



Government of Samoa

# AGRICULTURE SECTOR PLAN 2011 - 2015

*"..farming and fishing first.."*



## VOLUME II: BACKGROUND INFORMATION

MINISTRY OF AGRICULTURE AND FISHERIES

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## I. Introduction

Volume II of the Agriculture Sector Plan, 2011 – 2015, provides the working papers which were developed, revised and used as resource materials in the process of drafting the Agriculture Sector Plan, 2011 – 2015. These include the logframe of high level priority sector policies and strategies, as well as sub sector strategies, performance measures and indicators based on a situational analysis of the agriculture sector undertaken in 2009, issues critical to the performance of the sector based on literature review, and considerable inputs provided by the MAF senior management toward setting performance indicators, baseline data( where available), and setting annual performance targets on a sub sector basis for the period of the ASP, 2011 – 2015.

Volume II also provides the responses and analysis of findings of a questionnaire -based survey conducted in November 2010 to seek comments from sector stakeholders on issues they considered important to the future development of agriculture. Also presented in Volume II is a summary of the main characteristics of agriculturally active households based on the findings of the 1999 Agricultural Census, as well as some information relevant to the important issues of agricultural data and monitoring taken from a recent report on “Agriculture Data – Report on a scoping study in six Pacific Island Countries” and including a recent initiative taken by the Secretariat for the Pacific Community (SPC) to develop a National Minimum Development Indicator Framework for its Pacific Islands members that includes minimum indicators for agriculture and forestry.

## II. Sector Log-frame Based on Literature Review

### Source Document References/Notes:

1. **ASP TOR** – Agriculture Sector Plan Terms of Reference
2. **NES 2008-2012** – National Export Strategy
3. **SPC Food Security 2010** – SPC Framework for Action on Food Security in the Pacific
4. **AusAID Partnership** – Samoa-Australia Partnership for Development - Priority Outcome 1: Private Sector Growth and Employment (Agriculture and Fisheries) Initial Implementation Strategy 14 Aug 2009
5. **MAF CP 08-12** – Ministry of Agriculture and Fisheries Corporate Plan 2008-2012
6. **FAO Consultations 2009** – outcomes of consultations for FAO Sector Review 2008
7. **FAO Sector Review 2008**
8. **WB PDD 2010** – World Bank Project Design Document 2010
9. **F & V Strategy 2009** – Fruit and Vegetable Strategy 2009-2015
10. **STA Initiative 2010** – as per email correspondence from STA CEO in October 2010
11. **Draft Tuna Management Plan 2011-2015**
12. **Draft Forest Sector Plan June 2003**

STRATEGY FOR THE DEVELOPMENT OF SAMOA (SDS)				
<b>Goals/Priorities</b>	1. Private Sector Led Growth (PO4) <i>Ref: SDS Priority Area 1 – Goal 2</i> 2. Improved Governance (PO1) <i>Ref: SDS Priority Area 3 – Goal 6</i> 3. Promote Trade development (Increased exports and Import substitution) (PO 5) <i>Ref: SDS Priority Area 1 – Goal 2</i> 4. Employment creation (PO 3) <i>Ref: SDS Priority Area 1 – Goal 2, SDS Priority Area 2 – Goal 5</i> 5. Food security (PO 2) <i>Ref: SDS Priority Area 1 – Goal 2, SDS Priority Area 2 – Goal 5</i> 6. Sustainable environment (PO 6) <i>Ref: SDS Priority Area 3 – Goal 7</i>			
AGRICULTURE SECTOR PLAN 2011 - 2015				
<b>The Sector Vision</b>	AGRICULTURE FOR FOOD AND INCOME SECURITY			
<b>Theme</b>	“... farming and fishing first...”			
<b>Overall Sector Goal/Objective</b>	‘To revitalize the agriculture sector to increase its relative contribution to the national GDP from its current level of 10 percent to 20 percent by 2015’			
Sector Policy Objectives				
<b>Sector Policy Objective 1:</b> To strengthen policy, legal, regulatory and strategic planning framework for sustainable agriculture development;	<b>Sector Policy Objective 2:</b> To improve self reliance in food production and nutritional security.	<b>Sector Policy Objective 3:</b> To enhance private sector capacity in improving productivity, value adding and marketing;	<b>Sector Policy Objective 4:</b> To ensure sustainable adaptation and management of agriculture funding;	
Thematic/Programme/Strategic Areas				
<b>Institutional Support</b>	<b>Food and Nutritional Security</b>	<b>Private Sector Enabling Environment for Investment Opportunities and Trade Development</b>		<b>Sustainable Agriculture Practices/Resources</b>
Sector Strategies				
1. 1.1 Establish ASP Sector Steering Committee ( <i>ref: ASP TOR 2010</i> )	2. 2.1 Strengthen leadership and effective multi-sector coordination for food	3. 3.1 Enhanced market connectivity. Subsistence farmers and fishers will be encouraged to organise and	4. 4.1 Facilitating access to market opportunities, for subsistence farmers and	5. 5.1 Marine and Agro-biodiversity conserved, developed,

<p>1.2 Establish coherent Agriculture Sector Plan (<i>ref: ASP TOR 2010</i>)</p> <p>1.3 Establish a coherent and comprehensive institutional framework (<i>ref: ASP TOR 2010</i>)</p> <p>1.4 Develop a coherent and encompassing Agriculture Policy (<i>ref: FAO Consultations 2009</i>)</p> <p>1.5 Improve capability and implementation capacity (<i>ref: FAO Consultations 2009</i>);</p> <p>1.6 Improve agriculture statistics collection and data dissemination (<i>ref: FAO Consultations, F&amp;V Strategy 2009</i>);</p> <p>1.7 Improve capacity for regulation and enforcement especially in safety standards and quality</p>	<p>security (<i>ref: SPC Food Security 2010</i>);</p> <p>2.2 Strengthen food regulatory frameworks, enforcement and compliance capacities and public-private sector collaboration (<i>ref: SPC Food Security 2010</i>);</p> <p>2.3 Improve production, processing, marketing, trading and use of safe and nutritious local foods (<i>SPC Food Security</i>);</p> <p>2.4 Promote lifestyles and nutrition that lead to reduction of obesity and better management of NCS's (<i>SPC Food Security</i>);</p> <p>2.5 Promote subsistence farming activities at the village level (e.g. Talomua);</p>	<p>cluster to improve their ability to share new practices, reduce costs and improve market access (including expansion of the scope and reach of WIBDI). For export-oriented commercial operations, the function is one of securing markets and ensuring market standards are developed. (<i>ref: Strategy 2: Partnership</i>)</p> <p>3.2 Encouraging investment in and finance for agriculture. Targeted tariff and tax measures will be considered and a robust market framework promoted by taking steps to define and secure property rights for customary lands and inshore lagoons. A pilot agro-forestry programme for customary lands will be developed. Commercial farmers and fishers will be assisted to access new labour skills through overseas recruitment in the short term and through development of educational curricula and training programmes. (<i>ref: Strategy 5 – Partnership</i>)</p> <p>3.3 Well managed risks and hazards (<i>MAF CP 08-12 Strategy 2.1</i>)</p> <p>3.4 Information availability on plant and animal health status improved</p>	<p>fishers and for commercial / export-orientated farmers. Trade access negotiation is to be strengthened and regional and international trade agreements operationalised (including PICTA and PACER). The mandate and functions of the Private Sector Support Facility will be expanded to more proactively seek out and address market failures and opportunities for expansion into new markets. (<i>ref: Strategy 1 – Partnership</i>)</p> <p>4.2 Compliance with national and international standards related to trade (<i>ref: MAF CP 08-12 Strategy 2.2</i>)</p> <p>4.3 Domestic and export trade developed and strengthened (<i>MAF CP 08-12 Strategy 2.3</i>)</p>	<p>promoted and used (<i>ref: MAF CP 08-12 Strategy 1.1</i>)</p> <p>5.2 Sustainable and appropriate management practices developed and promoted (<i>ref: MAF CP 08-12 Strategy 3.1</i>)</p> <p>5.3 Adaptability to climate change and natural disasters developed and strengthened (<i>ref: MAF CP 08-12 – Strategy 3.2</i>)</p> <p>5.4 Development of sustainable plans (<i>MAF CP 08-12 Strategy 2.6</i>)</p> <p>5.5 Emergency Response Plans developed and simulation exercises carried out (<i>MAF CP-08-12 Strategy 2.7</i>)</p> <p>5.6 Revitalise the replanting programme (<i>ref: NES 08-12</i>)</p>
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<p>assurance across crops, livestock, fisheries and forestry; <i>(ref: FAO Consultations 2009)</i></p> <p>1.8 Strengthen Marketing Information Systems; <i>(ref: FAO Consultations 2009)</i></p> <p>1.9 <i>Upskill labour force (ref: NES 08-12)</i></p>		<p><b><i>(MAF CP 08-12 Strategy 2.4)</i></b></p> <p>3.5 Encourage investment in and finance for agriculture <b><i>(AusAID Partnership);</i></b></p> <p>3.6 Raise initiatives at the village level through access to information; <b><i>(ref: FAO Consultations 2009)</i></b></p> <p>3.7 Improve access to market opportunities; <b><i>(ref: FAO Consultations 2009)</i></b></p> <p>3.8 Maximize value added opportunities; <b><i>(ref: FAO Consultations 2009)</i></b></p> <p>3.9 Develop sustainable commercial production; <b><i>(ref: FAO Consultations 2009)</i></b></p> <p>3.10 Enhancing the business environment by improving the quality of economic infrastructure and lowering the costs of doing business through investment in infrastructure and regulation of service standards. <b><i>(ref: Strategy 4: Partnership)</i></b></p>			
<b>Sub-Sector Strategies/Components</b>					
<b>Crops</b>					
To improve the effectiveness of agricultural institutions, providing	Rehabilitation and development of plantation crops <b><i>(ref:</i></b>	Efficient use of crop by products to enhance offtake from the livestock sub sector	Limited expansion of high value cash crops <b><i>(ref: FAO Review 08)</i></b>	Improve market intelligence, promotion and	Promote integrated management of resources to ensure

extension and adaptive research services to Samoan farmers, (b) and the ability of these same institutions working individually or in collaboration with each other to implement and monitor the project effectively ( <b>WB PDD 2010</b> );	<b>FAO Review 08 – Component 4)</b>	( <b>ref: WB PDD 2010</b> );	<b>Component 6)</b>	dissemination across the whole value chain ( <b>ref: F&amp;V Strategy 2009</b> );	sustainability of the F&V sub-sector ( <b>ref: F&amp;V Strategy 2009</b> );
Improve coordination in the sector to successfully implement the F&V Strategy ( <b>ref: F&amp;V Strategy 2009</b> );	Harmonization of eco tourism and organic farming ( <b>STA initiative 2010</b> );	Enable interested F&V growers to have access to new, higher yielding varieties, adopt improved technology and production techniques, make productivity enhancing on-farm investments and organise themselves to strengthen their presence in the market and meet the demands of local retailers and foodservice operators for year round supplies of fresh F&V ( <b>ref: WB PDD 2010</b> );	Build a supply sector that can guarantee consistent quality and supply of fresh F&V. ( <b>ref: F&amp;V Strategy 2009</b> );		
Build a sector that is well trained and supported by a comprehensive and properly executed capability plan ( <b>ref: F&amp;V Strategy 2009</b> );	Sustainable expansion of root crop production ( <b>ref: FAO Review 08 – Component 5</b> );	Improve financial situation of sector farmers and enterprises ( <b>F&amp;V Strategy 2009</b> );	Product diversification; ( <b>ref: NES 08-12</b> );		
Strengthen SAME to provide services that will increase returns and overall value addition for sector ( <b>ref: F&amp;V Strategy 2009</b> );					



<b>Livestock</b>					
Develop APHD functional organization structure ( <i>ref: FAO Consultations 2009</i> );		Establishment of a financially viable and sustainable slaughtering facility and associated meat inspection service to meet the domestic market requirements ( <i>ref: WB PDD 2010</i> );	Improved public perception of domestically produced meat through improved meat hygiene from the farm gate through to the retail level ( <i>ref: FAO Review 08 – Component 2</i> )	To encourage poultry farming operations for export (markets available in the region for our local eggs) ( <i>ref: NES 08-12</i> )	
Encourage in services training for staff ( <i>ref: FAO Consultations 2009</i> );		Encourage interested livestock producers to upgrade livestock, improve husbandry practices and stock management, make productivity enhancing on farm investments, and improve the quality of meat sold in the local market ( <i>ref: WB PDD 2010</i> );		To promote cattle farming in Samoa in order to produce high quality local beef to substitute imported meat and to become a leading exporter to the region ( <i>ref: NES 08-12</i> )	
Update capability plan ( <i>FAO Consultations 2009</i> );				To accelerate development of beekeeping industry and enhance effective management skills ( <i>ref: NES 08-12</i> )	
Construct new APHD building ( <i>ref: FAO Consultations 2009</i> );					
<b>Fisheries</b>					
Analyze needs of stakeholders and provide/seek appropriate	Increase the catches of the Samoan fleet. ( <i>ref: Draft Tuna</i> )	Provide an enabling environment for development of fisheries policies with a focus	Safety at sea. ( <i>ref: Draft Tuna Mgmt Plan 2011-2015</i> )	Maintain and expand the export of tuna and tuna	Alternative fisheries. ( <i>ref: Draft Tuna Mgmt Plan 2011-2015</i> )

services ( <i>ref: FAO Consultations 2009</i> );	<i>Mgmt Plan 2011-2015</i> )	on taxation and credit facilities ( <i>ref: Draft Tuna Mgmt Plan 2011-2015</i> )		products from Samoa. ( <i>ref: Draft Tuna Mgmt Plan 2011-2015</i> )	
Collaborate & coordinate with stakeholders to facilitate/enhance capabilities ( <i>ref: FAO Consultations 2009</i> );		Manage and improve infrastructure and facilities. ( <i>ref: Draft Tuna Mgmt Plan 2011-2015</i> )	Improve the regularity and capacity of air services. ( <i>ref; NES 08-12</i> )		Sustainable utilisation of small EEZ ( <i>ref; NES 08-12</i> )
Training. ( <i>ref: Draft Tuna Mgmt Plan 2011-2015</i> )		Upgrading of the Alia Fleet. ( <i>ref: Draft Tuna Mgmt Plan 2011-2015</i> )			
Improve monitoring and policing of EEZ. ( <i>ref; NES 08-12</i> )		Improve infrastructure given increase in fleet. ( <i>ref; NES 08-12</i> )			Sustainable catch capacity ( <i>ref; NES 08-12</i> )
<b>Forestry</b>					
Forestry Unit/Division to update its inventory of Samoa's forests and advise on the current status of the resource, work with communities to identify and protect dedicated conservation areas, and review the 35 year old legislation and regulations to give better enforcement powers for the encouragement of sustainable forest management. ( <i>ref: Draft Forest Sector Plan 2003</i> )		Manage state forests through both new planting and maintenance of existing plantings, improve utilisation through focused research and engage with the private sector to increase its investment in plantation forestry. ( <i>ref: Draft Forest Sector Plan 2003</i> )			Promotion of wood production at the village/community level to alleviate pressure on the indigenous forest ( <i>ref: Draft Forest Sector Plan 2003</i> )
Forestry Unit/Division to focus on improving existing mechanisms for stakeholder					

<p>engagement and improving the forest extension program through a national user survey questionnaire. Awareness raising at the community level will be an ongoing function for the unit/division. <b>(ref: Draft Forest Sector Plan 2003)</b></p>					
<p>Provide training opportunities consistent with achievement of the plan, FD engage with PSC to tap into donor training programs as appropriate and follow PSC guidelines for staff appraisal to motivate staff. <b>(ref: Draft Forest Sector Plan 2003)</b></p>					
<p>Finalisation of forest sector plan and revision of national forest policy. <b>(ref: Draft Forest Sector Plan 2003)</b></p>					

### III. Survey Findings

**AGRICULTURE SECTOR PLAN  
SUVERY ANALYSIS  
AS AT 26<sup>th</sup> NOVEMBER 2010**

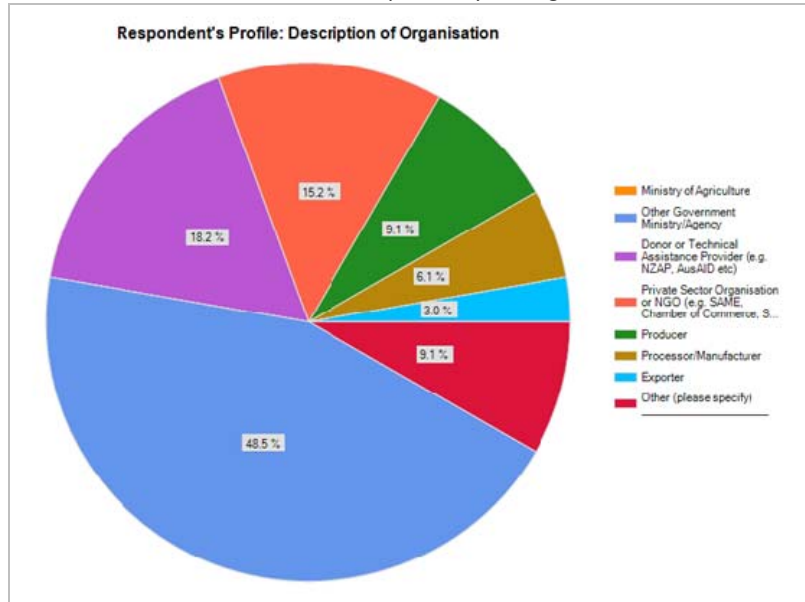
**AGGREGATE SURVEY SUMMARY:**

Total Number of Surveys Sent/Emailed:	70
Total Number of Respondents:	34
Percentage of Responses:	49%

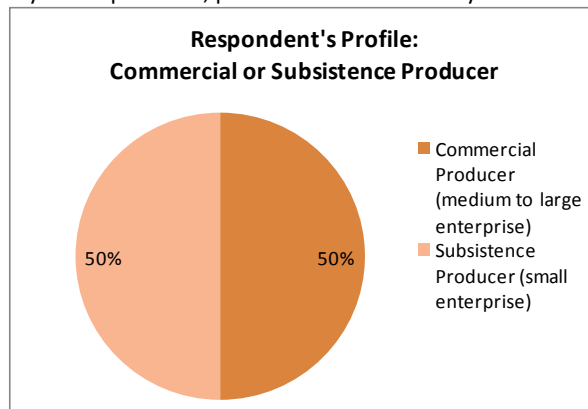
**BASIC SUMMARY OF RESPONSES:**

**SECTION I: RESPONDENTS PROFILE**

1. Please mark with an X the best description of your organisation.



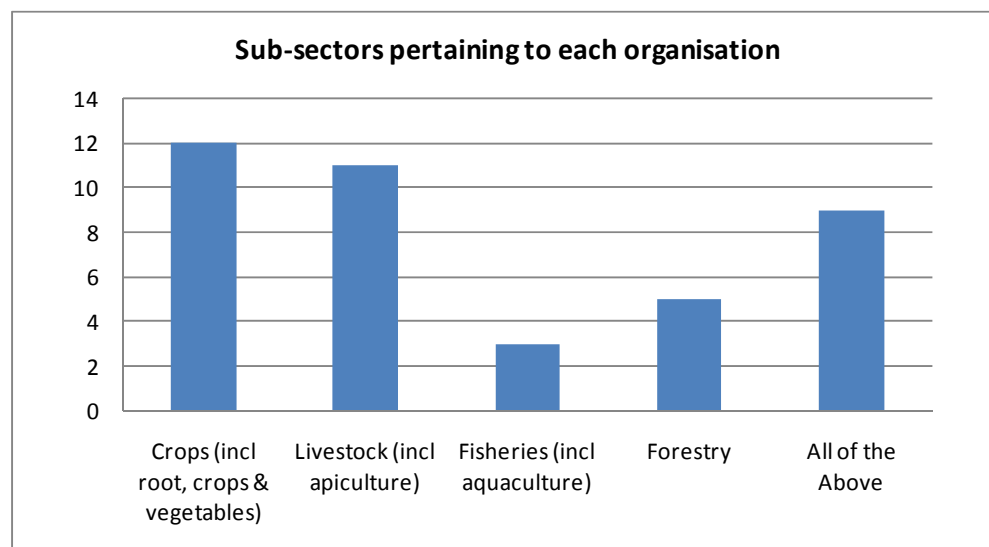
2. If you are producer, please indicate whether you are a:



3. Please indicate which of the following sub-sectors within agriculture best pertains to you and/or your organisation:

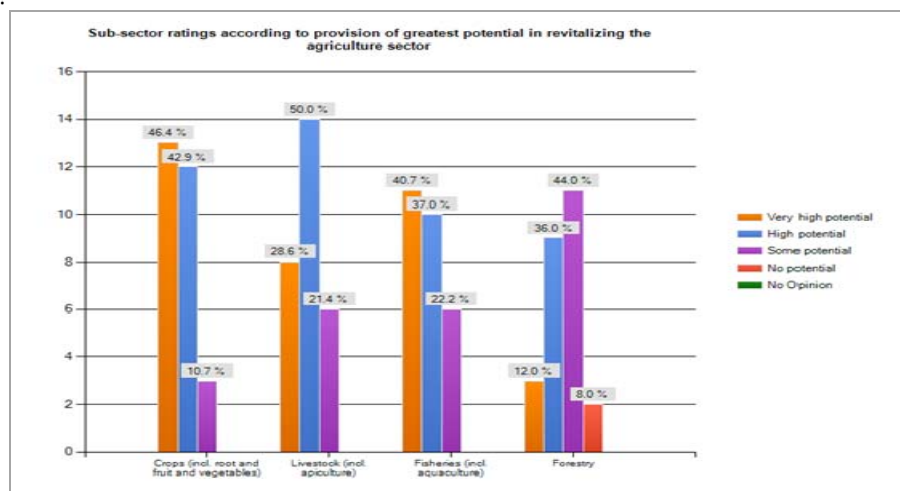
Other (please specify)

1	Provide farm inputs for the economic development of Agriculture, Fisheries Forests and Livestock etc
2	We are in the Tourism industry thus; we are users or consumers of all of the products by the identified subsectors.
3	METI is the support organisation of 16 Farmer's Cooperatives around the country. As such, we are involved indirectly in 'Subsistence production'.
4	Provide support on how Climate Change affects these sectors and the sector response to the impact of Climate Change. Provide support on the effects of these sectors on pollution, deforestation, over fishing and habitat degradation on both land and marine.
5	Agribusiness
6	Financing.



## **SECTION II: AGRICULTURE SETTING**

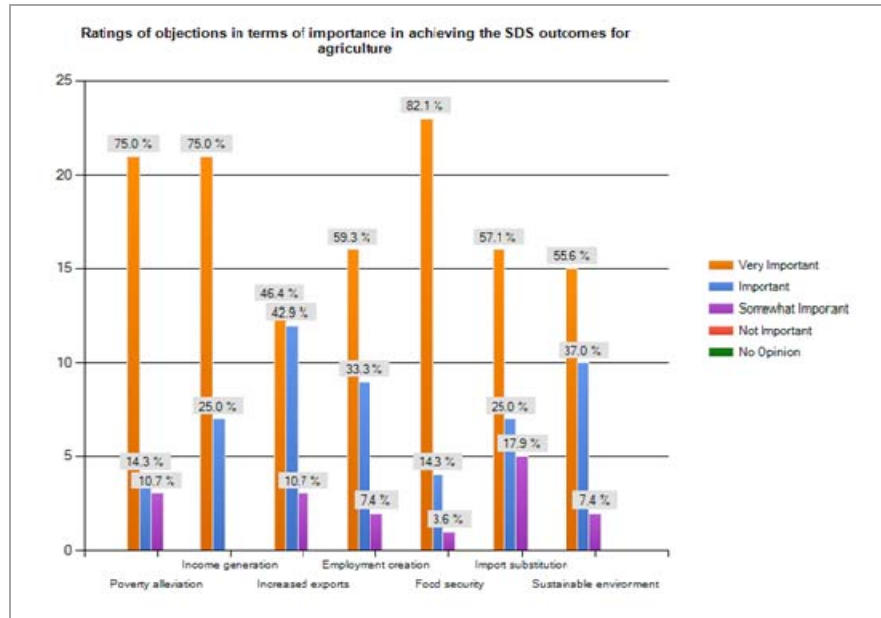
1. Samoa's farming systems are characterized by closely interdependent production activities that cut across the crops, livestock, fisheries and forestry sub-sectors. In your experience, please rate the following sub-sectors in terms of providing the greatest growth potential in revitalizing the Agriculture Sector?



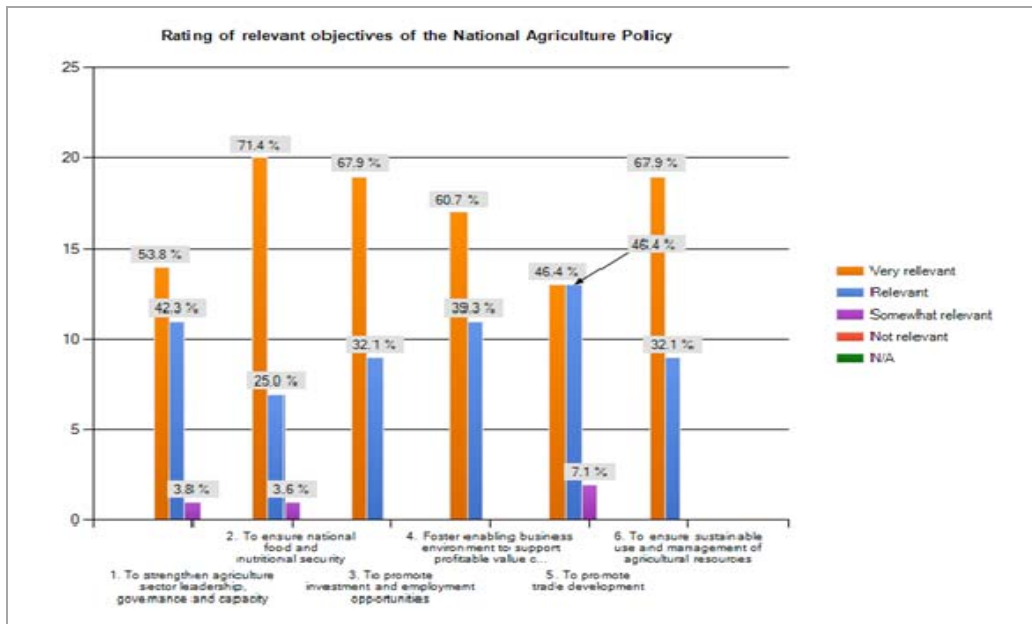
2. The Strategy for the Development of Samoa 2008-2012 highlights the Agriculture Sector as one of the key sectors in driving economic development through private sector led economic growth and employment creation (Priority Area 1: Goals 2 and 5). Based on this, please rate the following objectives in terms of their importance in achieving the SDS outcomes for Agriculture:

Other (please specify):

- 1 Energy source



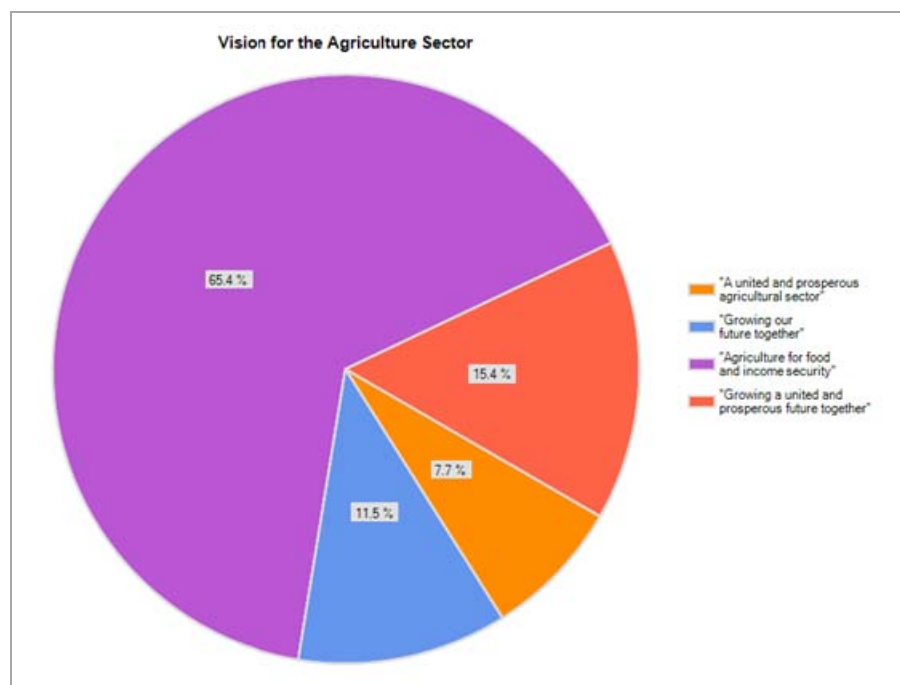
3. The proposed National Agricultural Policy encompasses a policy framework that hopes to address the following objectives which have been adapted from a review of key documents. In your experience with the sector, please rate how relevant these proposed key objectives are:



4. The Agriculture Sector Plan and Framework of Action for the period 2010/11-2015/16 is proposing the following vision(s) for the sector. Please select which option properly reflects the most appropriate vision for the sector:

Other (please specify)

1	Growing agriculture together for a healthy and wealthy Samoa
2	Sustainable agriculture for food and income generation.
3	These are more like logos than a vision; it should be expanded and made more descriptive thus allowing stakeholders to better see where they are heading and what they should expect when they get there.
4	A self sustenance agricultural sector.
5	The theme sounds nice but is a bit "motherhood and apple pie".

