



Government of Samoa

Report On Samoa Agricultural Survey

2015



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REPORT ON

SAMOA AGRICULTURAL SURVEY 2015

Apia, June 2016

PREFACE



The Strategy for the Development of Samoa 2012-2016 recognizes that “the agriculture sector (including fisheries) remains at the forefront of economic growth and is key to ensuring food security, income generation and enhanced export capacity.” The Agriculture Sector Plan for 2016-2020 is guided by the theme of “enhancing partnerships to develop and sustain agriculture and fisheries”.

As an island in the Pacific, Samoa is extremely vulnerable to natural disasters, external economic shocks, and the performance of the global markets.

Agricultural statistics have become increasingly important to policy makers, planners and stakeholders to guide the sector in its efforts to monitor short-term and long-term performance. The Report on the Samoa Agricultural Survey 2015 will provide a wealth of information that will assist policy makers and those involved in the development of the sector to make evidence based decisions for the betterment of agriculture in Samoa.

The Samoa Agricultural Survey 2015 was conducted in partnership with the Ministry of Agriculture and Fisheries with technical assistance provided by the Food and Agriculture Organization of the United Nations (FAO) through the International Consultant Jack Colwell and National Consultant Tapuāi L. Fiti.

We are grateful to the Government of Samoa and FAO for funding the survey and its commitment to improving agricultural statistics as we work towards achieving goals and targets for the 2030 agenda for Sustainable Development Goals.

In conclusion, I would like to extend our gratitude to the people of Samoa for their willing cooperation in providing answers to all the questions put to them, to the enumerators and supervisors in collecting the data, and to the management and staff of the Samoa Bureau of Statistics and the Ministry of Agriculture and Fisheries in shouldering the heavy responsibility of conducting the survey.

A handwritten signature in black ink, which appears to read 'Muāgututi'a S Reupena'. The signature is fluid and cursive, written over a white background.

Muāgututi'a S Reupena

GOVERNMENT STATISTICIAN

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ABBREVIATIONS

ACEO	Assistant Chief Executive Officer
CBMFP	Community Base Fisheries Management Programme
CEO	Chief Executive Officer
FAO	Food and Agriculture Organization of the United Nations
MAF	Ministry of Agriculture and Fisheries
MPA	Marine Protective Area
SACEP	Samoa Agriculture Competitiveness Enhancement Project
SBS	Samoa Bureau of Statistics

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SAMOA AGRICULTURAL SURVEY 2015: SUMMARY OF SURVEY RESULTS

Characteristic	Agricultural Census 2009	Agricultural Survey 2015
<i>Agricultural households</i>		
No. of households	23,164	28,119
Average household size	7.1	6.9
Households growing crops:		
▪ No. of households growing crops	19,358	27,359
▪ No. of major crop households	15,786	23,877
▪ No. of minor crop households	3,572	3,482
No. of major crop households producing mainly for sale	728	1,045
No. of households with livestock	15,955	19,208
<i>Area of major crop households</i>		
Area of agricultural land (acres)	73,248	157,003
Average area of holding (acres)	5.8	8.0
Average no. of parcels per household	2.1	1.9
Average parcel size (acres)	2.8	4.1
<i>Land use of major crop households (acres)</i>		
Total area of holding	92,310	191,002
Permanent crops	n.a.	76,803
Temporary crops	n.a.	69,091
Livestock	12,513	29,850
Temporarily fallow	2,881	11,109
Non-agricultural land	5,973	4,148
<i>Land tenure of major crop households (acres)</i>		
Customary land	79,115	170,661
Leased government land	2,683	5,918
Freehold land	7,978	10,823
<i>Crops</i>		
No. of major crop households growing:		
▪ Taro	15,106	17,733
▪ Ta'amu	13,972	13,111
▪ Taro palagi	6,457	3,868
▪ Coconut	14,660	19,600
▪ Cocoa	12,775	16,916
▪ Breadfruit	14,537	n.a.
▪ Banana	15,434	21,003
Major crop households - area of land under crops (acres):		
▪ Taro	18,145	12,938
▪ Ta'amu	6,799	3,169
▪ Taro palagi	1,474	619
▪ Coconut	27,051	73,847
▪ Cocoa	6,166	5,118
▪ Breadfruit	3,592	7,991
▪ Banana	12,603	10,654

SAMOA AGRICULTURAL SURVEY 2015: RESULTS IN BRIEF (cont.)

Farm household characteristics	Agricultural Census 2009	Agricultural Survey 2015
<i>Use of inputs (% of major crop growers)</i>		
Inorganic fertilizers	n.a.	6.7
Pesticides	n.a.	46
Organic farming practices	29	42
<i>Livestock and poultry</i>		
Number of households raising livestock		
▪ Cattle	4,238	5,736
▪ Pigs	12,026	12,604
▪ Chickens	13,354	15,857
Number of livestock:		
▪ Cattle	38,949	56,504
▪ Pigs	152,145	168,597
▪ Chickens	307,060	513,260
Average animals per livestock holding:		
▪ Cattle	9.2	9.9
▪ Pigs	12.7	13.4
▪ Chickens	23	32
Number of cattle by type:		
▪ Cows	15,456	19,995
▪ Heifers	8,257	9,416
▪ Bulls	5,018	8,462
▪ Steers	2,034	3,753
▪ Calves	5,359	8,016
<i>Fisheries</i>		
No. of households engaged in fisheries	5,752	5,943
Percent of households engaged in fisheries	25	21
Percent of fishing households using fishing gear:		
▪ Long line	5.0	3.6
▪ Fish net	27	32
▪ Fish fence	3.2	9.3
▪ Hook and line	27	32
▪ Spear	75	74
▪ Gleaning	29	13
▪ Fish trap	13	4.1
▪ Trolling	n.a.	4.5
<i>Paid agricultural/fisheries workers in the previous week</i>		
No. of workers	3,045	3,884
No. of households employing workers	n.a.	2,014

CHAPTER 1

AGRICULTURAL HOLDINGS

1 Agricultural households

Agriculture is important to households in Samoa to provide food for the family or as a source of income. Most households are engaged in some agricultural activities. In 2015, there were 28,119 households in Samoa, of which 27,411 (or 97 percent) were agricultural households; that is, they grew some crops or raised some livestock.

Most agricultural households grow some crops. In 2015, there were 27,359 crop households, while 19,208 households were raising livestock.

Many households in Samoa engage in agriculture as only a secondary activity; often they only have a small plot of garden crops or a few fruit trees. To better understand the agricultural sector, crop households can be divided into *major crop households* and *minor crop households*. A major crop household is defined as an agricultural household with more than 625 square yards of land under garden crops; or more than 20 coconut trees; or more than 20 banana plants; or more than 20 other tree crops.

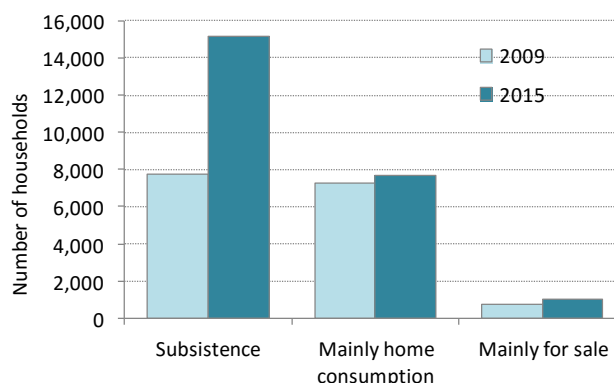
Of the 27,359 crop households in 2015, there were 23,877 major crop households. This represents an increase of over 50 percent

Table 1.1: Number of minor and major crop households by region, 2009 and 2015

Region	Minor crop households		Major crop households	
	2009	2015	2009	2015
SAMOA	3,572	3,482	15,786	23,877
Apia Urban Area	1,834	1,518	950	3,538
North West Upolu	1,293	1,685	4,646	7,834
Rest of Upolu	309	131	4,887	6,180
Savaii	136	147	5,303	6,326

Source: Samoa Agricultural Census 2009; Samoa Agricultural Survey 2015.

Figure 1.1: Major crop households by main purpose of production, Samoa, 2009 and 2015



compared with 2009. There were 3,482 minor crop households in 2015, a small decrease from 2009. This indicates shifts in agricultural activities of households.

Most minor crop activity is undertaken in peri-urban areas on Upolu. In Apia Urban Area, 30 percent of crop activity is deemed to be minor. In Rest of Upolu and Savaii, only 2 percent of crop activity is minor.

In 2015, only 708 households in Samoa were not engaged in any agricultural activities. In Apia Urban Area, more than 90 percent of households were agricultural households.

2 Main purpose of production

Most households grow crops for subsistence purposes. In 2015, 15,168 major crop households were engaged in mainly subsistence agriculture. This compares with only 7,776 subsistence producers in 2009. This

suggests that the additional crop households between 2009 and 2015 have been predominantly small-scale subsistence producers growing crops as a secondary activity.

Despite the increasing numbers of households growing crops for subsistence purposes, agriculture is becoming more market oriented. In 2015, 7,664 major crop households produced mainly for home consumption, but sold some produce. The corresponding figure in 2009 was 7,282, representing an increase of 5.2 percent over the six-year period.

There were 1,045 major crop households producing mainly for sale in 2015, 4.4 percent of major crop households. This is an increase from 728 in 2009, reflecting the effectiveness of MAF programmes and projects to boost agricultural production. However, much remains to be done to achieve targets given in the Agriculture Sector Plan 2016-20.

3 Size of holding

The total area operated by major crop household households in 2015 was 191,002 acres, representing 27 percent of Samoa's land area of 702,000 acres. The area operated covers land used for growing crops, livestock grazing land, land that is temporarily fallow, homestead land, and other non-agricultural land. Rest of Upolu represents 37 percent of

total land area operated, Savaii 35 percent, North West Upolu 22 percent and Apia Urban Area 6 percent.

