



Agriculture and Forestry Priorities in the Pacific

What do they Say, What's Common
and Where to Next?

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EXECUTIVE SUMMARY

Understanding the national policies of the important agriculture sector in each Pacific country is a key starting point for understanding Government priorities for the sector, its policy remit and how or where one might engage in helping to grow the agricultural footprint of our Pacific economies.

It is clear that more investment and more effort is needed to accelerate agricultural growth in the region. Accessing information is a key starting point to engaging decision makers, farmers, business and all key stakeholders in the sector.

At the regional level, more collaboration is needed among countries, development partners and technical agencies to increase impact, promote economies of scale and supplement national capacities.

This Agriculture Compendium provides a Summary of the Key priorities of Agricultural Strategies or Plans of 15 Pacific countries. In doing that, it clearly lays out the documented priorities and issues that are common to these countries. The Publication is organised into 2 parts;

- (i) A comparative analysis of the common priorities, issues and opportunities drawn from the national sector plans of 15 countries;
- (ii) Country pages that provide an overview of the agriculture sector plans and remit

This work began in 2015 and has been updated to account for new agriculture sector plans (Tonga, Samoa, and Niue) that were launched over the course of 2016.

There are some simple observations drawn from this work. First, all countries had a national agriculture sector plan or document. The forms of these documents differed but there was still a reference that was utilised by sector planning officials in each country. Second, the coverage of the documents was extensive and there was convergence on many things; themes, objectives, commodities and issues such as soils, extension and statistics. It was also interesting that many policies contained 'progressive' elements referring to opportunities such as organics, agri-processing, agri-tourism, finance and private sector engagement. Third, there was little awareness by stakeholders – including within Government, about the existence, content and breadth of agriculture policies managed by Agriculture Ministries. This was not surprising given the extremely limited resources of Agricultural Ministries and within that, for regular communication and/or wider stakeholder engagement. Lastly and importantly, NAS documents provided legitimacy - many of these documents (national or subsector) passed through some form of Ministerial or Cabinet approval process.

This work has prompted the establishment of a new Regional online policy library or "Agriculture Policy Banks" www.spc.int/pafpnet/policy-bank). What is hoped that this Compendium and the library provides yet another platform to discuss and accelerate efforts for greater regional collaboration.

Pacific Agriculture and Forestry Policy Inventory

1. INTRODUCTION

The Secretariat of the Pacific Community (SPC) and the European Union are working together through the Pacific Agriculture Policy Program (PAPP) to support agriculture objectives in the Pacific Islands region. The PAPP aims to deliver the following results:

Result 1: Strengthen regional agriculture development strategy

Result 1.1 *Enhance the capacity of the SPC LRD Policy Support Unit to support the development and implementation of national and regional agricultural and forestry sector policies*

Result 1.2 *Enhance the capacity of SPC to provide ongoing support to national authorities to improve their systems for collecting agricultural statistical information*

Result 2: Improve the dissemination and adoption of applied agricultural production research technologies

Result 2.1 *Improve the dissemination of field research, good practices and technical exchange including climate change adapted research technologies*

Result 2.2 *Improve the food security of small-holder agriculture by facilitating the adoption of locally produced animal feeds and improved land management techniques households (sic), in cooperation with national extension services and communities*

Result 3: Contribute to agricultural enterprise development through improved market linkages

Result 3.1 *Improve the capacity of small-holder farmers to link to markets through Farmer Associations*

To support this work, SPC has commissioned an Inventory of key national-level agriculture/forestry policies in the participating Pacific Island countries¹. The inventory has two parts:

- a) A Matrix providing summary information on national plans/policies
- b) Analysis of the national documentation to identify gaps in knowledge, shared priorities, opportunities and challenges, and areas for future consideration.

Together these two elements are to provide information on:

- Status of the plan (i.e. in development, current);
- High priority areas (including commodities and issues) and specific linkages of these priorities, if any, to national development plans;
- Identification of common priorities across existing policies/plans;
- Challenges and opportunities for agricultural industries;
- Policies or programs adopted under the plans and frameworks;
- The types of evidence used to develop the plans and frameworks;
- Processes used to develop the plans and frameworks; and
- Plans and responsibilities for implementation.

The inventory is to provide information to underpin PAPP objectives, in particular results 2.1, 2.2 and 3.1 cited above, and will be made available to all SPC member countries through a website or portal hosted by SPC.

¹ The 15 PAPP countries are: Cook Islands, Fiji, Kiribati, Marshall Islands (RMI), Federated States of Micronesia (FSM), Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu and East Timor

2. Developing the Inventory

Scope and coverage

The inventory focuses on National agriculture sector documents (in the form of policies, plans, strategies, frameworks, or agendas as may be the case) that identify and describe national agriculture sector priorities. Plans, policies or programs that focus on single commodities or specific issues are not included in the review.

The inventory covers the 15 participating PAPP countries being: Cook Islands, Fiji, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu and East Timor.

Process and schedule

The inventory was initially developed over the period November 2014 – February 2015, using documents available at that time. The revision updates the inventory analysis through the inclusion of national policies or plans adopted since the original inventory was prepared and represents the states of national documents as at mid 2016. New plans included in this revision from: Niue, Samoa, Solomon Islands, Tonga, and Vanuatu. The overall process involved:

- Development of a questionnaire on national policies circulated by SPC to PAPP contacts in late November 2014. A copy of the questionnaire is attached as Annex B.
- Participation in the PAPP inception meeting held in Nadi, Fiji over 3-4 December 2014. The agenda for this meeting incorporated a presentation on the Inventory, and country presentations from participating countries on national agriculture issues, challenges and plans.
- Desktop review of national agriculture strategies and associated national planning documents.
- Draft report, including matrix, provided to SPC for feedback
- Report finalised March 2015.
- Updated Report (including information from five new or revised plans) finalised in November 2016

Information Sources

The inventory is based on the following sources of information:

- a) National plans and policies were used as the primary source of information to build the matrix and inform the analysis:
 - i. Current Agriculture Sector or Policies/Plans (including those in near-final version awaiting formal approval);
 - ii. If no current sector plan is available; Current Agriculture agency annual or business plans, or
 - iii. Other relevant policies/plans, such as national development plans that include an agriculture component, or the most recent non-current sector plan available.
- b) Other sources were used to provide basic country information (land area, population etc) as appropriate.