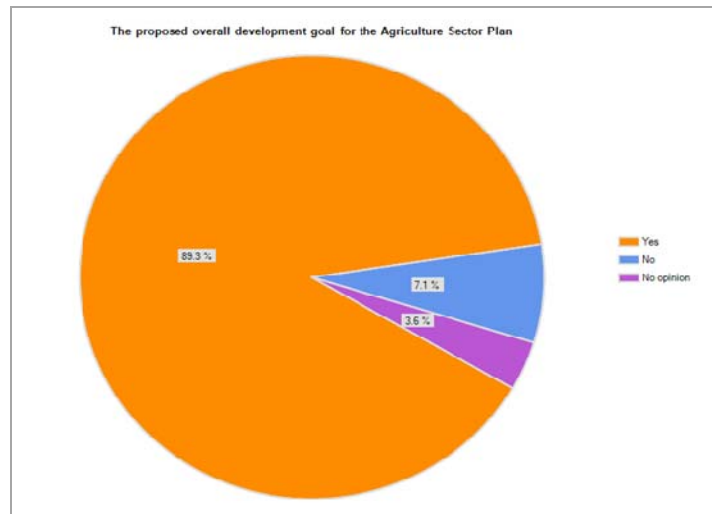


5. The proposed overall development goal of the agriculture sector plan is to "To generate equitable access and participation in a globally competitive, profitable and sustainable agricultural sector contributing to an improved quality of life for all." Do you agree with this proposed overall development goal?

If No, do you have any other suggestions (please specify)

1	To enhance access, participation and equity in a prosperous and sustainable agriculture sector for an improved quality of life for all.
2	Not sure that you need the word 'globally'
3	Perhaps focus should be on getting things right at the national level before we consider embarking on participating in the global environment
4	To undifferentiate, not all will want to participate in a globally competitive commercial agriculture. Subsistence is still important and valid. Be more modest and more realistic like "Grow a larger commercial agriculture sector and reduce barrier to commercial production."



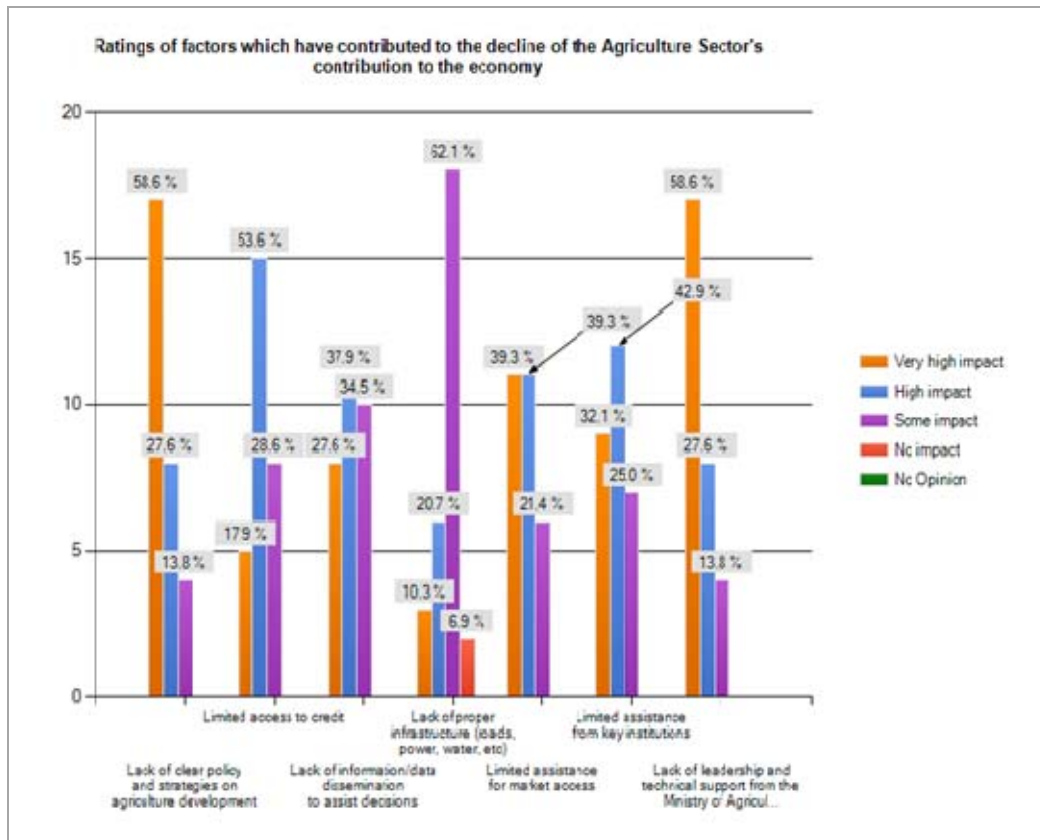


### **SECTION III: AGRICULTURE PERFORMANCE AND ASSESSMENT**

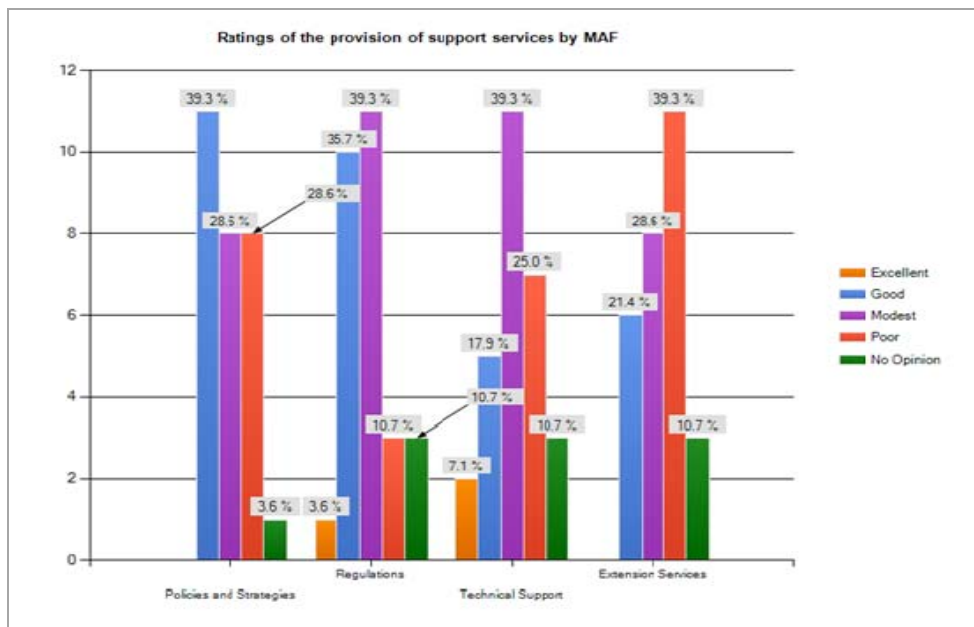
1. The contribution of Agriculture Sector to the economy has shrunk significantly over the last two decades from one third in the 1990s to only 6% in 2009. Based on your experience, please rate how each of these factors have impacted or contributed to this decline:

Other (please specify)

1	Introduce the field officers programme again. Revisit the roles and responsibilities of the Ministry officials.
2	Available capital to start up any business.
3	Inconsistent growers
4	Lack of contracted exporters, high interest on agricultural credit creating limited access
5	note cost of utilities such as power has high impact
6	Taro blight, biosecurity issues, depressive effective of remittances and shortage of labour.
7	Lack of strategic thinking in terms of sustainable competitive advantages and developing strategies to enable this
8	This is also the case of monetised economies with rewards or return lower in this sector than in other sectors



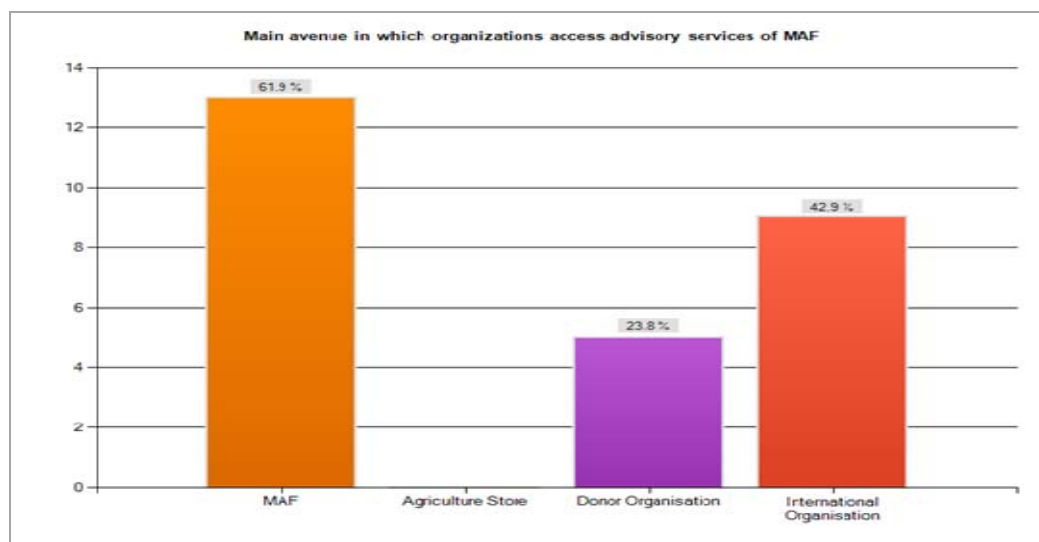
2. The Ministry of Agriculture and Fisheries (MAF) is charged by the Government of Samoa to provide policies, regulation and technical support to the farming community. From experience, how would you rank the provision of these support services:



3. In addition to these roles, MAF may also provide advisory services with regards to research and development, market orientation and funding sources. Please indicate the main avenue by which you or your organisation accesses these advisory services:

Other (please specify)

1	At the outset of my livestock progress the former ACEO of Livestock was the main source of assistance for planning and technical advice. Now, the situation has changed since the ACEO's departure.
2	FAO
3	UNDP, ADB, SPC, FAO.
4	FAO
5	International Research Institutions.
6	NZAP, OXFAM NZ, SPC, FAO.
7	Neither - directly from Internet

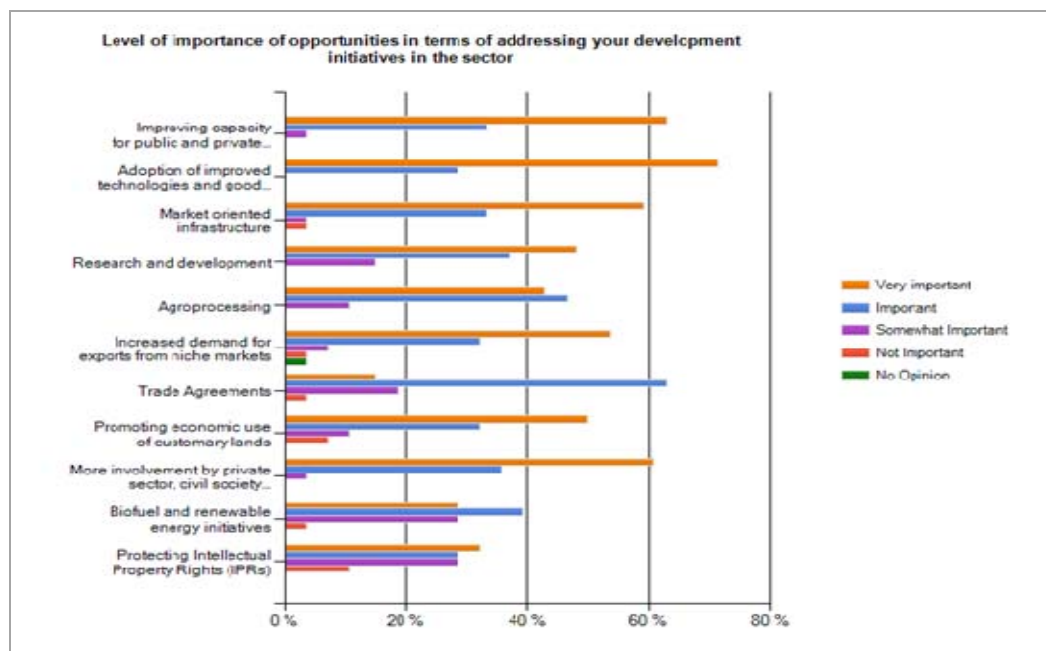


#### **SECTION IV: AGRICULTURE OPPORTUNITIES AND CONSTRAINTS**

1. Based on numerous consultations undertaken by the sector over the last five years, the following opportunities have been identified. As such, please rate the level of importance of these opportunities in terms of capturing/addressing your development initiatives in the sector:

Other (please specify)

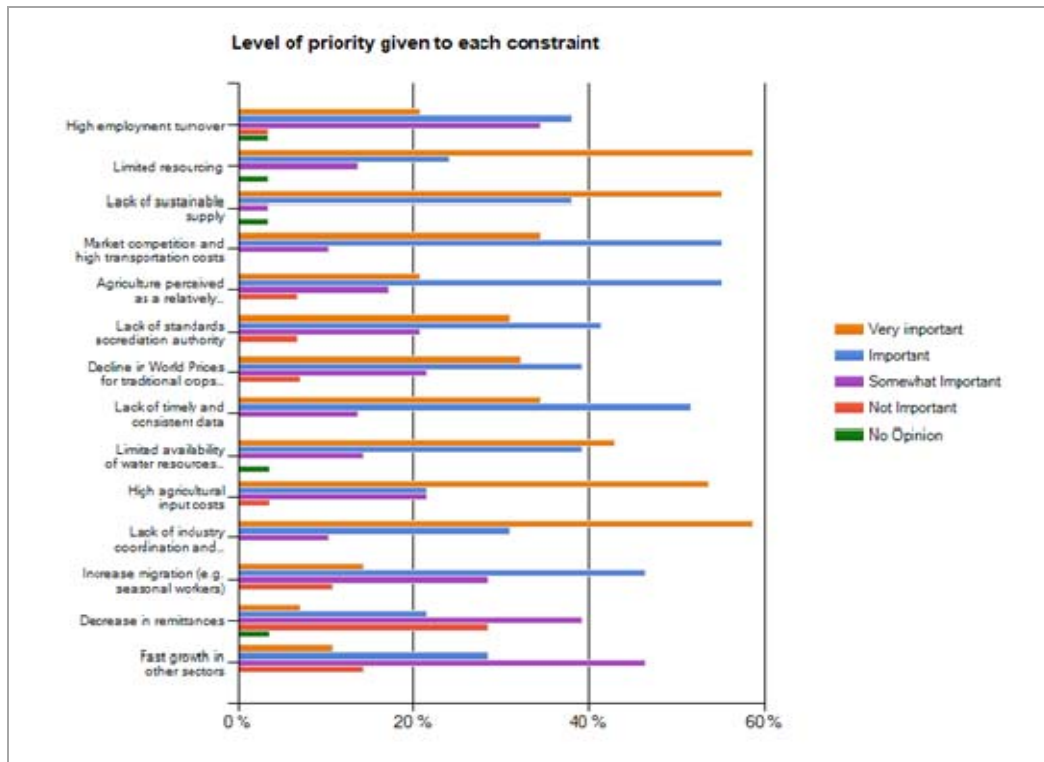
1	Information and data bank.
2	Gender mainstreaming across agricultural development programs and initiatives.
3	Not applicable, MFAT has no development initiatives in the sector
4	More sharing of best practices, resources and information.
5	Market and Value Chain identification and assistance, Access to Finance, Private and Public Sector Partnerships



2. The past consultations have also identified the following key constraints in terms of developing the sector. In your experience or that of your organisation, please indicate the level of priority that you place on each of these constraints:

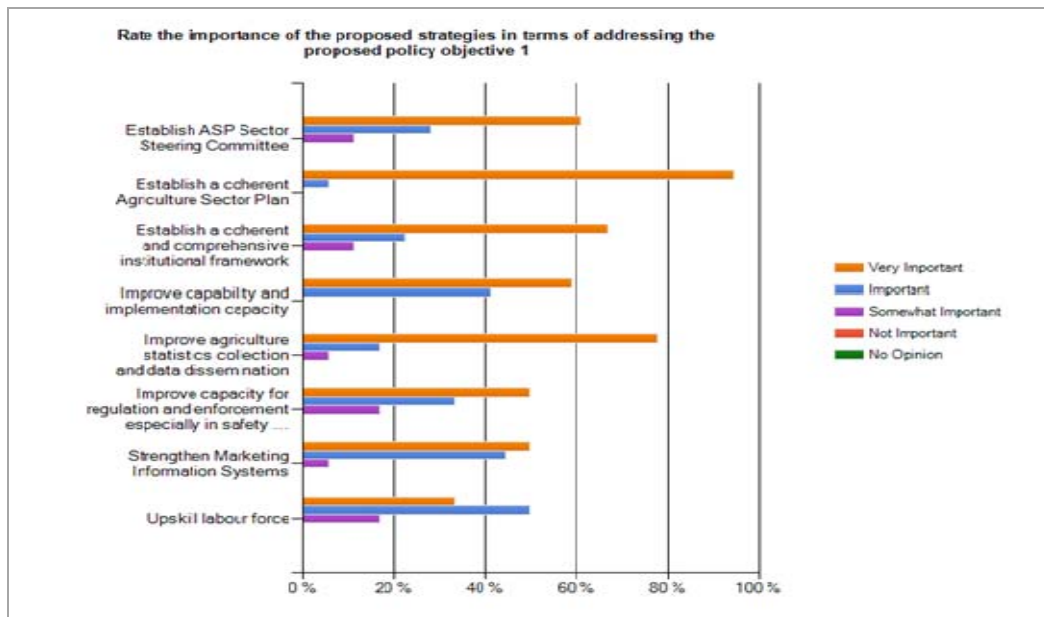
Other (please specify)

1	Incentives and subsidies needs to be relooked at. Bigger developed countries are still subsidizing agriculture. Development Bank has lost its function and purpose in agriculture because the interest rate is too high.
2	note growth in tourism sector could be advantage rather than constraint
3	I do not agree with limited availability of water resources as a constraint
4	People not working together and sharing skills and resources and ministries.
5	During period of decline was not a priority of Government so rhetoric did not support the development of Ag, limited funding and poor decision making and strategic thinking by MAF

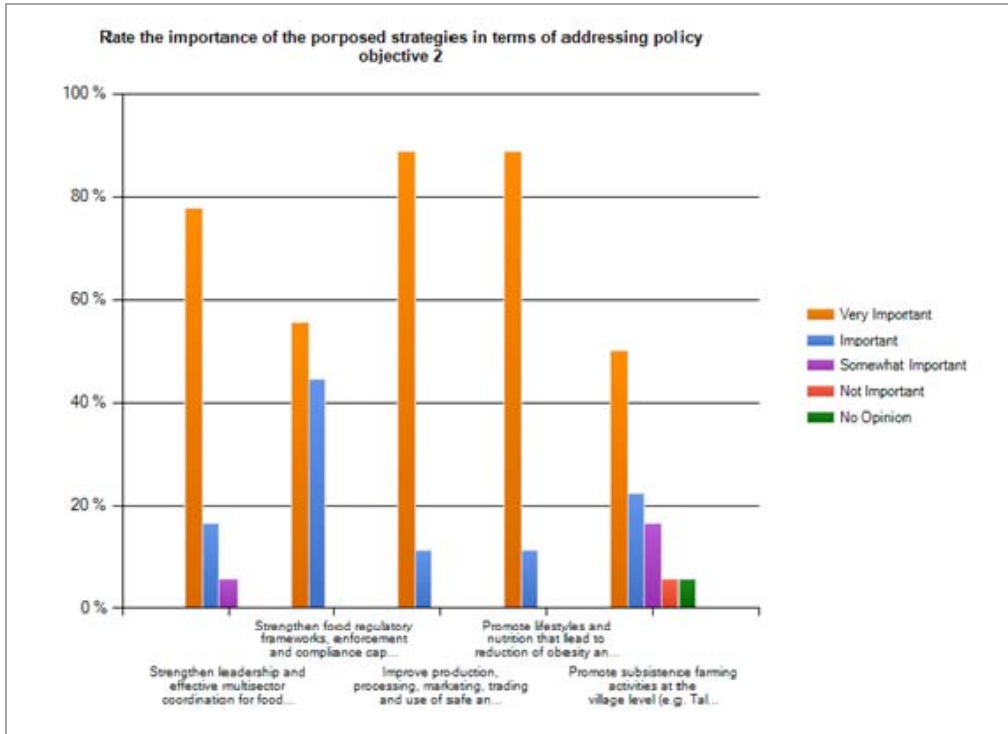


**SECTION V: AGRICULTURE STRATEGIES**

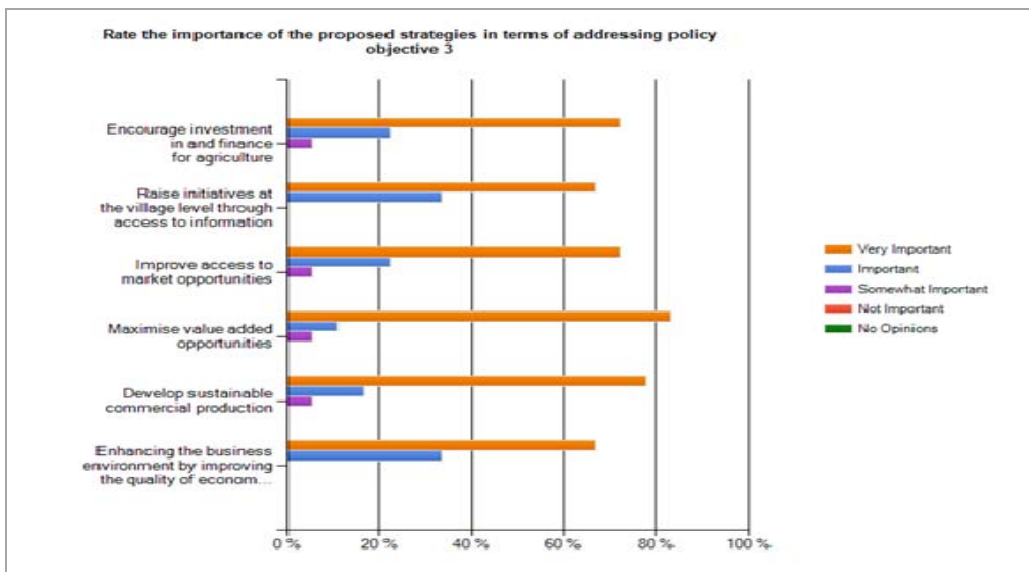
1. The following key strategies have been extracted from various discussions and strategies in the sector. Based on your experience please rate the importance of the proposed strategies in terms of addressing the proposed policy objective 1: "To strengthen agriculture sector leadership, governance and capacity".



2. The following key strategies have been extracted from various discussions and strategies in the sector. Based on your experience please rate the importance of the proposed strategies in terms of addressing the proposed policy objective 2 "To ensure national food and nutritional security"

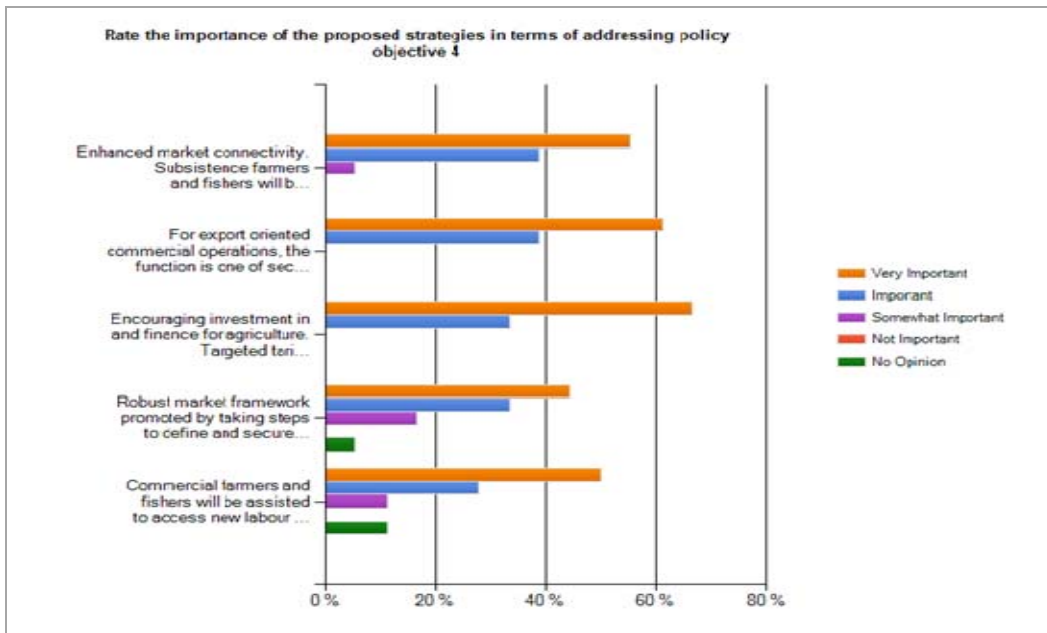


3. The following key strategies have been extracted from various discussions and strategies in the sector. Based on your experience please rate the importance of the proposed strategies in terms of addressing the proposed policy objective 3: "To promote investment and employment opportunities".