For major crop households, the average size of holding in 2015 was 8.0 acres, compared with 5.8 acres in 2009. Farm sizes are biggest in Rest of Upolu and Savaii. In Rest of Upolu, the average size of holding is 11.3 acres, with 36 percent of major crop households operating 10 or more acres of land. In North West Upolu, the average size of holding is 5.3 acres, with only 12 percent operating 10 or more acres of land. The average size of holding in Savaii is 10.7 acres, with 33 percent operating 10 or more acres of land.

Of the 191,002 acres of operated land of major crop households in 2015, there were 88,797 acres of land operated by households with 20 acres or more of land. This represents nearly half of the land operated by the largest 9 percent of households. This is quite a high concentration of land and highlights that many farmers are operating on small acreages of land.

4 Parcels of land

There were 46,026 parcels of land operated by major crop households in 2015, compared with 33,332 in 2009. There has been an increase in the number of parcels across all regions, with the biggest increases recorded in North West Upolu and Apia Urban Area, reflecting increasing numbers of major crop households in those areas.

More than half of the major crop households have two or three parcels of land; less than one percent have more than five parcels of land. The average number of parcels per major crop household declined from 2.1 in 2009 to 1.9 in 2015. Major crop households in Savaii have an average of 2.5 parcels.

The average parcel size in 2015 was 4.1 acres, compared with 2.8 acres in 2009. The

Figure 1.2: Major crop households by size of holding and region, 2015

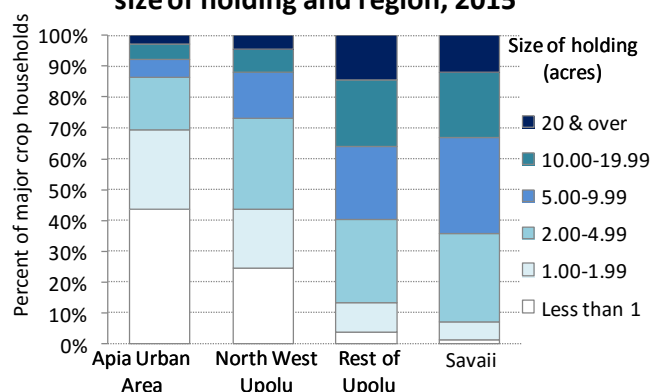


Table 1.2: Percent of parcels by tenure type, Samoa, 1989 - 2015

Land tenure	1989	1999	2009	2015
Customary land	94%	90%	86%	85.3%
Leased customary land	1%	1%	1%	1.2%
Leased government land	2%	2%	3%	1.2%
Own freehold land	3%	6%	9%	10.8%
Leased freehold land	-	-	1%	0.8%
Other	-	1%	1%	0.7%

Source: Samoa Agricultural Censuses 1989, 1999, 2009; Samoa Agricultural Survey 2015.

average parcel size in Savaii was similar to Upolu. Over half of the parcels are 1 to 5 acres in size; 22 percent are less than 1 acre in size and 11 percent are of size 10 acres or more.

5 Land tenure

Land tenure is changing in Samoa with a move from customary land to freehold land. In 2015, 85 percent of parcels for major crop households were the households' own customary land. This compares with 94 percent in 1989 and continues the trend observed over the last 25 years. The use of freehold land for agricultural purposes has risen sharply over the same period; the percent of parcels operated as own freehold land increased from 3 percent in 1989 to 9 percent in 2009 to 11 percent in 2015. Leased government land declined from 3 percent in 2009 to 1 percent in 2015.

Own freehold land mainly consists of small parcels in peri-urban areas; in 2015, 90 percent of own freehold parcels were in Apia Urban Area and North West Upolu. Customary land is predominant in Rest of Upolu and Savaii, where it makes up over 97 percent of operated land.

6 Land use

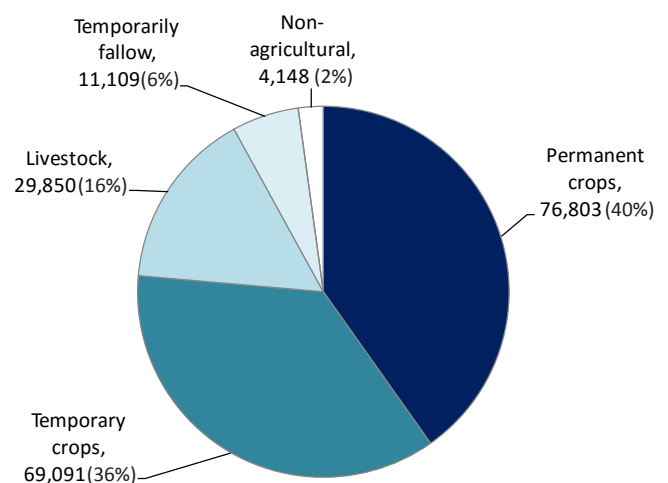
In 2015, 40 percent of land operated by major crop households was used mainly for permanent crops, such as fruit and nut trees, bananas and coffee. This represents a land area of 76,803 acres. Temporary crops – that is, crops with a less than one-year growing cycle,

such as taro and vegetables – account for 69,091 acres, 36 percent of total land operated. Permanent crop parcels averaged 3.5 acres in size, compared with 4.3 acres for temporary crop parcels.

In 2015, there were 29,850 acres of land used mainly for raising livestock, 16 percent of all operated land. Livestock parcels of land are bigger than crop parcels: in 2015, the average size of parcels used mainly for livestock raising was 13.1 acres.

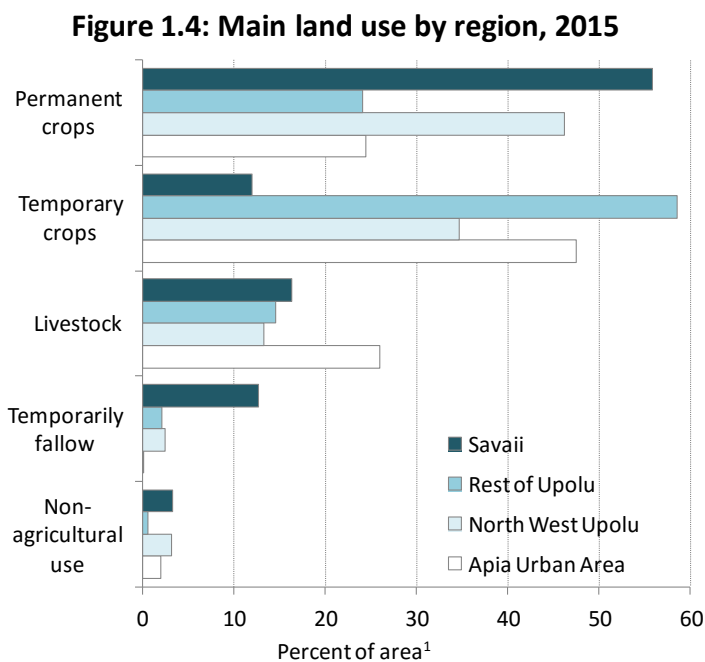
Land not being used for agricultural purposes decreased from 6.5 percent in 2009 to 2.2 percent in 2015.

There are significant differences in land use patterns around the country. In Apia Urban Area and Rest of Upolu, the predominant land use in 2015 was temporary crops. In North West Upolu and Savaii, permanent crops were more common. In Rest of Upolu, only 24 percent of land was used for permanent crops, compared with 59 percent for temporary crops. In Savaii, 56 percent of land was used for permanent crops, compared with only 12 percent for temporary crops.

Figure 1.3: Area operated (acres) by main land use, Samoa, 2015

In Savaii, 13 percent of operated land was temporarily fallow; that is, it was used for growing crops sometime in the past and is not expected to remain idle for more than five years. This constitutes 8,560 acres, a potentially valuable agricultural resource.

There is little new land being brought under cultivation in Samoa: in 2015, 89 percent of the land used for permanent or temporary crops had been cultivated for ten or more years. Only 6 percent of permanent and temporary crop land was first cultivated within the last five years. Almost no new land is being brought under cultivation in Rest of Upolu and Savaii.



1. Area under the land use type as a percent of total area of holdings for the region.

Table 1.3: Number of agricultural households by type and region, 2015

Region	Number of households	Number of agricultural households	Type of agricultural household			Number of crop households	Number of households raising livestock
			Crops but no livestock	Livestock but no crops	Both crops and livestock		
SAMOA	28,119	27,411	8,203	53	19,156	27,359	19,208
Apia Urban Area	5,554	5,060	3,306	4	1,749	5,056	1,753
North West Upolu	9,732	9,556	3,700	37	5,819	9,519	5,856
Rest of Upolu	6,311	6,311	864	-	5,447	6,311	5,447
Savaii	6,522	6,484	333	11	6,140	6,473	6,152

Table 1.4: Number of crop households by level of crop activity, main purpose of production and region, 2015

Region	Number of crop households	Minor crop households	Major crop households			
			Total	Main purpose of production		
				Subsistence	Mainly home consumption	Mainly for sale
SAMOA	27,359	3,482	23,877	15,168	7,664	1,045
Apia Urban Area	5,056	1,518	3,538	3,266	259	12
North West Upolu	9,519	1,685	7,834	5,815	1,636	383
Rest of Upolu	6,311	131	6,180	2,961	2,961	257
Savaii	6,473	147	6,326	3,126	2,807	393