Limitations relating to source documents

The aim of the inventory is to present data from a complete set of current national agriculture sector strategies to enable a direct comparison of issues and priorities across the Pacific Islands region. However there are a number of factors which have limited the ability to present complete information and make direct comparisons.

The first set of factors relates to the status of plans and strategies:

- not all countries have (or have seen the need for) stand-alone agriculture sector strategies and plans. The plans reflect the different country needs and circumstances, including capacity limitations, and biophysical environments (land area, soils, climate etc) as well as the availability of resources and support.
- where countries have plans, they may be outdated, in the sense that they may have been drafted some time ago, or may have expired (i.e. their nominal term has concluded) but not been replaced;

The second set of factors relates to the form and content of national planning documents:

- There is no standard form for plans and strategies, and the scope of such plans and level of detail presented varies widely from country to country.
- This is especially the case for documents used for reference in the absence of national sector plans, for example:
 - o National sustainable development plans may have agriculture content, but it tends to be limited to high level aspirations relating to national economic, environmental and social goals
 - o Agency plans tend to focus on issues of organisational detail (often based around business units of the organisation) and do not always include a systematic presentation of national sector-level objectives and priorities

The plans also have different clustering of sectors and sub-sectors; present different combinations of agriculture, fisheries, and forestry, and at times give separate consideration to sub-sectors (horticulture, livestock etc) or commodities (sugar, vanilla, root crops etc).

In short the source documents differ greatly in terms of their level of coverage/detail, their audience, and the scope of the sectors under investigation. A summary of the national policy/sector plans and source documents is provided below.

Table 1:PAPP Inventory - Summary of source documents and review timeframes

Country	Title of Document [type of document]	Type of document	Status	Mid-term review	Terminal review
Cook Islands	Ministry of Agriculture Business Plan 2014/15 <i>Matairangi Purea</i>	Agriculture agency business plan	Most recent		
Fiji	Fiji 2020 Agriculture Sector Policy Agenda "Modernizing Agriculture"	National agriculture sector policy	Current	Mid-term (2017)	End term (2020)
FSM	Federated States of Micronesia Agriculture Policy 2012 - 2016	National agriculture sector policy	Current		
Kiribati	Agriculture and livestock Division Agriculture Strategic Plan 2013 - 2016	Agriculture agency strategic plan	Current	Mid-term	End term (2016)
Marshall Islands	Agriculture: Ministry of Resources and Development Strategy and Action Plan 2005 – 2010	Agriculture agency strategy	Most recent		
Nauru	National Sustainable Development Strategy 2005-2025 (as revised 2009)	National Sustainable Development Strategy	Current	2009	End term (2025)
Niue	Niue Agriculture Sector Plan 2015 - 2019	Agriculture Sector Plan	Current		
Palau	Bureau of Agriculture Strategic Plan FY 2014-2019	Agriculture agency strategic plan	Current		End term (2019)

PNG	National Agriculture Development Plan 2007 - 2016: "Growing the economy through agriculture"	Nation Agriculture sector plan	Current		End term (2016)
Samoa	Agriculture Sector Plan 2016 - 2020 "...enhancing partnerships to develop and sustain agriculture and fisheries..."	National Agriculture sector plan	Current		2020
Solomon Islands	National Agriculture and Livestock Sector Policy 2015 - 2019	National Agriculture sector policy	current		
Timor-Leste	Timor-Leste Strategic Development Plan 2011 - 2030	National development plan	Current		
Tonga	Tonga Agriculture Sector Plan 2016 - 2020	National Agriculture sector plan	Current		
Tuvalu	<i>Te Kakeega II</i> National Strategy for Sustainable Development 2005 - 2015 including Mid-Term Review: Action Plan 2015	National sustainable development strategy	Current	2009	End term (2015)
Vanuatu	Vanuatu Agriculture Sector Policy 2015 - 2030	National Agriculture sector policy	Current		

The differing format and content of the plans is described below.

Sector plans: Five of the agriculture sector plans (Fiji, FSM, Niue, Solomon Islands, Vanuatu) are mid-length documents of 20-50 pages (the Fiji and FSM plans have additional annex material). These have the general pattern of an introductory situation description; discussion of sector issues, and presentation of priorities, strategies or actions. In the main they are reasonably succinct and focussed documents.

The other three agriculture sector plans (PNG, Samoa and Tonga) are larger documents, 100 - 200 pages, with more extensive sector background description and narrative.

All the agriculture sector plans have multi-year terms, from four to fifteen years.

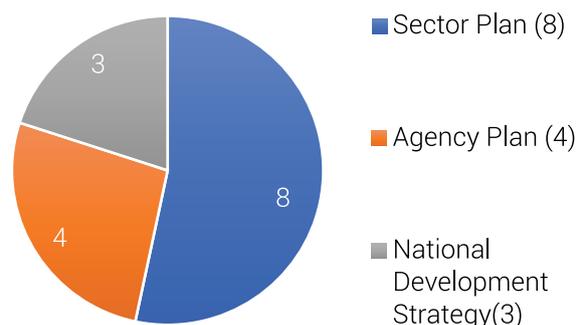
Agency plans: One of the agency plans (Cook Islands) is a business plans covering agency outputs for the relevant financial period, including resources and corporate service issues. There is relatively little descriptive material about the sector.

Three of the agency plans (Kiribati, the Marshall Islands and Palau) are multi-year plans incorporating the word 'strategy' or 'strategic' in the title. They have some descriptive material (less for Palau) while also incorporating a matrix style presentation of outputs and activities. In this way they represent a crossover between agency business plans and national sector plans.

National Development Plans: One of the national development plans (Timor-Leste) has separate sections on rural development and agriculture (approximately 30 pages) the content of which is much like a national agriculture sector plan.

The remaining two national development plans (Nauru and Tuvalu) address agriculture in short general paragraphs and in the content of a matrix of actions. In each case the total agriculture content is limited to 2-3 pages.

Figure 1: Type of Source Document*



*Numeral indicate the number of countries

3. INVENTORY ANALYSIS

Inventory Matrix

A record of information in the national documents was prepared in the form of a stand-alone inventory matrix (data spreadsheet). This provides a common reference document for national agriculture plans in the Pacific Islands region. The matrix records country statements across a number of parameters, including sectoral issues and priorities, as well as explanatory notes describing the parameters and structure of the matrix.

