Framework highlights key aspects of food insecurity. These themes were identified as: Leadership and cooperation; regulatory frameworks, enforcement and compliance and public-private sector collaboration; enhanced and sustainable production, processing and trading of safe and nutritious local food; protecting infants and vulnerable groups; consumer empowerment and mobilizing partners; a food security information system; and, enhancing land tenure systems and land-use policies, energy, transport, education and communication systems to underpin food security.

In order to ascertain whether regional food security is improving, it is now critical to establish the food security information system to provide robust, evidence based information on food security which will facilitate policy makers in their understanding of the diversity of food security issues across the Pacific. It is hoped that the system will be able to also support the dissemination of effective new ideas and initiatives.

Source: FAO and SPC (2014) Pacific Food Security Indicators: a framework for development, Suva, SPC

The development of a Sector Strategy for the Fruits and Vegetables subsector in Samoa is a good example of the implementation of a process of multi-stakeholder engagement creating ownership

²⁰⁵ FAO (2012) Mutually acceptable mechanism on integrated use of water resources in Central Asia. Applications of the Scenario approach. Ankara, FAO

of a shared, multi-sector strategy. The emphasis on this strategy came out of the EU/AAACP Pacific Kick-Off Workshop held in Samoa in February 2008, where the EU sought to determine the type of external assistance necessary to build the capacity of Pacific agricultural stakeholders along the value chain and to implement sustainable commodity strategies. The development of the Sector Strategy used a market-led participatory stakeholder approach focusing on domestic, regional and international markets. The emphasis was on revitalizing the fruits and vegetables subsector through the value-chain approach, targeting agro-processing, agri-tourism linkages, product/market development and trade intelligence areas.

BOX 24: THE SAMOAN FRUIT AND VEGETABLE STRATEGY

Following initial consultations with Samoan stakeholders and Authorities in July 2008 a Strategy Development Coordinating Committee was appointed by stakeholders and is composed of both Private and Public members. The first of two participatory strategy development workshops was held in Apia in November 2008. More than 80 stakeholders representing Farmers, Processors, Buyers, Government Agencies and implementing partners participated. Market opportunities identified, Value Chain issues and sector constraints relative to the targeted markets were identified and response activities drafted.

A multi-stakeholder group – the Fruit and Vegetable Strategy Development Coordinating Committee - was established in late 2008. It was appointed from a stakeholder group was made up of farmers, extension service providers, processors, exporters, retailers, hospitality and catering operators, education providers and Samoan Government Ministers and officials from the Prime Minister’s department, Agriculture, Finance, Health, and the Scientific Research Organisations of Samoa. The Committee comprised of representation of farmers, processors, tourism industry, support services and the Ministry of Agriculture.

With the support from the Ministry of Agriculture and a national consultant, the Committee drove the development of the strategy and ensured the necessary communication to and involvement of stakeholders and authorities in the process. The Coordinating Committee was also responsible for the overall quality and relevance of the strategy as well as for maintaining and generating the necessary ownership among stakeholders for successful implementation.

Seven key objectives for the sector were identified and an implementation plan with concrete development activities was drafted. After refinement of activities by the Fruit & Vegetable Strategy Coordinating Committee (F&VSCC) relevant stakeholders met again in March 2009 for a final workshop where the strategy was validated and endorsed. The Ministry of Agriculture and the Coordinating Committee presented the outputs to the Prime minister and Cabinet on 18th March 2009.

Source: ITC (2012) The Samoan Fruit and Vegetable Strategy, Geneva, ITC

Setting up and running a formal forum for policy dialogue

Successful policy deliberations tend to progress through three broad phases: (a) issue focusing and convening; (b) information exchange and discussion; and (c) solution-seeking and consensus building.