Table 1.5: Number of major crop households by size of holding and region, 2015

Region	Number of major crop households	Size of holding (acres)						Ave. size of holding (acres)
		Less than 1	1.00-1.99	2.00-4.99	5.00-9.99	10.00-19.99	20 & over	
SAMOA	23,877	3,744	3,395	6,411	4,799	3,418	2,111	8.0
Apia Urban Area	3,538	1,544	907	606	209	170	101	3.4
North West Upolu	7,834	1,902	1,527	2,309	1,146	604	346	5.3
Rest of Upolu	6,180	230	591	1,669	1,471	1,319	901	11.3
Savaii	6,326	69	370	1,827	1,972	1,324	763	10.7

Table 1.6: Area operated (acres) of major crop households by size of holding and region, 2015

Region	Area operated (acres)	Size of holding (acres)					
		Less than 1	1.00 - 1.99	2.00 - 4.99	5.00 - 9.99	10.00 - 19.99	20 & over
SAMOA	191,002	1,491	4,114	19,845	32,201	44,554	88,797
Apia Urban Area	11,908	603	1,042	1,585	1,376	2,080	5,222
North West Upolu	41,531	754	1,835	6,907	7,381	7,560	17,094
Rest of Upolu	69,839	104	749	5,376	10,052	17,620	35,938
Savaii	67,724	30	488	5,977	13,392	17,294	30,544

Table 1.7: Land fragmentation for major crop households by region, 2015

Region	No. of major crop h'holds	Area of holdings (acres)	Number of parcels	Ave. no. of parcels per crop h'hold	Average parcel size (acres)	No. of major crop households with:			
						1 parcel	2 or 3 parcels	4 or 5 parcels	More than 5 parcels
SAMOA	23,877	191,002	46,026	1.9	4.1	9,464	12,897	1,361	155
Apia Urban Area	3,538	11,908	4,791	1.4	2.5	2,483	1,024	25	5
North West Upolu	7,834	41,531	12,051	1.5	3.4	4,480	3,201	150	3
Rest of Upolu	6,180	69,839	13,201	2.1	5.3	1,588	4,168	347	77
Savaii	6,326	67,724	15,982	2.5	4.2	913	4,504	838	70

Table 1.8: Number of parcels of major crop households by size of parcel and region, 2015

Region	No. of parcels	Size of parcel (acres)							
		Less than 1/4	0.25-0.49	0.50-0.99	1.00-1.99	2.00-4.99	5.00-9.99	10.00-19.99	20 and over
SAMOA	46,026	229	5,146	4,635	9,139	15,934	6,104	3,245	1,593
Apia Urban Area	4,791	36	1,426	889	1,150	773	266	134	119
North West Upolu	12,051	136	1,908	1,627	2,843	3,389	1,262	494	393
Rest of Upolu	13,201	-	852	1,094	2,028	4,900	2,338	1,407	584
Savaii	15,982	57	961	1,025	3,118	6,873	2,238	1,211	498

Table 1.9: Number of parcels of major crop households by land tenure and region, 2015

Region	Number of parcels	Land tenure					
		Customary land	Leased customary land	Leased government land	Own freehold land	Leased freehold land	Other
SAMOA	46,026	39,253	571	537	4,956	383	326
Apia Urban Area	4,791	2,324	170	93	1,987	134	84
North West Upolu	12,051	8,565	198	367	2,473	238	210
Rest of Upolu	13,201	12,437	189	66	476	-	33
Savaii	15,982	15,926	14	11	19	11	-

Table 1.10 Area of parcels (acres) of major crop households by land tenure and region, 2015

Region	Area of parcels	Land tenure					
		Customary land	Leased customary land	Leased government land	Own freehold land	Leased freehold land	Other
SAMOA	191,002	170,661	2,288	5,918	10,823	1,090	220
Apia Urban Area	11,908	6,096	1,110	816	3,742	89	55
North West Upolu	41,531	30,457	423	4,937	4,643	944	127
Rest of Upolu	69,839	67,744	583	142	1,331	-	38
Savaii	67,724	66,364	172	23	1,108	57	-

Table 1.11: Number of parcels of major crop households by main land use and region, 2015

Region	Number of parcels	Main land use				
		Permanent crops	Temporary crops	Livestock	Temporarily fallow	Non-agricultural use
SAMOA	46,026	22,038	16,025	2,282	1,319	4,361
Apia Urban Area	4,791	1,821	2,478	123	36	334
North West Upolu	12,051	6,813	3,676	226	268	1,069
Rest of Upolu	13,201	4,185	7,462	910	163	482
Savaii	15,982	9,220	2,410	1,023	853	2,475

Table 1.12: Area of parcels (acres) of major crop households by main land use and region, 2015

Region	Area of parcels	Main land use				
		Permanent crops	Temporary crops	Livestock	Temporarily fallow	Non-agricultural use
SAMOA	191,002	76,803	69,091	29,850	11,109	4,148
Apia Urban Area	11,908	2,909	5,659	3,099	12	229
North West Upolu	41,531	19,207	14,426	5,531	1,038	1,329
Rest of Upolu	69,839	16,862	40,907	10,189	1,500	382
Savaii	67,724	37,825	8,099	11,032	8,560	2,208

Table 1.13a: Number of parcels of major crop households with main use permanent crops by period of use and region, 2015

Region	No. of parcels with permanent crops	Period of main land use			
		In the last year	1-4 years	5-9 years	10 or more years
SAMOA	22,038	418	797	1,236	19,588
Apia Urban Area	1,821	48	150	102	1,522
North West Upolu	6,813	290	422	766	5,335
Rest of Upolu	4,185	11	134	105	3,935
Savaii	9,220	69	92	264	8,796

Table 1.13b: Number of parcels of major crop households with main use temporary crops by period of use and region, 2015

Region	No. of parcels with temporary crops	Period of main land use			
		In the last year	1-4 years	5-9 years	10 or more years
SAMOA	16,025	271	709	857	14,189
Apia Urban Area	2,478	92	84	48	2,255
North West Upolu	3,676	62	309	326	2,979
Rest of Upolu	7,462	83	243	370	6,766
Savaii	2,410	34	74	113	2,189

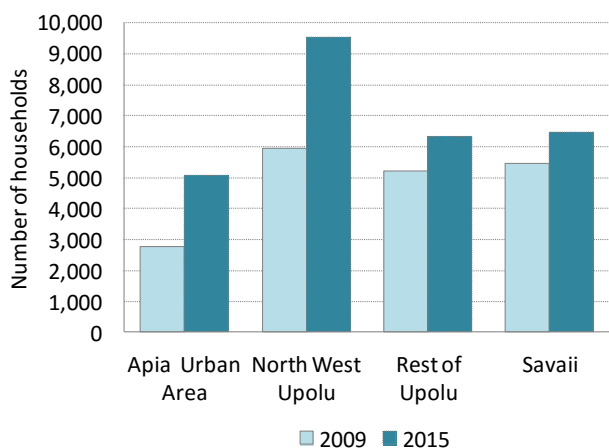
CHAPTER 2 CROPS

1 Households growing crops

The number of households growing crops in 2015 was 27,359. This represents 97 percent of all households in Samoa and is 41 percent higher than in 2009.

There has been a significant rise in the number of crop households across all regions, with North West Upolu showing the highest increase compared to other regions. This region is home to most of the commercial agricultural activities in the country.

Figure 2.1: Number of households growing crops by region, 2009 and 2015

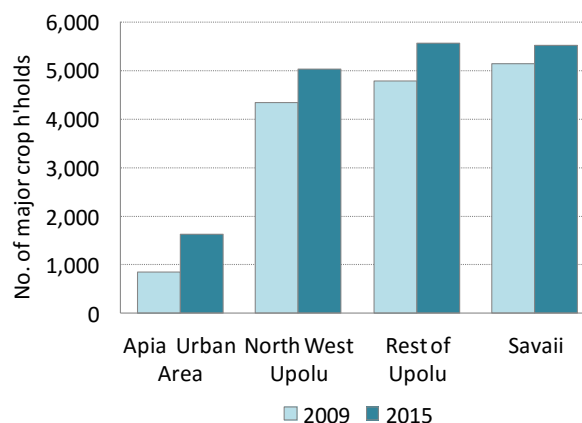


2 Temporary crops

Taro is one of the most important staples in Samoa and is considered a core crop. Other important staples in the country are ta'amu, banana and yam, which are close substitutes for taro. In 2015, 85 percent of all households in the country grew some temporary crops.

The number of major crop households growing taro increased significantly in each region

Figure 2.2: Major crop households growing taro by region, 2009 and 2015

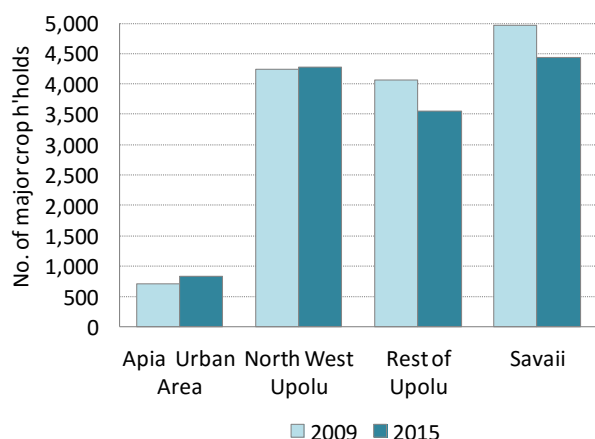


between 2009 and 2015. In 2015, 17,733 major crop households in Samoa grew taro, nearly three-quarters of all major crop households in the country. This compares with 15,106 taro growers in 2009. The increase is the result of Samoa establishing regular markets overseas for the export of taro and the government's promotion of export crops. Taro growing is most common in Rest of Upolu and Savaii, where nearly 90 percent of major crop households grew the crop in 2015.