Methodology

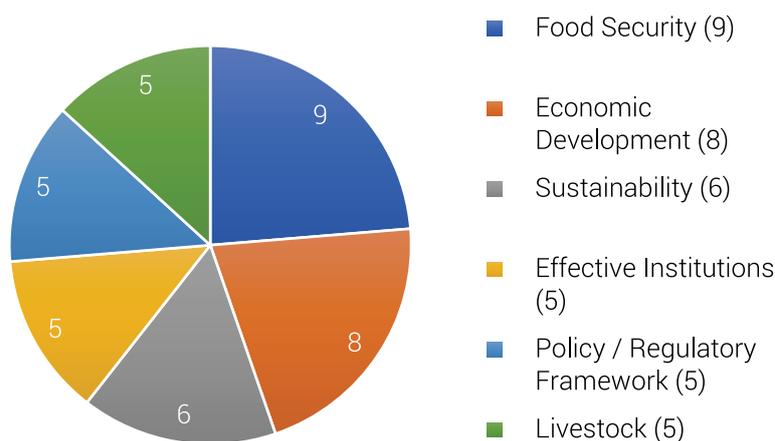
The analysis was carried out in three phases:

- 1) An initial regional overview of national agriculture sector priorities to identify common priorities across the region; this is taken only from the first tier priorities, not the document as a whole.
- 2) A detailed review of the full documents to identify key subcategories within the broad priority areas.
- 3) Narrative description of the most common sub-categories, focussing on the emphasis or rationale set out by countries.

Overview of Regional Priorities

Table 2 below presents summary information on national agriculture sector priorities. This analysis is based on national first level priorities, however defined, in each of the source documents (variously called key objectives, goals, outcomes etc). Although the status and specification of the priorities is different for each of the strategies/plans, taken overall they provide a broad indication of priority areas across the region. Figure 2 shows the six most common priorities across the region.

Figure 2: Common Agriculture Priorities*



* Numeral indicates the number of countries that included the category as a priority

Table 2: Pacific Island Countries: agriculture priorities identified in agriculture sector plans/strategies

	Cook Islands	Fiji	FSM	Kiribati	RMI	Nauru	Niue	Palau	PNG	Samoa	Solomon Islands	Timor Leste	Tonga	Tuvalu	Vanuatu	Number of countries
Food Security / consumption of local produce			X		X	X	X			X	X	X		X	X	9
Food safety			X		X						X					3
Local markets					X			X						X		3
Economic development incomes and Livelihoods				X	X		X		X	X	X		X		X	8
Integrated ag. system		X			X						X					3
Socio-cultural							X		X							2
Livestock	X			X		X		X				X				5
Land access /expand agriculture								X						X	X	3
Private sector					X					X			X			4
Access to Funding / investment		X			X									X		3
Gender, Youth				X					X					X		3
Trade					X									X		2
Added value / niche products					X	X				X						3
Sustainability / NRM				X					X	X	X				X	6
Biosecurity / quarantine	X			X	X			X								4
Climate Change										X			X	X		4
Effective Institutions	X	X		X					X					X		5
Policy / regulatory framework	X	X			X					X			X			5
R&D	X										X			X		3
Extension / training												X		X		2
Other	Projects delivery	Delivery of services	Traditional / customary knowledge	Atoll agriculture	Urbanization, Biodiversity, coastal protection, outer islands		Socio-cultural values	Plant/animal health, watershed / farm management, invasive species	Product quality, allocate resources to priority areas		Poverty alleviation, sector restructure, reduce dependency on imports	Irrigation, specific commodities, fisheries, forestry	Diversity, resilience	Subsistence agriculture	Planting materials, tools, agricultural inputs	

There are clear overlaps between these categories, for example between Food Security and Economic Growth, both of which are based on (increasing) agricultural production. Bearing in mind these overlaps, these common priorities can be considered under four common regional themes:

1. Food Security
2. Economic growth
3. Sustainability (natural resources)
4. Effective institutions

Detailed analysis of source documents

A review of the source documents was carried out to identify common factors at a greater level of detail under each of the four common regional themes. This was carried out by reviewing each source document in detail and recording subsidiary factors as sub-categories within the four themes.

Over 200 sub-categories were identified, along with a record of the number of countries which made reference in the source documents to each sub-category. It should be noted that the analysis did not attempt to reflect the extent of discussion of each sub-category, or the relative weight given to different sub-categories; it simply focussed on the presence or absence of the sub-category in each case. Note that the sub-categories may not represent a specific single issue; some represent a range of similar issues worded differently in different plans, but clustered together for this analysis.

In this way the most common regional subcategories were identified; these are clustered below under each of the four themes. Sub-categories included in this list, and the subsequent discussion, are all those that were raised in more than half of the national plans/strategies (i.e. by 8 or more of the 15 participating countries).

Regional Themes and Most Frequently-raised Sub-Categories

1. Food Security

- a) Nutrition (12)
- b) Reducing reliance on imported food / self sufficiency (12)
- c) Subsistence / village-based agriculture (10)
- d) Traditional knowledge and practices (10)

2. Economic Development

Modernising the agriculture sector (supporting infrastructure and organisations):

- a) Processing (9)
- b) Transport (9)
- c) Farmer organisations (8)

Increasing production:

- a) Access to funding/credit (10)
- b) Land access and ownership (11)
- c) Livestock (10)
- d) Private sector-led development (9)
- e) Crop varieties / diversity (8)
- f) Farm inputs (8)

Adding Value:

- a) Improve product quality (9)

Local markets:

- a) Marketing / promotion of local produce (10)
- b) Entrepreneurship / SMEs (9)

Trade / market access (12)

Inclusive development

- a) Rural livelihoods (10)
- b) Stakeholder capacity and participation (9)
- c) Gender / participation of women (9)
- d) Socio-cultural aspects (8)

3. Sustainability

- a) Soils - erosion, fertility etc (12)
- b) Water – availability and quality (11)
- c) Organic agriculture (10)
- d) Climate change (9)
- e) Biosecurity (9)
- f) Pests and diseases (9)
- g) Quarantine (8)