Whilst there is no magic formula or single pathway to set up and run a successful forum for policy dialogue the common underlying preconditions for establishment and some of the mechanical and procedural steps involved in a dialogue are presented in Table 17 below²⁰⁶

The successful outcome for the dialogue processes should be a well-justified, well evidenced set of clear recommendations, from key stakeholders, to the political decision makers. Taking those decisions and implementing the policy actions is the jurisdiction of governments. Whilst Governments should be involved in all the dialogue processes outlined, the ultimate choice of policy options and their level of implementation are directly under their control.

However, as the policy environment remains dynamic, the established policy forum will continue to play an important role in monitoring and evaluation of policy implementation and outcomes; undertaking additional analysis and making recommendations for policy adjustments where necessary.

Policy Dialogue

Policy dialogues are deliberative meetings that seek to exchange information and build consensus recommendations between the public, private, and civic sectors

They aim to forge alliances, make decisions, or strongly influence the trajectory of a possible solution to a challenging issue.

Policy dialogues bring diverse interest groups to the table, focus on a regulatory, policy, or planning issue that is of common interest, have a life cycle with a beginning, middle, and end, and seek to formulate practical solutions to complex problems.

Source: Adler and Celico, 2001

TABLE 18: SOME POINTERS FOR ESTABLISHING AND RUNNING A SUCCESSFUL FORMAL FORUM FOR POLICY DIALOGUE

Getting Started	
Ripeness	<i>First, the issue is ripe for addressing. Often this means that the full diversity of participants have become sufficiently frustrated with the traditional adversary or uncoordinated process that they are willing to try a different approach.</i>
Poor Alternatives	<i>Second, none of the participants are likely to get a better</i>

²⁰⁶ Adler PS, Celico KP (2003) "Policy Dialogue" Beyond Intractability, Eds. Guy Burgess and Heidi Burgess. Conflict Information Consortium, University of Colorado, Boulder

Pre-ingredients to get a formal forum for policy dialogue started		<i>outcome by proceeding on their own.</i>
	Creative Leadership	<i>Third, creative leadership from diverse parties helps ensure the success of a dialogue. Leaders who truly want to solicit input and are able to respond very clearly why or why not they are taking the recommended approach are key to the process.</i>
Working Procedures		
Some of the mechanical and procedural steps involved in setting up and running a policy dialogue forum	1. Exploratory Contacts	<i>Preliminary calls or letters to knowledgeable individuals in the public, private, and civic sectors to examine the viability and timing of a dialogic approach to a specific issue(s), and identification of a representative group of stakeholders to steer policy dialogue</i>
	2. Issue Framing	<i>The development of a key policy, planning, or regulatory question, or set of questions, to which the dialogue will then seek to develop consensus and answers.</i>
	3. Product Framing	<i>An initial conceptualisation of possible products, i.e., joint policy recommendations, delineation of issues and options, guidance to government, etc., and possible linkages to formal decision-making.</i>
	4. Concept Paper	<i>The creation of a brief proposal and call for participation that is circulated to prospective participants and funders.</i>
	5. Financial Commitments	<i>Multilateral pledges to help underwrite a dialogue and its associated costs.</i>
	6. Work Plan	<i>A detailed but flexible work plan that corresponds to the needs of the project and that outlines budget and timelines.</i>
	7. Briefing File	<i>A file of background materials, position papers, summaries of pertinent research, and other materials that help ground and prepare participants for discussions is distributed</i>
	8. Protocols	<i>An initial set of ground rules which are negotiated at the first meeting (or prior) and which create common rules of engagement regarding decision-making, participation, and ground rules for media contacts.</i>
	9. Use of Experts	<i>Certain issues - health taxes, financing agriculture, and school feeding programmes - may need a great deal of technical information and therefore identifying acceptable independent experts will help to secure state-of-the-art information.</i>
	10. Reporting and	<i>Typically, most dialogues produce a set of recommendations, guidance to government, or a report on future directions. It is important that leaders play an active role in distributing such</i>