Ta'amu is the second most important root crop in Samoa. The number of major crop households growing ta'amu in 2015 was 13,111, 55 percent of all major crop households in the country. Ta'amu is most commonly grown in Savaii and Rest of Upolu. In Savaii, 70 percent of major crop households grow ta'amu; in Rest of Upolu, the number is 57 percent.

The number of ta'amu growers decreased by 6 percent between 2009 and 2015. Across the four regions, Rest of Upolu and Savaii contributed the most to the decline, with falls

Figure 2.3: Major crop households growing ta'amu by region, 2009 and 2015



of 12 and 11 percent respectively. With the steady rise in taro exports since 2013, it appears that farmers are finding it more favourable to grow taro rather than ta'amu as the income opportunity is greater.

Taro palagi is a less common crop; in 2015, 3,868 major crop households in Samoa grew taro palagi, compared with 6,457 in 2009. In Savaii, the number of taro palagi growers fell by 60 percent over that period. There was significant growth in the number of households growing yam between 2009 and 2015. This highlights the changes in cropping patterns and diversification of staple crops by farmers, as Samoa is very vulnerable to natural disasters and the effects of climate change.

Root crops are mainly grown in Samoa as a mixed crop. In 2015, 70 percent of the taro crop was a mixed crop, as was 86 percent of the ta'amu crop. In Savaii, well over 90 percent of these crops were grown as a mixed crop.

Vegetable production in Samoa is being influenced by the Samoa Agriculture Competitiveness Enhancement Project (SACEP) being implemented by MAF with World Bank support. The project is promoting commercial farming of vegetable crops. The project began on Upolu and has recently been expanded to

include Savaii.

Overall, the number of major crop households growing major vegetable crops decreased between 2009 and 2015. The decline stems from significant reductions in vegetable production in the rural areas, while vegetable production in the urban and semi-urban areas around Apia has increased. Access to markets is a key element here.

This is highlighted by the pattern of tomato growing in the country. Nationally, the number of major crop households growing tomatoes fell by 10 percent between 2009 and 2015. Tomato growing increased in Apia Urban Area and North West Upolu, but fell in the other two provinces. In Savaii, the number of tomato growers fell by a third.

There is a similar pattern for other vegetable crops. Overall, the number of major crop households growing Chinese cabbage fell from 2,940 to 1,672 between 2009 and 2015. Rest of Upolu and Savaii showed significant decreases. However, there were small increases in North West Upolu and Apia Urban Area.

The pattern is similar for head cabbage. Nationally, the number of major crop households growing head cabbage fell slightly between 2009 to 2015. However, the number

Figure 2.4: Major crop households growing major vegetable crops, Samoa, 2009 and 2015

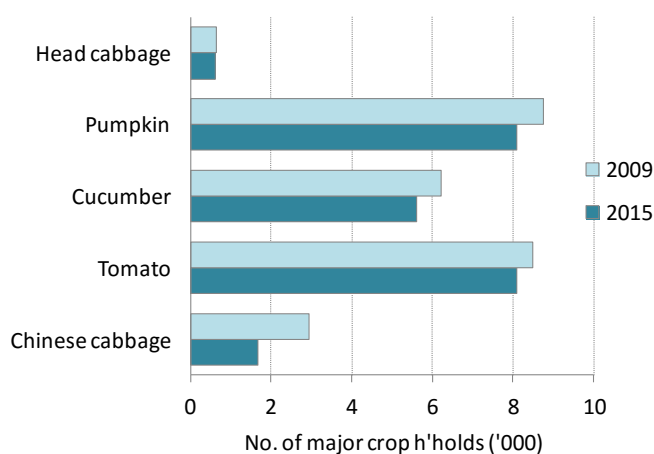
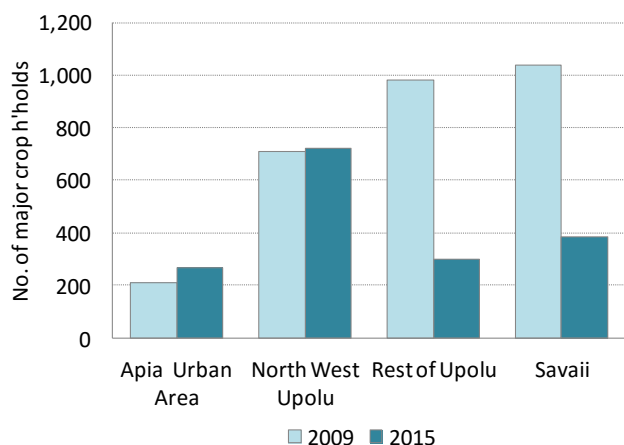


Figure 2.5: Major crop households growing Chinese cabbage by region, 2009 and 2015



of growers more than doubled in North West Upolu. Apia Urban Area also showed an increase. In Savaii, the number of growers decreased from 309 to 80 over that period.

Despite the increasing numbers of taro growers in Samoa, the land area planted to taro decreased between 2009 and 2015 – from 18,145 acres to 12,938 acres. The area of other major root crops also declined over that period, with the exception of yam which increased by a factor of five. A 53 percent decline in the area under ta’amu from 2009 to 2015 indicates farmers favouring the planting of taro for export markets.

There is evidence that an increasing number of crop households are shifting from growing root crops to planting tree crops or raising

livestock. This is consistent with MAF’s various stimulus projects encouraging the planting of tree crops, especially coconut, cocoa, coffee and other commercially traded crops.

3 Permanent crops

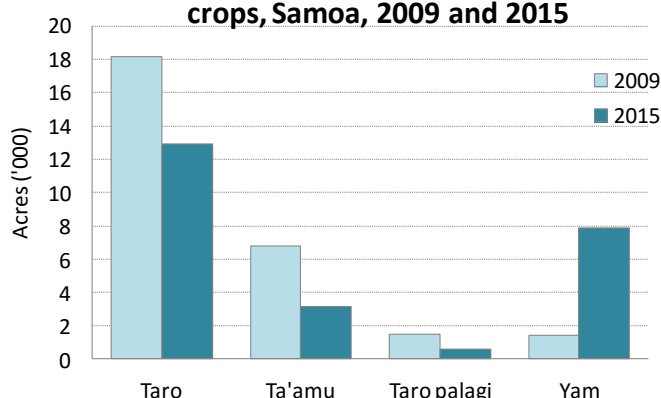
Most households in Samoa have some tree crops, especially coconut, cocoa, breadfruit and banana. These are often scattered around the homestead or on agricultural plots. Overall, 96 percent of Samoan households had some permanent crops in 2015.

The area of land area under coconut and breadfruit recorded substantial increases between 2009 and 2015. The area under banana fell by 15 percent over this period, while land under cocoa fell from 6,115 acres to 5,118 acres.

Coconut is one of Samoa’s core crops as there are many uses for its bi-products. MAF has been promoting the development of the coconut industry. In 2015, 21,242 households in Samoa had some coconut trees, more than three-quarters of all households in the country. In Savaii, 90 percent of households had some coconut trees.

Of the total number of major crop households growing coconut, 31 percent reside in North West Upolu, but only account for 15 percent of the total area of coconut. Savaii and Rest of Upolu have the greatest land area under coconut.

Figure 2.6: Land area used for growing major root crops, Samoa, 2009 and 2015



The number of major crop households growing cocoa rose by a third between 2009 and 2015, with MAF encouraging farmers to re-plant more cocoa to meet the demand of foreign markets. The estimated land area for cocoa in 2015 was 5,118 acres, of which 1,749 acres was in North West Upolu, where the majority of commercial farmers are present.

The total land under breadfruit recorded in 2015 was 7,991 acres, more than double

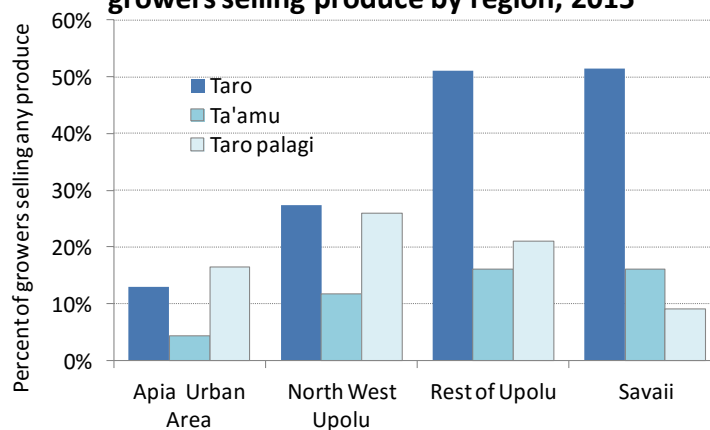
the figure in 2009. Breadfruit is a seasonal staple crop in Samoa and the increased area indicates diversification in cropping from traditional root crop staples. In addition, the Scientific Research Center of Samoa has successfully produced flour from breadfruit and is looking to market the product locally and abroad.

4 Sale of crop products

In 2015, 1,045 major crop households reported producing crops mainly for sale, an increase from 728 in 2009. This represents 4.4 percent of all major crop households in 2015.

While few households produce mainly for sale, increasing numbers of households in Samoa are selling some crop produce. In 2015, 41 percent of taro growers sold some taro produce; 22 percent sold half or more of their produce. Overall, it is estimated that 18 percent of taro production in Samoa is sold. There are some regional variations. In Rest of Upolu and Savaii, over half the taro growers sold some produce during 2015, much higher than in North West Upolu and Apia Urban Area. In Savaii, most sell only a small part of their crop; overall, only 20 percent of the taro crop in Savaii is sold.

Figure 2.7: Percent of taro, ta'amu and taro palagi growers selling produce by region, 2015



Little ta'amu and taro palagi are marketed. In 2015, only 14 percent of ta'amu growers and 20 percent of taro palagi growers sold any produce. It is estimated that only 6 percent of ta'amu production and 10 percent of taro palagi produce was sold in 2015.