4. Effective government institutions

- a) Capacity and resources of government agencies (11)
- b) Sector policy / strategy (11)
- c) Regulatory / legal frameworks / compliance (8)

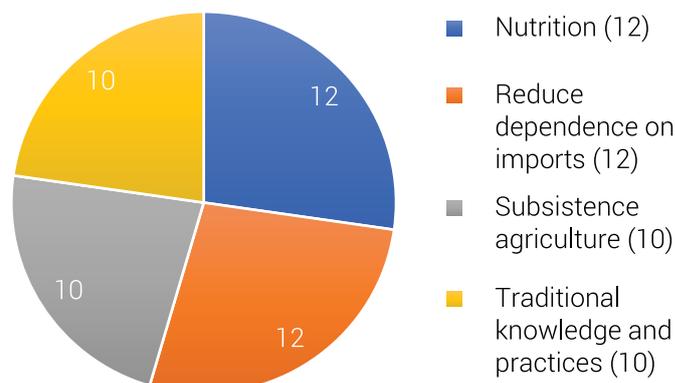
Delivery of services:

- a) Extension and advisory services (13)
- b) Training (10)
- c) Agriculture statistics (10)
- d) Research and development (8)

Discussion of Common Regional Themes and sub-categories

A. Food Security

Figure 3: Food Security: Major Sub-Categories



a. Nutrition

Twelve countries included reference to the link between food, nutrition and health. Countries were clear that locally produced food, particularly traditional staples, can offer a healthy substitute for certain imported foods. As explained in the Marshall Islands national development strategy; *"The influx and consumption [of] less nutritious imported food have induced the prevalent health problems or "life-style" diseases such as diabetes, high blood pressure, obesity, and gout among our people. To address these issues, the strategies proposed under agricultural development advocate the increase in the output of local food it is essential that our people have adequate access to quality and nutritious food"*.

b. Reducing reliance on imported food (self sufficiency)

Twelve countries highlighted the goal of reducing the reliance, or dependence, on imported foods. There is a dual rationale for this; the first relates to the nutritional impacts of certain imports, the second relates to import substitution. As the Samoa Minister of Agriculture and Fisheries notes in his Foreword to the Samoa Agriculture Sector Plan, agricultural development will "mean increased availability and access to high quality domestically produced nutritious food at prices our people can afford and thus reduce our current heavy demand on imported food products."

With respect to nutrition, concern is raised about foods that are "processed, high in sugar and salt and of poor nutrition", as well as high in fat, with one country citing turkey tails as an imported food product raising health concerns.

In other cases, countries cited the high level of imports/consumption of staples such as rice as a driver for local production; "a better potential opportunity would be if significant substitution of imported starch products such as rice, noodles, ramen and flour could be achieved by encouraging greater consumption of local staples"

. The Solomon Islands reports rice consumption of 100kg per capita noting that this is "the second highest amongst Pacific Islands". Timor-Leste has a goal of being self sufficient in rice production by 2020.

Further, Kiribati notes the risks of exposure to changes in the global commodity market - "We are fully aware of the fact that grain-growing countries in Asia and South America are facing great difficulties, and are looking at alternative crops that provide better returns. If this happens the people of Kiribati will starve".

c. Traditional knowledge and practices

Ten countries highlight the role of traditional knowledge and practices, for production and nutritional reasons; "growing traditional food crops will provide us with unlimited and nutritious supplies of fresh foods that will both address our food shortage and health problems" , and in some cases acknowledging with regret the "diminishing traditional knowledge of farming"

d. Subsistence agriculture

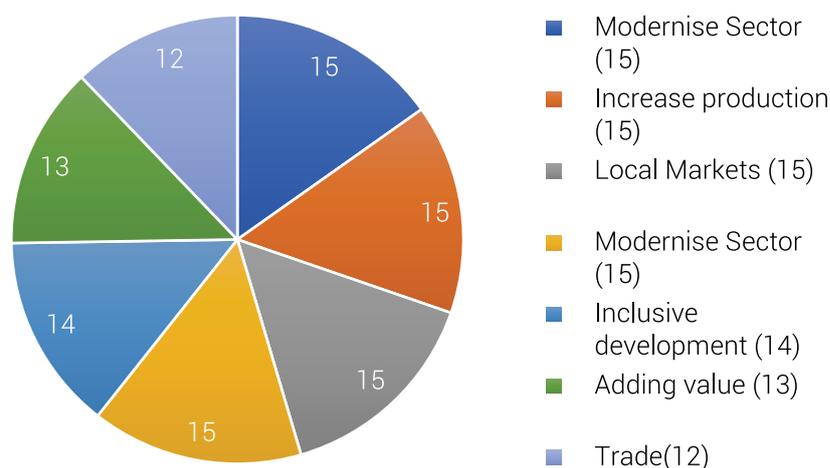
Ten countries cite subsistence agriculture as a key area for increasing food security. For example Tonga identifies "subsistence level stable food, cash crop and livestock production.." as one of four focus areas.

The theme of food security was closely linked with consumption of local produce. Of the countries that included food security as a priority, five described the issue in these terms. For example a priority for Tuvalu is to '*Increase production and consumption of local produce*'; in this way food security is closely linked with the issue increasing production. Sub-categories that address ways of increasing agricultural production are discussed under the Economic Development theme.

B. Economic Development

The issue of economic development / growth dominated much of the content of the source documents and more than half of sub-categories (over 120) were identified under this theme. To reflect the broad range of issues included under this heading, the content is discussed under a series of subheadings below.

Figure 4: Economic Development: Major Subheadings



* Numeral indicates the number of countries that included reference under the subheading

i. Modernise Sector

All countries' plans made some reference to modernising or revitalising the agriculture sector, either in terms of an overall review of goals for the sector and its institutions (e.g. 'to build modern agriculture in Fiji'), or in terms of upgrading supporting infrastructure.

Infrastructure was seen as a key element of an integrated system of production. Processing / storage facilities were the most commonly raised infrastructure items along with transport; both land and sea (9 countries). Others included energy, communications and markets. The role farmer organisations / civil society was the most frequently identified issue with respect to sector institutions.

ii. Increase Production

All countries plans made reference to increasing production, identifying over fifty factors that are currently limiting, or provide opportunities for development. The most common of these are shown in Figure 5 below.

a. Land access / tenure

Eleven countries identified difficulties in gaining access to land for farming as a constraint. This largely relates to traditional/customary land ownership structures and tenure arrangements. Several countries highlighted the fact that most land is in private (customary) ownership and commented on the potential benefits that may be gained from increasing its utilisation in agricultural production.