	Roll Out	<i>reports and ensuring the widest possible logical policy relevance and use.</i>
	11. Feedback and Continuous Excellence.	<i>It is crucial that members ongoing evaluation of the work, both during and after the life of a specific dialogue.</i>
<p><i>Source: Adapted from Adler PS, Celico KP (2003) "Policy Dialogue." Beyond Intractability. Eds. Guy Burgess and Heidi Burgess. Conflict Information Consortium, University of Colorado, Boulder. Posted: December 2003 <http://www.beyondintractability.org/essay/policy-dialogue</i></p>		

The role of food policy councils in the implementation of policy toolkit options

Food policy cuts across many policy areas, including Health, Agriculture, Finance and Education. Capturing the attention of such a diverse group of stakeholders can be best achieved by establishing a formal, multi-stakeholder policy forum capable of identifying the shared interests of the group, such as a 'Food Policy Council.

Food Policy Councils (FPCs) are typically formed to help policy-makers share information, and develop strategic and cross cutting issues. They are therefore designed to create the necessary 'space' in the national policy making process in which civil society (including farmer organisations, NGOs and private sector representatives) can present their perspectives and hold public agencies to account. The outcome should be a formal platform on which to form a solid union between highly technical issues, the concerns of the community and the realities of politics; where distrust and suspicion can give way to a sense of possibility.

The FPC concept is relatively new in the Pacific. However, Pacific Island Countries have experience of working in broad coalitions in order to achieve substantive changes in food and nutrition policy, such as the development of policies requiring the fortification of key staples (Box 27) and the development of Food Bills aimed at establishing minimum food safety and quality standards.

Food Policy Council

The food policy council model emerged in North America during the last three decades in an attempt to address the inadequacies and gaps in food policy and planning. Despite its fundamental importance to society, food and food policy, historically, has been shaped by a disparate array of government departments and agencies that have lacked the coordination and recognition of linkages between the food-related sectors. Remedies for specific food-related problems, such as diet and nutrition in relation to agriculture, hunger, food business, among others, have been sought in narrow and sometimes ineffective ways.

The Food Policy Council model is a policy and governance innovation that brings together diverse stakeholders to study a localized food system and offer recommendations for policy change.

Box 25: LESSONS LEARNED FROM THE DEVELOPMENT OF FLOUR FORTIFICATION LEGISLATION IN FIJI

Policy change is hard work sometimes: The process of developing and implementing the standard for fortification in Fiji was slow and often bumpy, though ultimately successful. An initial misunderstanding between public and private sector stakeholders led to considerable confusion amongst key officers, and left Fiji without mandatory flour fortification for a considerable time longer than had been expected/ planned for.

Champions are critical: It's unlikely that the fortification would have progressed without the determination of key individuals, and the support of agencies like UNICEF. At times the entire process seemed to have stalled, but was then re-invigorated by one of the key individuals. The champions can be supported and encouraged by attending technical meetings.

Collaboration with industry is critical: Industry support and buy-in is essential, however it should be remembered that ultimately the government sets the legislation and therefore can over-ride industry demands if needed. Support however is needed to assist the industry with technical changes, additionally all potential partners should be involved in discussions, as companies may become involved or key later.

Evidence-informed policy-making is important: The existing evidence on flour intake, flour supply and anaemia in Fiji was critical in developing the legislation. Time and again the statistics were utilised to push for funds (from government and donors), support and action.

Monitoring, evaluation and review is critical: Despite the fact that the legislation required enforcement, it appears to have been lacking. The one piece of information on testing from 2009 shows considerable problems. It is important to ask the questions as to whether this legislation is working, whether nutrient levels need modifying and what other mechanisms are needed to tackle iron deficiency. Additionally are government utilising the legislation to its fullest extent, for example are they requesting reimbursement for analysis costs?