5 Crop inputs

Farmers in Samoa make little use of inorganic fertilizer; in 2015, only 7 percent of major crop households used inorganic fertilizer. Use of herbicides and other pesticides is common; 46 percent of major crop households used pesticides in 2015. Only 4 percent of major crop households received a loan for agricultural purposes during 2015.

Table 2.1: Number of crop households by level of crop activity, type of temporary crop grown and region, 2015

Region/level of crop activity	No. of crop h'holds	No. of h'holds growing temporary crops	Type of temporary crop												
			Taro	Ta'amua	Taro palagi	Yam	Cassava	Umala	Tomato	Eggplant	Bean	Cucumber	Head cabbage	Chinese cabbage	
Crop households															
SAMOA	27,359	23,910	18,347	13,446	3,971	16,533	5,648	872	8,760	11,526	5,975	5,772	655	1,788	
Apia Urban Area	5,056	3,291	1,898	918	315	1,707	714	158	1,206	1,300	680	515	96	314	
North West Upolu	9,519	8,393	5,274	4,457	1,671	5,448	2,306	404	3,135	4,582	2,301	1,814	313	791	
Rest of Upolu	6,311	6,013	5,603	3,584	1,096	4,582	1,217	120	2,137	2,511	1,272	1,631	166	299	
Savaii	6,473	6,214	5,571	4,488	889	4,796	1,411	189	2,282	3,132	1,723	1,813	80	384	
Major crop households															
SAMOA	23,877	21,798	17,733	13,111	3,868	15,788	5,271	800	8,099	10,586	5,661	5,620	625	1,672	
Apia Urban Area	3,538	2,555	1,627	834	291	1,428	620	110	889	1,055	560	439	84	266	
North West Upolu	7,834	7,269	5,021	4,284	1,603	5,108	2,090	392	2,870	3,995	2,140	1,771	294	723	
Rest of Upolu	6,180	5,904	5,559	3,551	1,096	4,516	1,184	120	2,104	2,489	1,261	1,609	166	299	
Savaii	6,326	6,071	5,525	4,442	878	4,736	1,377	178	2,236	3,046	1,700	1,802	80	384	
Minor crop households															
SAMOA	3,482	2,112	614	335	103	745	377	72	661	940	314	152	30	116	
Apia Urban Area	1,518	736	271	84	24	279	94	48	317	245	120	76	12	48	
North West Upolu	1,685	1,124	253	173	68	340	216	12	265	587	161	43	19	68	
Rest of Upolu	131	109	44	33	-	66	33	-	33	22	11	22	-	-	
Savaii	147	143	46	46	11	60	34	11	46	86	23	11	-	-	

cont.

Table 2.1 (cont.): Number of crop households by level of crop activity, type of temporary crop grown and region, 2015

Region/level of crop activity	No. of crop h'holds	No. of h'holds growing temporary crops	Type of temporary crop												
			Lettuce	Pump-kin	Laupele	Water cress	Green pepper	Spring onion	Brown onion	Ginger	Chilli	Sweet corn	Peanut	Pine-apple	Water-melon
Crop households															
SAMOA	27,359	23,910	244	8,578	16,864	135	789	1,517	146	14,589	10,433	316	452	9,903	429
Apia Urban Area	5,056	3,291	96	974	2,038	60	172	237	36	1,900	1,479	36	48	1,094	24
North West Upolu	9,519	8,393	137	3,143	5,945	12	365	719	65	5,362	3,832	144	256	3,649	158
Rest of Upolu	6,311	6,013	11	2,267	4,222	63	121	307	22	3,473	2,340	44	22	2,410	134
Savaii	6,473	6,214	-	2,193	4,660	-	131	254	23	3,854	2,782	92	126	2,751	114
Major crop households															
SAMOA	23,877	21,798	225	8,092	15,535	135	777	1,426	146	13,415	9,628	279	440	9,243	399
Apia Urban Area	3,538	2,555	96	801	1,663	60	172	177	36	1,525	1,220	24	48	893	24
North West Upolu	7,834	7,269	118	2,853	5,142	12	353	688	65	4,726	3,375	119	244	3,303	139
Rest of Upolu	6,180	5,904	11	2,256	4,156	63	121	307	22	3,418	2,285	44	22	2,366	134
Savaii	6,326	6,071	-	2,182	4,574	-	131	254	23	3,745	2,748	92	126	2,682	103
Minor crop households															
SAMOA	3,482	2,112	19	486	1,329	-	12	91	-	1,174	805	37	12	660	30
Apia Urban Area	1,518	736	-	173	375	-	-	60	-	375	259	12	-	201	-
North West Upolu	1,685	1,124	19	290	803	-	12	31	-	636	457	25	12	346	19
Rest of Upolu	131	109	-	11	66	-	-	-	-	55	55	-	-	44	-
Savaii	147	143	-	11	86	-	-	-	-	109	34	-	-	69	11

Table 2.2: Number of crop households by level of crop activity, type of permanent crop grown and region, 2015

Region/level of crop activity	No. of crop h'holds	No. of h'holds growing permanent crops	Type of permanent crop									
			Coconut	Cocoa	Breadfruit Puou	Breadfruit Maafala	Other breadfruit	Banana	Coffee	Rambutan	Nonu	Starfruit
Crop households												
SAMOA	27,359	27,131	21,242	17,793	20,685	18,238	14,594	23,629	1,266	5,806	17,432	2,240
Apia Urban Area	5,056	5,022	3,164	2,028	3,047	2,788	1,730	4,159	134	1,189	2,755	582
North West Upolu	9,519	9,414	6,877	5,933	6,864	5,967	5,089	8,089	624	3,124	5,613	906
Rest of Upolu	6,311	6,267	5,324	4,589	5,088	4,423	3,057	5,518	200	1,013	3,825	354
Savaii	6,473	6,427	5,876	5,243	5,685	5,058	4,717	5,863	308	479	5,238	399
Major crop households												
SAMOA	23,877	23,673	19,600	16,916	18,744	16,713	13,149	21,003	1,243	5,203	15,836	1,974
Apia Urban Area	3,538	3,516	2,516	1,743	2,265	2,136	1,168	3,020	134	860	2,040	430
North West Upolu	7,834	7,741	6,068	5,433	5,913	5,245	4,441	6,792	612	2,883	4,928	813
Rest of Upolu	6,180	6,136	5,237	4,534	4,990	4,325	2,970	5,420	189	980	3,727	332
Savaii	6,326	6,280	5,779	5,206	5,575	5,006	4,570	5,771	308	479	5,141	399
Minor crop households												
SAMOA	3,482	3,458	1,642	877	1,941	1,525	1,445	2,626	23	603	1,596	266
Apia Urban Area	1,518	1,506	648	285	782	652	562	1,139	-	329	715	152
North West Upolu	1,685	1,673	809	500	951	722	648	1,297	12	241	685	93
Rest of Upolu	131	131	87	55	98	98	87	98	11	33	98	22
Savaii	147	147	97	37	110	52	147	92	-	-	97	-

cont.

Table 2.2 (cont.): Number of crop households by level of crop activity, type of permanent crop grown and region, 2015

Region/level of crop activity	No. of crop h'holds	No. of h'holds growing permanent crops	Type of permanent crop										
			Mango	Avocado	Vi	Orange	Lemon	Tahitian lime	Papaya	Sasalapa	Apiu	Vanilla	Mango-steen
Crop households													
SAMOA	27,359	27,131	21,366	10,145	12,124	12,505	18,004	5,174	21,907	7,752	3,944	235	46
Apia Urban Area	5,056	5,022	3,885	1,997	1,579	1,357	3,039	658	3,726	1,213	804	36	12
North West Upolu	9,519	9,414	7,588	3,884	3,937	4,472	5,930	1,982	7,578	2,718	1,816	49	12
Rest of Upolu	6,311	6,267	4,745	1,981	3,111	2,730	4,173	1,362	5,075	1,631	879	44	22
Savaii	6,473	6,427	5,149	2,283	3,497	3,946	4,860	1,172	5,529	2,190	444	106	-
Major crop households													
SAMOA	23,877	23,673	19,135	9,325	11,414	11,779	16,290	4,751	19,760	7,116	3,526	235	46
Apia Urban Area	3,538	3,516	2,865	1,580	1,248	1,094	2,243	479	2,660	910	563	36	12
North West Upolu	7,834	7,741	6,514	3,551	3,628	4,102	5,208	1,772	6,670	2,422	1,662	49	12
Rest of Upolu	6,180	6,136	4,679	1,937	3,078	2,686	4,075	1,340	4,988	1,620	857	44	22
Savaii	6,326	6,280	5,077	2,257	3,460	3,897	4,763	1,161	5,442	2,164	444	106	-
Minor crop households													
SAMOA	3,482	3,458	2,231	820	710	726	1,714	423	2,147	636	418	-	-
Apia Urban Area	1,518	1,506	1,020	417	331	263	796	179	1,066	303	241	-	-
North West Upolu	1,685	1,673	1,074	333	309	370	722	210	908	296	154	-	-
Rest of Upolu	131	131	66	44	33	44	98	22	87	11	22	-	-
Savaii	147	147	72	26	37	49	97	11	87	26	-	-	-

Table 2.3: Major crop households - area of land used for growing temporary crops (acres) by type of crop and region, 2015

Region	Type of temporary crop											
	Taro	Ta'amua	Taro palagi	Yam	Cassava	Umala	Tomato	Eggplant	Bean	Cucumber	Head cabbage	Chinese cabbage
SAMOA	12,938	3,169	619	7,879	2,284	261	2,045	1,613	174	1,160	537	1,046
Apia Urban Area	649	75	3	320	146	-	37	44	7	-	17	56
North West Upolu	3,096	1,227	413	1,830	665	-	632	451	28	402	173	380
Rest of Upolu	5,536	537	150	3,631	797	-	740	624	114	418	72	259
Savaii	3,658	1,329	53	2,098	677	261	636	493	24	341	275	351

cont.