Solomons Islands: "Patterns of land utilization are determined largely by the customary land tenure system, which controls about 85 percent of the total land area in Solomon Islands. The current traditional system of land ownership provides a safety net for the vast majority of Solomon Islanders. Customary land tenure also supports the country's robust village-based subsistence farming. At the same time customary ownership is a major constraint that hampers economic development and integrated land use planning."

b: Access to credit / finance

There was clear recognition of the need for greater investment in the sector to increase production and the economic contribution of the sector. The most common single category was access to credit/finance (10 countries). Access small scale credit (or grant) facilities was identified as a particular need for small holders, who have difficulty in this area. At the same time, some countries actively promote larger scale 'industrial' agriculture, for which significant investment is required.

At the national scale there were a number of general references to the need to provide an enabling environment to support investment (5 countries). Countries also highlighted the role of donor assistance (6 countries) and foreign investment (5 countries).

c: Livestock

The overall health and condition of livestock was seen as a key issue; ten countries the noting the importance of animal health, animal welfare or veterinary services (one country proposed free vaccinations for farm animals).

Identifying/developing improved breeds was raised by nine countries as a means of increasing production from livestock.

d: Private sector-led development

There was support for the private sector taking a lead role in the sector (9 countries) and recognition of the need to create incentives and/or a supportive enabling environment to achieve this (8 countries). The private sector was recognised as encompassing large, potentially industrial scale, businesses, SMEs and small scale and cash-crop farmers. There was also reference to public-private partnerships and other business agreements between the private sector and the government.

Support for the private sector taking a lead role was based in part on previous experience of government interventions that had been unsuccessful, or worked against successful private initiatives:

"Pohnpei pepper, used to be an important export product some years ago, but the production capacity is now low. It is reported that a very successful high-end pepper product failed, when the government intervened on behalf of disgruntled pepper growers who wanted processors to buy all of their harvest, instead of only the best pepper. The other problem is that a government-financed and operated pepper processing plant competed with the private sector pepper manufacturer, leading to the collapse of that industry. It is alleged that poor government decisions and the emergence of a strong sakau (kava) market contributed to the demise of the pepper exports."

There was some recognition of the dual pressures for government to *do something*, while at the same time keeping out of 'the market' itself: "possible use of targeted subsidies to address market failures may need to be considered. When subsidies are considered these will be 'market smart' with the aim not to distort markets for private sector activity"

e: Crops

Crop diversity and genetics - along with identifying new crops varieties - was identified as an important factor in increasing, being raised by eight countries. Diversity was also linked with resilience to climate change.

f: Farm inputs

Farm inputs (feed, seed, fertilizer, tools etc) were raised by eight countries, including the concept of support for a market for farm inputs, in terms of both a market place and more affordable pricing: "Since marketing systems for inputs are almost non-existent, the government needs to provide market information and monitor market performance. Timely availability of agricultural inputs is a major problem in remote areas and islands. In many cases the farm input supplies are not readily available and if available it is very expensive hence unaffordable."

iii. **Local Markets**

Local markets were identified by twelve countries as a development area. Support was evenly spread between markets (the physical locality, access etc) and the concept of marketing (12 countries and 10 countries respectively). Supporting market linkages was recognised as a 'public good'

and therefore an appropriate area for government involvement. In Nauru, "So as to provide an opportunity for individuals to sell their wares, in May 2009 Nauru's weekly central market was established and has had between 25 and 42 vendors per week".

RMI addressed both markets and marketing, through a 'special program to establish a physical market place

(see below), and through a marketing campaign; "*Be Marshallese....Buy Marshallese*" - a concept also adopted in several other countries.

There was specific mention by nine countries of the need to encourage potential entrepreneurs, indigenous enterprises, or self employment.

iv. **Inclusive Development**

The need for inclusive development reflected the sector's contribution to rural livelihoods (10 countries). Nine countries raised the importance of stakeholder participation and the capacity of farmers (e.g. farmers associations and small holders) to participate in agriculture develop-

RMI Special Program: "Farmers Markets" on Majuro and Ebeye
A "farmers' market" is a place where local people can come together and sell their local produce- fruit and vegetables, and also fresh fish and locally processed foods such as preserved Pandanus, roasted breadfruit and fish jerky. It can also be a place to sell handicrafts or clothes. For the consumers in the local community, the market will be a place to buy local, fresh and healthy foods, and would serve as a gathering and meeting place.

Creating such markets will help achieve several development objectives for the Marshall Islands, including import replacement, healthier diets, increased self-reliance and income generating opportunities for the community.

ment and share in improvements to rural livelihoods. Some countries/agencies undertook to make specific efforts in response, for example; work with farmers associations on agricultural initiatives, or establish rural resource centres². Eight countries also raised the importance of socio-cultural issues in the sector, and the sector's role as a 'social safety net'.

Nine countries discussed gender or participation of women in the agriculture sector. The role of youth in agriculture was also raised (7 countries).

v. **Adding Value**

Nine countries identified value-added products as a means of increasing revenue, primarily through exports. In most cases it was raised as generalised aspiration; "The stakeholders in the horticultural industries in Fiji need assistance in improving their ability to add value to their products and business practices to improve profitability", or focussed more on producing high value commodities (such as vanilla) rather than adding value *per se*. FSM provided examples of unique processed foods being exported for purchase by Micronesian communities living outside the country: "Another example of opportunistic exports is exports of cooked food, which now brings in more money than copra. Chuukese pounded breadfruit (kkon) and Pohnpeian banana pudding (pihlohlo), among other island foods, are being distributed and marketed to the growing FSM emigrant population overseas."

The requirement to meet quality standards was cited by nine countries, for example in terms of meeting food safety standards required for market entry.

² Nauru

vi. Trade

Reflecting an interest in developing export products and businesses, 12 countries highlighted trade issues, focussing mainly on trade policy and facilitation/support for access to offshore markets (8 countries). Seven countries noted an interest in international marketing campaigns for local produce, and five countries referred to the concept of a 'unique national brand' (or similar concept) as a marketing tool.