Source: Snowdon W, 2012

Conclusions

Establishing the policy and regulatory settings and institutional service provision necessary to reduce PICs heavy dependence on food imports, vitalise local agriculture and strengthen food security, will require a coordinated effort reaching across many areas of government responsibility (including, but not limited to; Finance, Taxation/Revenue, Health, Education, Agriculture, Infrastructure & Utilities, Women's Affairs and Environment). It will also need to include a strong voice from the private sector (farmers, fishers, traders, retailers, processors, food service and transportation etc.) and civil society. Therefore, there is a critical need for the establishment a formal forum where key stakeholders from government, the private sector and civil society can come together to identify and lobby for the policy and regulatory reforms which are necessary for tackling the NCD health crisis, achieving import substitution, encouraging local agri-business development and protecting the equity and environmental sustainability of PIC's food systems.

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Annex 1: Information on Recent, Health Motivated Food Taxes

Description of Tax	Date introduced	Date abolished	Tax Rate	Tax base	Chargeability	VAT
Denmark			1 DKK approx. US\$0.17			
Excise duty on saturated fat	Oct 2011	Jan 2013	DKK 16 / kg of saturated fat ¹⁰	Meat, dairy products, animal fats and vegetable oils which contain more than 2.3% saturated fat. Standardised liquid milk is not subject to the tax	Applies to food producers with a yearly turnover of more than DKK 50,000 of the corresponding food products in Denmark. Applies to imports.	Standard rate 25%
Excise duty on ice cream	2010 increased in place since 1946	-	DKK 6.61 / L of ice cream	Ice cream or ice cream mix with a content of sugar above 0.5 g per 100ml.		
			DKK 5.29 / L of ice cream	Ice cream or ice cream mix with a content of sugar below 0.5 g per 100ml		
Excise duty on soft drink and juice	2013 reduced by 50% In place since 1930's	Jan 2014	DKK 0.82/IL standard rate ;DKK 0.295/IL reduced rate; *note: various rate increases and decreases prior to 2013	Standard rate for sugar content >0.5g/100ml and reduced rate for sugar content <0.5/100ml.		
Excise duty on chocolate and sweets ¹¹	2013 increased in place since 1968.	-	DKK 24.61/kg (In 2010 increased from DKK 14.20 to DKK 17.75/kg and a reduced rate of DKK 14.20 for low sugar products. 2012 raised again to DKK 23.75 and 20.2 for low-sugar products.	DKK 20.93 / kg. Chocolate and chocolate products, liquorice products, marzipan, sweets, effervescent products, chewing gum, cakes with a certain sugar, cacao or chocolate content etc. Certain products that can be used for the production of chocolate and sweets, such as almonds, nuts and cocoa nuts, are subject to raw materials tax.		
			DKK 20.93/kg.	Products, as per above, containing less than 5 grams of sugar /kg.		
Finland			1 EUR approx. US\$ 1.29			

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Excise duty on confectionery, ice cream and soft drinks.	Excise duty on sweets 1926 in 2000. Soft drink excise since 1940. Sweet tax reintroduced in 2011 and combined with existing soft drink tax, ice cream added.	-	<p><u>2014:</u> EUR 0.95/kg or EUR 0.220/L (sugar-sweetened beverages & juices) EUR 0.11/L (sweetener-based soft drinks and waters)</p> <p><u>2012:</u> EUR 0.95 /kg or EUR 0.11 /L</p> <p><u>2011:</u> EUR 0.75 /kg or EUR 0.075 /L</p>	Sweets, chocolate, ice-cream and soft drinks (including sugar- and non-sugar-sweetened soft drinks, juices and water). Exemptions: Sweets, ice-cream and soft drinks used in the manufacture of other products; Goods transported by travelers and acquired for their own use.	Paid by producer when products enter into the market. Imported products are taxed. Exported products are not taxed. Exempt: Producers with an annual production volume of less than 10,000 kg or 50,000 liters are exempted from the tax.	<p>Standard rate 24%</p> <p>Reduced rate 14% for foodstuffs</p>
France 1 EUR approx. US\$ 1.29						
Excise duty sugared and non-sugared-sweetened drinks	1 Jan 2012	-	Adjusted every 1 st of January in order to be in line with the growth rate of the consumption's price index of the second year preceding the levy. 2012: EUR 7.16/ hectoliter 2013: EUR 7.31 2014: EUR 7.45	All beverages with added sugar or sweetener (whatever the quantity), packed into containers aimed to the retail market (direct or with an intermediary) and with an alcohol strength equal or below 1,2%vol. (0,5% vol. in the case of beers.)	Tax is paid by producers, importers and those in France acquiring the drinks from other EU countries .Exoneration applies to exports (in and outside EU).	<p>Standard rate 20%</p> <p>Reduced rate 5.5/10% for foodstuffs</p>
Excise duty on "energy drinks"	1 Jan 2014		EUR 1 / liter	"Energy drinks" defined as beverages with caffeine content 220mg/l.		
Hungary 10 HUF approx. US\$ 0.41						
Public health product tax (NETA)	2011	-	7 HUF/liter	Soft drinks: Added sugar: more than 8g/100ml. Exempt: Drinks with more than 25% fruit or vegetable content and products prepared with the use of at least 50% of milk	Based on the weight or volume (kg or liters) of the product. Applicable for products sold over 50kg or 50 liters. The tax is payable by the first domestic distributor or the producer of the own brand product.	<p>Standard rate 27%</p> <p>Reduced rate 18% for milk and milk products</p>
			200 HUF/liter	Syrups or concentrates for soft drinks. Exempt: Syrups with more than 25% fruit or vegetable content.		
			250 HUF/liter	Energy drinks: Methylxanthines content: more than 1mg/100ml Taurine: more than 100mg/100ml. Or: Methylxanthines content alone of more than 15 mg/100ml.		