Table 2.3 (cont.): Major crop households - area of land used for growing temporary crops (acres) by type of crop and region, 2015

Region	Type of temporary crop									
	Lettuce	Pumpkin	Laupele	Water cress	Green pepper	Spring onion	Peanut	Pineapple	Watermelon	
SAMOA	24	2,247	7,630	10	166	148	71	2,775	160	
Apia Urban Area	15	63	302	3	-	3	-	131	-	
North West Upolu	9	760	1,483	-	166	55	19	679	32	
Rest of Upolu	-	678	3,590	7	-	90	23	1,095	76	
Savaii	-	746	2,256	-	-	-	30	870	51	

Table 2.4: Major crop households - area of permanent crops (acres) by type of crop and region, 2015

Region	Type of permanent crop					
	Coconut	Cocoa	Breadfruit Puou	Breadfruit Maafala	Other breadfruit	Banana
SAMOA	73,847	5,118	3,642	2,523	1,826	10,654
Apia Urban Area	2,586	159	241	160	105	1,117
North West Upolu	10,922	1,749	1,062	805	625	3,574
Rest of Upolu	25,012	1,440	874	792	328	4,573
Savaii	35,328	1,771	1,467	765	767	1,390

Table 2.5: Number of major crop households growing crops mainly for sale by type of temporary crop grown and region, 2015

Region	No. of major crop h'holds growing crops mainly for sale	Type of temporary crop grown											
		Taro	Ta'amau	Taro palagi	Yam	Cassava	Umala	Tomato	Eggplant	Bean	Cucumber	Head cabbage	Chinese cabbage
SAMOA	1,045	963	756	367	880	392	78	574	653	407	470	59	155
Apia Urban Area	12	12	-	-	-	12	-	12	12	-	12	-	-
North West Upolu	383	346	271	188	340	158	44	269	272	164	176	22	95
Rest of Upolu	257	235	149	98	210	68	-	112	125	101	101	13	2
Savaii	393	370	336	80	331	154	34	182	244	142	182	23	57

cont.

Table 2.5 (cont.): Number of major crop households growing crops mainly for sale by type of temporary crop grown and region, 2015

Region	No. of major crop h'holds growing crops mainly for sale	Type of temporary crop grown												
		Lettuce	Pumpkin	Laupele	Water Cress	Green pepper	Spring onion	Brown onion	Ginger	Chilli	Sweet corn	Peanut	Pine-apple	Water-melon
SAMOA	1,045	7	562	769	2	84	203	3	704	430	64	73	507	40
Apia Urban Area	12	-	12	-	-	-	-	-	-	-	-	-	-	-
North West Upolu	383	7	242	274	-	51	112	3	269	202	18	28	228	15
Rest of Upolu	257	-	101	182	2	11	22	-	204	114	-	11	74	2
Savaii	393	-	208	313	-	23	69	-	231	114	46	34	205	23

Table 2.6: Number of major crop households growing crops mainly for sale by type of permanent crop grown and region, 2015

Region	No. of major crop h'holds growing crops mainly for sale	Type of permanent crop grown										
		Coconut	Cocoa	Breadfruit Puou	Breadfruit Maafala	Other breadfruit	Banana	Coffee	Rambutan	Nonu	Starfruit	
SAMOA	1,045	823	789	685	566	862	88	327	791	66	889	
Apia Urban Area	12	-	12	12	-	12	-	-	-	-	-	
North West Upolu	383	293	271	260	197	312	46	213	243	25	368	
Rest of Upolu	257	183	148	91	80	180	2	48	189	13	177	
Savaii	393	347	358	323	290	358	39	66	358	28	344	

cont.

Table 2.6 (cont.): Number of major crop households growing crops mainly for sale by type of permanent crop grown and region, 2015

Region	No. of major crop h'holds growing crops mainly for sale	Type of permanent crop grown										
		Mango	Avocado	Vi	Orange	Lemon	Tahitian lime	Papaya	Sasalapa	Apiu	Vanilla	Mango-steen
SAMOA	1,045	433	591	728	748	211	943	302	201	45	-	
Apia Urban Area	12	-	-	-	-	-	-	-	-	-	-	
North West Upolu	383	255	246	295	268	102	355	114	148	-	-	
Rest of Upolu	257	76	116	133	149	59	234	68	13	11	-	
Savaii	393	101	229	300	331	49	354	119	39	34	-	

Table 2.7: Major crop households - area (acres) under core temporary crops by crop stand and region, 2015

Region	Taro			Ta'amu			Taro palagi		
	Area under taro	Crop stand		Area under ta'amu	Crop stand		Area under taro palagi	Crop stand	
		Single crop	Mixed crop		Single crop	Mixed crop		Single crop	Mixed crop
SAMOA	12,938	3,857	9,082	3,169	428	2,741	619	475	144
Apia Urban Area	649	199	449	75	-	75	3	-	3
North West Upolu	3,096	1,323	1,772	1,227	253	974	413	346	67
Rest of Upolu	5,536	2,225	3,311	537	83	454	150	107	44
Savaii	3,658	109	3,549	1,329	92	1,237	53	23	30

Table 2.8: Major crop households - area (acres) under core permanent crops by crop stand and region, 2015

Region	Coconuts			Cocoa			Breadfruit Puou		
	Area under coconut	Crop stand		Area under cocoa	Crop stand		Area under breadfruit puou	Crop stand	
		Single Crop	Mixed Crop		Single Crop	Mixed Crop		Single Crop	Mixed Crop
SAMOA	73,847	11,023	62,824	5,118	1,292	3,826	3,642	-	3,642
Apia Urban Area	2,586	135	2,451	159	-	159	241	-	241
North West Upolu	10,922	1,465	9,457	1,749	509	1,239	1,062	-	1,062
Rest of Upolu	25,012	9,424	15,588	1,440	783	657	874	-	874
Savaii	35,328	-	35,328	1,771	-	1,771	1,467	-	1,467

cont.

Table 2.8 (cont.): Major crop households - area (acres) under core permanent crops by crop stand and region, 2015

Region	Breadfruit Maafala			Other breadfruit			Banana		
	Area under breadfruit maafala	Crop stand		Area under other breadfruit	Crop stand		Area under banana	Crop stand	
		Single Crop	Mixed Crop		Single Crop	Mixed Crop		Single Crop	Mixed Crop
SAMOA	2,523	55	2,468	1,826	-	1,826	10,654	3,075	7,579
Apia Urban Area	160	-	160	105	-	105	1,117	6	1,111
North West Upolu	805	-	805	625	-	625	3,574	570	3,004
Rest of Upolu	792	55	738	328	-	328	4,573	2,500	2,074
Savaii	765	-	765	767	-	767	1,390	-	1,390

Table 2.9a: Major crop households: sales of taro by region, 2015

Region	No. of h'holds growing taro	Number of taro growers by proportion of produce sold					Area under taro (acres)	Percent of produce sold
		None	About 1/4	About 1/2	About 3/4	All produce		
SAMOA	17,733	10,461	3,363	2,285	1,357	266	12,938	18%
Apia Urban Area	1,627	1,416	48	76	72	16	649	7%
North West Upolu	5,021	3,645	603	519	139	116	3,096	13%
Rest of Upolu	5,559	2,718	977	1,116	624	123	5,536	25%
Savaii	5,525	2,683	1,735	574	522	11	3,658	20%

Table 2.9b: Major crop households: sales of ta'amu by region, 2015

Region	No. of h'holds growing ta'amu	Number of ta'amu growers by proportion of produce sold					Area under ta'amu (acres)	Percent of produce sold
		None	About 1/4	About 1/2	About 3/4	All produce		
SAMOA	13,111	11,286	975	496	321	34	3,169	6%
Apia Urban Area	834	798	12	12	12	-	75	2%
North West Upolu	4,284	3,779	225	172	74	34	1,227	5%
Rest of Upolu	3,551	2,983	262	186	120	-	537	7%
Savaii	4,442	3,726	475	126	115	-	1,329	6%

Table 2.9c: Major crop households: sales of taro palagi by region, 2015

Region	No. of h'holds growing taro palagi	No. of taro palagi growers by proportion of produce sold					Area under taro palagi (acres)	Percent of produce sold
		None	About 1/4	About 1/2	About 3/4	All produce		
SAMOA	3,868	3,093	317	199	198	62	619	10%
Apia Urban Area	291	243	24	12	12	-	3	7%
North West Upolu	1,603	1,186	148	99	109	62	413	14%
Rest of Upolu	1,096	866	87	77	66	-	150	10%
Savaii	878	798	57	11	11	-	53	3%

Table 2.10: Major crop households - selected agricultural practices by region, 2015

Region	No. of major crop h'holds	Receipt of loans		Use of inorganic fertilizer		
		Received loan	Did not receive loan	Used inorganic fertilizer	Did not use inorganic fertilizer	Not reported
SAMOA	23,877	939	22,939	1,599	22,149	129
Apia Urban Area	3,538	60	3,478	205	3,293	40
North West Upolu	7,834	306	7,528	776	7,045	13
Rest of Upolu	6,180	334	5,846	441	5,673	66
Savaii	6,326	239	6,087	177	6,138	11

cont.