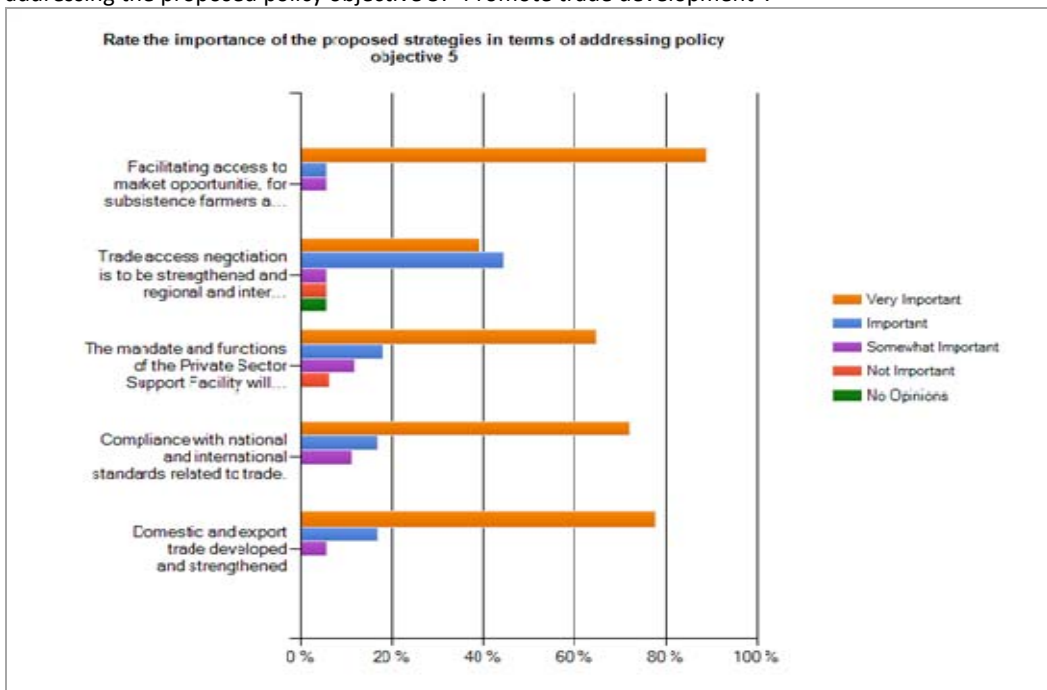


4. The following key strategies have been extracted from various discussions and strategies in the sector. Based on your experience please rate the importance of the proposed strategies in terms of

addressing the proposed policy objective 4: "Foster enabling business environment to support profitable value chains through research and development".

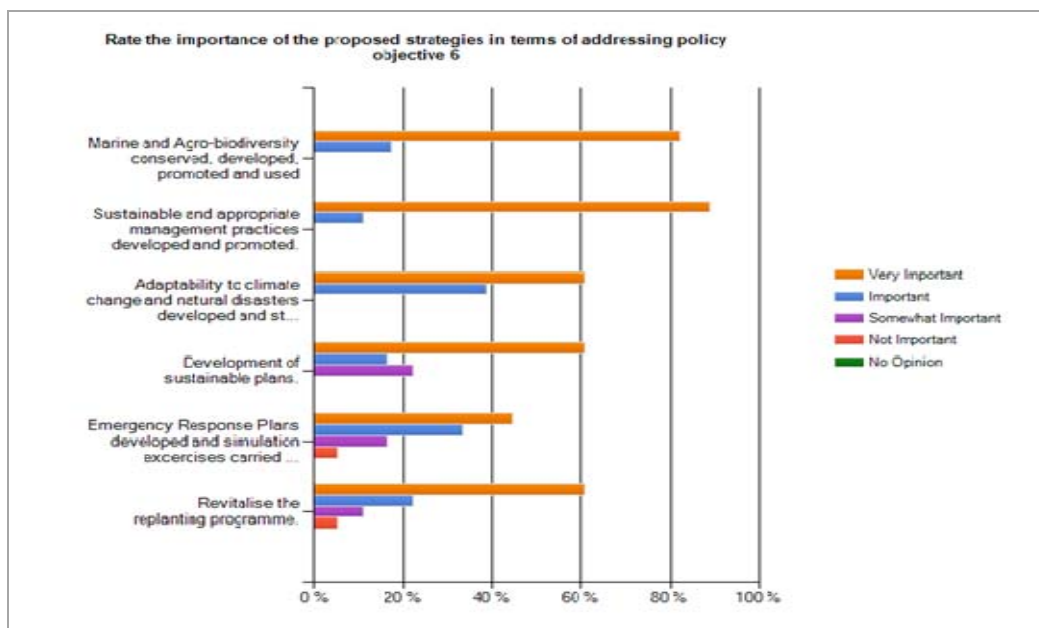


5. The following key strategies have been extracted from various discussions and strategies in the sector. Based on your experience please rate the importance of the proposed strategies in terms of addressing the proposed policy objective 5: "Promote trade development".



6. The following key strategies have been extracted from various discussions and strategies in the sector. Based on your experience please rate the importance of the proposed strategies in terms of addressing the proposed policy objective 6: "To ensure sustainable use and management of agricultural resources".



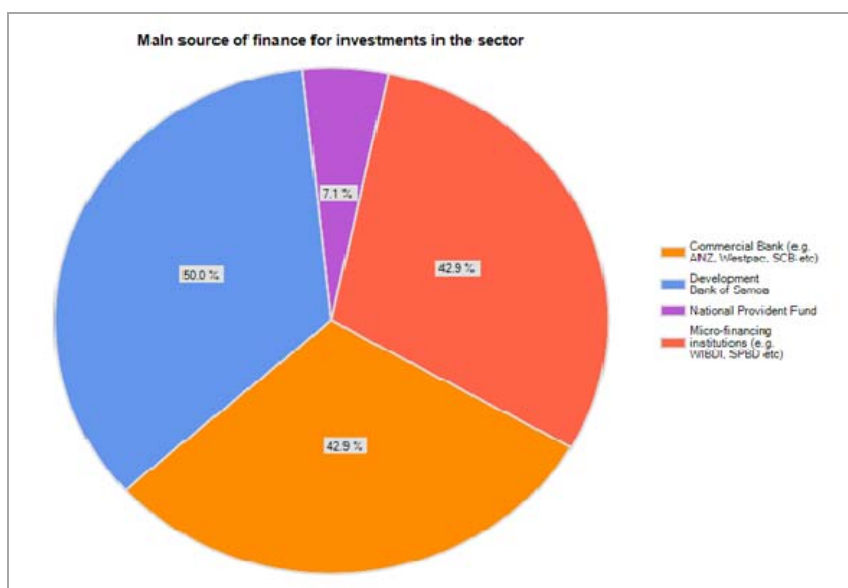


#### **SECTION VI: AGRICULTURE RESOURCE REQUIREMENTS**

1. Agriculture is predominately a private sector activity; as such many farmers depend on private sources for finances and investment. As such, please indicate below the main source of finance for your investments in the sector.

Other (please specify)

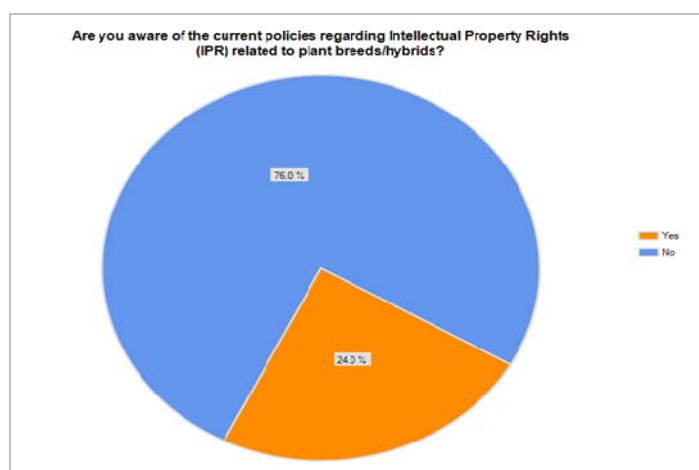
1	Guarantee scheme by Small Business Enterprise Centre.
2	International Donors (UNDP, GEF)
3	Not Applicable
4	Self Funded Private owner
5	self
6	Donor Agencies for R & D activities
7	SBEC Loan Guarantee Scheme with Loans issued from Commercial banks.
8	Donor funding.



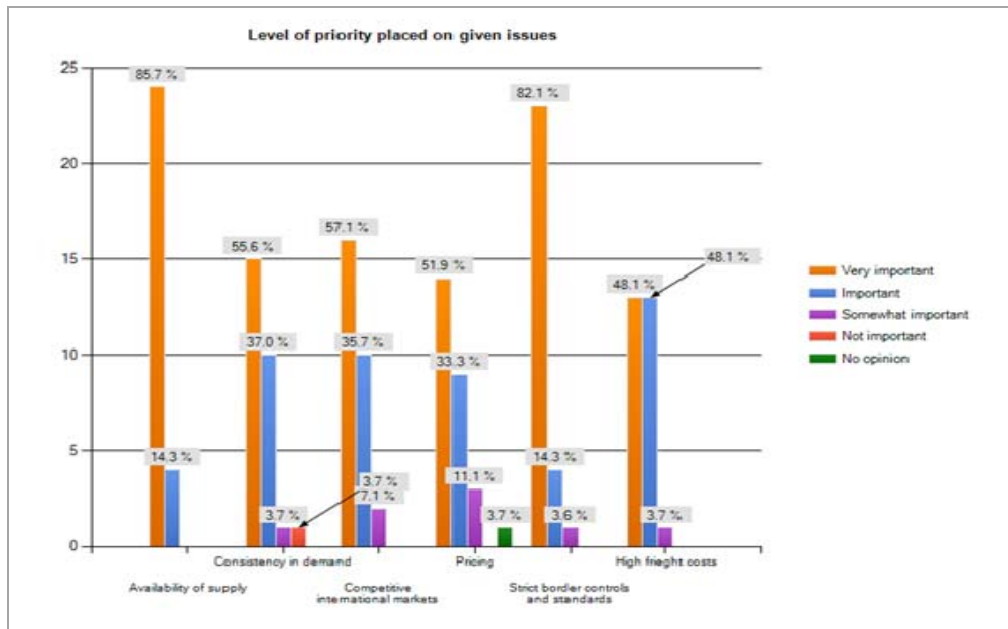
**SECTION VII: OTHER ISSUES**

1. Are you aware of the current policies regarding Intellectual Property Rights (IPR) related to plant breeds/hybrids? If Yes, please state which IPR policies you are aware of:

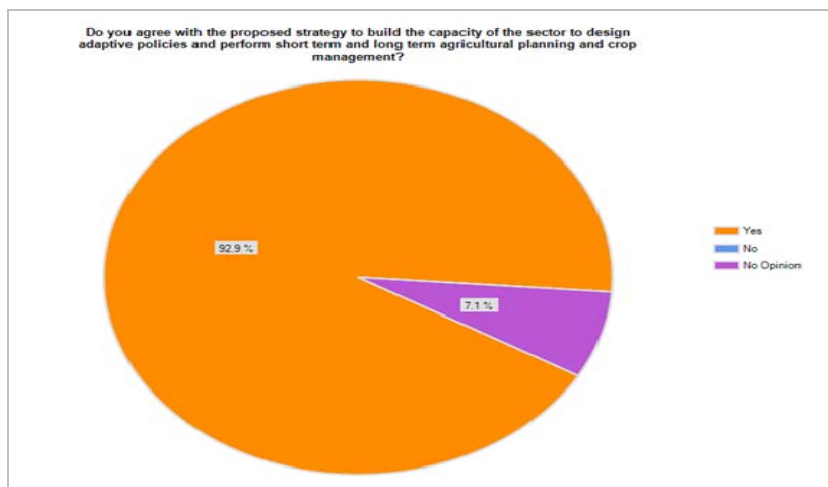
1	Product franchises and patents.
2	All
3	I am aware that there is no protection applied to our research, hence Fiji enjoying Samoan taro variety.
4	Not aware of specific IPR policies.



2. The Agriculture Sector has been identified in the National Export Strategy 2008-2012 as a potential lead export sector. However, some key issues have been identified in key documents as hindrances to this development. Please indicate the level of priority that you or your organisation would place on the following issues:



3. The effects of climate change is a global issue that has become a key priority for donors and developing countries in the international arena. Do you agree with the proposed strategy to build the capacity of the sector to design adaptive policies and perform short-term (seasonal) and long-term (decadal) agricultural planning and crop management?



4. Please add any comments that you think should take into account in developing the Agriculture Sector Plan.

- Reintroduction of field officers.
- Implementation of the Fruits and Vegetables Sector Strategy.
- Financial access to farmers in order to commercialize their operations to meet local tourism and hospitality, etc demands.
- Putting in place relevant needed utilities for farms. E.g., Fiaga Farm and similar.
I have noticed the Chinese project at Nu'u is progressing well. The objective is for our farmers to visit this demonstration and hopefully they will follow suit. However, in the first place, no farmer can afford the type of land clearing they decide, let alone their understanding of what is going on. My suggestion is to review this project. Why doesn't the Ministry identify some villages with their land

use mapped out (vegetables, cocoa, livestock, etc). Then the government should require specialized people for these projects and then send three or six Chinese to work together with village farmers. When these specialists leave, our local farmers would be equipped to carry out their own farms according to what they learnt from the Chinese.
Remember, during the German time, Germans bought in Chinese to work on our land. When they left, Samoan agriculture already had the backbone when we took over, which in fact became STEC. That is how Samoa survived in our early days of independence. If we do this, whether they are Chinese, Japanese, etc, our people should learn by demonstration from these foreign workers on the spot, not at Nu'u.
I doubt very much at the end, the Nu'u project will ever create any useful example for our people to inherit.
For the proposed strategies, suspensory loan scheme need to be revisited based on either import substitution or export oriented development.
Close consultation with non governmental organizations (NGOs) on development initiatives.
An Important Plan
Envisioned contribution to GDP for achievement in the next 5 years.
The Agriculture Sector Plan must look into adaptation to Climate Change as well as new ways of farming with renewable energy sources.
Be aware that several strategies proposed are more like objectives or goals - a strategy has to tell you how you are going to do it - what services will be strengthened, where investments will be made and what policy settings: prices, tariffs, interest rates, exchange rates will be adjusted - otherwise its just wishful thinking. For instance how is this "strategy" going to be achieved? Domestic and export trade developed and strengthened
If MAF is the leading agency in the coordination and implementation of this plan, then they should be proactive and ensure that their R & D activities reflect the current needs of the farmers and they should strengthen their outreach/extension activities to ensure that new technologies are relayed to the end-users (the farmers) as soon as possible. The research capacity of MAF especially Crops and Livestock should be well-coordinated and the update of research skills of researchers should be a priority. Poor recommendations are a result of poor research findings due to current researchers with sub-optimal skills. There should be more in-house training for them or send them overseas for short-term trainings and attachments. MAF should also link closely with other government agencies and NGOs (e.g., SROS for postharvest activities and analysis, MNRE for agroforestry, STEC, to utilize the huge coconut plantations for coconut-based mixed cropping research, MoH for promotion of locally-produced nutritious food, and WIBDI, for the organic niche markets), regional organizations (e.g., SPC, SPREP, USP, etc), and international organizations (e.g., ACIAR, etc) to collaborate in addressing the pressing problems faced by farmers which are impeding their progress for sustainable agricultural production and livelihoods.
7SectionV
Q1
- Establish ASP Sector Steering Committee with MNRE and GEF representatives.
- Establish a coherent Agriculture Sector Plan to coincide with \$70 million MNRE projects, including PPCR.
- Establish a coherent and comprehensive institutional framework with cross-sectoral linkages (CLEWS/GIS/KBA, etc)
- Improve capability and implementation capacity in close association with GEF and AusAID project activities.
- Improve agriculture statistics collection and data dissemination in line with Climate Agriculture Services, CLEWS, SRIM, and increase income from biomass.
- Improve capacity for regulation and enforcement, especially EIA and Sustainable Management Plan under PUM Act, and Watershed Management Plans under Net Water Reserve Management Act. All legally binding document are not currently practiced, hence all the non-sustainable agriculture practices today.
- Strengthen Marketing Information Systems in line with <a href="http://www.africanpacific.com">www.africanpacific.com</a> and develop local markets especially for power from bioenergy cropping, especially in light of 15-20 Climate Change

Adoption tools and new market envisaged as well as new business opportunities as reflected in the 12 projects (see Tally).
Q2
- Encourage investment in and finance for agriculture which is being done through GEF and PPCR projects for purposes of building climate resilience across the agriculture sector.
- Current agriculture extension services do not or may not deliver the necessary information to facilitate a change in the way business is done in a changing climate by value adding of mitigating technologies destined for the agroforestry sector.
- Improve access to market opportunities by addressing access to power and cost of power.
- Develop sustainable commercial production especially energy tree cropping that will provide cheaper power for hydroponics, aquaculture, etc.
- Need to address business risk from climate change (see SAME Corporate Plan).
- The agriculture sector needs infrastructure such as roads, ports, transport (all in place) but still lacks dams, irrigation, internet access, power supplies that are sustainable and beneficial to farmers (more benefit to farmers from biofuels and bioenergy crops than from hydro or solar or wind).
Q4
- Stakeholders within SOGEF Pilot Villages may also be expected to enhance market connectivity and encourage farmers and fishers to organize and cluster to improve their ability to share new practices, reduce cost and improve market access (including expansion of the scope and reach of WIBDI).
- "Foster enabling business environment to support profitable value chains through research and development" for export oriented commercial operations and even commercial operations focusing on meeting local markets, especially the envisaged bioenergy markets, the function is one of securing markets and ease to secure a local market where the demand for 20MW of power is growing at 10% annually and fossil fuel displacement accounts for US\$50 million market locally annually.
- Encouraging investment in and finance for agriculture, especially microfinancing institutions (MFIs).
- Commercial farmers and fishers will be assisted to access new labour skills through the development of the educational curricula as the current curricula in first degree, second degree and tertiary institutions are insufficient and in need of further development.
Q5
- Facilitate market access opportunities, especially local markets for subsistence farmers and fishers. There is also a need to maintain a low carbon economy for the agriculture sector.
- Coconut oil exports scuttled by overseas markets unfairly, kava exports scuttled by German markets unfairly, exports of oil (lamb and beef fat) from New Zealand and Australia would be banned for health reasons (not suitable for their health programs but suitable for Fijians and Samoans).
- New market expansion by trying bioenergy locally and explore value adding potentials, not to mention carbon benefits and environmental management benefits.
- Domestic and export trade developed and strengthened but the agriculture sector needs fast, efficient, cheap and high quality drying of wet produce to help ????? manufacturers.
Q6
- Marine and Agrobiodiversity conserved, developed, promoted and used in a changing climate. There is also the need to comply with legislations. as in object one of Question 6.
- Sustainable and appropriate management practices developed and promoted in accordance with the United Nations Conventions for SLM and SFM.
- Adaptability to climate change as per NAPA 1 ICCRA and HSS project outcome no.2.
- Development of Sustainable Management Plan, CIM Plan.
- Is there an Agency Response Plan (ARP) completed for MAF?
- Revitalize the replanting programme with appropriate climate change adapted plants from CePac that have been adapted to climate change and replant in accordance with new crops, new markets, new technologies, etc.
Integrating the sector plans to Village and Community Plans.

<p>Close collaboration with other Research and Development (R&amp;D) institutions/organizations to avoid duplication in all areas.</p>
<p>MAF to relook at some of the recommendations of the report produced after the last MAF ISP. (e.g. MAF contracting out specific activities to organizations that are involved in agriculture and making things work.</p>
<p>There are 2 major and simple factors which limit the ability of the Ag sector to develop - input supply (seeds, correct fertilizers etc) and agronomy support. The 2007 games demonstrated what farmers are capable of in Samoa if these two areas are addressed.</p>
<p>Another very important area that has not been shown or questioned is how Samoa can use its quarantine status to give it access to overseas markets particularly in terms of poultry production. There is significant opportunity to grow and export poultry from Samoa to supply the markets in New Zealand and Australia.</p>
<p>What are Samoa's sustainable competitive advantages with regards to climate, soil, rainfall, sunshine. Which microclimates suit which products? Traditional crops are good for some limited food security but considerations must be given to income generation capacities of crops suited to our weather. Some crops are not edible such as orchards, palms etc these are income generation plants that can be developed into an export base for income generation. Intercropping is important to reduce the vulnerability and also to try and reduce the use of herbicides and pesticides. Organic herbicides like lauric acid extracted from coconut oil (47%) should be considered. There are too many issues to be covered in a glib monkey survey. This needs to be workshopped.</p>

## IV. Literature Review

### Introduction

Although a pre-existing Sector Plan or Sector Strategy is not available for the Agriculture Sector as a whole, various studies and documents have been compiled pertaining to the key sub-sectors of Agriculture with the assistance of the Government of Samoa and its development partners. These studies and documents have been utilized by the Lead Consultant tasked with the development of an annotated outline for the proposed Agriculture Sector Plan. Furthermore, the key documents and studies used for this purpose are namely:

### ***Ministry of Agriculture, Fisheries, and Forestry Documents***

- i. Ministry of Agriculture, Fisheries, and Forestry Corporate Plan 2008 – 2012
- ii. Livestock Sector Review 2004
- iii. Cocoa Action Plan: The Feasibility of Reviving Cocoa as a Major Industry 2004
- iv. Coconut Sector Review 2003
- v. Capacity Building in Agribusiness and Marketing Agricultural Produce and Management for Young Farmer Groups 2005
- vi. Agriculture Survey 2005
- vii. Agriculture Census 1999

### ***Ministry of Finance Documents***

- viii. Strategy for the Development of Samoa 2008 – 2012 (SDS 2008 – 2012)
- ix. Issues Paper – Agriculture Sector 2008
- x. Agro – forestry Programme Design Document 2007

### ***Samoa Bureau of Statistics Documents***

- xi. Household Income and Expenditure Report 2008
- xii. Poverty Report: A Report on the Estimation on Basic Needs Poverty Lines and the Incidence and Characteristics of Hardship and Poverty 2008 – Analysis of the 2008 HIES Report

### ***Food and Agriculture Organization Documents***

- xiii. Agriculture Sector Review 2008

### ***Other Documents***

- xiv. ADB – Promoting the Use of Customary Land for Economic Purposes 2010
- xv. European Union Dossier on Intellectual Property Rights and Agriculture

## I. KEY SUB-SECTORS

### 1. CROPS SUB SECTOR

Source Document	Issues	Recommendations
SDS 2008 – 2012	- little emphasis on commercial production; - only 26% of available/arable land utilized	<b>1. increase investment into the sector</b> <b>2. re-evaluate strategies to strengthen</b>



	<ul style="list-style-type: none"> <li>- for farming activity;</li> <li>- revitalization of traditional crops required;</li> <li>- need to raise incentives so as to promote productivity;</li> <li>- noticeable decline in subsistence agriculture;</li> <li>- little emphasis on commercial production development;</li> </ul>	<p><b>sector outputs</b></p> <ol style="list-style-type: none"> <li>3. enhance capacity of Ministry and all stakeholders involved</li> <li>4. improve on quality of extension services</li> <li>5. improve quality assurance practices</li> <li>6. improve on marketing drives for export of products</li> <li>7. increase Government incentives on all levels of Agricultural development</li> <li>8. need to raise public sector support services;</li> <li>9. need to increase marketing and branding effort;</li> <li>10. privatization of Agriculture Store;</li> <li>11. enhance food security and import substitution</li> </ol>
<b>Agriculture Issues Paper 2008</b>	<ul style="list-style-type: none"> <li>- potential destabilizing impacts of external shocks;</li> <li>- noticeable decline in subsistence agriculture;</li> <li>- volatility in supply due to preference for high yield crops;</li> <li>- land issues;</li> <li>- limited credit access;</li> <li>- unpredictable weather patterns</li> <li>- need to improve policy advise &amp; dissemination of market information;</li> </ul>	<ol style="list-style-type: none"> <li>1. enhance food security measures to protect from external shocks (i.e.) global food price fluctuations</li> <li>2. increase Government investment into sector to encourage foreign investment</li> <li>3. need to identify adequate commercial markets for products</li> <li>4. enforcement of legislation opening up more access to land</li> <li>5. open up more credit access programs ‘</li> <li>6. introduce new variety of produce for development</li> <li>7. encourage cohesion amongst producers</li> </ol>
<b>FAO Agriculture Sector Review 2009</b>	<ul style="list-style-type: none"> <li>- land issues</li> <li>- destabilizing impacts of external shocks (incl. competitive export markets);</li> <li>- lack of sector coordination incl. coordination of natural resources;</li> <li>- institutional framework (incl. need to raise support services);</li> <li>- lack of proper infrastructure;</li> <li>- limited export market access;</li> <li>- over production of produce due to low consumption and export rates fed to livestock</li> <li>- lack of proper research and development of crop varieties</li> </ul>	<ol style="list-style-type: none"> <li>1. enforce legislation opening up access to land</li> <li>2. increase competitiveness domestically and internationally</li> <li>3. cohesion amongst relevant stakeholders</li> <li>4. develop strong links between public and private sector stakeholders</li> <li>5. identify key export markets for goods</li> <li>6. improve on the processing, packaging and storage of crops for export</li> <li>7. promote awareness on introduced crop varieties</li> <li>8. Identification of research and community needs</li> <li>9. encourage the use of cultural and local practices</li> <li>10. clear specifications of avoid Ministry and NGO roles overlapping</li> <li>11. Create an inventory of current best practices and potential market opportunities for existing crops</li> <li>12. Identify the top 3-6 crops that will be focused on over the next five years</li> <li>13. Focus advisory resources on developing best practices fact sheets for the top 10 crops</li> <li>14. Initiate a five minute radio program</li> </ol>

		<p>providing market information and best practices for the top 10 crops</p> <p>15. Provided advisory services one day a week at Fugalei and Salelologa markets as well as the Agricultural Store</p> <p>16. Improve staff mobility through the purchase of a least two new vehicles</p>
<b>Fruit and Vegetable Sector Review</b>	<ul style="list-style-type: none"> <li>- Weak communication and partnership with all our stakeholders on promotions awareness and extension programs for developing the agriculture sector</li> <li>- Reduce dependency on traditional farming earnings due to increase purchasing power from remittances and earnings from other sectors</li> <li>- Lack of access to initial capital</li> <li>- Issues on bio-security and natural disasters</li> <li>- Plant and animal genetic resource</li> </ul>	<ol style="list-style-type: none"> <li>1. establish and strengthen links between key public and private stakeholders</li> <li>2. initiate capacity building programs for all extension service personnel</li> <li>3. encourage reinvestment into subsistence farming operations</li> <li>4. Government assistance with initial access to <i>seed funding</i></li> <li>5. Increase awareness of importance of bio – security through linkages with Quarantine Division</li> <li>6. Quarantine Division workshops for all relevant stakeholders to raise awareness of new pests and invasive species</li> </ol>
<b>Coconut Sector Review 2003</b>	<ul style="list-style-type: none"> <li>- access to capital for development is difficult</li> <li>- little incentive for foreign investors into the sector</li> <li>- no focus on higher value added products</li> <li>- difficult to compete with the much bigger and developed Asian markets</li> <li>- inconsistency in amount of product being supplied</li> <li>- no cohesion and cooperation amongst producers</li> </ul>	<ol style="list-style-type: none"> <li>1. Government incentives to cater for the need for capital</li> <li>2. Increase in M &amp; E</li> <li>3. Development in the sector to attract foreign investors (i.e.) selling our market to attract investors</li> <li>4. Refocus on value added products to up competitiveness</li> <li>5. Increase variety of goods available in market as to better compete with Asia</li> <li>6. Cohesiveness needed within realm of suppliers to increase productivity and supply on an on – demand basis</li> <li>7. Improve on quality of products from collection to end product phase</li> <li>8. Need for more integration and coordination within the industry to increase productivity and competitiveness</li> </ol>