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			70 HUF/kg for sweetened coca powder or 130 HUF/kg for other pre-packaged sugared products	Confectionery: Added and total sugar: more than 25g/100g Chocolate: added and total sugar more than 40g/100g and cocoa content less than 40g/100g. Exempt: Products prepared with the use of least 50% of milk.	
			250 HUF/kg	Salty snacks: Salt: more than 1g/100g.	
			250 HUF/kg	Condiments: Salt: more than 5g/100g (exemptions for mustard and ketchup and some other salted flavoring vegetable products under 15g/100g salt content).	
			20 HUF/kg	Flavored beers/alcopops: Beer or any other alcohol with added sugar that has a total sugar content of more than 5g/100ml.	
			500 HUF/kg	Fruit jam: All fruit flavors except extra jam, extra jelly, marmalade and special quality jams.	

Source: ECORYS, 2014, *Food taxes and their impact on competitiveness in the agri-food sector. Final Report, Table 12, Rotterdam, 12 July 2014.*

Annex 2: Guide to Financial Institutions interested in lending to and insuring the agriculture sector

Risk management approaches
A. Risk evaluation approaches
1. Household/firm cash flow
2. Project analysis
3. Household/firm net-worth
4. Agricultural practices (irrigation, agronomy practices, etc.)
5. Local environment (price, weather, etc.)
6. Local references (suppliers, processors, intermediaries, etc.)
7. Membership in producer organizations/cooperatives
8. Credit history with local lenders
9. Credit history with credit bureau
B. Risk quantification tools
1. Eligibility norms and judgment-based analysis
2. Manual credit scoring
3. Automated credit scoring
4. Risk modeling (PD [Probability of default], etc.)
C. Risk mitigation practices
<i>Mandatory requirements</i>
1. Minimum size of property
2. Mortgage of land or house
3. Pledge of moveable assets
4. Borrower is part of a value chain
5. Loan-payment agreement with buyer
6. Credit insurance
7. Borrower has life/health insurance
8. Borrower has crop insurance

Limits
9. Limits to agriculture sector concentration
10. Limits to crop concentration
11. Limits to geographical concentration
12. Ban on financing specific crops/activities
Other Policies/Practices
13. Provision/facilitation of technical advice
14. Specialised risk rating norms
15. Specialised asset clarification norms
16. Portfolio insurance
17. Centralised loan monitoring
18. Risk-based pricing
Risk Transfer Tools
19. Use of credit derivatives
20. Use of securitization

Source: Aagnet Discussion Note: Managing Credit Risks in Financing Agriculture – Lessons from Five Countries, prepared by Michael Marx, FAO

Annex 3 The World Food Programme's Design Checklist for School Feeding Programmes

A school feeding programme linking with local agriculture production is a multi-level and integrated programme that requires effort and investment at several levels. To ensure quality implementation and sustainability of these efforts, a number of conditions should be given special attention. The following checklist suggests key areas to be considered before embarking on the design of such a programme.