Table 2.10 (cont.): Major crop households - selected agricultural practices by region, 2015

Region	No. of major crop h'holds	Use of pesticide			Organic farming practices		
		Used pesticide	Did not use pesticide	Not reported	Practised organic farming	Did not practise organic farming	Not reported
SAMOA	23,877	10,874	12,874	129	10,055	13,693	129
Apia Urban Area	3,538	609	2,889	40	346	3,151	40
North West Upolu	7,834	2,924	4,897	13	1,802	6,020	13
Rest of Upolu	6,180	4,268	1,846	66	2,722	3,392	66
Savaii	6,326	3,072	3,243	11	5,185	1,130	11

Table 2.11: Number of major crop households by ownership/use of equipment, Samoa, 2015

Type of equipment	No. of h'holds using equipment	No. of h'holds owning equipment	No. of h'holds hiring or borrowing equipment
Tractor & implements	161	105	78
Roto tiller	38	26	12
Copra drier	227	239	-
Banana injector	501	466	34
Knapsack sprayer	11,646	9,812	2,700
Mist blower	570	502	92
Power slasher	1,303	1,174	141
Chainsaw	8,685	7,782	1,340
Irrigation water pump	351	351	12
Electric generator	803	767	70
Pickup or truck	5,596	4,222	1,613
Hand tractor	323	301	34
Rock remover	52	39	12
Peanut drier	220	204	16
Canoe	2,664	2,014	819
Motorized boat	388	252	175
Stockyard	245	240	9
Water tank	5,301
Tunnel house	60
Shade house	125

CHAPTER 3 LIVESTOCK

1 Households raising livestock

In Samoa, raising of livestock is predominantly a household activity. Livestock are mainly kept for customary purposes such as funerals, weddings and home consumption.

In October 2015, 19,208 households in Samoa were raising livestock of any type, 68 percent of all households in the country. Between 2009 and 2015, there was a 20 percent increase in the number of households keeping livestock. This reflects the growing interest of people in investing in livestock, the importance of livestock in providing for customary obligations, and the effectiveness of MAF services to the community. In Savaii, 94 percent of households were raising livestock in 2015.

In 2015, 56 percent of households were raising chickens, compared to 20 and 45 percent raising cattle and pigs respectively. This is because raising chickens is much cheaper and easier to establish and manage compared to

Table 3.1: Number of households raising livestock by region, 2009 and 2015

Region	No. of h'holds		No. of h'holds raising livestock	
	2009	2015	2009	2015
SAMOA	23,164	28,119	15,955	19,208
Apia Urban Area	4,555	5,554	1,650	1,753
North West Upolu	7,447	9,732	4,383	5,856
Rest of Upolu	5,509	6,311	4,722	5,447
Savaii	5,653	6,522	5,200	6,152

raising cattle and pigs. Of households raising livestock, more than 80 percent had chickens.

2 Cattle

The cattle industry in Samoa is still developing. Cattle are seen by households as important for household contributions to cultural activities such as funerals, weddings, title bestowment and others. It also contributes to the economy of the country and could help to minimize importation of beef from overseas countries in the future.

Cattle are most commonly raised in Savaii and Rest of Upolu. In October 2015, 47 percent of households in Savaii and 30 percent of

Figure 3.1: Number of households raising livestock types, Samoa, 2015

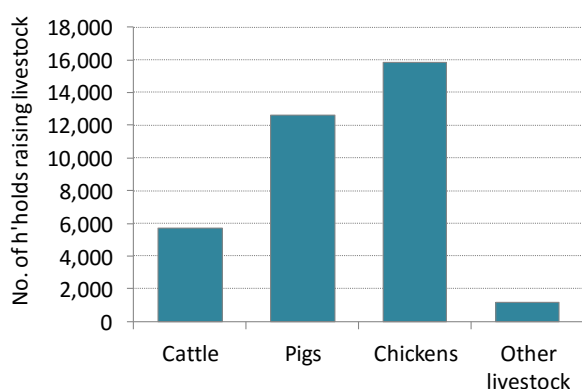
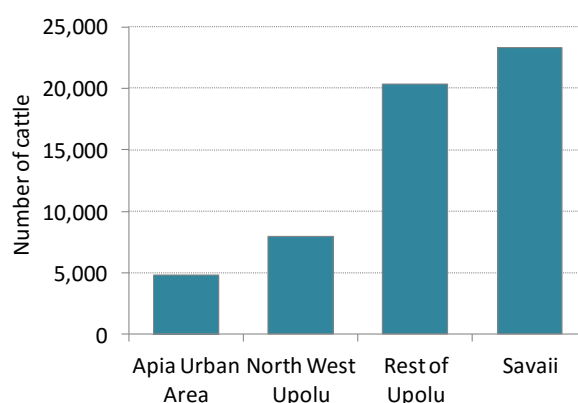


Figure 3.2 Number of cattle by region, 2015

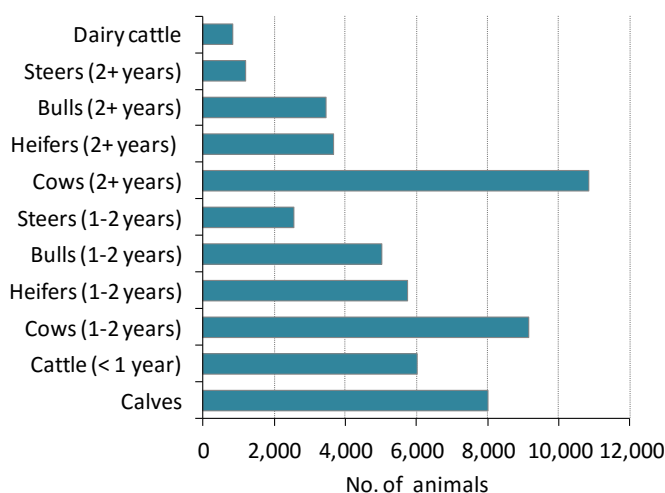


households in Rest of Upolu were raising cattle.

In October 2015, there were 56,504 cattle in Samoa, compared to 38,949 in 2009, an increase of 45 percent. Savaii has the highest number of cattle, accounting for more than 40 percent of all the cattle in the country. Rest of Upolu accounts for 36 percent of cattle in Samoa.

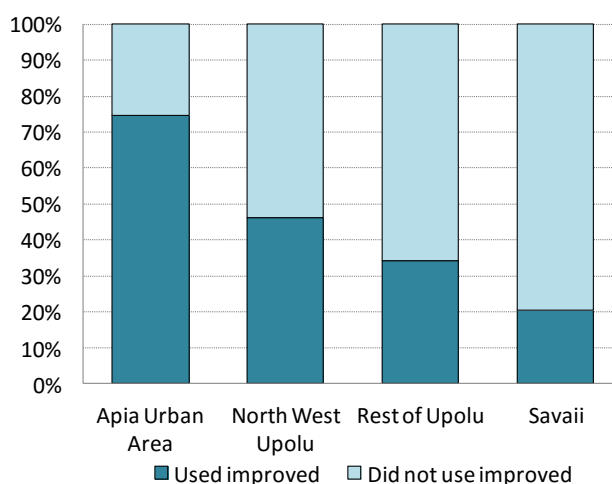
The breakdown of the cattle numbers in 2015 by type indicated that cows aged two years and over are the most common type, accounting for 19 percent of the total cattle herd. This is a good outcome for the future development of the cattle industry in the country. In Savaii, 25 percent of the cattle herd are cows aged 2 years and over.

Figure 3.3: Number of cattle by type, Samoa, 2015



Cattle herd sizes are usually quite small. The average household with cattle in Samoa had 9.9 cattle in 2015, slightly higher than in 2009. More than 70 percent of cattle raising households have less than 10 cattle; only 10 percent raise 20 or more cattle. This reflects the subsistence nature of cattle farming in the country.

Figure 3.4: Percentage of households raising cattle by use of improved pasture and region, 2015



Cattle raising is most common in Savaii but herd sizes there are smaller than in other regions. In 2015, the average cattle holding in Savaii was 7.6 animals. This compares with an average of 6.9 in 2009. In Savaii, 76 percent of cattle raising households have less than 10 cattle; only 6 percent raise 20 or more cattle.

Most cattle farmers depend on native pasture as the main source of feed. In 2015, only 30 percent of households raising cattle used improved pasture. There are considerable regional differences; in Apia

Figure 3.5: Households raising cattle by rearing system, Samoa, 2015

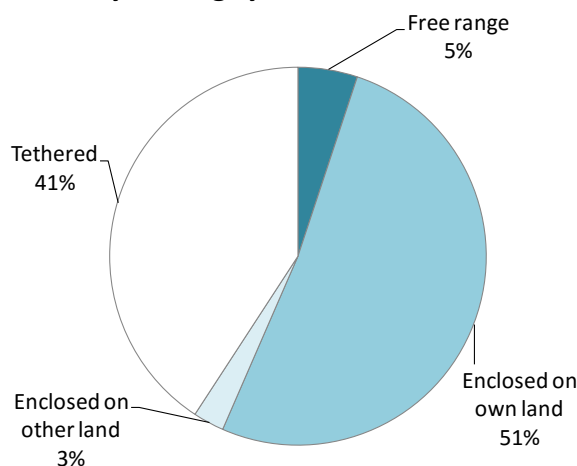
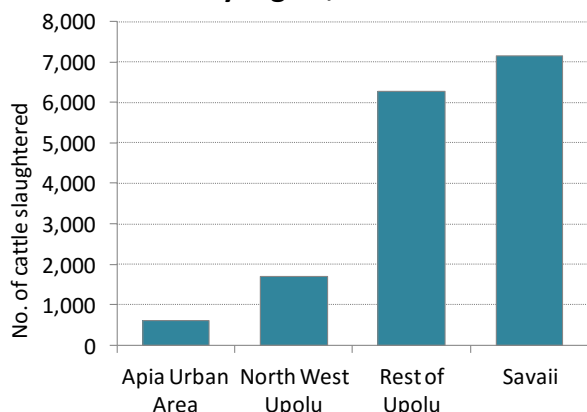


Figure 3.6: Number of cattle slaughtered by region, 2015

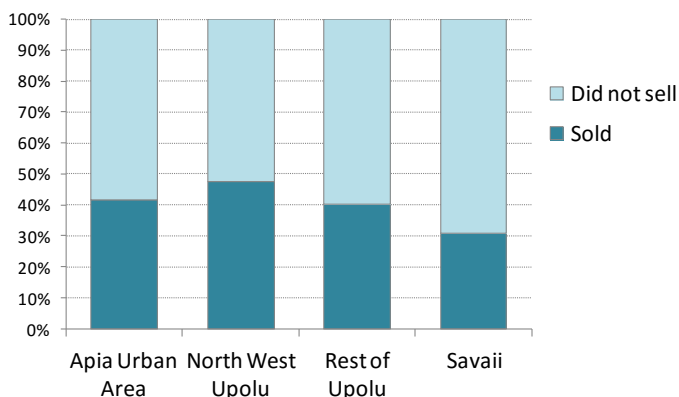


Urban Area, 75 percent of cattle holdings used improved pasture, compared with only 20 percent in Savaii. This indicates the subsistence nature of cattle farming, especially in rural areas.