## 2. LIVESTOCK SUB SECTOR

Source Document	Issues	Recommendations
<b>SDS 2008 – 2012</b>	<ul style="list-style-type: none"> <li>- production is highly subsistence based;</li> <li>- lack of resources &amp; investment into infrastructure (HTFA, Abattoir, R&amp;D)</li> <li>- little marketing/branding efforts;</li> <li>- lack of information dissemination;</li> <li>- requires the development of a national feed source/mill;</li> <li>- land and water resource issues;</li> <li>- lack of hygiene standards;</li> <li>- little emphasis and efforts on the</li> </ul>	<ol style="list-style-type: none"> <li>1. need to improve support services;</li> <li>2. increase Government investment into the sub – sector</li> <li>3. initiate capacity building programs</li> <li>4. strengthen linkages between public – private stakeholders with backing from Government</li> </ol>

	<ul style="list-style-type: none"> <li>development of sheep, apiculture, piggeries and dairy production</li> <li>- little supply market leads to questionable feasibility of industry;</li> </ul>	
<b>Agriculture Issues Paper 2008</b>	<ul style="list-style-type: none"> <li>- Livestock development efforts limited;</li> <li>- Abattoir needs to be established in order to cater for the needs of the entire country, freezer trucks for transport will be needed</li> <li>- Research on improved genetic breeding resources;</li> <li>- Partnership with MAF and private sector;</li> <li>- Veterinarian expertise;</li> <li>- Promotion and provision of services for sheep farming;</li> </ul>	<ol style="list-style-type: none"> <li>1. encourage stakeholders to enter more into commercialized operations</li> <li>2. increase Government incentives into commercialization of sub – sector</li> <li>3. establishment of national abattoir for hygienic slaughter practices</li> <li>4. Government incentives to veterinarians to remain in country</li> <li>5. increase capacity of extension service providers</li> </ol>
<b>FAO Agriculture Sector Review</b>	<ul style="list-style-type: none"> <li>- land access and livestock water supply</li> <li>- no hygienic slaughter facilities (i.e.) abattoir</li> <li>- quantifiable data relating to resource development</li> <li>- profitability</li> <li>- long term funding of development initiatives</li> </ul>	<ol style="list-style-type: none"> <li>1. establish national abattoir with adequate supporting legislation</li> <li>2. compile and make available information on slaughter and meat retail</li> <li>3. monitor disease before and after slaughter to ensure food safety</li> <li>4. encourage hygienic slaughter and presentation in farm slaughtered animals for faalavelave</li> <li>5. need to establish improved pastures</li> <li>6. encourage increased commercialization of piggery farms</li> <li>7. the development and distribution of livestock enterprise specific extension messages</li> <li>8. training basic animal health techniques have been provided to para – vets and livestock producers</li> <li>9. legislation that addresses meat hygiene along all sections of the marketing chain has been introduced and is awaiting final approval</li> <li>10. legislation relation to the use of land as collateral for development funding has been introduced and is awaiting final approval</li> <li>11. animal health programs implemented by the Livestock Division relating to TB and brucellosis strengthened</li> <li>12. to provide the knowledge base and expertise that will allow the national feed resource to develop and expand</li> <li>13. ensure that development capital is available that will allow the private sector to implement the technological innovations that have been identified</li> <li>14. in the interests of “public good” it is GoS responsibility to establish minimum hygiene standards for livestock products and ensure that these standards are enforced</li> </ol>
<b>Livestock Sector</b>	<ul style="list-style-type: none"> <li>- need for abattoir for hygienic slaughter</li> </ul>	<ol style="list-style-type: none"> <li>1. road access and livestock water supply</li> </ol>

<b>Review</b>	<ul style="list-style-type: none"> <li>- practices</li> <li>- Road access and livestock water supply were the two most common constraints raised during producer discussions</li> <li>- Development funding at 12 percent over 5 years with no grace period is entirely unrealistic for long term development funding and clearly acts as a significant disincentive</li> <li>- Land tenure and availability. The insecurity of customary land tenure is often stated as a disincentive. Visual observations would indicate significant areas of underutilized land.</li> <li>- Profitability – a negative to low rate of return would suggest that beef cattle development will be hindered through liquidity constraints</li> <li>- development funding at 12 percent over 5 years with no grace period is entirely unrealistic for long term development funding and clearly acts as a significant disincentive</li> </ul>	<p>were the two most common constraints raised during producer discussions</p> <p><b>2. Land tenure and availability.</b> The insecurity of customary land tenure is often stated as a disincentive. Visual observations would indicate significant areas of underutilized land. This mission however could not verify that under utilization is directly attributed to land tenure rather than inadequate funding, water, access and or poor profitability.</p>
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### 3. FISHERIES SUB SECTOR

<b>Source Document</b>	<b>Issues</b>	<b>Recommendations</b>
<b>SDS 2008 – 2012</b>	<ul style="list-style-type: none"> <li>- loss of natural habitats due to climate change, harmful practices and development (causing decline in inshore/lagoon marine product);</li> <li>- need to improve port and berthing infrastructure;</li> <li>- raise policing and enforcement efforts;</li> <li>- high registration fees for vessels beyond 15cm is incentive to invest in smaller boats resulting in less catch;</li> <li>- oceanographic and climatic factors affect migratory patterns of fish and affect offshore catch;</li> <li>- little efforts towards the development of aquaculture;</li> <li>- export markets are predominantly American Samoa (88% albacore) and Japan (10% yellowfin and 2% bigeye);</li> <li>- progressive rental fees;</li> <li>- removal/abolishment of fuel rebate;</li> <li>- decrease resource rent to raise efforts;</li> <li>- registration fees should be tied to the costs of inspection and policing;</li> <li>- industry is vulnerable to external shocks such as fuel prices hikes;</li> </ul>	<ol style="list-style-type: none"> <li><b>1. improve capacity within Ministry</b></li> <li><b>2. provide proper training for extension staff</b></li> <li><b>3. initiate community awareness programs to enhance knowledge of stakeholders on issues and recommendations for improving their operations</b></li> <li><b>4. encourage commercialization of fishing operations as a means of income generation</b></li> <li><b>5. ensure adherence to legislation protecting</b></li> </ol>
<b>Agriculture Issues Paper</b>	<ul style="list-style-type: none"> <li>- limited emphasis on the promotion of commercialized fishing</li> </ul>	<ol style="list-style-type: none"> <li><b>1. strengthen supply of fisheries resources;</b></li> </ol>

<p><b>2008</b></p>	<ul style="list-style-type: none"> <li>- loss of natural habitats</li> <li>- declining numbers of fish catches</li> <li>- inadequate time given for reproduction of fish stock</li> <li>- limited emphasis on value added products</li> <li>- limited access to available development capital</li> <li>- excessive exploitation of limited resources</li> <li>- limited information on domestic and foreign markets</li> <li>- high rent rates for stakeholders at the local fish</li> <li>- smaller operators not protected from larger operators</li> <li>- fishing is mainly subsistence in nature</li> <li>- over – fishing of fish below the legal size</li> </ul>	<ol style="list-style-type: none"> <li>2. ban use of dynamites, use of sunshine coral, size limits of fish caught, use of underwater touches, collection of crown starfish, etc;</li> <li>3. encourage community ownership and management of fisheries conservation;</li> <li>4. continue site selection of future areas for fish reserves;</li> <li>5. develop community capacity to manage inshore areas;</li> <li>6. re – enforce legislation on proper fishing practices across the board</li> <li>7. improve on existing fishing technologies</li> </ol>
<p><b>FAO Agriculture Sector Review 2009</b></p>	<ul style="list-style-type: none"> <li>- improve collaboration with villages on proper management and development on fisheries</li> <li>- established Aquaculture, Fish and Shellfish farms</li> <li>- enhance fisheries stock through establishment of MPAs</li> <li>- lack of promotion of commercial fishing</li> <li>- limited EEZ area for commercial fishing</li> </ul>	<ol style="list-style-type: none"> <li>1. Improve collaboration with villages on proper management and development on fisheries</li> <li>2. Established Aquaculture, Fish and Shellfish farms</li> <li>3. Enhance fisheries stock through establishment of MPAs</li> </ol>
<p><b>Review of Institutional Reform and Institutional Strengthening in Pacific Fisheries</b></p>	<ul style="list-style-type: none"> <li>- Institutional change is long term and requires buy in from leaders and political support to commence the process and to maintain it during the implementation phase so as to manage resistance to change;</li> <li>- Reform and restructuring should be preceded by proper analysis of context in which the sector and its institutions operate nationally, regionally and internationally.</li> <li>- Obtaining participation of stakeholders to counter opposition from vested interests and from those who do not understand the rationale is a desirable strategy;</li> <li>- Co-management of fisheries resources is an accepted strategy for all fishers and fisheries i.e. regardless of administrative model, increased stakeholder input into management of fisheries is a prime consideration;</li> <li>- There is a need to ensure that reform process meets objectives; whether institutional change is facilitating achievement of desired outcomes;</li> <li>- Accountability is a major consideration;</li> <li>- Good institutional reform requires good legislation;</li> <li>- Projects or defined program elements can only be effective if critical elements are in</li> </ul>	<ol style="list-style-type: none"> <li>1. Principles in choice of organizational design should include: <ul style="list-style-type: none"> <li>o Effectiveness and efficiency;</li> <li>o Risk management;</li> <li>o Constitutional conventions;</li> </ul> </li> <li>2. Fisheries priorities at the National level should focus on funding and how to best allocate resources within the sector;</li> <li>3. The Authority for the sector should provide greater flexibility and facilitate securing of funds as well as decision making and should focus on core business and accessing services;</li> <li>4. Institutions/Authorities should include all fisheries in their mandate however, where capacity is limited, the focus should then be on the fisheries with highest economic returns;</li> <li>5. Core functions should include compliance and enforcement based on Environmentally Sustainable Development (ESD) principles, policy and planning, research as well as monitoring capabilities;</li> <li>6. Service delivery should be left to the private sector including NGOs if capacity allows with the determinant of whether services are delivered by public or private sector to be cost</li> </ol>

	place;	effectiveness.
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#### 4. FORESTRY SUB SECTOR

Source Document	Issues	Recommendations
SDS 2008 – 2012	<ul style="list-style-type: none"> <li>- depletion of Samoa's forests over the last 3 decades with little to no reforestation efforts;</li> <li>- limited access to community forestry programs;</li> <li>- continual assessment of the state of forest protected areas, conserve forest resources on Savaii and improve national park management is required</li> <li>- agro-forestry needs to be encouraged through engagement of village leaders and communities in the formulation and implementation of conservation and regeneration activities</li> </ul>	<ol style="list-style-type: none"> <li>1. encourage re – forestation of approved areas</li> <li>2. enforce legislation protecting forestry resources</li> <li>3. initiate community awareness programs to emphasize importance of conservation</li> <li>4. encourage further research and development on conservation practices and methods</li> </ol>
Samoa Agro – Forestry PDD	<ul style="list-style-type: none"> <li>- narrow resource base for development of sub – sector</li> <li>- limited infrastructure around the rural areas</li> <li>- small domestic markets for timber goods</li> <li>- isolation from international markets</li> <li>- unpredictability of weather patterns in terms of natural disasters</li> <li>- land and forestry degradation</li> <li>- land tenure issues</li> <li>- limited capacity of extension services provided to rural areas</li> </ul>	<ol style="list-style-type: none"> <li>1. increase community awareness of need for conservation</li> <li>2. enhance capacity of extension service providers</li> <li>3. identify international markets for export of products</li> <li>4. improve on quality of end product</li> <li>5. ensure proper re – forestation procedures are implemented and enforced by proper legislation</li> <li>6. improve on efficiency of the Ministry</li> <li>7. ensure cohesion amongst all stakeholders involved</li> </ol>

## II. CROSSCUTTING ISSUES

### 1. FOOD SECURITY

Source Document	Issues	Recommendations
FAO Report: Investing in Food Security	<ul style="list-style-type: none"> <li>- with global population expected to reach more than 9 billion by 2050, FAO estimates that agricultural production will need to grow by 70% if it is to keep the world's population fed and healthy with 90% of growth to come from intensified production;</li> <li>- investment in appropriate research and ensuring farmers' access to new innovations is essential;</li> <li>- lack of credit, insecure land tenure, poor roads and transportation and lack of market opportunities;</li> <li>- agro-processing capacity required to meet increasing food demand and</li> </ul>	<ol style="list-style-type: none"> <li>1. Emphasis to be placed on the need to improve smallholder productivity by promoting more effective public and private investment in agriculture and rural development;</li> <li>2. Diverse but well targeted investment, coupled with sound policies and strategies are needed to ensure returns that will allow smallholders and larger producers to continue investing in farming operations;</li> <li>3. The public sector to ensure an enabling environment that will attract and foster investment;</li> <li>4. Investment should be directed towards:</li> </ol>

	<ul style="list-style-type: none"> <li>- quality requirements;</li> <li>- food losses due to lack of appropriate storage facilities;</li> <li>- limited learning opportunities for smallholders;</li> <li>- fertilizer input critical to meeting food demand;</li> <li>- food safety;</li> <li>- irrigation;</li> <li>- mechanization;</li> <li>- national seed systems ability to meet agricultural challenges;</li> <li>- links between agriculture to nutrition security;</li> <li>- lack of slaughterhouses;</li> <li>- transboundary animal diseases;</li> </ul>	<ul style="list-style-type: none"> <li>- increasing local processing capacity and a requisite infrastructure support base;</li> <li>- proper storage infrastructure;</li> <li>- expanding farmer field schools approach into new regions;</li> <li>- increasing production, distribution and access to fertilizers;</li> <li>- modern facilities and capacity in meat safety;</li> <li>- prevention, surveillance and control of animal diseases;</li> </ul> <ol style="list-style-type: none"> <li>5. Broad stakeholder participation in food safety investment planning;</li> <li>6. Farmer focused investment into water management required so as to raise access to reliable water and good production practices;</li> <li>7. Development strategies requires focus on mechanization investment;</li> <li>8. An effective national seed system dependent on government, donors and private sector investments;</li> <li>9. Investment needed into crop and dietary diversity to narrow the “nutrition gap”;</li> </ol>
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## 2. POVERTY

Source Document	Issues	Recommendations
<p><b>UNDP Report on the Estimation of Basic Need Poverty Lines and Incidence and Characteristics of Hardship and Poverty</b></p>	<ul style="list-style-type: none"> <li>- poverty is a multi-dimensional issue and will require the analysis of specific characteristics and where possible the identification of key causes of low income/expenditure and poverty in the disadvantaged sections of society;</li> <li>- difficulties by policy makers to identify who-are-the-poor, why-are-they-poor and what-are-the characteristics of the poor and poor households;</li> <li>- BNPL measures the incidence of “income or expenditure” poverty but this is only one aspect of poverty or hardship and fails to encompass poverty as a whole;</li> <li>- Low income does not necessarily reflect an ill-fed or malnourished population as subsistence activities and effective budgeting could be utilized by said population;</li> </ul>	<ol style="list-style-type: none"> <li>1. Strengthen the institutional and regulatory basis for renewed domestic economic growth and stability;</li> <li>2. Ensure fiscal discipline and sound financial management;</li> <li>3. Give greater emphasis to promoting private sector investment, access to financial services for people and communities and the creation of new employment opportunities;</li> <li>4. Broaden and deepen the economic base of the economy, especially in strengthening the contribution of the agriculture sector, and to further improve food security;</li> <li>5. Improved technical and vocational training opportunities in order to meet the skill needs of the private sector and of those who will need lifestyle skills to succeed in both the rural economy and in overseas employment; and to</li> <li>6. Continue to improve the delivery of education, primary health care and health/nutrition education.</li> </ol>



### 3. LAND ISSUES

Source Document	Issues	Recommendations
<p><b>ADB Report on Promoting Use of Customary Land in Samoa</b></p>	<ul style="list-style-type: none"> <li>- Challenges being faced under the project may have an impact beyond the land administration sector and requires broader attention;</li> <li>- The activities being planned for changing procedures for using customary land should have a positive impact beyond the narrow use of customary land;</li> <li>- Need to have one national lead agency for handling economic development of customary land to provide donors with a nationally consistent view of reforms that are needed;</li> <li>- Advancing the customary land for economic use agenda depends on dissemination of information and public education;</li> <li>- Fragmented arrangements with regards to the institutional framework involved hindering progress to date;</li> </ul>	<ol style="list-style-type: none"> <li>1. Project Implementation Phase to be fast tracked so as to ensure the increase in levels of economic activity on customary lands in Samoa;</li> <li>2. Implementation Phase to build on successes observed in previous phases;</li> <li>3. Fast track the establishment of a Customary Lands Advisory Committee to continue on from the efforts of the Task Force;</li> <li>4. A new form of national leadership body to replace the task force;</li> <li>5. External assistance is both warranted and necessary and needs to be secured as soon as possible;</li> <li>6. The support suggested is concentrating on the priorities for 2009 and reduces significantly in later years. It follows a schedule of interventions that allows for the key players to make the most of the ADB's assistance and links efforts across GoS agencies, NGOs, the ADB and other donors.</li> <li>7. The next Phase will see changes in policies and procedures flowing from the legislative changes and being implemented with systems and procedures that are administered and managed by competent, confident and motivated people dedicated to assisting landholders and investors to increase the economic use of customary lands in Samoa.</li> </ol>
<p><b>Soil Resources Interpretative Reference Manual for Samoa 2010</b></p>	<ul style="list-style-type: none"> <li>- The function of the soil in encouraging or hindering pests and diseases is often beyond the scope of the soil surveyors and does not enter into their estimate of soil fertility;</li> <li>- Areas with young volcanic rocks have not undergone weathering cycles and may affect the root range of plants and water holding capacity of the soil thus limiting growth;</li> <li>- Despite the high fertility in most of Samoa's soils, the effects of climate change may affect the degrees by which certain areas are capable of growing crops.</li> </ul>	<p>The soils of Samoa have been found to be more fertile than expected however it is important to note that farmers should take into account the following soil components when planting:</p> <ol style="list-style-type: none"> <li>1. Heat Supply: extreme highs and lows in soil temperature may affect seeds ability to germinate;</li> <li>2. Aeration: availability of soil air is closely connected with water relationships (moisture);</li> <li>3. Absence of Pests and diseases etc: poor internal drainage may favour fungus of diseases;</li> <li>4. Root room and plant support: compact rock or lava sheets may hinder/limit root penetration and water holding capacity;</li> <li>5. Soil Water: capacity of the soil to supply</li> </ol>



		enough water to the crop is important; 6. Soil nutrients: soil fertility ultimately depends on nutrient supply which could be deteriorated by high run off risks.
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#### 4. INTELLECTUAL PROPERTY RIGHTS

Source Document	Issues	Recommendations
EU Dossier on Intellectual Property Rights and Agriculture	<ul style="list-style-type: none"> <li>- Lack of policy coordination to address intellectual property rights (IPRs);</li> <li>- Difficult to ascertain as to whether the granting of IPRs encourages or erodes the genetic diversity of plant breeding;</li> <li>- The relationship between farmers' rights and IPRs are challenging as accommodating both approaches is difficult;</li> <li>- Regulation of access to plant genetic resources and ownership of IPRs over unimproved plant germ plasm;</li> <li>- IPR regimes in many developing countries are based on colonial era laws and do not include recent developments such as plant breeders' rights, protection of traditional knowledge and geographical indications;</li> <li>- Domestic change driven by international legal requirements in related areas such as trade or the environment;</li> </ul>	<ol style="list-style-type: none"> <li>1. Developing countries must have mechanisms in place to coordinate policy developments, such as a government focal point to coordinate IPR matters;</li> <li>2. National policies need to be developed relating to IPR issues that identify and promote the national interest;</li> <li>3. Ensure that the national implementation of international IPR standards takes account of flexibilities in international agreements, such as non-mandatory provisions;</li> <li>4. Ensure that IPR implementation is appropriate for the country in the light of its national interest and development priorities;</li> <li>5. Increasing awareness and understanding of IPRs amongst farmers, industry and government officials through training and education campaigns;</li> <li>6. Enhance negotiation skills to enable greater participation in various international forums; and</li> <li>7. Initiate and participate in regional initiatives for developing countries to work together to implement these strategies.</li> </ol>

## V. Broad Sector Strategies and Targets: December 2010 Retreat Working Papers

The following framework of national development indicators has been developed to provide the basis for monitoring the implementation and performance of the ASP. The following broad sector targets indicate the expected achievements of the sector by 2015:

Indicator Description	2008	2009	2010 (Baseline)	Targets				
				2011	2012	2013	2014	2015
70% Increased contribution to Real GDP			6% (Agriculture)	5% increase in real value added	10% increase in real value added	15% increase in real value added	20% increase in real value added	10% (Agriculture)
			5% (Fisheries)					9% (Fisheries)
Improved agricultural export performance (25% inc. by 2015)		SAT\$5.2m (Agriculture)						SAT\$6.5m
		SAT\$16.5m (Fisheries)						SAT\$20.6m
Reduced import of agricultural products (25% fall by 2015 at rate of 4% reduction p.a.)		SAT\$30m	SAT\$29m	SAT\$28m	SAT\$27m	SAT\$26m	SAT\$25m	SAT\$23m
Improved local supply (measured by increased Fugalei market supply)		Average Qty of 50,737pa (12 products only)						Increase average quantity by 12%
Increased level of subsistence agriculture			18% (population of agriculturally active HH)					25%

Key targets have been established for each stated strategy to support the achievement of each of the six proposed key sector policy objectives as well as to support the priorities for the agriculture sector articulated in the SDS 2008-2012:

### **SPO1: Ensure national food and nutritional security**

Strategy	High Level Indicators	Baseline	Targets				
			2011	2012	2013	2014	2015
<b>1.1 Promote and support food security through raised efforts to identify sustainable local food sources;</b>	Genetic diversity and nutritional qualities of at least two traditional or introduced alternative food sources investigated, researched, developed and documented annually;  New local food sources	Genetic varieties of : taro, banana, cassava, breadfruit, yams, taamu, sweet potatoes; fish, giant clam, trochus, freshwater tilapia; pigs, chicken, sheep  Tsunami Rehabilitation Programs / Stimulus Package / Taro breeding program /	2  Market supplies (Fugalei and Fish Market) increased by	2  Market supplies (Fugalei and Fish Market) increased by	2  Market supplies (Fugalei and Fish Market) increased by	2  Market supplies (Fugalei and Fish Market) increased by	Sustainable local food sources identified;

	identified, developed and promoted to improve accessibility by the local population;  Increased production and improved quality of local produces;	Livestock breeding programs for cattle, sheep, pigs and chicken / Fisheries nurseries / Aquaculture / Talomua program / CBFMP	5%  Research and Develop 3 alternative food crops and commercial crops  Farmer training	5%  Research and Develop 3 alternative food crops and commercial crops  Farmer training	5%  Research and Develop 3 alternative food crops and commercial crops  Farmer training	5%  Research and Develop 3 alternative food crops and commercial crops  Farmer training	
<b>1.2 Promote subsistence farming and fishing activities at the village level;</b>	Increased community participation in programs not unlike that of the Talomua;	Advisory consultations, field/farm visits, PRA's, CBFMP / Freshwater farms / farmers training /	Increased number of farmers registered and participated in MAF programs by 2%  Community farming programmes successfully implemented and appreciated by farmers	Increased number of households engaged in farming by 2%  MAF supporting services easily accessible by farmers	Increased number of farmers registered and participated in MAF programs by 4%  Community farming programmes successfully implemented and appreciated by farmers	Increased number of households engaged in farming by 4%  MAF supporting services easily accessible by farmers	Raised population of Agriculturally Active Households
<b>1.3 Improve production, processing, marketing, trading and use of safe and nutritious local foods;</b>	Increased availability and consumption of local foods through raised marketing in supermarkets, restaurants and hotels;  Increased compliance of local produces with local and international market standards;  A proper market structure and facilities in place to facilitate trading of agricultural produces;	Inconsistent supply, quality standard, market trends, seasonality produce, limited markets, infrastructure, high dependency on imported food	Formulate product-specific market strategies and set up proper facilities to facilitate to support production and marketing of local products  Market Driven trading	Conduct farmer trainings on the value chains and public awareness on the benefits of consuming local produces  Value Chain Studies  Dissemination of Market and Marketing Information	Increased consumption of local food in the country  Nutrition Awareness Programs	Imported agricultural products reduced by 25%	Local food production levels sufficient to facilitate import substitution;
<b>1.4 Strengthen food regulatory framework, enforcement and compliance capacities and</b>	Legislative Framework established and standards harmonized to internationally recognized standards in accordance	- Seafood Safety, - Bio-security Act - Codex Committee - Food Bill - Egg standards - Fisheries	Food Standards developed and enforced  MAF Acts, Ordinances, Legislations and	Increased level of compliance  Barriers clearly spelled out / Strong collaboration	Increased level of compliance  Barriers clearly spelled out / Strong collaboration	Achieved 99% level of compliance  Active and effective public-private partnership	Local standards and regulations well mandated and internationally recognized;

<b>public-private sector collaboration;</b>	with national needs and international trade agreements;	HACCP - Organic certification	Regulations reviewed and enacted	between the public and the private sector	between the public and the private sector		
<b>1.5 Promote lifestyles and nutrition that lead to reduction of obesity and better management of NCD's;</b>	Increased awareness amongst local people on healthy eating through consumption of locally grown foods;	Weak Awareness programs on nutritive values of food for healthy diets	Effective Nutrition awareness programmes on local products conducted on a regular basis – 100% coverage	Consumption of locally grown agricultural products increased by 5%	Consumption of locally grown agricultural products increased by 5%	Overall consumption of local food increased by 15%  Acceptable level of NCDs achieved	Raised consumption of local produce contribute to improved health and nutrition of the country;

**SPO2: Promote Investment in and finance for Agriculture leading to employment and income generating opportunities**

Strategy	High Level Indicators	Baseline	Targets				
			2011	2012	2013	2014	2015
<b>2.1 Foster business enabling environment conducive to favorable investments for the Agriculture Sector;</b>	<p>i. Incentives and property rights for customary lands and inshore lagoons to be secured for the sector;</p> <p>ii. Improve quality of economic infrastructure and regulation of services;</p> <p>iii. Improve financial situation of sector farmers and enterprises;</p>	<p>No Intellectual Property Rights (IPR's)</p> <p>Land Lease bill 51 (60%) of active village fish reserves</p> <p>Access roads Electricity</p> <p>Micro financing Donor funded projects (FAO, EU, SPC, GEF, PSSF, etc)</p>	<p>IPR processes investigated in collaboration with other governments</p> <p>Land Lease Bill approved and enacted</p> <p>Increased number of active fish reserves and marine conservation sites</p> <p>Continue development of economic infrastructure</p> <p>Increased number of project proposals accepted by donors or lending agencies</p>	<p>Developed IPRs</p> <p>Bill implemented</p> <p>Local food sources successfully conserved</p> <p>Infrastructure in place and accessible by farmers</p> <p>Increase level of success for donor funded projects</p>	<p>Promote awareness and implement IPRs</p> <p>Implementation continues</p> <p>Maintenance</p> <p>Monitoring and evaluation of implemented projects</p>	<p>Promote awareness and continue implementation of IPRs</p> <p>Bill reviewed</p> <p>Number of fish reserves and conservation sites doubled</p> <p>90% infrastructure coverage</p> <p>Sustainability of projects</p>	<p>1. Donor resources into Agriculture and Fisheries increase from 2008 levels;</p> <p>2. Private capital investment into agriculture and fisheries increase from 2008 levels;</p> <p>3. Bank lending to agriculture and fisheries increase from 2008 levels;</p>
<b>2.2 Raise initiatives through access to information, economic infrastructure and market facilities;</b>	Improved rural market facilities and information points (extension services);	<p>Under resourced advisory services;</p> <p>Centralized advisory services</p> <p>Scattered market facilities</p>	<p>Market and Marketing Information Dissemination system improved</p> <p>Value Chain Studies Conducted</p>	<p>Value Chains Studies Conducted</p>	<p>Develop and foster marketing hub models suitable to the local</p>		Improved domestic trade;