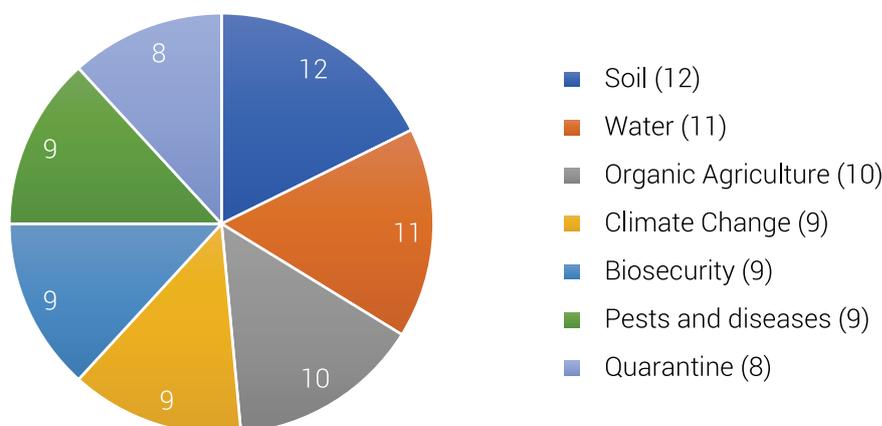
Seven countries also identified food safety as a key area, particularly compliance with international requirements for market access (including codex/HACCP³). This was also an issue in relation to domestic produce and consumption, "*From a food safety policy perspective, there are currently different levels of protection for the domestic market and the export market... consideration should be given to ensuring equal protection for both domestically consumed food and food for export*"⁴

3 Hazard Analysis and Critical Control Points (HACCP)

4 Solomon Islands

C. Sustainability and resilience

Figure 6: Sustainability: Major Sub-Categories*



* Numeral indicates the number of countries that included the sub-category

a,b Soil and water

Soil and water, as basic requirements for agriculture, featured as the sub-categories raised most commonly; soil by twelve and water by eleven countries.

There was strong regional interest in soils, focused on preserving or improving soil quality/fertility (which in several instances is identified as a constraint for agriculture production – particularly for atolls) and managing erosion. The role of composting was mentioned as an option for improving soils.

For water, concerns covered water availability (e.g. watershed management, irrigation and drainage) and quality (e.g. pollution). These issues were often raised in the context of climate change. The particularly challenges faced by atoll countries were also highlighted: "On the atolls both the limited quantity of water available and the quality of the water are limiting"⁵.

The potential adverse effects on water quality due to agricultural activity was seen as an area for concern with countries identifying the need to manage these so that "community and ecosystem health is not adversely affected"⁶. There was recognition of "increasing livestock numbers imposing pressure on ecosystems and watershed systems."⁷

c. Organic agriculture

There was significant interest in organic agriculture (ten countries). There was also a general sense that Pacific Island countries are well placed to develop organic products: "Most crops grown in PNG use only the rich fertile soil without any fertilizer. No insecticide sprays are used; hence there are no serious problems of pesticide residues. PNG can capitalize on the world demand for organic products".

There was also acknowledgement of the need to document this through certification (three countries): "The potential for organic labelling of PNG coffee, cocoa, etc needs to be studied and emphasized in marketing programs to maximize the value of PNG products."

5	Kiribati
6	Cook Islands
7	Samoa

c. Climate Change

The general issue of climate change was raised by nine countries; addressing a range of concerns including climate variability – temperature and rainfall, extreme events/disasters and sea level rise.

Water availability and soil loss were linked with climate change, in relation to the risks of future changes in precipitation. The importance of adaptation measures was recognised in the form of the need to “Identify impacts of climate change on crops production and develop mitigating strategies”, and promote “diversification into new crops that are resistant to climate change impacts on soil and water conditions”⁸.

Climate change was also identified with potential risks in other areas: “Changing climatic conditions and natural hazards have implications for the transportation of agricultural produce from rural areas to markets in the main urban centres (e.g. poor road conditions, deteriorating wharfs and jetties and inconsistent shipping routes).” “Prolonged (and or shortened) wet seasons produce conditions favourable for pests and diseases harmful to plant production and crop harvesting.”⁹

d. e. f. Biosecurity, pests and diseases, quarantine

A total of eleven countries identified a range of issues broadly associated with border control. This reflects the fact that biosecurity and quarantine are areas where agriculture agencies commonly have statutory roles and functions.

Nine countries noted the risks of introduced pests and diseases, and the attendant issue of monitoring, surveillance and control of pests. This was seen as being necessary to maintain agricultural production and, to some extent, for biodiversity protection (six countries).

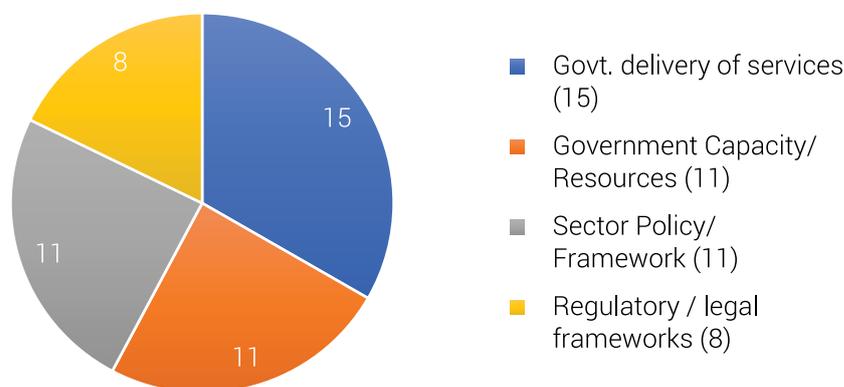
8 Samoa

9 Vanuatu

D. Effective Institutions

The source documents identify a large number of issues regarding the way the government provides the policy and regulatory framework for agriculture, and about the government's delivery of services to the sector.

Figure 7: Effective Institutions: Major Sub-Categories



* Numeral indicates the number of countries that included the sub-category

a Delivery of services (extension; training; statistics; R&D)

There was a consistent support for government supply of certain services, particularly extension services, training and research, and the provision of sector data/statistics.