Design checklist

Policy environment

- Is there a national, multi-sectoral poverty reduction strategy linking agriculture development for smallholders to school feeding? Does it integrate key ministries?
- Is this strategy supported by key stakeholders in the country?
- Does the country have an educational sector policy? Is school feeding mentioned in that policy? Does it link school procurement to small-scale farmers' production?
- Does the country have an explicit school feeding programme?
- Is the country part of a supra-national collaboration network seeking to promote public and private partnership in education and/or agriculture development?

Institutional arrangements

- Does the country have a national, multi-sectoral body mandated to coordinate and manage the implementation of the home-grown school feeding policy and strategy?
- Does this body promote horizontal coordination between the Ministry of Finance, Ministry of Agriculture and Ministry of Education? Does this body promote interaction between the different stakeholders?
- Does this body support coordination and management among the central, regional and local levels? How?
- Is there a national M&E unit collecting relevant data on agriculture and education?
- Does this M&E unit have a mechanism to ensure that all major interested parties submit their reports to the unit?
- Is there a public extension service?
- Is there a local-level school feeding committee charged with procuring food locally and producing a yearly financial statement?

Local conditions

- What number of feeding days is covered by the government, by the community and by other contributions?
- Is water available for cooking and sanitation?
- Are there latrines?
- Do schools have storage facilities?

- Is the food cooked at school? Are there an adequate number of trained cooks?
- Is there a trained focal point at school to coordinate school feeding activities and to procure food? Is there a tendering process for food procurement?
- Are there school records on food stocks, receipt, losses and utilization?
- Are the parent-teacher association and the head teachers trained in school feeding management and recordkeeping? Do they submit regular reports to local and district authorities? Are these reports used to adjust the school feeding programme at the district, regional and national levels?
- Do local farmers produce a marketable surplus? If so, what is the total value?
- Do farmers use modern inputs, technologies and fertilizers?
- What is farmers' average distance from the market?
- What is farmers' literacy level?
- Do farmers have access to credit?
- What level of marketing and transportation expenses do farmers face?
- Are farmers organized in cooperatives or associations? If so, how are they structured and what are the dimensions? Do they have increased income?
- How can farmers get information about market prices and school requirements?

Funding

- What are the main national sources of funding for school feeding and smallholder agricultural development programmes or initiatives?
- Are there external sources of funding for these types of programmes?
- Is there a clear budget breakdown between government and donor funds?
- What is the government's annual allocation for school feeding?
- What is the government's cost per student per year for a school meal (for everything from procurement to meal preparation)?
- What is the government's annual allocation for smallholder agriculture development?
- Is there internal and external predictability of available funds for expenditure on those programmes and initiatives?
- Are there deviations between actual budget support and forecasts of donor agencies?
- Is the government's annual budget documentation comprehensive? Does it include estimates on budgetary implications for school feeding and smallholder agriculture development policy, programmes and initiatives?
- Are there specific budget lines for these programmes and initiatives?
- Is there transparent allocation of resources, including conditional and unconditional transfers, to school feeding initiatives from central government to sub-national and local governments?
- Can sub-national and local governments provide fiscal reports on these initiatives? Is this information consolidated with central government fiscal reports?
- Is this fiscal information accessible by the public?
- Does the government have a multi-year perspective in fiscal planning and functional allocation of resources?
- Is there a control system in budget execution? Is this control timely, regular and qualitative?

Source: *World Food Programme (2009) Home Grown School Feeding: A Framework to Link School Feeding with local Agricultural Production, Rome*

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