<p><b>2.3 Empower farmers through promoting information sharing amongst key stake-holders;</b></p>	<p>Regular public awareness programs conducted at both the national and community level focusing on pest control, best practices, marketing and branding;</p> <p>Established, and encouraged networking between the government and the private sector</p>	<p>Awareness programs: TV, newspaper, MIS, under utilize website</p> <p>- MAF Divisional Management and Advisory Committee meetings</p>	<p>Continue Divisional Management and Advisory Committee meetings</p> <p>Increased participation of farmers/ stakeholders in agricultural and fisheries programs by 5%</p> <p>Improved effectiveness of awareness programs and training</p>	<p>Continue Divisional Management and Advisory Committee meetings</p> <p>Increased participation of farmers/ stakeholders in agricultural and fisheries programs by 5%</p> <p>Improved effectiveness of awareness programs and training</p>	<p>situation</p> <p>Continue Divisional Management and Advisory Committee meetings</p> <p>Increased participation of farmers/ stakeholders in agricultural and fisheries programs by 5%</p> <p>Improved effectiveness of awareness programs and training</p>	<p>Continue Divisional Management and Advisory Committee meetings</p> <p>Increased participation of farmers/ stakeholders in agricultural and fisheries programs by 5%</p> <p>Improved effectiveness of awareness programs and training</p>	<p>Improved cooperation and collaboration across sub sectors leading to a more informed agriculture sector;</p>
<p><b>2.4 Maximize value added opportunities;</b></p>	<p>i. Increased variety of local produce available;</p> <p>ii. Market access investigated and achieved for all new products;</p>	<p>Limited edition of varieties</p> <p>36 commodities currently in access</p>	<p>Viable products identified, developed and promoted</p> <p>Proper processing facilities in place / Improved level of knowledge on processing</p> <p>Local products achieved market standards and trade procedures,</p> <p>Establish new processing / value adding investments</p>	<p>Establish new processing / value adding investments</p>	<p>Establish new processing / value adding investments</p>	<p>Establish new processing / value adding investments</p>	<p>Increased variety, quality and quantity of local produce available;</p>
<p><b>2.5 Develop sustainable commercial production;</b></p>	<p>Increase in the number of commercial producers;</p>	<p>40 commercial fishing operators</p> <p>2 tilapia commercial</p>	<p>Market driven selected varieties / species developed and</p>	<p>Market driven selected varieties / species developed</p>	<p>Market driven selected varieties / species developed and</p>	<p>Market driven selected varieties / species developed</p>	<p>Raised level and quality of commercial production locally;</p>

		farmers 30 commercial crop farmers 30 commercial livestock farmers	promoted / distributed for commercial production	and promoted / distributed for commercial production	promoted / distributed for commercial production	and promoted / distributed for commercial production	
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***SPO3: Ensure sustainable use and management of agriculture resources:***

Strategy	High Level Indicators	Baseline	Targets				
			2011	2012	2013	2014	2015
<b>3.1 Sustainable and appropriate management practices developed and promoted;</b>	<ul style="list-style-type: none"> <li>i. On farm participatory demonstration sites of integrated farming systems established in at least 5 farms;</li> <li>ii. Guidelines for at least 5 sustainable practices and technologies developed;</li> <li>iii. Awareness of sustainable practices increased in farming communities;</li> </ul>	<ul style="list-style-type: none"> <li>2 integrated fish farms</li> <li>7 integrated crop farms</li> <li>10 integrated sheep farms</li> <li>farm manuals/ gross margins, GIS</li> <li>TV ads, on farm training/ demonstrations ; farm visits</li> </ul>	Develop, promote and adopt policies that develop agriculture and fisheries activities in a sustainable and environmentally friendly manner	Implement policies on agriculture and fisheries development that are sustainable and environmentally acceptable	Implement policies on agriculture and fisheries development that are sustainable and environmentally acceptable	Implement policies on agriculture and fisheries development that are sustainable and environmentally acceptable	Sustainable agricultural management practices implemented and integrated into all sub sectors initiatives;
<b>3.2 Marine and Agro Biodiversity conserved, developed, promoted and used;</b>	<ul style="list-style-type: none"> <li>i. International treaties on genetic resources for food and agriculture ratified and supported;</li> <li>ii. Collections well placed (in and/or ex situ) and documented;</li> <li>iii. Hundred acres of agro forestry systems developed;</li> <li>iv. Increased adoption of community gene banks;</li> <li>v. Genetic base of selected species improved and distributed to selected registered associations/ farmers;</li> </ul>	<ul style="list-style-type: none"> <li>SMATA, ITPGRFA,</li> <li>animal genetics project</li> <li>on going plant genetics</li> <li>APCC</li> <li>genetic taro &amp; banana, cassava, sweet potatoes material distributed, genetic sheep distributed, tilapia</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of a Sustainable Agriculture Division for MAF</li> <li>Establishment of avenues for gene bank management of major marine and agro species.</li> </ul>	<ul style="list-style-type: none"> <li>Sustainable Farming Husbandry practiced</li> <li>Biodiversity conserved in National and Regional Genebanks / Genepools</li> </ul>	<ul style="list-style-type: none"> <li>Sustainable Farming Husbandry practiced</li> <li>Biodiversity conserved in National and Regional Genebanks / Genepools</li> </ul>	<ul style="list-style-type: none"> <li>Sustainable Farming Husbandry practiced</li> <li>Biodiversity conserved in National and Regional Genebanks / Genepools</li> </ul>	Marine and Agro Biodiversity prioritized at the national level;

<p><b>3.3 Develop Adaptation and Mitigation Policies on Climate Change;</b></p>	<p>i. Climate change ready collection of plants and animals adaptable to climate change impacts developed; ii. Disaster readiness and/or mitigation program covering entire country;</p>	<p>NAPA 1  NAPA 1 &amp; 4</p>	<p>Establishment of Database and GIS system in MAF for Agriculture, Health and Climate change adaptation and mitigation readiness.  Continue collaboration between MNRE and MAF on Climate Change issues.  Sustainable Agriculture and Fisheries Policies formulated and developed.</p>	<p>Management of GIS database for Agriculture Development -Policy development  Sustainable Agriculture and Fisheries Policies formulated and developed.</p>	<p>Management of GIS database for Agriculture Development -Policy development  Sustainable Agriculture and Fisheries Policies formulated and developed.</p>	<p>Management of GIS database for Agriculture Development -Policy development</p>	<p>Adaptation and Mitigation policies and plans developed &amp; implemented in collaboration with all key stake-holders;</p>
<p><b>3.4 Develop Sustainable Plans;</b></p>	<p>Sustainable plans developed and incorporated into related national and sector plans;</p>	<p>-Tuna management and development plan Cocoa &amp; coconut industry reviews, livestock strategy, F &amp; V strategy, organic</p>	<p>Develop and review Sustainable Development Plans</p>				<p>Sustainability of sector guided by well consulted Sustainable Plans;</p>
<p><b>3.5 Develop Emergency Response Plans and carry out simulation exercises;</b></p>	<p>i. Disaster response plans reviewed annually; ii. Climate change and natural disaster impacts and potential threats documented;</p>	<p>-Divisional Emergency Plans: Crops/ APHD Quarantine, Fisheries -NAPA 1</p>	<p>Review all Sub-sector Emergency Response Plans</p>	<p>Review all Sub-sector Emergency Response Plans</p>	<p>Review all Sub-sector Emergency Response Plans</p>	<p>Review all Sub-sector Emergency Response Plans</p>	<p>Farmers, fishers and policy makers alike well prepared for outbreaks through well developed and simulated ERP's;</p>
<p><b>3.6 Revitalize replanting program;</b></p>	<p>Acreage, production</p>	<p>Stimulus package</p>	<p>Promote and manage replanting programs of major crops</p>	<p>Promote and manage replanting programs of major crops</p>	<p>Promote and manage replanting programs of major crops</p>	<p>Promote and manage replanting programs of major crops</p>	<p>Replanting implemented across the sector;</p>

**SPO4: Foster enabling environment to support profitable value chains through research and development;**

Strategy	High Level	Baseline	Targets			
			2011	2012	2013	2014

	Indicators						
<b>4.1 Enhanced Market Connectivity;</b>	i. Increase in number of HH involved in market oriented agriculture and fisheries; ii. Increase in the number of farmers and fishers who are involved in export markets from 2008 levels;	22% HH depending on fisheries for income  40 commercial fishing operators  2 tilapia commercial farmers  30 commercial crop farmers	Develop formulation of Farmer / Fisher Groups around viable market opportunities  Value Chain Studies	Assist Farmer Market Group Management  Value Chain Studies	Farmer Market Group Management  Value Chain Studies	Farmer Market Group Management  Value Chain Studies	Profitable value chains established for local producers;
<b>4.2 Strengthen Research and Development across public and private sector through ensuring investment in training, technology and infrastructure;</b>	Technologies and infrastructure to support maximizing value adding opportunities are well researched, piloted and adopted by farmers;	Small capacity HTFA  Freshwater hatchery  No abattoir Feedmill / Pellet machine	Conduct Research Studies into Potential Agriculture and Fisheries Commodity development. Document and disseminate research findings.  Enhance collaboration with research institutions such as SROS, IRETA/USP and MAF	Conduct Research Studies into Potential Agriculture and Fisheries Commodity development. Document and disseminate research findings.  Enhance collaboration with research institutions such as SROS, IRETA/USP and MAF	Conduct Research Studies into Potential Agriculture and Fisheries Commodity development. Document and disseminate research findings.  Enhance collaboration with research institutions such as SROS, IRETA/USP and MAF	Conduct Research Studies into Potential Agriculture and Fisheries Commodity development. Document and disseminate research findings.  Enhance collaboration with research institutions such as SROS, IRETA/USP and MAF	Raised opportunities for farmers through research, improved technology and infrastructure;

***SPO5: Strengthen Agriculture Sector leadership, governance and capacity;***

Strategy	High Level Indicators	Baseline	Targets				
			2011	2012	2013	2014	2015
<b>5.1 Establish a coherent and comprehensive institutional framework;</b>	Strengthened Institutional Framework functional and in place;	-none	Strengthen identified related Agencies such as SAME  Review and Submit Organizational Structure for MAF to facilitate the needed services to stakeholders	Improve Public – Private Sector Partnership with NGO’s and Private Sector	Improve Public – Private Sector Partnership with NGO’s and Private Sector	Improve Public – Private Sector Partnership with NGO’s and Private Sector	A well structured and functional private sector led Agriculture Sector;
<b>5.2 Improve capability and implementation capacity;</b>	Raise capabilities and develop expertise within each sub sector so as to	Capacity strengthening needed	Capability Plans Developed and implemented  Capacity Trainings	Capability Plans Developed and implemented  Capacity	Capability Plans Developed and implemented  Capacity	Capability Plans Developed and implemented  Capacity	Improved support services made available to all key stakeholders;



	improve overall services;			Trainings	Trainings	Trainings	
<b>5.3 Improve Agriculture Statistics Collection and data dissemination;</b>	Accurate, up to date and regularly available Agricultural Sector data;	-Agriculture census 2009 -Fisheries data collection -divisional database systems	Capacity Development for Database and Statistics Collection and Sustainable Management  Information, Statistics and Data dissemination	Capacity Development for Database and Statistics Collection and Sustainable Management  Information, Statistics and Data dissemination	Capacity Development for Database and Statistics Collection and Sustainable Management  Information, Statistics and Data dissemination	Sustainable Capacity for Database and Statistics Collection and Sustainable Management  Information, Statistics and Data dissemination	Farmers, fishers, producers, planners and policy makers make well informed decisions based on reliable data;
<b>5.4 Improve capacity for regulation and enforcement especially in safety standards and quality assurance across crops, livestock, fisheries and forestry;</b>	Raised capacities and efforts towards monitoring and enforcement of regulations across the sector;	-Divisional quality and standard audits	Develop, Review and Implement Enforcement of Safety and Quality Assurance regulations	Strengthen Legal Framework on Monitoring and Enforcement of regulatory policies	Sustain enforcement of regulations	Sustain enforcement of regulations	Improved compliance with safety standards and regulations;
<b>5.5 Strengthen Marketing Information Systems;</b>	MAF and stakeholders well trained and all systems upgraded for MIS;	-MAF staff need to be well trained	Strengthen MAF and Private Sector Capacity to effectively disseminate relevant Market and Marketing Information to the Stakeholders	Sustainable Market and Marketing Information System effectively operational	Sustainable Market and Marketing Information System effectively operational	Sustainable Market and Marketing Information System effectively operational	MIS newsletter informative and released regularly to all key stakeholders for decision making purposes;

***SPO6: Promote Trade Development***

Strategy	High Level Indicators	Baseline	Targets				
			2011	2012	2013	2014	2015
<b>6.1 Strengthen trade access negotiations and operationalize regional and international trade agreements;</b>	i. Increase in number of agricultural and fisheries products exported without any constraints; ii. Increased number of products for overseas markets verified and accredited by SROS;	stringent importing requirements by importing countries  under resourced public support e.g. Vets	Awareness trainings on Multilateral and Bilateral Agreements  Align and institutionalize trade agreements and market access with product production quality and quantity assurance activities	Awareness trainings on Multilateral and Bilateral Agreements  Align and institutionalize trade agreements and market access with product production quality and quantity assurance activities	Awareness trainings on Multilateral and Bilateral Agreements  Align and institutionalize trade agreements and market access with product production quality and quantity assurance activities	Awareness trainings on Multilateral and Bilateral Agreements  Align and institutionalize trade agreements and market access with product production quality and quantity assurance activities	Bilateral and Multilateral Agreements to reflect benefits for the sector;
<b>6.2 Raise compliance with national and international</b>	i. Trained personnel maintained for application of various	-SPS & TBT training completed;	Strengthen competent enforcement authorities to reduce non-compliance of	Establish Accreditation capacity within SROS  Conformance			Accreditation standards established and adhered to with noticeable improvement in

<b>standards related to trade;</b>	local and international standards; ii. Reduce non compliance to 5% threshold level; iii. Conformance to systems and procedures; iv. Bio security legislations updated and implemented with an exhibited 80% compliance rate;	-reduced non compliance  -HTFA, SQUID system  -Bio security act under Review	traded products  Improve monitoring and management of enforcement and advisory activities on trade standards	to National and International Trade Related Standards (HACCP)  Review of relevant legal framework.			compliance with international standards;
<b>6.3 Domestic and export trade developed and strengthened;</b>	i. One new commodity pathway established per year; ii. Increased and sustained levels and diversity of commodities available within local and export markets;	-3 pathways established  -increasing	Effective National Standards Compliance by producers  Develop and establish pathways for economically important commodities	Effective National Standards Compliance by producers  Develop and establish pathways for economically important commodities	Effective National Standards Compliance by producers  Develop and establish pathways for economically important commodities	Effective National Standards Compliance by producers  Develop and establish pathways for economically important commodities	Increased Exports through well secured pathways;
<b>6.4 Well managed risks and hazards through improved quarantine services and border controls;</b>	i. New Quarantine facilities established; ii. Improved capacity and capability of Quarantine and Customs officials in bio security; iii. Border officials well trained in pest control and emergency response;	-old incinerator to be replaced -need new x-ray machines  -staff well trained	Approved new organizational structure to effectively operationalise capacity development of Quarantine services.  Capacity Building Training of personnel  Pest list management institutionalized.	Operational Structures in place and implemented  Capacity Building Training of MAF Personnel	Operational Structures in place and implemented  Capacity Building Training of MAF Personnel	Operational Structures in place and implemented  Capacity Building Training of MAF Personnel	Improved Quarantine and border control services;

## VI. Sub Sector Strategies and Targets

Under each of the key Sector Policy Objectives, broad sector strategies and expected performance targets for the period 2011 – 2015 have been identified in Chapter 6. Chapter 7 further develops these high level strategies and targets to sub sector strategies and targets.

The key sub sectors identified for Agriculture are:

- CROPS (*Fruits & Vegetables, Traditional Root Crops*)
- LIVESTOCK (*Cattle, Piggeries, Poultry, Apiculture, Sheep*)
- FISHERIES (*Aquaculture, Freshwater, Offshore and Inshore Fisheries*)
- FORESTRY (*Agro forestry, Sustainable Agriculture, Climate Change Mitigation and Adaptation*)

The following sub sector strategies and targets have been identified to contribute to the achievement the overall agriculture sector goal and of each key sector policy objective.

### 1.1 Crops

#### **SPO1: Ensure national food and nutritional security**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
1.1 Promote and support food security through raised efforts to identify sustainable local food sources;	1.1a Rehabilitation and development of plantation crops;  1.1b Sustainable expansion of root crop production;	Key root crops identified (in collaboration with private sector) for rehabilitation and programs established for development;	Taro breeding program, evaluation of varieties of crop, taro, cassava, sweet potato, banana. Stimulus package (coconut, cocoa, coffee, fruit trees)	At least 1 improved variety identified, developed and evaluated				
				10% inc in root crop production	10% inc in root crop production	10% inc in root crop production	10% inc in root crop production	Sustainable local food sources identified;

<p><b>1.2 Promote subsistence farming activities at the village level;</b></p>	<p><b>1.2a Improved supply of planting materials distributed and adopted by communities;</b></p> <p><b>1.2b New priority crop varieties identified and introduced to community farmers;</b></p> <p><b>1.2c Successful local practices identified, adopted and supported;</b></p>	<p>Increased number of improved varieties distributed</p>	<p>Multiplication and Distribution of crop varieties : taro, bananas, cocoa, vegetables, black pepper, fruit trees,</p> <p>Farmer training and workshop, demonstration blocks</p>	<p>10% inc of planting materials distributed</p> <p>5% inc of HH actively involved</p>	<p>10% inc of planting materials distributed</p> <p>5% inc of HH actively involved</p>	<p>10% inc of planting materials distributed</p> <p>5% inc of HH actively involved</p>	<p>10% inc of planting materials distributed</p> <p>5% inc of HH actively involved</p>	<p>Raised population of Agriculturally Active Households</p>
<p><b>1.3 Improve production, processing, marketing, trading and use of safe and nutritious local foods;</b></p>	<p><b>1.3a Harmonization of organic farming initiatives into eco tourism;</b></p> <p><b>1.3b Promote F&amp;V through implementation of marketing strategies and identification and use of quality standard logo;</b></p>	<p>Local food produce substituting imports within hotels and restaurants;</p> <p>Use Local Quality standard to promote Fruits and Vegetables marketing;</p>	<p>No harmonization in place</p> <p>Poor linkage between hotels and F&amp;V farmers</p> <p>High import of agricultural products for hotel</p> <p>Limited promotion of local F&amp;V products</p>	<p>5% dec. imported agricultural products</p> <p>Improve linkage between farmers and hotels and retailers</p>	<p>5% dec. imported agricultural products</p> <p>Reduce imports of F&amp;V by 10%</p>	<p>5% dec. imported agricultural products</p> <p>Reduce imports of F&amp;V by 10%</p>	<p>5% dec. imported agricultural products</p> <p>Reduce imports of F&amp;V by 10%</p>	<p>Local food production levels sufficient to facilitate import substitution;</p>
<p><b>1.4 Strengthen food regulatory framework, enforcement and compliance capacities and public-private sector collaboration</b></p>	<p><b>1.4a F&amp;V Committee empowered to implement FV strategy;</b></p> <p><b>1.4b Revitalize priority crops identified at national levels;</b></p>	<p>Fruit and Vegetable Strategy successfully implemented</p> <p>Programs to revitalize key crops successfully implemented</p>	<p>FAO assistance in pipeline to train private sector capacity.</p> <p>Identified onion, potato, carrots, tomato, pepper, and sweet oranges</p>	<p>Involve FVSS Committee in strategy implementation in partnership with MAF.</p> <p>Suitable varieties of F &amp; V developed</p>	<p>Involve FVSS Committee in strategy implementation in partnership with MAF.</p> <p>Suitable varieties of F &amp; V promoted and developed at the village level and the private sector</p>	<p>F&amp;V Committee to spearhead implementation</p> <p>Quality control implemented</p>	<p>F&amp;V Committee to spearhead implementation</p> <p>Increase production and decrease imports by 10 %</p>	<p>Local standards and regulations well mandated and international-ly recognized;</p>

1.5 Promote lifestyles and nutrition that lead to reduction of obesity and better management of NCD's;	1.5a Awareness programs on fruit and vegetables nutrition and health benefits;	Increased awareness and increase consumption of nutritious crops	Limited supply	5% Inc in awareness and participation of farmer	5% Inc in awareness and participation of farmer	5% Inc in awareness and participation of farmer	5% Inc in awareness and participation of farmer	Raised consumption of local produce contribute to improved health and nutrition of the country;
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**SPO2: Promote Investment in and finance for Agriculture leading to employment and income generating opportunities**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
2.1 Foster business enabling environment conducive to favorable investments for the Agriculture Sector;	2.1a Finalize and implement Agriculture Sector Plan;	Increased donor funding, private sector investment and bank lending	No sector plan, no sector policy and low level of private sector and bank investment	Donors buy-in to Agriculture Sector Plan Strategies	Implementation of ASP by farmers, MAF and development partners			1. Donor resources into Agriculture and Fisheries increase from 2008 levels; 2. Private capital investment into agriculture and fisheries increase from 2008 levels; 3. Bank lending to agriculture and fisheries increase from 2008 levels;
2.2 Raise initiatives through access to information, economic infrastructure and market facilities;	2.2a Community encouraged to set market outlets in rural areas;	Market outlets established per constituency	Scattered market outlets in the communities	Inc number of market outlets by 5%	Inc number of market outlets by 5%	Inc number of market outlets by 5%	Inc number of market outlets by 5%	Improved domestic trade;
2.3 Empower farmers through promoting information sharing amongst key stakeholders;	2.3a Encourage farmers to share success stories and methods through national dialogues;  2.3b Efficient use of crop by products to enhance off take from livestock sub sector;	Number of training, awareness programmes and field trips conducted  Number of success stories	Farmer trainings, Participatory appraisals, workshops, field visits, demonstration  Plant feed crops, cassavas, sweet potato  Crops Division Management and Advisory Committee	10% Inc participation of farmers / stakeholders in agricultural programs Promotion of selected feed crops for feedmill	10% Inc participation of farmers / stakeholders in agricultural programs Promotion of selected feed crops for feedmill	10% Inc participation of farmers / stakeholders in agricultural programs Promotion of selected feed crops for feedmill	10% Inc participation of farmers / stakeholders in agricultural programs Promotion of selected feed crops for feedmill	Improved cooperation and collaboration across sub sectors leading to a more informed agriculture sector;

<b>2.4 Maximize value added opportunities;</b>	<b>2.4a Enable interested Fruit and Vegetable growers to have access to higher yielding varieties, technology, information and support services;</b>	Recommended varieties, seeds technology, quality and information of farmer groups	Disorganized farmer groups, limited access to technology and information  Limit market outlet and marketing information	High yielding varieties, technologies and information developed	Multiplication of best varieties increased by 3%	Multiplication of best varieties increased by 3%	Multiplication of best varieties increased by 3%	Increased variety, quality and quantity of local produce available;
<b>2.5 Develop sustainable commercial production;</b>	<b>As above</b>			Increase selected varieties for export	Increase selected varieties for export	Increase selected varieties for export	Increase selected varieties for export	Raised level and quality of commercial production locally;

***SPO3: Ensure sustainable use and management of agriculture resources;***

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
<b>3.1 Sustainable and appropriate management practices developed and promoted;</b>	<b>3.1a Promote integrated management of resources;</b>	Increase adoption of integrated management practices	Pilot Integrated Pest Management (IPM) programs / activities successfully implemented	Effective adoption of integrated management of farming practices by 3%	Effective adoption of integrated management of farming practices by 3%	Effective adoption of integrated management of farming practices by 3%	Effective adoption of integrated management of farming practices by 3%	Sustainable agricultural management practices implemented and integrated into all sub sectors initiatives;
<b>3.2 Marine and Agro Bio diversity conserved, developed, promoted and used;</b>	<b>3.2a Promote sustainable farming technique/ practices to protect the environment;</b>	Sustainable Farming Division (SFD) established	Sustainable farming practices promoted and encouraged	Sustainable Farming Division of MAF established	Sustainable farming techniques introduced and promoted	Implementation of functions and duties of SFD as mandated	Increased implementation of functions and duties of SFD as mandated	Marine and Agro Biodiversity prioritized at the national level;
<b>3.3 Develop Adaptation and Mitigation Policies on Climate Change;</b>	<b>As above</b>			Sustainable Farming policies formulated, developed and implemented.				Adaptation and Mitigation policies and plans developed and implemented in collaboration with all key stakeholders;
<b>3.4 Develop Sustainable Plans;</b>								

<b>3.5</b> Develop Emergency Response Plans and carry out simulation exercises;	<b>3.5a</b> Draw up Emergency Response Plans (ERP);	ERP Response plans in place and operational	Divisional ERPs in place  Cyclone Preparedness Document (UNDP Doc)	ERP Awareness - Ongoing				Farmers, fishers & policy makers well prepared for outbreaks through well developed & simulated ERP's;
<b>3.6</b> Revitalize replanting program;	<b>3.6a</b> Implementation of Stimulus package;	Increased in acreage of coconuts, cocoa, coffee, and fruit trees	Distribution of planting materials to eligible farmers	Completion of stimulus package planting materials distribution	Monitoring and evaluation / First payment (\$1000 / 2 acres)	Monitoring and evaluation	Monitoring and evaluation / Final payment (\$3500)	Replanting implemented across the sector;