The documents noted the need for effective delivery of services and identified some shortcomings in this area (including comment on ineffective or inefficient government, and concern about bureaucratic 'red tape'). In some instances there were frank self-assessments "in the years since [1995], service delivery has deteriorated. On the whole, service delivery systems are dysfunctional and there remains widespread confusion over functional (who does what) and financial (who pays for what) responsibilities across the three levels of government. Institutional capacity to deliver services is generally poor"¹⁰.

Vanuatu observed "Poor participation of government stakeholders: poor collaboration and coordination among relevant government stakeholders (on service provision, local infrastructure, domestic market opportunities like tourism)"

Extension (13 countries), Training (10 countries) and R&D (8 countries) were seen as related areas as illustrated by Timor Leste; "The adoption of new farming techniques, equipment and research is critical to the future of the agriculture sector. We will conduct a review of our agricultural knowledge system to improve the skill level of agriculture extension workers. This will involve developing quality courses for pre-service training at agricultural secondary schools, colleges and universities. A career development program for in-service training will also be developed."

FSM recorded that "The effectiveness of extension services generally has declined over the last two decades due to use of inappropriate methods, inadequate operational budgets and limited human resources."

Statistics: Ten countries recorded government activities or shortfalls in the area of agricultural data and statistics. Fiji noted an existing capacity in this area "The agriculture statistics service is strengthened for purposes of gathering, organising, analyzing, and reporting agricultural data".

10 PNG

In other cases countries identified particular data needs and gaps: "urban market demand for agricultural product may exist in urban areas, suppliers from rural areas may not be aware of them and similar situation holds for international markets. Hence there is a need to disseminate market-related information to both producer and buyer".¹¹ Palau undertook to "maintain and provide statistics on agricultural production, farm size and numbers, and agricultural commodities in all market outlets."

b Capacity and resources of government

Noting the high levels of interest in government services, ten countries highlighted the resources required for the government agency (or agencies) to deliver all that may be required for the sector to develop. Several countries mentioned the potential role for private sector delivery of some services, such as training.

c Policy / strategy

Eleven countries discussed a suite of issues around the role of government in developing a strategic approach to provide a framework for development of the agriculture sector. The issues ranged from development of sector policies (ten countries) or strategies (four countries) as well as industry or commodity plans (five countries). In some cases countries identified collaboration between agencies as an area for improvement.

d Regulatory / legal frameworks

The need for an effective legal / regulatory framework was identified by eight countries, including compliance/ enforcement aspects.

11 Solomon Islands

Other Issues

Commodities

All countries included some discussion of commodities produced. In all, over 50 different plant and livestock varieties were cited, along with several general categories such as 'root crops' or 'spices'. A list of commodities appearing in the source documents is attached as Annex A. The list is dominated by food crops; because of the different treatment of livestock and forestry in the documents (i.e. some countries have separate livestock or forestry plans), these sub-sectors are less represented.

In most cases the documents include lists of commodities, or cite them as examples in the text. The commodity most commonly included is coconut, included by 14 countries. The situation for coconut is illustrated by this observation from the Solomon Islands: "Coconut not only provides cash income but also make an important contribution to the people's daily diet. Despite its importance, coconut has been neglected, that is there has not been any proper re-planting for more than 20 years, and thus a high percentage of palms are old and in the declining phase of production".

There are some conspicuous gaps, confirming that the source documents do not provide a complete picture of the most commonly grown crops. For example bananas and breadfruit are mentioned in only about half of the documents, despite being ubiquitous around the region. Despite that, some general observations can be drawn from the list of commodities:

- The range of commodities listed is consistent with the emphasis on the key areas of food security, and increasing agricultural production that are described above;
- There is widespread utilisation of traditional crops, at some level of production;
- The range of novel and 'niche' products highlights the message that countries are seeking high value products that can supply the export market

Five of the documents include separate, substantive discussion on management of specific commodities; Fiji, FSM, PNG, the Solomon Islands and Timor-Leste.

Table 3 below lists the commodities featured for each of these five countries, along with information on the main commodities produced and exported from these countries. Note that the table only includes information that was presented in the source documents, and excludes non-specific categories such as 'organic and fair trade'.

Table 3: Comparison of commodities, production and exports in five countries			
Country	Commodity featured	Major production	Major Exports
Fiji	Sugar, coconut, pineapple, root crops, beef/dairy, swine, poultry, kava.	<i>Information not included</i>	Sugar, dalo, cassava, kava, copra, coconut oil, papaya
FSM	Coconut	<i>Information not included</i>	Betelnut (14% share of 'major exports'); kava (3%); Others: copra, banana, citrus, root crop,
PNG	Grains, oil palm, coffee, cocoa, coconut, rubber, tea, apiculture	Sweet potato (64% by weight), banana (10%), cassava (6%), yam species (6%), true taro (5%), Chinese taro (5%), Coconut (2%)	2005 figures: Palm oil (295 x000 mt); coffee (72), copra oil (54), Cocoa (44), copra (22), tea (7).
Solomon Islands	Coconut, oil palm, vanilla, coffee, cocoa, rice.	<i>Information not included</i>	<i>Information not included</i>
Timor Leste	Rice, maize, coffee, candlenut, coconut, bamboo.	2010 figures: maize (72 x000 mt), rice (37),	<i>Information not included</i>

Tourism Links

Seven countries identified links between agriculture and tourism, with respect to using local produce in tourist accommodation; both local crops and develop new products to suit international tastes. The Cook Islands noted that "The growth in Tourism, together with increased

employment opportunities in a cash economy slightly shifted the focus away from export to the local market created by the increase tourist numbers visiting Rarotonga and the Pa Enuu. This has also created Agricultural produce import opportunities for Hotels and Supermarkets due to sub-standard quality of local produce, inconsistency and insufficient local supplies, hence the increase in imports of foreign produce." Samoa too noted that "despite collaborative efforts between the agriculture and tourism sectors in promoting the use of local produce by the local hotels and restaurants industry, data shows the imports of fruits, vegetables and spices have almost doubled in the past 7 years".

More optimistically FSM identified several strategies 'to increase linkages and synergies between the agriculture and tourism sectors' including 'strategically re-orient the production operations of small-scale farmers to meet needs of hotel/restaurant sector' and 'explore opportunities for agriculture tours and farm-stays'.