**SPO4: Foster enabling environment to support profitable value chains through research and development;**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets					
				2011	2012	2013	2014	2015	
<b>4.1</b> Enhanced Market Connectivity;	<b>4.1a</b> Subsistence farmers and fishers encouraged to organize, cluster and share economical practices to reduce costs and improve market access;	Number of marketing farmer groups set up  Number of Value chain studies developed	Very few farmer groups  No value chain studies existed	Set up 4 Farmer Groups 5 major crops value chains 3 subsistence farmer training in new farming practices and marketing aspects	Set up 4 Farmer Groups 5 major crops value chains 3 subsistence farmer training in new farming practices and marketing aspects	Set up 4 Farmer Groups 5 major crops value chains 3 subsistence farmer training in new farming practices and marketing aspects	Set up 4 Farmer Groups 5 major crops value chains 3 subsistence farmer training in new farming practices and marketing aspects	Profitable value chains established for local producers;	
<b>4.2</b> Strengthen Research and Development across public and private sector through ensuring investment in training, technology and infrastructure;	<b>4.2a</b> Harmonize research into high value cash crops by MAF and SROS;  <b>4.2b</b> Encourage information sharing through training and collaborative efforts between SROS, MAF, IRETA and USP;  <b>4.2c</b> Ensure proper Intellectual Property Rights (IPR) in place to protect new research and development findings/ outcomes;	Number of value added researches completed (SROS)  Number of co- ordinated trainings  Number of IPR developed	Very few value added research (bread- fruit, cassava, avocado and etc)  No collabor- ative trainings except USP  No IPR in place, SMTA, ITPGRFA (regional agree- ment)	Inc number of research on value added product  Enhanced collaboration with SROS, IRETA, USP and MAF  IPR processes investigated in collaboration with other governments					Raised opportunities for farmers through research, improved technology and infrastructure;

***SPO5: Strengthen Agriculture Sector leadership, governance and capacity;***

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
5.1 Establish a coherent and comprehensive institutional framework;	5.1a Strengthen SAME to provide services that will increase returns and overall value addition for the sector;	Strengthened SAME	Poor linkage between SAME and sector participants	Strengthen SAME	Improve collaboration between MAF and SAME			A well structured and functional private sector led Agriculture Sector;
5.2 Improve capability and implementation capacity;	5.2a Improve the capacity of Crops Division;  5.2b Develop capability plans;	Adoption of technology from training and workshop recommendation  Capability plans developed	High staff turnover  No capability plans	Improve delivery of services  Timely and effective training of staff  Capability plans formulated, promoted and implemented			Improved support services made available to all key stakeholders;	
5.3 Improve Agriculture Statistics Collection and data dissemination;	5.3a Feasibility studies conducted and findings documented and disseminated to all stakeholders;	Published reports	Poor documentation of studies	Increased accessibility by stakeholders of publications  Research findings adopted by stakeholders and farmers.			Farmers, fishers, producers, planners and policy makers make well informed decisions based on reliable data;	
5.4 Improve capacity for regulation and enforcement especially in safety standards and quality assurance across crops, livestock, fisheries and forestry;	5.4a Increase efforts to enforce regulations with regards to safe use and storage of pesticides;	Improved compliance	Low level of compliance	Strengthen enforcement of regulations on safe use and storage of pesticides			Improved compliance with safety standards and regulations;	
5.5 Strengthen Marketing Information Systems;	5.5a Strengthen Marketing Information System (MIS);	Number of publications on marketing information on key crops	Bi monthly publication posted on MAF notice board (ACC Mall)	Improved dissemination process of MIS (Publications posted on MAF Website)	Improved dissemination process of MIS using E-Mail contacts		MIS newsletter informative and released regularly to all key stakeholders for decision making purposes;	

***SPO6: Promote Trade Development***

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015



6.1 Strengthen trade access negotiations and operationalize regional and international trade agreements;	6.1a Review Bilateral and Multilateral Trade Agreements	Number of agreements endorsed  Improved staff capability on Bilateral and Multilateral agreements	36 Commodities Bilateral Agreements with New Zealand  Existing Multilateral agreements under PICTA and PACER Plus (Limited awareness on these agreements)	Strengthen dissemination and awareness of staff and stakeholders on bilateral and multilateral agreements through trainings				Bilateral and Multilateral Agreements to reflect benefits for the sector;
6.2 Raise compliance with national and international standards related to trade;	6.2a Improve awareness and compliance with international standards;	Improved agricultural produce standards to CODEX, IPPC, OIE, SPS standards (WTO)  Improved Infrastructure	Egg Standard (Local), HACCP for Fisheries (Other international standards for processed products – honey, chips, nonu, chilli, coconut cream, etc), Organic Certification  Some accreditation (SROS)	Strengthen awareness of staff and stakeholders on CODEX and international standards				Accreditation standards established and adhered to with noticeable improvement in compliance with international standards;
6.3 Domestic and export trade developed and strengthened;	6.3a Improved market intelligence, promotion and dissemination across the whole value chain;	Market and MIS publication and dissemination (including Website)	Limited information on market and marketing information systems	Developed at least one (1) crops pathways and value chain for potential export crop	Developed at least one (1) crops pathways and value chain for potential export crop	Developed at least one (1) crops pathways and value chain for potential export crop	Developed at least one (1) crops pathways and value chain for potential export crop	Increased Exports through well secured pathways;
6.4 Well managed risks and hazards through improved quarantine services and border controls;	6.4a Improve coordination with Quarantine services	Increased number of trainings, meetings with Quarantine	Attended quarterly meetings of QEAC  Attended CD-MAC meetings	Updated pest list in collaboration with Quarantine and SPC				Improved Quarantine and border control services;

## 1.2 Livestock

### SPO1: Ensure national food and nutritional security

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
1.1 Promote and support food	1.1a Improve livestock	Improved health and fertility of	Low cattle calving rate (35%); average	Govt breeding herds increased:	Average calving rate 40%, lambing	Average calving rate 45%, lambing rate	Average calving rate 50%, lambing	Sustainable local food sources

security through raised efforts to identify sustainable local food sources;	management and breeding capacities;	livestock;  Increased number of private multiplier farms with trained managers	piglets weaned /sow/year ~ 6; lambing rate ~ 90%  Only government has breeding farms – no special skills in breeding management	cattle 20%, sheep 100%, new government pig (17-sow) & chicken (100 hens) farms established;  5 private multiplier farmers identified; government & private multiplier farm managers trained in & implementing approved breeding programs  750 farmers exposed to upgraded extension service	rate 95%; 12 piglets weaned /s/y on nucleus & multiplier farms  30 private breeding farms established with improved stock from MAF  High quality animals available to 100 smallholders  750 new farmers trained in livestock management	100%; 13 piglets weaned/s/y on nucleus & multiplier farms  51 private breeding farms in operation receiving stock and training from MAF  High quality animals available to 150 smallholders  750 new farmers trained in livestock management	rate 105%; 14 piglets weaned/s/y nucleus & multiplier farms  72 private multiplier farms in operation receiving stock and training from MAF  High quality animals available to 200 smallholders  750 new farmers trained in livestock management	identified;
1.2 Promote subsistence farming activities at the village level;	1.2a Develop small pig and poultry holdings for low income families;	Increased household participation in subsistence livestock farming	69% households raise chickens; 51% households raise pigs	12 village consultation, TV promotion of livestock farming  70% households raise chickens; 52% households raise pigs	12 village consultation, TV promotion of livestock farming  72% households raise chickens; 54% households raise pigs	12 village consultation, TV promotion of livestock farming  73% households raise chickens; 56% households raise pigs	12 village consultation, TV promotion of livestock farming  75% households raise chickens; 58% households raise pigs	Raised population of Agricultural-ly Active Households
1.3 Improve production, processing, marketing, trading and use of safe and nutritious local foods;	1.3a Develop and implement safe and hygienic slaughtering practices;  1.3b Establish a marketing strategy to promote local animal products to consumers;  1.3c Improve public perception of domestic-ly produced meat through improved meat hygiene from the farm gate through to the retail level;	Abattoir & Meat Supply Act completed and implement-ed  Locally produced animal products marketed under a local brand  Increased value of local beef market  Contamination levels of animal products within acceptable limits (<100cfu coliforms/cm <sup>2</sup> )	Abattoir & Meat Supply Act under review  No marketing strategy/brand for local products  Retail local beef earns ~WST1.7m for farmers  Average retail beef carcass contamination with coliform bacteria = 36,000cfu/cm <sup>2</sup>	1 mobile field slaughter unit in place for Savaii and Upolu  Meat marketing strategy in place  Retail local beef earns ~WST1.2m for farmers (Initial adjustments to the mobile unit regulation and Meat Act)  Average retail beef carcass contamination with coliform	Expand operation of mobile units  Market Strategy implemented  Retail local beef earnings for farmers increases by 30% from last year  Average retail beef carcass contamination with coliform bacteria <100cfu/cm <sup>2</sup>	Central abattoir at Nuu established  Increased compliance with Act  Increased consumption of local meat (Import substitution)  Total retail local beef earnings for farmers increases by 30% from last year  Average retail beef carcass contamination with coliform bacteria <100cfu/cm <sup>2</sup>	1744 cattle slaughtered by abattoir service  Increase consumption of local meat (Import substitution)  Total retail local beef earnings for farmers increases by 30% from last year  Average retail beef carcass contamination with coliform bacteria <100cfu/cm <sup>2</sup>	Local food production levels sufficient to facilitate import substitution

				bacteria <100cfu/cm <sup>2</sup>		on with coliform bacteria <100cfu/cm <sup>2</sup>	<sup>2</sup>	
<b>1.4 Strengthen food regulatory framework, enforcement and compliance capacities and public-private sector collaboration;</b>	<b>1.4a. Update all livestock legislations to support sub sector development;</b>	Animal Ordinance Act reviewed and enacted;  Abattoir and Meat Supply Act, endorsed and enacted;  Animal Welfare Act developed, endorsed, and enacted;  Egg standard (Fair Trading Act) enforced;  Food standards (Fair trading Act) enforced;	Animal ordinance not enforced, not yet reviewed  Abattoir and meat supply Act developed, not enacted  Policy paper for development of animal welfare legislation being developed.  Egg standard (Fair trading Act) approved, to be enforced 2011  Food standards (Fair Trading Act) being developed	Abattoir & Meat supply Act, Egg standard enforced  Integrate Export Bill into Bio-security Act	Revised Animal ordinance, Animal welfare Act enforced  Increase compliance with legislation	Increase compliance with legislation	Increase compliance with legislation	Local standards and regulations well mandated and internationally recognized;
<b>1.5 Promote lifestyles and nutrition that lead to reduction of obesity and better management of Non-Communicable Diseases (NCD's)</b>	<b>1.5a. Promote consumption of local fresh animal products as healthier alternatives to imported products;</b>	Increased consumption of local beef  Increased consumption of slaughtered pigs and chickens	Local beef market value for farmers = SAT1.7m  50% slaughtered pigs for consumption/sale-for-consumption; 59% slaughtered chickens for consumption	Increased consumption of local meat products	Increased consumption of local meat products	Increased consumption of local meat products	Increased consumption of local meat products	Raised consumption of local produce contribute to improved health and nutrition of the country;

**SPO2: Promote Investment in and finance for Agriculture leading to employment and income generating opportunities**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
<b>2.1 Foster business enabling environment conducive to favorable investments for the Agriculture Sector;</b>	<b>2.1a Ensure farmers/investors have access to information for decision making and investment;</b>  <b>2.1b Assist farmers with designing</b>	Increased access to information  Increased access to funds and donor assistance for investment	3 livestock FAO Telefood projects approved per year  Local lending agencies	Reviewed and updated technical information on gross margins, feed analysis and other relevant factors to assist farmers interested in commercializ	Facilitate 150 farmers access to donor funding  No more than 4% failure rate in existing livestock projects	Facilitate 200 farmers access to donor funding  No more than 4% failure rate in existing livestock projects	Facilitate 300 farmers access to donor funding  No more than 4% failure rate in existing livestock projects	1. Donor resources into Agriculture and Fisheries increase from 2008 levels; 2. Private capital investment into agriculture and fisheries increase from

	feasible livestock farming projects;			ing their holdings  Facilitates 70 farmers access to donor funding				2008 levels; 3. Bank lending to agriculture and fisheries increase from 2008 levels;
<b>2.2 Raise initiatives through access to information, economic infrastructure and market facilities;</b>	<b>2.2a Establish mobile slaughtering units;</b>  <b>2.2b Establish financially viable abattoir and inspection system;</b>  <b>2.2c Establish a viable livestock transportation system (including access roads and vehicles, yards) to enable livestock movement for sale and slaughter;</b>	At least one mobile abattoir in operation on each island;  Central Abattoir in place and functional;  100% farmers intending to sell to retail can access hygienic slaughter facilities	No hygienic slaughter facility  Abattoir proposal in the pipeline  Roads to many cattle farms are inaccessible by livestock trucks; many farmers don't have handling facilities or access to means of transport-ing cattle	1 mobile field slaughter unit in place for Savaii and Upolu  20 new stockyards built for farmers  Public awareness incorporated into others	1 mobile field slaughter unit in operation  20 new stockyards built for farmers  5 farm access roads upgraded	Mobile slaughter unit on each island plus central Upolu abattoir in operation  20 new stockyards built for farmers  5 farm access roads upgraded	Mobile slaughter unit and abattoir in operation  30 cattle farmers have new stock-yards  5 farm access roads upgraded  100% farmers intending to sell to retail can access hygienic slaughter facilities	Improved domestic trade;
<b>2.3 Empower farmers through promoting information sharing amongst key stake-holders;</b>	<b>2.3a Outsourced breeding units to selected farmers;</b>	Established network between government nucleus farms and the private sector breeding farms  Livestock Management Advisory Committee (LMAC) members to be key advisors to the Ministry and reliable sources of information for farmers	No multiplier farms exist,  Farmers only access information through APHD  LMAC members do not collaborate with other producers  6 LMAC meetings	5 multiplier farms promoted through public awareness, training and on-farm demonstration  Cattle farmers association used as a contact point for farmer training and consultations  Review LMAC TOR to include multiplier farms and active farmer group members	20% enquiries to APHD referred to focal points in private sector for assistance	20% enquiries to APHD referred to focal points in private sector for assistance  35% assistance provided by private sector multiplier	20% enquiries to APHD referred to focal points in private sector for assistance  45% assistance provided by private sector multiplier	Improved cooperation and collaboration across sub sectors leading to a more informed agriculture sector;
<b>2.4 Maximize value added opportunities;</b>	<b>2.4a Provide opportunities for value adding to livestock farmers;</b>	Increased number of private sector meat processing establishments	< 10 existing meat processors  APHD meat processing	1 new meat processor established  Continue APHD meat	1 new meat processor established  Continue APHD meat	1 new meat processor established  Continue APHD meat	0% failure rate in existing processors  Continue	Increased variety, quality and quantity of local produce available;

			training for the private sector	processing training for the private sector	processing training for the private sector	processing training for the private sector	APHD meat processing training for the private sector	
<b>2.5 Develop sustainable commercial production;</b>	<b>2.5a Encourage sustainable livestock husbandry practices to improve meat quality;</b>  <b>2.5b Expanded and well developed beekeeping industry through provision of incentives and enhanced management skills;</b>	Increased number of commercial livestock holdings  Increased success of new commercial establishments  Increased number of hives	30 fully commercial livestock holdings  250 hives	Increased commercial holdings by 5%  75% success  350 hives established	Increased commercial holdings by 5%  75% success  400 hives established and exporting excess honey	Increased commercial holdings by 5%  75% success  400 hives maintained and exporting excess honey	Increased commercial holdings by 5%  75% success  400 hives established and exporting excess honey	Raised level and quality of commercial production locally;

***SPO3: Ensure sustainable use and management of agriculture resources;***

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
<b>3.1 Sustainable and appropriate management practices developed and promoted;</b>	<b>3.1a Align Livestock strategies to environmental policies;</b>	Livestock farming guided by information/maps showing areas which are vulnerable to livestock farming	No policies in place to guide livestock farming activities to ensure the safety of water-shed and catchment areas	Policies in place to guide environmentally responsible livestock farming	Improve compliance			Sustainable agricultural management practices implemented and integrated into all sub sectors initiatives;
<b>3.2 Agro Biodiversity conserved, developed, promoted and used;</b>	<b>3.2a International treaties on genetic resources for food and agriculture ratified and supported;</b>  <b>3.2b Breeding lines well maintained through breeding programs and breed database;</b>  <b>3.2c Genetic base of selected species improved and distributed to selected registered associations/</b>	Annual contribution to FAO Animal Genetics Resources Program through reports and required data collection  Increased number of breeding lines, increased number of livestock  Local genetics improved by importation of improved breeds	Native livestock species classified genetically under FAO Animal Genetics Resources Program  Government nucleus herds: 4 sheep breeding lines, 13 improved chicken breeding lines, 1 pig breeding line; 7 breeding bulls  Last improved	Native livestock species classified genetically under FAO Animal Genetics Resources Program  Government breeding herds increased: cattle 20%, sheep 100%, new government pig (17-sow) & chicken (100 hens) farms established (refer to 1.1) by importation	Native livestock species classified genetically under FAO Animal Genetics Resources Program  Refer to livestock number projections in 1.1	Native livestock species classified genetically under FAO Animal Genetics Resources Program  Refer to livestock number projections in 1.1	Native livestock species classified genetically under FAO Animal Genetics Resources Program  Refer to livestock number projections in 1.1	Marine and Agro Biodiversity prioritized at the national level;

	farmers;		breed importation: 2002 – cattle, 2004 – sheep, 2006 – chickens, 2010 – pigs	n of new genetics for all livestock				
<b>3.3 Develop Adaptation and Mitigation Policies on Climate Change;</b>	<b>3.3a Maintain population of animals that are adaptable to climate change impacts;</b> <b>3.3b Develop disaster readiness and/or mitigation program covering entire country;</b>	All livestock breeds adaptable to climate change  Emergency Response Plan (ERP) in place for all livestock, disaster preparedness/mitigation awareness delivered across Samoa	All livestock breeds are adapted to tropical climate  ERP for H1N1 Swine Flu	Maintain resilient breeds of animal to climate change  Disaster mitigation and awareness plan in development	Maintain resilient breeds of animal to climate change  Disaster mitigation and awareness plan in place	Maintain resilient breeds of animal to climate change  Disaster mitigation and awareness begins across Samoa (50%)	Maintain resilient breeds of animal to climate change  75% country coverage by disaster mitigation and awareness program	Adaptation and Mitigation policies and plans developed and implemented in collaboration with all key stakeholders;
<b>3.4 Develop Sustainable Plans;</b>	<b>3.4a Livestock Sustainable Management Plans (LSMP) developed;</b>	LSMPs developed, documented and adopted	No sustainable plans exist	Sustainable plans developed in collaboration with key stakeholders	Plans published and promoted	Implementation of the LSMP	Continue implementation of the LSMP	Sustainability of sector guided by well consulted Sustainable Plans;
<b>3.5 Develop Emergency Response Plans and carry out simulation exercises;</b>	<b>3.5a Disease response plans developed and reviewed annually;</b> <b>3.5b Involve all relevant stakeholders in simulation exercises;</b>	Disease response plans for emerging threats in place  1 simulation exercise involving all relevant stakeholders for each plan per year	Generic response plan in place (adaptable for any disease)  HPAI response plan in place; last simulation 2010 (partial)	Develop disease-specific response plan for relevant exotic disease threat  1 simulation for each plan	Manage disease-specific response plan for relevant exotic disease threat  1 simulation for each plan	Manage disease-specific response plan for relevant exotic disease threat  1 simulation for each plan	Manage disease-specific response plan for relevant exotic disease threat  1 simulation for each plan	Farmers, fishers and policy makers alike well prepared for outbreaks through well developed and simulated ERP's;
<b>3.6 Revitalize replanting program</b>	(not applicable)							Replanting implemented across the sector;

**SPO4: Foster enabling environment to support profitable value chains through research and development;**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
<b>4.1 Enhanced Market Connectivity;</b>	<b>4.1a Livestock farmers organized in to clusters/groups to improve their market connectivity;</b>	Functional farmer groups engaged in information sharing, and marketing activities	Only cattle farmer associations in Upolu and Savaii are active	Farmers encouraged to form farmer groups through village consultations & farmer trainings	Number of farmer groups formed for each livestock species (cattle, pigs, chickens)	20% trade/market enquiries made to APHD are referred to network contact points	30% trade/market enquiries made to APHD are referred to network contact points	Profitable value chains established for local producers;

<p><b>4.2 Strengthen Research and Development across public and private sector through ensuring investment in training, technology and infrastructure;</b></p>	<p><b>4.2a Develop research on aspects of livestock farming and provide practical solutions for farmers;</b></p>	<p>Farm productivity is improved by new information</p> <p>Honey products have access to overseas markets</p> <p>Livestock productivity improved by controlling diseases</p>	<p>1 collaboration with private sector to assess nutritional value of locally available feed for pigs/- chickens</p> <p>Old research information on nutritional value of locally grown pastures</p> <p>Bee disease status last monitored in 2005; low level surveillance for brucellosis in cattle and pigs</p>	<p>Establish farmers' research needs through consultations and farmer training</p> <p>Develop bee disease surveillance plan to update bee disease status</p> <p>Surveillance and control programs developed for diseases that affect productivity</p>	<p>2 new research projects designed and implemented to meet farmers' stated requests</p> <p>Disease surveillance program implemented for apiaries</p> <p>Surveillance programs for 4 livestock diseases carried out.</p> <p>Control program for bovine brucellosis implemented</p>	<p>2 new research projects designed and implemented to meet farmers' stated requests</p> <p>Bee disease status report released and disseminated to relevant stakeholders</p> <p>Surveillance programs for 4 livestock diseases carried out continued</p> <p>Control program for bovine brucellosis continued</p>	<p>2 new research projects designed and implemented to meet farmers' stated requests</p> <p>1 new honey market established as a result of favourable disease status report</p> <p>Surveillance programs for livestock diseases carried out continued</p> <p>Control program for bovine brucellosis continued</p>	<p>Raised opportunities for farmers through research, improved technology and infrastructure;</p>
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**SPO5: Strengthen Agriculture Sector leadership, governance and capacity:**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
<p><b>5.1 Establish a coherent and comprehensive institutional framework;</b></p>	<p><b>5.1a Develop APHD functional organizational structure;</b></p>	<p>Revised Organizational structure to support improved services to stakeholders</p> <p>99% surveyed clients are happy with services provided by APHD</p>	<p>Inadequate number of senior positions (principal level) and extension positions, key positions on very low salary level so that they don't attract staff with adequate qualifications for the job (e.g. farm managers)</p> <p>General feeling of stakeholders is that APHD services are inadequate</p>	<p>New organizational structure approved and implemented</p>	<p>Increased number of senior staff involved in planning activities</p> <p>Increased number of extension programs (100% increase in number of farmer training) is adequately handled by expanded advisory section</p> <p>50% surveyed stakeholders are happy with APHD services</p>	<p>70% surveyed stakeholders satisfied with APHD services</p>	<p>90% surveyed stakeholders satisfied with APHD services</p>	<p>A well structured and functional private sector led Agriculture Sector;</p>
<p><b>5.2 Improve capability and implementation on capacity;</b></p>	<p><b>5.2a Update capability plan;</b></p> <p><b>5.2b Encourage in-services training for</b></p>	<p>Training opportunities identified and made available for all APHD staff based on an</p>	<p>Good number of in-service staff training but high turnover of staff – requires more frequent</p>	<p>Capability plan updated and main training needs identified</p> <p>5 senior level staff</p>	<p>10% reduction in number of staff leaving the division</p> <p>5 senior level staff attended trainers' training on key</p>	<p>5% reduction in number of staff leaving the division from last year</p> <p>5 senior</p>	<p>5% reduction in number of staff leaving the division from last year</p>	<p>Improved support services made available to all key stakeholders;</p>

	staff;	updated and well consulted capability plan  In services training opportunities made available for staff in collaboration with key development partners	training for new recruits	attended trainers' training on key aspects of livestock production  30 staff attended overseas and in-country technical training on key aspects of livestock production	aspects of livestock production  30 staff attended technical training on key aspects of livestock production	level staff attended trainers' training on key aspects of livestock production  30 staff attended technical training on key aspects of livestock production	5 senior level staff attended trainers' training on key aspects of livestock production  30 staff attended technical training on key aspects of livestock production	
<b>5.3 Improve Agriculture Statistics Collection and data dissemination;</b>	<b>5.3a Improve the availability of herd productivity statistics and meat marketing data for public information;</b>	Improved awareness of both commercial livestock farmers and the public on livestock farm productivity and demand and supply for local produce  Livestock census carried out every 5 years, livestock survey carried out annually	Reliable meat marketing data collected from fair proportion of meat retailers but information not widely publicized  Little to no information available on livestock productivity (calving rates etc)	Data collection plan developed to ensure reliable information on livestock farm numbers and productivity  Meat marketing data publicized through newsletter to key stakeholders  Productivity data collected monthly from govt nucleus farms, private multiplier farms and other partner livestock farms  Livestock survey carried out	Meat marketing and livestock productivity data analysed and publicized through farmer training and newsletter to key stakeholders  Continue productivity data collected monthly from govt nucleus farms, private multiplier farms and other partner livestock farms  Livestock survey carried out	Meat marketing and livestock productivity data analysed and publicized through farmer training and newsletter to key stakeholders  Continue productivity data collected monthly from govt nucleus farms, private multiplier farms and other partner livestock farms  Livestock survey carried out	Meat marketing and livestock productivity data analysed and publicized through farmer training and newsletter to key stakeholders  Continue productivity data collected monthly from govt nucleus farms, private multiplier farms and other partner livestock farms.  Livestock census carried out	Farmers, fishers, producers, planners and policy makers make well informed decisions based on reliable data;
<b>5.4 Improve capacity for regulation and enforcement especially in safety standards and quality assurance across crops, livestock, fisheries and forestry;</b>	<b>5.4a Develop and enforce hygiene and slaughter-ing standards;</b>	Hygiene standards mandated by proposed Abattoir Act, well publicized  Increased compliance with legislation and standards  Strengthened regulatory authority for hygiene in animal	Poor slaughtering standards/ techniques;  No legislation to regulate animal slaughter  Understaffed Meat inspection section (2 trained meat inspectors)	Enforced Abattoir & Meat Supply Act and other relevant legislation and standards (e.g. food standards, egg standard)  Expanded meat inspection section	10% non compliance with legislation and standards	8% non compliance with legislation and standards	6% non compliance with legislation and standards	Improved compliance with safety standards and regulations;



		products						
<b>5.5 Strengthen Marketing Information Systems;</b>	<b>5.5a Maintain database of improved breeds and livestock farmers to provide marketing advice to the sector;</b>	Database facilitation	APHD provides limited market and marketing information	All enquiries about stock sales satisfactorily answered using breed traceability database  Establish operational systems for data collection (slaughter facilities), compilation, analysis and dissemination;	Farmers have access to information about breeding stock and markets  Up to date information on market trends collected from slaughtering units and disseminated to farmer network	Farmers have access to information about breeding stock and markets  Up to date information on market trends collected from slaughtering units and disseminated to farmer network	Farmers have access to information about breeding stock and markets  Up to date information on market trends collected from slaughtering units and disseminated to farmer network	MIS newsletter informative and released regularly to all key stakeholders for decision making purposes;

### ***SPO6: Promote Trade Development***

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
<b>6.1 Strengthen trade access negotiations and operationalize regional and international trade agreements</b>	<b>6.1a Support livestock sector by providing necessary services and information to enable market access;</b>	95% of producer requests for export preparation and certification are satisfactorily met  Reduction in number of export requirements to be met	No markets for livestock and livestock products due to lack of up-to-date information on disease status  Large number of export requirements to be met	Designed 4 disease surveillance programs for relevant livestock diseases and honeybee disease status survey  Mobile slaughtering units in place	Implemented disease surveillance program for bees and 4 disease surveillance programs for livestock  Implemented disease control program for bovine brucellosis	Honey access to overseas markets successful due to outcomes of disease survey  Maintained disease surveillance and control programs  Abattoir in place	Successfully accessed meat market in at least 1 neighbouring island countries	Bilateral and Multi-lateral Agreements to reflect benefits for the sector;
<b>6.2 Raise compliance with national and international standards related to trade;</b>	<b>6.2a Sustain capacity to meet local and international standards (OIE);</b>	100% compliance of all exports with international trade standards  Meet national trade standards	Only live pets and honey can access overseas markets – 100% compliance  Enforcement of existing trade standards	National trade standards enforced with an active regulatory body  Reduce non compliance to 5% threshold level;  Conformance to systems and procedures;	100% compliance with international standards  10% non compliance with national standards	100% compliance with international standards  8% non compliance with national standards	100% compliance with international standards  6% non compliance with national standards	Accreditation standards established and adhered to with noticeable improvement in compliance with international standards;
<b>6.3 Domestic and export trade developed and strengthened;</b>	<b>6.3a Facilitate export of animal and animal products to neighbouring island countries;</b>  <b>6.3b Enforce Meat Export Act;</b>	Regular export of animal products to neighboring countries like American Samoa and Tokelau  Meat Export Act enforced	Limited export of animal and animal products (honey, live pets)	Enforced national standards in place and accustom farmers to meeting acceptable standards	Enforced Meat Export Act, 100% compliance with international standards for meat and honey	Enforced Meat Export Act, 100% compliance with international standards for meat and honey	Enforced Meat Export Act, 100% compliance with international standards for meat and honey	Increased Exports through well secured pathways;

6.4 Well managed risks and hazards through improved quarantine services and border controls;	6.4a New Quarantine facilities established;	Import risk analyses of international standard generated in efficient and timely manner	Lack of trained staff to carry out IRAs – only 1 – 2 IRAs produced per year	New organization structure approved	New organization structure implemented	Staff trained annually through 1 disease surveillance workshop and 1 emergency response simulation per disease/ disaster	Staff trained annually through 1 disease surveillance workshop and 1 emergency response simulation per disease/ disaster	Improved Quarantine and border control services;
	6.4b Improved capacity and capability of Quarantine and Customs officials in bio security;	Animal health staff trained to recognize and respond to exotic disease	Limited staff capacity on surveillance and emergency response	Staff trained annually through 1 disease surveillance workshop and 1 emergency response simulation per disease/ disaster	Staff trained annually through 1 disease surveillance workshop and 1 emergency response simulation per disease/ disaster			
	6.4c Border officials well trained in pest control and emergency response;							

### 1.3 Fisheries

#### **SPO1: Ensure national food and nutritional security**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
1.1 Promote and support food security through raised efforts to identify sustainable local food sources;	1.1a Develop and improve management of culture species diversification	Number of cultured species	Four cultured species	1 new species identified and promoted for culturing	1 new species identified and promoted for culturing	1 new species identified and promoted for culturing	Review management and development of cultured species for improvement	Sustainable local food sources identified;
	1.1b Encourage village level fish and shellfish farms;	Increased numbers of fish and shellfish farms.	20 freshwater fish farms and 14 village giant clam nurseries	10% (25) increase in fish farms & shellfish ocean nurseries	10% (30) increase in fish farms & shellfish ocean nurseries	10% (35) increase in fish farms & shellfish ocean nurseries	10% (40) increase in fish farms & shellfish ocean nurseries	
	1.1c Increase seedlings and fingerlings production	Increased number of shellfish seedlings and fish fingerlings produced	5,000 tilapia fingerlings	5% increase in seedlings/ fingerlings productions	5% increase in seedlings/ fingerlings productions	5% increase in seedlings/ fingerlings productions	5% increase in seedlings/ fingerlings productions	
1.2 Promote subsistence farming activities at the village level;	1.2a Encourage aquaculture farming systems	Number of aquaculture farms established	20 tilapia fish farms, 1 marron crayfish farm	10% (25) increase in aquaculture farms	10% (30) increase in aquaculture farms	10% (35) increase in aquaculture farms	10% (40) increase in aquaculture farms	Raised population of Agriculturally Active Households
1.3 Improve production, processing, marketing, trading and use of safe and nutritious local foods;	1.3a Promote and foster the development of alternative fisheries;	Numbers of alternative fisheries identified and established	Tuna fishery, bottom fish fishery, reef fishery, tilapia fishery	1 fishery identified and researched	Identified fishery developed and promoted	1 fishery identified and researched	Identified fishery developed and promoted	Local food production levels sufficient to facilitate import substitution;

1.4 Strengthen food regulatory framework, enforcement and compliance capacities and public-private sector collaboration;	1.4a Improve compliance with village by laws and Village Fisheries Mgmt Plans;	Number of village by laws successfully adopted;	75 village fisheries by laws	4 new fisheries bylaws established 4 villages fisheries Mgmt Plan developed	4 new fisheries bylaws established 4 villages fisheries Mgmt Plan developed	4 new fisheries bylaws established 4 villages fisheries Mgmt Plan developed	4 new fisheries bylaws established 4 villages fisheries Mgmt Plan developed	Local standards and regulations well mandated and internationally recognized;
	1.4b Review all fisheries legislations and regulations;	Reviewed Fisheries Act; Fisheries Regulations; Fish Export Regulations and Fishing License Regulations	1 Fisheries Act 1988 & 4 Regulations	1 Fisheries Act reviewed, and adopted	1 Seafood Regulation reviewed and developed	1 Fisheries Regulation reviewed and developed	Fisheries Regulations adopted	
	1.4c Consolidate all fisheries management plans under one major fisheries plan;	Number of fisheries specific management plan developed and consolidated	1 Tuna Development and Management Plan (2005-2009)  IUU (Illegal, Unreported and Unregulated) plan	2 Management Plans developed and adopted (shark & turtle) Tuna Development & Management Plan (2010-2015) developed and adopted	1 fishery Management Plan for Coastal fisheries	1 Management and Development Plan for Aquaculture  Mid-term Review of the TDMP (10-15)	Review IUU Management Plan and Species Specific Management plan	
1.5 Promote lifestyles and nutrition that lead to reduction of obesity and better management of NCD's;	1.5a Increase availability of locally produced fisheries products	Increased consumption of fisheries products	Seafood = 9,000 metric tones/yr,  Per Capita consumption= 45kg/capita per year	Increase consumption by 10% through availability of aquaculture farms, and captured fisheries	Consumption by 10% through availability of aquaculture farms, and captured fisheries	Consumption by 10% through availability of aquaculture farms, and captured fisheries	Consumption by 10% through availability of aquaculture farms, and captured fisheries	Raised consumption of local produce contribute to improved health and nutrition of the country;

**SPO2: Promote Investment in and finance for Agriculture leading to employment and income generating opportunities**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
2.1 Foster business enabling environment conducive to favorable investments for the Agriculture Sector;	2.1a Encourage enabling environment for fisheries investments	Number of funding facilities available;  Availability of information on economic analysis for fisheries investment	5 FAO Telefood Projects, 10 UNDP GEF community projects, 3 EU projects, Stringent funding requirement for fisheries development; Limited economic analysis on fisheries	Increase and Update information and analysis of current & potential fisheries development;	Increase and Update information and analysis of current & potential fisheries development;	Increase and Update information and analysis of current & potential fisheries development;	Increase and Update information and analysis of current & potential fisheries development;	Donor resources into Agriculture and Fisheries increase from 2008 levels;  Private capital investment into agriculture and fisheries increase from 2008 levels;  Bank lending to agriculture and fisheries increase from 2008 levels;

2.2 Raise initiatives through access to information, economic infrastructure and market facilities;	2.2a Increase number of FADS accessible to villages;	Number of Fish Aggregating Devices (FADs) deployed per constituency	12 FADs currently anchored	5 FADs deployed	2 FADs deployed	5 FADs replaced & deployed	2 FADs deployed	5 FAD deployed & replaced
	2.2b Improve management and maintenance of onshore infrastructure and facilities;	Improved access to efficient onshore infrastructure services;	3 Ice making machine, 1 fisheries wharf, 1 fish market	3 ice making machines replaced  1 marine species hatchery established  Value added fish processing plant negotiated	1 Savaii rural alia port developed  Additional ice making machine set up  Value added fish processing plant setup	1 Upolu rural alia port set up  1 fish/ shellfish community hatchery  Additional ice making machine setup  Value added fish processing plant setup	1 fish/ shellfish community hatchery  Value added fish processing plant setup	Improved domestic and export trades
	2.2c Upgrade Alia Fleet;	Increased number of Alia Fleet	40 active alia fishing vessels	Upgrade of alia design for safe, economically, built, profitable commercial fishing for local fishers	Promote new alia design for safe, economically, built, profitable commercial fishing for local fishers  3 new designed Alia added to fleet.	3 new designed Alia added to fleet.	3 new designed Alia added to fleet.	3 new designed Alia added to fleet.
2.3 Empower farmers through promoting information sharing amongst key stakeholders;	2.3a Promote extensive consultation among leading groups on cross cutting issues relating to fisheries	Number of consultation undertaken	Commercial Fisheries Management Advisory Committee (CFMAC - Quarterly), Licensing, Surveillance and Enforcement Committee (LSEC - Bi-annual)	Continue quarterly CFMAC meetings and Bi-annual LSE meetings  Establish EAFM Committee, Aqua Farmer groups	Continue quarterly CFMAC meetings and Bi-annual LSE meetings  Conduct EAFM Committee meetings	Continue quarterly CFMAC meetings and Bi-annual LSE meetings  Conduct EAFM Committee meetings	Continue quarterly CFMAC meetings and Bi-annual LSE meetings  Conduct EAFM Committee meeting	Improved cooperation and collaboration across sub sectors leading to a more informed agriculture sector;
2.4 Maximize value added opportunities	2.4a Promote value adding fisheries produce	Number of value adding fisheries products available	Gill & gutted frozen and fresh fish products	Fish Processing Plant (cannery, etc) established	Fish Processing Plant (cannery, etc) established	Fish Processing Plant (cannery, etc) established	Fish Processing Plant (cannery, etc) established	Increased variety, quality and quantity of local produce available;
2.5 Develop sustainable commercial production;	2.5a Provide enabling environment for commercial fisheries operations	Number of commercial fisheries and aquaculture operations	Limited entry and subsidies on commercial fisheries	Fishing access negotiated with neighbouring countries (Tokelau, Tonga)	Flag states authorization procedures developed	Fishing vessels chartering schemes for domestic fleet developed	Relevant subsidies for commercial fishing reviewed	Raised level and quality of commercial production locally;

**SPO3: Ensure sustainable use and management of agriculture resources;**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
3.1 Sustainable and appropriate management practices developed and promoted;	3.1a Promote sustainable use of small Exclusive Economic Zone (EEZ) through sustainable catch practices;	Number of Conservation and Management Measures (CMMs) and reference limits established & implemented  Capacity limit on long line fishing effort	Moratorium on number of licenses, Licensing conditions, limit of 10 sharks/ fishing trips, line cutters de-hookers for turtles  Submit data on catches & effort	Implementation of international, regional and national fisheries management measures	Implementation of international, regional and national fisheries management measures	Implementation of international, regional and national fisheries management measures	Implementation of international, regional and national fisheries management measures	Well managed commercial fisheries
3.2 Marine and Agro Biodiversity conserved, developed, promoted and used;	3.2a Promote long-term sustainability of coastal fishery resources	Number of coastal fish stocks monitoring and assessments undertaken	High Maximum Sustainable Yield (MSY) Level of coastal fishery utilization, status of biodiversity & fish abundance	10 Community-owned fish reserves and reef sites assessed  Stock assessment for bottom fish conducted	10 Community-owned fish reserves and reef sites assessed  Stock assessment for bottom fish conducted	10 Community-owned fish reserves and reef sites assessed	10 Community-owned fish reserves and reef sites assessed	Marine and Agro Biodiversity prioritized at the national level;
3.3 Develop Adaptation and Mitigation Policies on Climate Change;	3.3a Improve fisheries governance and manage impacts of climate change	Adaptation and mitigation policies and plans developed  Number of Species resilient to climate change identified	No adaptation and mitigation policies and plans	Identify 3 species resilience and adapt to climate change.	Develop technologies for developing the resilient species  Develop adaptation & mitigation policies & plans	Identify 2 species resilience and adapt to climate change.	Develop technologies for developing the resilient species  Develop 2 adaptation & mitigation policies & plans	Adaptation and Mitigation policies and plans developed and implemented in collaboration with all key stakeholders;
3.4 Develop Sustainable Plans;	3.4a Develop fisheries plans for sustainable management and development	Number of fisheries management plan developed & consolidated.	1 Tuna Development and Management Plan (2005-2009)  IUU plan	2 Management Plans: shark & turtle Review and adopt Tuna Development & Management Plan (2010-2015)	1 Fishery Management Plan for Coastal fisheries	1 Management and Development Plan for Aquaculture  Mid-term Review of the TDMP (10-15)	Review IUU Management plan and Species specific Management plan	Sustainability of sector guided by well consulted Sustainable Plans;
3.5 Develop Emergency Response Plans and carry out simulation exercises;	3.5a Response to mitigate sea safety during natural disasters and emergency situation (fisheries diseases outbreaks, securing fisheries asset, crew)	Strengthened Sea safety ERP;  Fish diseases outbreak emergency response plan developed;  Updated ERP securing	Sea Safety ERP  Fisheries assets security ERP during cyclones	Review and update Sea Safety and Fisheries Assets Security Emergency Response Plans	Operationalize the Sea Safety and Fisheries Assets Security Emergency Response Plans	Maintain the operationalization of Sea Safety and Fisheries Assets Security Emergency Response Plans	Maintain the operationalization of Sea Safety and Fisheries Assets Security Emergency Response Plans	Farmers, fishers and policy makers alike well prepared for outbreaks through well developed and simulated ERP's;

		fisheries assets during cyclones						
3.6 Revitalize replanting program;	Not applicable							Replanting implemented across the sector;

***SPO4: Foster enabling environment to support profitable value chains through research and development;***

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
4.1 Enhanced Market Connectivity;	4.1a Promote farmers and fishers networking	Number of registered farmers and fishers groups	Village Fisheries Management Advisory Committees  Fish Exporters Association  Boat Building Association	Tilapia Farmers Associations established		Review commercial fishermen, fish exporters associations		Profitable value chains established for local producers;
4.2 Strengthen Research and Development across public and private sector through ensuring investment in training, technology and infrastructure	4.2a Research into potential alternatives to reduce the impact of fuel prices;	Alternative propulsion identified	2 Stroke 40Hp outboard motors,	4 Stroke 40Hp trial,  Sails and Alia boat design reviewed	Alia with sail constructed and trials begins	Full adoption of additional & alternative power	Full adoption of additional & alternative power	Raised opportunities for farmers through research, improved technology and infrastructure

***SPO5: Strengthen Agriculture Sector leadership, governance and capacity;***

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
5.1 Establish a coherent and comprehensive institutional framework;	5.1a Analyze needs of stakeholders and provide/ seek appropriate support services;	Customer oriented support services setup and available	Limited fisheries support services available	Identify, establish and deliver specific services based on stakeholder needs through wider and effective consultation process				A well structured and functional private sector led Agriculture Sector;
5.2 Improve capability and implementation capacity;	5.2a Raise capacity of the Fisheries Division and stakeholders through training opportunities	Improved fisheries division and stakeholders capacity	Tilapia/ giant clams farm/ nurseries management trainings ongoing	2 HACCAP trainings,  Bi-annual tilapia/clam farm , sea safety & fish quality, fisheries conservation & management training  Staff capacity trainings conducted	Seafood trainings,  Bi-annual tilapia/clam farm , sea safety & fish quality, fisheries conservation & management training  Staff capacity trainings	2 HACCAP trainings,  Bi-annual tilapia/clam farm , sea safety & fish quality, fisheries conservation & management training  Staff capacity trainings	2 HACCAP trainings ,  Bi-annual tilapia/clam farm , sea safety & fish quality, fisheries conservation & management	Improved support services made available to all key stakeholders;

							training Staff capacity trainings	
5.3 Improve Agriculture Statistics Collection and data dissemination	5.3a Harmonize and sharing of fisheries information to data providers and data users (MAF, CBS, MOF, Customs, SPA);	Standardized fisheries information from data collection	Harmonized fish export data system for CBS, Customs and MAF for exports.	Harmonization of local outlets fisheries landings data with relevant local & regional agencies			Farmers, fishers, producers, planners and policy makers make well informed decisions based on reliable data;	
5.4 Improve capacity for regulation and enforcement especially in safety standards and quality assurance across crops, livestock, fisheries and forestry;	5.4a Improve monitoring and policing of EEZ;	Number of IUU (Illegal Unreported and Unregulated Fishing) reported cases	Daily monitoring of FFA and alia VMS, Monthly surface patrol, Boarding and Inspection of foreign vessels,	Install VMS on larger vessels,  Maintain and strengthen current operations			Improved compliance with safety standards and regulations	
5.5 Strengthen Marketing Information Systems;	5.5a Strengthening awareness of Fisheries stakeholders on key issues for management and policy decision	Regularly and effective production and delivery of fisheries information	Quarterly production and release of Fisheries Newsletter	Improve production of Fisheries newsletter and distributed extensively.  Newsletter available on line.			MIS newsletter informative and released regularly to all key stake- holders for decision making purposes;	

### ***SPO6: Promote Trade Development***

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
6.1 Strengthen trade access negotiations and operationalize regional and international trade agreements;	6.1a Establish market access via bilateral and multi-lateral agreements	Number of new markets where Samoa fishes are trade and access to.	Samoa fish & fish products are traded to Am. Samoa, USA and NZ markets	Negotiate access to EU market  Negotiate fishing agreements & boundaries delimitations with neighboring countries	Continue negotiate access to EU market & meeting requirements  Negotiate fishing agreements & boundaries delimitations with neighboring countries	Negotiate access to other potential market  Negotiate fishing agreements & boundaries delimitations with neighboring countries	Negotiate fishing agreements & boundaries delimitations with neighboring countries	Bilateral and Multi- lateral Agreements to reflect benefits for the sector;
6.2 Raise compliance with national and inter- national standards related to trade;	6.2a Maintain and improve stake- holders' compliance to market access requirements as a result of HACCP and	Strengthen- ing Seafood safety & Compliance to market require- ments.  Maintain zero level of fish	Weak Seafood Competent Authority within Fisheries Division  6 monthly audits of fish processing establish-	Strengthen-ed Seafood Competent Authority  Maintain/ review audits and inspection accordingly to HACCP & market	Strengthen-ed Seafood Competent Authority  Maintain/ review audits and inspection accordingly to HACCP & market	Strengthen-ed Seafood Competent Authority  Maintain/ review audits and inspection accordingly to HACCP & market	Strengthen- ed Seafood Competent Authority  Maintain/ review audits and inspection accordingly to HACCP &	Accred- itation standards established and adhered to with noticeable improve- ment in compliance

	<b>Seafood Safety Programs;</b>	rejections at overseas markets;	ments Training on seafood safety assurance  5 introduced species IRA produced	require-ments Conduct bi-annual training on seafood safety and fish quality control  1 IRA for green mussel species	require-ments Conduct bi-annual training on seafood safety and fish quality control  1 IRA for pearl oyster species	require-ments Conduct bi-annual training on seafood safety and fish quality control  1 IRA for species specific	market require-ments Conduct bi-annual training on seafood safety and fish quality control  1 IRA for species specific	with international standards;
<b>6.3 Domestic and export trade developed and strengthened;</b>	<b>6.3a Maintain and expand the export of tuna and tuna products from Samoa;</b>	Increase in fish export	1800mt average (2005-2010 levels) of fish export annually	Increase fish export by 5% through: <ul style="list-style-type: none"> <li>Fishing access with other countries</li> <li>Vessels reflagging &amp; charters</li> <li>Value added fish processing plants</li> <li>Access new markets</li> </ul>	Increase fish export by 5% through: <ul style="list-style-type: none"> <li>Fishing access with other countries</li> <li>Vessels reflagging &amp; charters</li> <li>Value added fish processing plants</li> <li>Access new markets</li> </ul>	Increase fish export by 5% through: <ul style="list-style-type: none"> <li>Fishing access with other countries</li> <li>Vessels reflagging &amp; charters</li> <li>Value added fish processing plants</li> <li>Access new markets</li> </ul>	Increase fish export by 5% through: <ul style="list-style-type: none"> <li>Fishing access with other countries</li> <li>Vessels reflagging &amp; charters</li> <li>Value added fish processing plants</li> <li>Access new markets</li> </ul>	Increased Exports through well secured pathways;
<b>6.4 Well managed risks and hazards through improved quarantine services and border controls;</b>								<b>Improved Quarantine and border control services;</b>

#### 1.4 Forestry

**SPO1: Ensure national food and nutritional security**

**SPO2: Promote Investment in and finance for Agriculture leading to employment and income generating opportunities**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
<b>2.1 Foster business enabling environment conducive to favorable investments for the Agriculture Sector;</b>	<b>Introduction of Samoa Agro-forestry Project (SAP) as well as the Integrated Climate Change Risks into the Forestry Sector Project. (ICCRIFS)</b>	Agro-forestry Strategy completed  14 villages adapted to climate change  Watersheds areas been preserved and protected.  Upland areas conserved and protected lowland areas developed.	In the pipeline		Agro Forestry Strategy Implemented			1. Donor resources into Agriculture and Fisheries increase from 2008 levels; 2. Private capital investment into agriculture and fisheries increase from 2008 levels; 3. Bank lending to agriculture and fisheries increase from



		Collateral agreements with banks						2008 levels;
2.2. Raise initiatives through access to information, economic infrastructure and market facilities;	Raised accessibility to information at the village level on agro forestry through information sharing through village mayors and media;	Improved yields or quality of Agricultural crops and forestry trees at the village level.	Currently ongoing	3%	3%	3%	3%	Improved domestic trade;
2.3 Empower farmers through promoting information sharing amongst key stakeholders;	2.3a Farmers to take the lead role in development of forestry farms; 2.3b Increased community, landowner and private sector participation in the sustainable development of the sub sector;	Establishment of 20 demonstration plots on both islands so that farmers will be convinced.  Farmers site visits will encourage farmers involvement in agro-forestry plantations.	Several demonstration plots were established  Site visits already been conducted	5	5	5	5	Improved cooperation and collaboration across sub sectors leading to a more informed agriculture sector;
2.4 Maximize value added opportunities;	Agro-forestry Conserved Developed, promote and use.	Innovative methods adopted by the farmers for better variety, quality and quantity.						Increased variety, quality and quantity of local produce available;
2.5 Develop sustainable commercial production;	Conduct Awareness Campaigns . Provide Information available on Agro-forestry.	Improved Partnerships with stakeholders eg. Village pulenuus and farmers.	Several meetings with Pulenuus already been conducted					Raised level and quality of commercial production locally;

**SPO3: Ensure sustainable use and management of agriculture resources;**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
3.1 Sustainable and appropriate management practices developed and promoted;	3.1a Update and enforce the code of logging practice;	Conformance to the code of logging practice by the sawmillers and landowners.	Commercial logging ban from 2007	5 Registered sawmilling companies	5 Registered sawmilling companies	5 registered sawmilling companies	5 registered sawmilling companies.	Sustainable agricultural management practices implemented and integrated into all sub sectors initiatives;
	3.1b Areas for protection and production identified through proper forest resource management	Increase sustainable forest management practices at the community level	Protected area management project.	4 awareness program	Conduct farmers workshop in both Upolu and Savaii	Conduct farmers workshop in both Upolu and Savaii	Conduct farmers workshop in both Upolu and Savaii	

	and planning at the community level;							
<b>3.2 Marine and Agro Biodiversity conserved, developed, promoted and used;</b>	<b>3.2a Enhanced biodiversity conservation to increase carbon sequestration;</b>	Increase the number of conservation areas such as National Parks and Reserves and marine protected areas	Marine protected areas managed  Increase the number of National Parks	Increase Community Conservation areas	Increase Community Conservation areas	Increase Community Conservation areas		Marine and Agro Biodiversity prioritized at the national level;
<b>3.3 Develop Adaptation and Mitigation Policies on Climate Change;</b>	<b>Enabling Legislation &amp; Policies to support implementation of activities.</b>	Legislation and policies enforced.  Policies and systems well documented.  Updated or reviewed legislations and policies.	Sustainable forest management Policy  Forest Management Bill.	Review Existing Sustainable Management Policy 2007.  Forest management Bill approved in parliament	First Draft Policy  Conduct 2 Workshops in Upolu and Savaii on the Forest Management Act 2011	Final Copy of policy		Adaptation and Mitigation policies and plans developed and implemented in collaboration with all key stakeholders;
<b>3.4 Develop Sustainable Plans;</b>	<b>Development of sustainable forestry plans &amp; Strategies.</b>	Sustainable forest plans developed and incorporated within national development plans;	Management plans of O le Pupu-Pue national park as well as management plans for all reserve areas	Formulate a draft sustainable plan for all N.P. areas	Formulate a draft sustainable plan for all N.P. areas	Formulate a draft sustainable plan for all N.P. areas	Formulate a draft sustainable plan for all N.P. areas	Sustainability of sector guided by well consulted Sustainable Plans;
<b>3.5 Develop Emergency Response Plans and carry out simulation exercises;</b>	<b>Well managed risks and hazards developed.</b>	Emergency Response Plans Developed and simulation exercises carried out.	Forest Health Surveillance	Draft Emergency Response Plan for forestry.	Finalize and approve the Response plan.	Implement it out in the filed		Farmers, fishers and policy makers alike well prepared for outbreaks through well developed and simulated ERP's;
<b>3.6 Revitalize replanting program;</b>	<b>Ecological Restoration on community based conservation areas as well as National Parks. Sustainable and appropriate management practices developed and promoted. Extension outreach and information services strengthened.</b>	500 hectares of ecological restorations completed in National Parks and Reserves.	Currently 100 hectares planted every year.  220 new farmers registered in the Community Forestry program.  One Million Trees planted Campaign Nov2009 – Nov 2012	100 hectares planted  220 new farmers registered  500,000 trees planted	100 hectares planted  220 new farmers established  1 million trees planted	100 hectares planted  220 new farmers established	100 hectares planted  220 new farmers established	Replanting implemented across the sector;

**SPO4: Foster enabling environment to support profitable value chains through research and development;**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
4.1	Subsistence							Profitable

Enhanced Market Connectivity;	farmers and fishers encouraged to organize and cluster themselves to improve their ability to share new practices, reduce costs and improve market access;	Establishment of a Task team involving subsistence farmers and forestry staffs in sharing information.	Community Forestry program registered farmers association	Quarterly meetings and monitoring inspections	Quarterly meetings and monitoring inspections	Quarterly meetings and monitoring inspections	Quarterly meetings and monitoring inspections	value chains established for local producers ;
4.2 Strengthen Research and Development across public and private sector through ensuring investment in training, technology and infrastructure;	Active development and effective use of pools of appropriate technologies.	Appropriate technology incorporated into forestry systems.	Research trials on Sandalwood tree species	On going measurements of field trials  Disseminate information of sandal wood field trials	On going measurements of field trials  Disseminate information of sandal wood field trials	On going measurements of field trials  Disseminate information of sandal wood field trials	On going measurements of field trials  Disseminate information of sandal wood field trials	Raised opportunities for farmers through research, improved technology and infrastructure;

**SPO5: Strengthen Agriculture Sector leadership, governance and capacity;**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
5.1 Establish a coherent and comprehensive institutional framework;	Establish effective national policies and legislations for managing of forest resources;	Infrastructure and systems in place .  Functional structure reviewed regularly to accommodate change.  Performance in conformance with forestry standards.	Currently reviewing the latest forest policy 2007  Sustainable Forest Management Bill 2010.	Review the latest Policy document  Approve the Sustainable Forest Management Act	Approve the new draft policy document			A well structured and functional private sector led Agriculture Sector;
5.2 Improve capability and implementation capacity;	Increase cooperation and capacity between and within relevant key stakeholders in promoting sustainable forestry;	Conduct 12 support services for key stakeholders in promoting sustainable forest management.						Improved support services made available to all key stakeholders
5.3 Improve Agriculture Statistics Collection and data dissemination;	Upgrade as well as ensure stakeholder access to the SFRIS;	Updated available information and user friendly software used.  Information published on newsletters and websites.	Update SamFRIS database using GPS	Conduct field inventory survey of the forest Areas  Collect information and record In the database	Updated forest resources land use maps	Updated forest resources land use maps	Updated forest resources land use maps	Farmers, fishers, producers, planners and policy makers make well informed decisions based on reliable data;
5.4 Improve capacity for regulation and enforcement	Adapt to Samoa forestry standards and	Formulate and compile a Safety standard developed and maintained	Currently no safety standards	Formulate and write up forestry safety standards	Assistance from Accident Compensation			Improved compliance with safety standards and regulations;

especially in safety standards and quality assurance across crops, livestock, fisheries and forestry;	compliance with code of logging practice and Forestry Act 1967 and Forest Regulation 1969.				Corporation (ACC)			
5.5 Strengthen Marketing Information Systems;	Developed disseminated information on forestry related issues.	Regular development of newsletter articles  Information and innovation adopted or utilized by the farmers.	MNRE monthly Newsletter Articles  SPC Land Resources Division Newsletter	Provided Monthly newsletter articles on the MNRE and SPC Newsletter.	Provided Monthly newsletter articles on the MNRE and SPC Newsletter.	Provided Monthly newsletter articles on the MNRE and SPC Newsletter.	Provided Monthly newsletter articles on the MNRE and SPC Newsletter.	MIS newsletter informative and released regularly to all key stakeholders for decision making purposes;

### **SPO6: Promote Trade Development**

Sector Strategy	Sub Sector Strategy	Sub Sector Indicators	Baseline	Targets				
				2011	2012	2013	2014	2015
6.1 Strengthen trade access negotiations and operationalize regional and international trade agreements;	Create, initiate and facilitate to Bilateral and multilateral agreements	Signatories to relevant bilateral and multilateral agreements	United Nations Forum on Forests	Payment of subscription	Payment of subscriptions	Payment of subscriptions	Payment of subscriptions	Bilateral and Multilateral Agreements to reflect benefits for the sector;
6.2 Raise compliance with national and international standards related to trade;	Conduct awareness programmes in compliance with international standards.	Improved non compliance to an acceptable level.  Conformance to systems and procedures.						Accreditation standards established and adhered to with noticeable improvement in compliance with international standards;
6.3 Domestic and export trade developed and strengthened;	Trade local forest resources on international carbon markets in the long term;	Local communities will benefit from selling their forest land.	Need to do another forest inventory.					Increased Exports through well secured pathways;
6.4 Well managed risks and hazards through improved quarantine services and border controls;	Movement of export and import timber and timber products such as furniture building materials, etc.	Improved compliance to international standards. Eg. PHYTOSANTARY measures.	No involvement what so ever.	Keep records of imported and exported timber and timber products as well as other non forest wood products	Keep records of imported and exported timber and timber products as well as other non forest wood products	Keep records of imported and exported timber and timber products as well as other non forest wood products	Keep records of imported and exported timber and timber products as well as other non forest wood products	Improved Quarantine and border control services;

## VII. Key Agricultural Statistics

### AGRICULTURAL ACTIVITY

The 1999 Agriculture Census recorded 20,521 households of which, 71.8% are agriculturally active. Households which were classified as non-agricultural were 4,199 with 1,597 whose involvement in agricultural activity was determined to be minor. Total number of holding counted were 14,734 while the total number of parcels were 35,317.