Gender

Nine countries raised the issue of gender roles as well as the participation of youth and 'vulnerable groups' in the agriculture sector. In some cases, very specific proposals were included, such as 'ensure gender balance in recruitment of training staff and enrolment of students on training courses'¹², or 'increase the participation of women in farming'¹³. In other cases (in lengthier documents) there were broader observations of the role women in society and the agriculture sector, for example the text below from PNG:

"As in many Melanesian societies, men dominate decision-making at the household and at community levels. The participation of women and girls in decision-making is more difficult when they lack education and have limited or no income. Empowerment of women has been advocated by many NGOs and community-based organizations (CBOs) yet women have still a long way to achieve the same status as men in many communities."

"Women contribute 50-70 percent of agricultural labor, more particularly in activities such as clearing, planting, weeding, harvesting, transporting, storing and marketing. Cash income received by women from the sale of agricultural produce gets effectively spent for improving family living, nutrition, health and education. Agriculture provides employment and income to 70% of women. Rural women in PNG are disadvantaged in almost all aspects of rural life, due to limited access to and control over productive resources (lands, water, labor, inputs and technology), services (extension, training, and credit), and markets, and their limited participation in decision-making. Women receive lower wages for agricultural labor; earn less than men from the sale of cash crops, are unequally represented in the social forums, and are left out both as contributors and beneficiaries in productive economic activities. When households need to generate additional income or faced with economic crisis, women must mobilize their energies. It is important to formulate clear policy and appropriate strategies towards welfare of women in all aspects of agricultural development."

Use of Evidence

Of the six national agriculture sector plans, four include data or information as evidence to inform policy in a more or less systematic way. The PNG and Samoa documents, being of considerable length, include the most detail. The most common data included in plans focuses on economic and trade (imports and exports) indicators.

Other national sector plans cite data for selected purposes to illustrate a specific point in the text. The Timor-Leste national strategic development plan (the parts relating to agriculture) also provides systematic use of data to inform policy and strategy.

Evidence is also cited from stakeholder consultations: "A common concern raised throughout the stakeholder consultations was the lack of information thus constraining potential suppliers from entering both domestic and international market."¹⁴

12 FSM

13 RMI

14 Solomon Islands

Forestry

Many issues relevant to forestry (such as infrastructure or climate change) were shared with the sector more broadly. In addition, twelve countries identified a total of 17 issues relating to forestry. These included:

- The mixed role of agroforestry – i.e. incorporating food crops (5 countries);
- Loss of forests and traditional agroforestry systems (8 countries)
- Potential for medicines, handcrafts and ecotourism (4 countries)
- The concept of protected areas (3 countries)
- Effects of social changes: population growth and urbanisation (3 countries)

Alignment with National development priorities

All the national agriculture sector plans made explicit reference to their respective national development plans / strategies, as did three of the four agency plans.

Legislative basis

Four countries included information about the legislative framework governing the agriculture sector. The information is not exhaustive, but is included as Annex F to illustrate the range of legislative requirements.

Process for developing plans

Five countries provided explanations of how their sector plans were developed. A brief summary of the process for these five countries (Fiji, PNG, Samoa, Solomon Islands and Vanuatu) is attached as Annex G.

Other linkages

There were additional cross linkages between nutrition and the *Health* sector, as discussed under Food Security. Further connections were mentioned with *Education*, with respect to vocational training and inclusion of agriculture in school curricula, and *Fisheries*, which shares issues relating to land use and water.

4. CONCLUSION

The inventory provides a broad scale review of agriculture and forestry issues across the Pacific Islands Region. The analysis shows the emphasis across the region on some key issues for the sector (economic development, food security, markets/trade, climate change), and some specific areas of focus or demand (access to credit, nutrition/health, climate change etc).

The issues identified in the inventory matrix and analysis show strong alignment with elements of the PAPP Project. In particular:

Result 2.1 *Improve the dissemination of field research, good practices and technical exchange including climate change adapted research technologies*

The inventory shows strong interest across the region in both agricultural research, and the need for the sector to employ adaptation measures in the face of climate change.

Result 2.2 *Improve the food security of small-holder agriculture by facilitating the adoption of locally produced animal feeds and improved land management techniques households (sic), in cooperation with national extension services and communities*

Food security is confirmed as an issue of very strong regional interest, as is the role of extension services for farming communities.

Result 3.1 *Improve the capacity of small-holder farmers to link to markets through Farmer Associations*

There is strong interest in linking farmers to markets (domestic and international). The analysis shows that Farmers Associations are just one of several means to achieve this. It is also clear that some countries are looking to develop more mechanised, large scale farming practices, which may have implications for small holders and land use in some instances.

Annex A: List of Commodities (alphabetical)

Avocado	Livestock	Tahitian lime
Bamboo	Maire	Taro/dalo
Banana	Maize	Tea
Barramundi	Mangoes	Tilapia
Beef/dairy	Mangrove	Timber trees
Bees	Mungbean	Tomato
Betelnut	Muscovy ducks	Traditional crops, fruits and vegetables
Betel pepper	Neutraceuticals	Turmeric
Black pepper	Niche crops	Vanilla
Breadfruit	Noni/nonu/nono/nin	Water buffalo
Cabbage	Nuts	Watermelon
Candlenut	Oil palm	Wheat
Carambolla	Okra	Yams
Cardamon	Orchids	
Caribbean pine	Pandanus	
Carp	Passionfruit	
Cash crops	Paw paw/papaya	
Cassava	Peanut	
Citrus	Pepper	
Chicken	Pigs/swine/pork	
Chillies	Pineapples	
Coconut (copra, coconut oil)	Plantain	
Coffee	Poultry	
Corn	Quail	
Crocodile	Rabbits	
Custard apple	Rainbow trout	
Delicious cacti	Rice	
Draft animals	Root crops	
Dragonfruit	Rubber	
Eggplant	Sago	
Feed	Sandlewood	
Floriculture	Seed	
Fruits and vegetables	Sheep	
Ginger	Small ruminants	
Goats	Sorghum	
Guinea pigs	Spices	
Habanero	Squash pumpkin	
Island cabbage	Sugar	
Kava/yaqona	Sweet potato	