### AGRICULTURALLY ACTIVE HOUSEHOLDS - CHARACTERISTICS

Population of Agriculturally Active households	123,948
Number of Agricultural operators	14,778
Number of unpaid laborers working in the holding	10,241
Number of paid laborers employed in the holding	1,366
Percentage of Agriculturally Active households deriving income from agriculture	52.2%
Percentage of Agriculturally Active households availing loans for agriculture purposes	8.1%
Percentage of Agriculturally Active households with electricity	92.4%
Percentage of Agriculturally Active households with piped running water	80.8%
Percentage of holdings owning agricultural equipments	56.5%
Percentage of holdings borrowing agricultural equipments	26.7%

### SALE OF MAJOR CROPS/PRODUCTS

Percentage of Agriculturally Active households selling young and/or matured coconuts	25.9%
Percentage of Agriculturally Active households selling copra	13.2%
Percentage of Agriculturally Active households selling cocoa	17.9%
Percentage of Agriculturally Active households selling banana	17.4%
Percentage of Agriculturally Active households selling taro	17.5%
Percentage of Agriculturally Active households selling taamu	23.3%

### CONSUMPTION OF MAJOR CROPS

Percentage of holdings consuming coconuts for drinking	31.7%
Average weekly consumption of drinking coconuts	11 nuts
Percentage of households using coconuts for cooking	68.1%
Average number of coconuts using for cooking per week	38 nuts
Percentage of households using coconuts for feeding animals	54.6%

Average number of coconuts using for feeding animals per week	102 nuts
Percentage of households consuming cocoa	51.1%
Average weekly consumption of cocoa	4 cups
Percentage of households consuming banana	77.9%
Average weekly consumption of banana	3 bunches
Percentage of households consuming native taro	23.8%
Average weekly consumption of native taro	13 pieces
Percentage of households consuming taro palagi	41.5%
Average weekly consumption of taro palagi	2 baskets
Percentage of households consuming taamu	65.7%
Average weekly consumption of taamu	6 pieces

#### **LIVESTOCK AND POULTRY**

Total number of households raising livestock	15,915
Total number of households keeping livestock	15,901
LIVESTOCK/POULTRY KEPT AS OF ENUMERATION	
Number of cows & heifers two years and over	15,000
Number of bull & steers two years and over	7,000
Number of other cattle	6,000
Total number of cattle	28,000
Total number of horses	2,000
Total number of pigs	167,000
Total number of goats	2,000
Total number of chickens	431,000
Total number of other livestock	2,000

#### **FISHING/FORESTRY**

Percentage of households engaged in fishing	32.6%
Percentage of fishing households using fishing gears	97.0%
Percentage of fishing households using fishing boats	31.5%
Percentage of households that planted forest trees	51.4%

## VIII. Menu of Indicators for Agricultural Statistics proposed in the Global Strategy<sup>1</sup>:

	<i>Indicator</i>	<i>Data Requirements</i>	<i>Data Sources</i>	<i>Technical Notes</i>
	<b>Sector Wide indicators for agriculture and rural development</b>			
1	Gross Domestic Product (GDP)—		Censuses and surveys of firms, farms, and households for small holders.	Value added should include unreported activities as well as the value of informal or small scale operations. Annual estimates between census or surveys based on extrapolations based on other indicators.
2	GDP growth from Agriculture value added.	Estimates of total production and value for all commodities produced in the country; including that from small holders/household plots minus estimates of the cost of inputs such as seed, feed, energy, fertilizer, labor, etc. Agriculture includes forestry and fisheries	Censuses and surveys agricultural enterprises, farm and rural households, administrative and processor. data	SNA concepts followed. Problems include estimation of output consumed by the household and the annual coverage of all commodities for which only periodic census data are available. Annual estimates made using previous census and other administrative data if available.
3	Amount of public spending on agriculture, subsidies, and infrastructure	Government budget allocations, and spending related to agriculture. Agriculture includes forestry and fisheries	Ministry of Finance, National Accounts, Planning commissions, Donor reports	The definition for public spending on agriculture should follow the UN Classification of Functions of Government (COFOG) for agriculture
4	Amount of public spending on rural infrastructure including health and education	Government budget allocations, and spending related rural areas	Ministry of Finance, National Accounts, Planning commissions, Donor reports	Rural defined using national description
5	Change in Investment in capital stock	Inventories of machinery and equipment owned by agricultural holdings, buildings such as milking purposes, animal breeding stock, area of semi-permanent crops such as trees and vineyards, number of trees and vines	Agricultural resource surveys of holdings and agricultural enterprises	Machinery and equipment inventories should be by purpose (tillage, harvesting, etc.) and size
6	Demographics of agricultural and rural population	Rural population and number of rural households, , number of agricultural households and population living in them, age and education levels. Agriculture	Census of Population, Census of Agriculture, Household surveys, administrative records	Rural defined using national description

<sup>1</sup> Source – Agriculture Data “Report on a scoping study in six Pacific Island Countries” November 2010, FAO, Steve Rogers

	<b>Indicator</b>	<b>Data Requirements</b>	<b>Data Sources</b>	<b>Technical Notes</b>
		<i>includes forestry and fisheries</i>		
7	<i>Rural poor as a percent of total poor population</i>	<i>Household income and consumption estimates for national and rural poverty lines. Purchasing Power Parities for comparisons across countries</i>	<i>Household Surveys. International Comparison Program for comparisons across countries</i>	<i>Countries should use poverty estimates based on PPPs and extrapolate between ICP benchmarks</i>
8	<i>Rural hungry as a percent of total poor population</i>	<i>Household income and food consumption estimates for national minimum energy requirements.</i>	<i>Household Surveys. International Comparison Program for comparisons across countries</i>	<i>Countries should use hunger estimates for monitoring food deprivation levels</i>
9	<i>Food production index</i>	<i>Area, production and yield for food crops, livestock numbers and production of meat, milk, eggs, fish captured and cultured, and other food products, non-food use of food products, food imports and exports</i>	<i>Agricultural Census, surveys of agricultural enterprises, processors, fish landings, administrative data such as imports, exports. Food Balances and Household consumption surveys</i>	<i>Follow FAO guidelines for inclusions and exclusions</i>
10	<i>Change in value of Trade— imports and exports</i>	<i>Imports and exports— quantities and values of agricultural products including fishery and forest products</i>	<i>Customs inspections—in some countries the customs offices collect the data which then are turned over to the national statistical office for compilation</i>	<i>National statistical offices should collaborate with customs officials to ensure coding and classifications follow international guidelines</i>
<b>Indicators for subsectors of agricultural and rural</b>				
11	<i>Productivity of Crop production as measured by crop yields</i>	<i>Quantity harvested per unit of area such as hectare and area harvested. Area harvested, distinguished between irrigatedharvested crops and rainfed harvested crops</i>	<i>Census of Agriculture, crop cutting surveys. Production sample surveys, processor surveys, such as oil seed crushers, cotton ginner</i>	<i>Difficult to measure with multi-cropping or with crops that can be harvested &gt; once a year. Crop cutting can over estimate yields</i>
12	<i>Change in components of crop balances</i>	<i>Area Harvested, Quantity harvested, quantities imported/exported, change in stocks, quantities by utilization such as food, bio fuels, own consumption, for every crop including those produced for fiber and oil</i>	<i>Surveys of agricultural enterprises, administrative data on trade, processors by utilization, household surveys for own consumption</i>	<i>Crop balances should reflect the growing cycle and marketing year which could be different from the calendar year.</i>



	<b>Indicator</b>	<b>Data Requirements</b>	<b>Data Sources</b>	<b>Technical Notes</b>
13	<i>Livestock value added</i>	<i>Estimates of quantity and value of production of meat, and poultry, milk, eggs, by products such as hides and skins, wool mohair minus costs of inputs such as feed and replacement stock</i>	<i>Surveys of agricultural holdings, enterprises such as slaughter plants, dairies, processors. Household surveys for own consumption</i>	<i>Own consumption should be included, difficult to measure.</i>
14	<i>Change in components of Livestock and poultry Balances by species</i>	<i>Number of animals born, acquired, slaughtered, deaths from disease. Number of animals by purpose such as breeding, meat, milk, wool, and by age breakdowns relevant to specie. (see FAO 2010 Census)</i>	<i>Surveys of agricultural holdings at least annually but more often for species with more frequent births during a reference period. This ranges from annually for cattle to monthly for egg production.</i>	<i>Data collection intervals should reflect the reproductive cycles. This suggests annual for cattle, semi- annual for pork, quarterly or shorter for poultry, milk,</i>
15	<i>Change in productivity of Capture Fish production</i>	<i>Quantity of fish taken by unit of fishing effort; Scientific estimates of fish stock and exploitation rates;</i>	<i>National fishery surveys, surveys at landing sites, on-board observers, national, regional and global assessment results;</i>	
16	<i>Change in productivity of aquaculture</i>	<i>Estimates of quantity and value of production of fish by species minus costs and quantity of inputs such as seed, feed and fertilizers</i>	<i>Surveys of aquaculture enterprise, and holdings, aquaculture census, market certifications,</i>	
17	<i>Change in components of fish balances</i>	<i>Quantities and value of captures form coastal and offshore waters, rivers and lakes including non-landed catch; Quantities and value of products from aquaculture; utilizations including own consumption and discards, imports and exports, inputs such as seed and feed; outputs such as stocking; for each aquatic species</i>	<i>National fishery surveys, fishery census, aquaculture census, surveys of fishery and aquaculture enterprises, , processors, market information, administrative and inspection sources</i>	<i>See CWP Handbook, FAO coding and classification</i>
18	<i>Change in components of forestry balances</i>	<i>Quantity and value of removals of products from forested areas and respective utilizations</i>	<i>Appropriate ministries, satellite imagery, price surveys or processor data</i>	
19	<i>Commodity Price indexes</i>	<i>Market reports of prices being offered by commodity and location. Prices received by the</i>	<i>Market observers, Surveys of enterprises, agro enterprises purchasing commodities</i>	<i>Care needed to ensure units of measure for pricing are comparable</i>

	<b>Indicator</b>	<b>Data Requirements</b>	<b>Data Sources</b>	<b>Technical Notes</b>
		<i>enterprise at the first point of sale,</i>	<i>from agricultural enterprises</i>	
20	Consumer Price indexes	Monthly/seasonal prices paid by the consumer	Consumer Price Index,	Care is needed to ensure highly seasonal products do not distort the price series.
21	Early warning of change in food security	Monthly/seasonal prices paid by the consumer	Windshield surveys of crop conditions, amount of precipitation, satellite imagery of vegetative indexes, changes in trade data, animal disease outbreak	These do not have to be statistically rigorous, mainly to provide an early warning that other interventions are needed
<b>Climate Change, land, and the environment</b>				
22	Change in Land Cover and use	Land Cover Classification System (LCCS), Area and geo-referenced for Cultivated land, Grass/pasture, inland water, marine water, wetlands, shrubland, woodland, fallow/idle cultivated land, barren land, urban/developed areas, areas equipped for irrigation.	Land use surveys, satellite imagery. Geo referenced data on economic situation of agricultural holdings needed to understand effect of policy decisions on land use.	Ground truth data required to provide more detailed breakdowns of cultivated land, especially for crops in small plots. Difficult to apply in detail where multi-cropping is used.
23	Change in proportion of land area covered by forests, rate of deforestation	Area geo referenced to map materials	Ministry responsible for forestry, satellite imagery	Follow LCCS classification
24	Percent of land and water area formally established as protected areas	Land and water area and geo referenced to mapping material	Responsible ministry—satellite imagery	Follow LCCS coding with expansion covering inland and marine water bodies
25	Irrigated land as percent of total cropland  Productivity of irrigation	Total cropland and area irrigated by source of water for irrigation— (surface water, groundwater, treated wastewater, etc.) - by method (surface, sprinkler, localized irrigation)  Crop yields from irrigated land compared to yields from non irrigated areas.	Agricultural Census, other crop related surveys or water user survey	irrigation refers to the artificial application of water to assist in the growing of crops (and pastures). Can be done by letting water flow over the land ("surface irrigation"), by spraying water under pressure over the land concerned ("sprinkler irrigation"), or by bringing it directly to the plant ("localized irrigation")
26	Withdrawal of water for	Area under irrigation, number of irrigations,	Appropriate ministries, special studies or surveys	Should include both surface and ground water. Coding and

## IX. Minimum Core Data

Legend: red implies data generally not available in the Pacific countries surveyed; White implies some data should be available, but not complete or easily accessible; Green implies data generally collected and available, but still sometimes issues of quality and timelines.

<i>Group of Variables</i>	<i>Key Variables</i>	<i>Core data items</i>	<i>Frequency</i>
Economic			
- Output	Production	Core crops (e.g. wheat, rice, etc.) Core livestock (e.g. cattle, sheep, pigs, etc.) Core forestry products Core fishery and aquaculture products	Annual
	Area harvested and planted	Core crops (e.g. wheat, rice, etc.)	Annual
	Yield / Productivity	Core crops, core livestock, core forestry, core fishery	Annual
- Trade	Exports in quantity and value	Core crops, core livestock, core forestry, core fishery	Annual
	Imports in quantity and value	Core crops, core livestock, core forestry, core fishery	Annual
Stocks	Quantities in storage at beginning of harvest	Core crops	Annual
- Stock of Resources	Land cover and use	Land area	<sup>15</sup>
	Economically active population	Number of people in working age by sex	
	Livestock		
	Machinery	e.g. Number of Tractors, harvesters, seeders etc.	
- Inputs	Water	Quantity of water withdrawn for agricultural irrigation	
	Fertilizers in quantity and value	Core Fertilizers by core crops	
	Pesticides in quantity and value	Core Pesticides (e.g. fungicides herbicides, insecticides, disinfectants) by core crops	
	Seeds in quantity and value	by core crops	
	Feed in quantity and value	by core crops	
Agro processing	Volume of core crops / livestock / fishery used in processing food	By industry	
	Value of output of processed food	By industry	
	Other uses (e.g. biofuels)		
Prices	Producer prices	Core crops, core livestock, core forestry, core fishery	
	Consumer prices	Core crops, core livestock, core forestry, core fishery	
Final expenditure	Government expenditure on agriculture and rural development	Public investments, Subsidies, etc.	
	Private Investments	Investment in machinery, in research and development, in infrastructure	
	Household consumption	Consumption of core crops / livestock / etc. in quantity and value	
Rural Infrastructure (Capital stock)	Irrigation / roads / railways / communications	Area equipped for Irrigation / Roads in Km / Railways in Km / communications	
International transfer	ODA <sup>16</sup> for agriculture and rural development		
Social			
Demographics of urban and rural population	Sex		
	Age in completed years	By sex	

<i>Group of Variables</i>	<i>Key Variables</i>	<i>Core data items</i>	<i>Frequency</i>
	<i>Country of birth</i>	<i>By sex</i>	
	<i>Highest level of education completed</i>	<i>1 digit ISCED by sex</i>	
	<i>Labor status</i>	<i>Employed, unemployed, inactive by sex</i>	
	<i>Status in employment</i>	<i>Self Employment and employee by sex</i>	
	<i>Economic sector in employment</i>	<i>International Standard Industrial Classification by sex</i>	
	<i>Occupation in employment</i>	<i>International Standard Classification of Occupations by sex</i>	
	<i>Total income of the household</i>		
	<i>Household composition</i>	<i>By sex</i>	
	<i>Number of family/ hired workers on the holding</i>	<i>By sex</i>	
	<i>Housing conditions</i>	<i>Type of building, building character, main material, etc.</i>	
<i>Environmental</i>			
<i>Land</i>	<i>Soil degradation</i>	<i>Variables will be based on above core items on land cover and use, water use, and other inputs to production.</i>	
<i>Water</i>	<i>Pollution due to agriculture</i>		
<i>Air</i>	<i>Emissions due to agriculture</i>		
<i>Geographic location</i>			
<i>GIS coordinates</i>	<i>location of the statistical unit</i>	<i>Parcel, Province, Region, Country</i>	
<i>Degree of urbanization</i>	<i>Urban/ Rural area</i>		

**X. SPC Working Draft of Agricultural and Forestry Minimal Development Indicators**

<i>Indicator</i>	<i>Purpose</i>	<i>Importance</i>	<i>Links to national/regional/international initiatives and strategies</i>	<i>Availability?</i>
<b>Essential</b>				
<i>Proportion of household income from agriculture and forestry activities (disaggregated by income from subsistence and income from sales)</i>	<i>LRD works to strengthen the capacity of agriculture and forestry services to support the livelihoods of people working (paid or subsistence) in these sectors. This indicator measures the contribution of these sectors to livelihoods.</i>	<i>The level of income generated by these activities is a crucial measure of their contribution to people's wellbeing.</i>	<i>MDG 1 (poverty and hunger)</i>	<i>National accounts (contribution to GDP?) HIES (but not available frequently enough)</i>
<i>Number of people (disaggregated by gender and youth, formal and informal) engaged in agriculture and forestry activities</i>	<i>Measure of the contribution of the sector to employment in countries.</i>	<i>Agriculture and forestry are often described as the backbone of the rural economy. Need to confirm this with evidence and monitor changes particularly for young people.</i>	<i>MDG 1 (poverty and hunger) Agriculture and forestry may be the only source of income (subsistence or cash) in certain locations</i>	<i>Census (but not available frequently enough) HIES (but not available frequently enough)</i>
<i>Volume and value of domestic production of agriculture and forestry products</i>	<i>Necessary for measuring the indicator above. Useful for monitoring the relative importance of different commodities and crops to national economies.</i>	<i>Essential for measuring food security. Important in assessing how climate change will impact these sectors. Most of our work centres on assisting governments that help communities with production issues but without this baseline information we cannot gauge objectively where we should prioritise beyond the knowledge of the technical staff and country priorities.</i>	<i>Pacific Plan priorities</i>	<i>Agricultural census (but not available frequently) Can be estimated from HIES (not available frequently enough) Ministry of agriculture and forestry assessments and reports ADB have estimated this for some countries (from national accounts?)</i>
<i>Area of arable, forested, reserved/protected land, as proportion of</i>	<i>Provides an indication of how much land is available for agriculture and forestry. Necessary for monitoring</i>	<i>Useful to monitor proportion of available land being used for agriculture and forestry purposes.</i>	<i>Links to Pacific Plan Land Management and Conflict Minimisation Initiative Feeds in to monitoring for UNCCD, UNFCCC</i>	<i>Available for some countries through census information Reports to UNCCD, UNFCCC</i>

<i>Indicator</i>	<i>Purpose</i>	<i>Importance</i>	<i>Links to national/regional/international initiatives and strategies</i>	<i>Availability?</i>
<i>total land area and % of arable land used</i>	<i>forest cover and rate of deforestation.</i>		<i>and UNCBD.</i>	<i>and UNCBD</i>
<i>Volume and value of trade (imports, exports and re exports) of agricultural and forestry products</i>	<i>LRD has several programmes and projects which work to increase exports of agricultural and forestry commodities. These data captures trends in performance of export commodities and trends in reliance on imports.</i>	<i>Without trade data impossible to monitor performance of programmes contributing to increased trade Essential for measuring food security</i>	<i>Pacific Plan Objective 1</i>	<i>Regional trade stats database being set up by LRD but will continue to have gaps for some countries. Use of partner data for countries that trade almost exclusively with one other country.</i>
<i>Prices of domestic and international agriculture and forestry commodities</i>	<i>Prices provide an indication of affordability (imports) or returns (exports). Tracking price movements and in particular large fluctuations which might impact earnings from exports, cost of imports, food security.</i>	<i>Its absence makes it difficult to provide analysis of how movements in prices impact PICTs and food security</i>	<i>Pacific plan priorities</i>	<i>Several countries undertake regular market surveys Consumer councils monitor retail prices (aware of Fiji – more?) International prices available from other agencies</i>
<i>Rate of deforestation</i>	<i>Amount of forest resources cleared / degraded each year</i>	<i>Focus on sustainable forest management and need to monitor impact Necessary for accessing carbon financing for forestry conservation</i>	<i>MDG (7) Pacific Plan 5.19</i>	<i>UNTT FAO Forest Resource Assessment May need satellite imagery which is very expensive</i>
<i>Rate of land degradation (e.g. soil erosion)</i>	<i>Extent of soil nutrients and biomass that are lost each year</i>	<i>We organise capacity building in sustainable land management and can qualitatively monitor success by looking for lower level indicators within target communities (e.g. encroachment of agriculture activities to forest areas, planting on sloping land, planting vetiver grasses on sloping land)</i>	<i>MDG 7 (Environment) UNCCD UNFCCC (carbon emission from land use change)</i>	<i>Reports to UNCCD, UNFCCC Dutch funded project for a few countries Very difficult to measure without comprehensive data on soils, forest cover and ecosystem models</i>
<b>Desirable</b>				
<i>Rate of biodiversity loss</i>	<i>Number of species (crops, trees, animals) being lost each year</i>	<i>Our activities on genetic resource conservation and invasive species contribute to safeguarding</i>	<i>Convention on Biological Diversity PP 5</i>	<i>Reports to CBD NGOs working in this area collect data on biodiversity</i>



<i>Indicator</i>	<i>Purpose</i>	<i>Importance</i>	<i>Links to national/regional/international initiatives and strategies</i>	<i>Availability?</i>
		<i>biodiversity but detailed information on biodiversity present in different countries inherently difficult to obtain as not all diversity has been recorded yet so impossible to measure rates of loss</i>		<i>In conjunction with SPREP some monitoring of invasive species</i>
<i>Numbers of people suffering from diet-related diseases (diabetes, obesity, heart disease) (and if possible cost of treating them)</i>	<i>LRD attempting to boost link of agriculture and health. This is important information in making the case that this is vital to spend money on addressing improved nutritional practices</i>	<i>Useful for making the case that additional resource are directed to targeting health training for extension officers.</i>		<i>PHD?</i>
<i>Contribution of locally grown foods to diets</i>	<i>FAO Food Balance Sheets methodology preferred. This requires agricultural production data plus trade data and nutritional conversion factors.  Alternatively it requires information on diets. It is possible to derive this information from HIES but the result is a % of expenditure spent on imports rather than an absolute measure e.g. in terms of calories</i>	<i>We know from observing diets that there has been a trend away from consuming traditional staples but beyond some estimates derived from HIES we have no objective evidence on which to prioritise activities to promote increased consumption of local produce.</i>		<i>FAO has capacity building resources available to collect the data needed. Trade data, production data Some countries have nutritional surveys (e.g. Fiji).</i>
<i>Diversity of diets</i>	<i>LRD programmes need to link the health agenda to agriculture and forestry. A key strategy is encouraging the production of local, diverse food but we do not currently measure progress on this.</i>	<i>Relates to specific objectives in our strategic plan. Wouldn't be able to report back in its absence.</i>		<i>Information available in HIES but too infrequently May have to rely on focus surveys with target communities.</i>
<i>Level of remittances</i>	<i>Value of income support flowing to households from overseas</i>	<i>Important contributor to food security in some countries. If this information is missing a distorted picture can be presented</i>	<i>Pacific Plan priorities</i>	<i>National accounts World Bank</i>

<i>Indicator</i>	<i>Purpose</i>	<i>Importance</i>	<i>Links to national/regional/international initiatives and strategies</i>	<i>Availability?</i>
<i>Proportion of budget allocation for agriculture and forestry disaggregated by extension services, research, information dissemination etc</i>	<i>To demonstrate the commitment at government level to these sectors. Leaders talk of highlighting food security but does that translate into additional funds.</i>	<i>Expenditure on agriculture research and extension are vital inputs to the capacities of these ministries to develop these sectors.</i>		<i>National budgets Agriculture and forestry ministry budgets</i>