In 2015, more than 50 percent of cattle holdings were raising cattle enclosed on their own land; 41 percent were using the tethered system. Cattle rearing systems in Savaii are different than in Upolu; in 2015, only 35 percent of cattle holdings in Savaii were raising cattle enclosed on their own land. This may be due to the lack of resources for fencing: the number of animals kept is small and it may not be economical to invest in fencing materials.

Nearly 13,000 new born cattle were

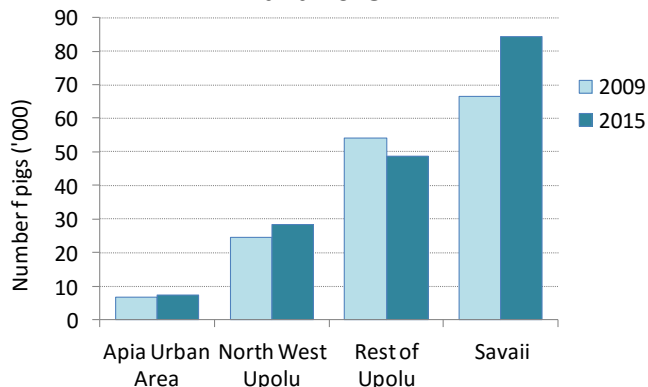
Figure 3.7: Percentage of households raising cattle by sale and region, 2015



recorded in the twelve months to October 2015. However, over 15,000 cattle were slaughtered during the same period. The majority of cattle slaughter was for customary purposes, accounting for more than 70 percent of the slaughterings. This indicates the importance of cattle in the Samoan customs. Some 7,698 cattle were sold in the twelve month period, of which 53 percent were sold slaughtered for retail and 31 percent were sold slaughtered for customary purposes. The remaining 15 percent were sold live.

From a total of 5,736 households raising cattle in 2015, 36 percent sold cattle during the previous year earning a total income of SAT\$ 8 million. The national average income from selling cattle was just below SAT\$ 4,000. In North West Upolu, 47 percent of cattle raising households sold cattle, compared with only 31 percent in Savaii.

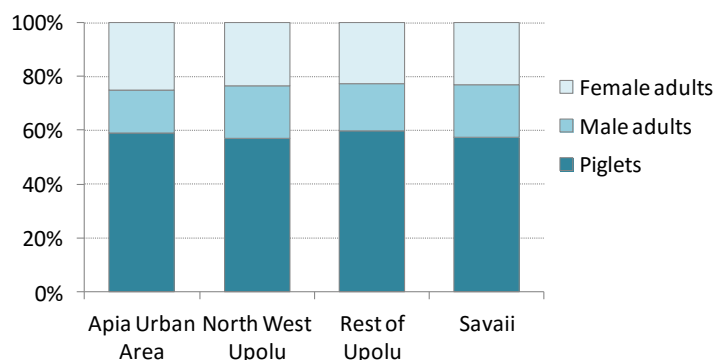
Figure 3.8: Number of pigs by region, 2009 and 2015



3 Pigs

Pig farming is important in Samoa for customary purposes. In October 2015, there were 168,597 pigs in Samoa, an increase of 11 percent from 2009. Apia Urban Area, North West Upolu and Savaii regions showed increases in the number of pigs between 2009 and 2015; Rest of Upolu recorded a decrease of 10 percent over this period.

Figure 3.9: Percentage of pigs by type and region, 2015



Savaii Region had the highest number of pigs both in 2009 and 2015, accounting for 44 and 50 percent in 2009 and 2015 respectively. Apia Urban Area has the lowest number of pigs. Raising of pigs is more common in the rural areas which may be linked to the availability of land and household labour. Furthermore, there are laws and regulations that do not allow raising of pigs in residential areas.

The pig population in Samoa consists of 58 percent piglets, 19 percent male adults and 23 percent female adults. This composition is consistent in all four regions. A figure of more than a half for

piglet numbers is a healthy sign and, in the absence of any major disease outbreak, pig farming is likely to be able to be sustained into the future.

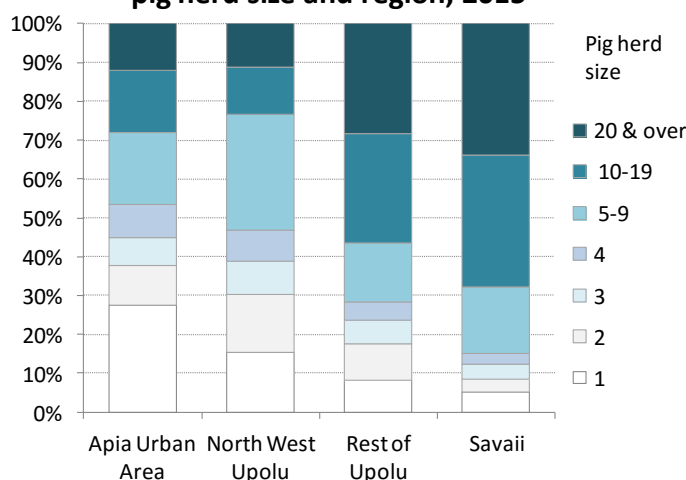
The average pig holding in October 2015 was 13.4, compared with 12.7 in 2009. Pig holdings tend to be larger in Savaii, with an average pig holding of 16.7 in 2015.

In Apia Urban Area, 28 percent of pig holdings have only one animal and more than half have 1 to 4 animals. In Savaii, only 5 percent have one animal and 15 percent have 1 to 4 animals; a third have more than 20 pigs. The pattern in Rest of Upolu is similar. In these two regions, land resources are available because of the traditional land tenure system which allows for easy access for agricultural purposes.

Table 3.2: Percent of pig holdings by rearing method and region, 2015

Region	Total	Free range	Enclosed on own land	Enclosed on other land
SAMOA	100%	55%	44%	1%
Apia Urban Area	100%	29%	71%	-
North West Upolu	100%	34%	65%	1%
Rest of Upolu	100%	56%	43%	1%
Savaii	100%	73%	26%	1%

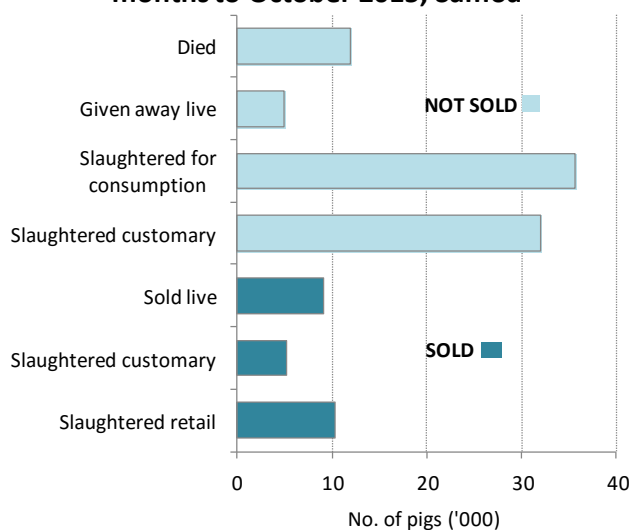
Figure 3.10: Percentage of pig holdings by pig herd size and region, 2015



Few households use supplementary pig feed. Traditionally, pigs are fed with coconuts and food left-overs. This practice is still continuing. About 1 percent of pig holdings in Samoa reported using supplementary feed in 2015.

The predominant systems of rearing pigs in Samoa are free range and enclosed on own household land, accounting for nearly all pigs raised in the country. In Apia Urban Area and North West Upolu, only a third of pig farmers have free range pigs, compared with 56 percent in Rest of Upolu and 73 percent in Savaii. Savaii has greater access to customary land and is less populated, which provides more land for pig raising.

Figure 3.11: Disposals of pigs, twelve months to October 2015, Samoa



During the twelve months to October 2015, additions to pig herds were 26 percent higher than subtractions. However, in Apia Urban Area, additions were more than double the subtractions, which indicates the more commercial nature of pig farming in the peri-urban areas compared to the rural areas.

Pigs are used mainly for traditional purposes. In 2015, less than a quarter of pig disposals involved sales. More than 60 percent were for customary purposes for the household or for household consumption. This reflects the importance of pigs to the national diet. Of pig sales, 63 percent consists of sales of slaughtered animals and 37 percent was the sale of live animals.

The 24,653 pigs sold during the twelve months to October 2015 earned a total income of SAT\$ 3.3 million. Households selling pigs earned an average of SAT\$ 853 from these sales.

4 Chickens

Many households in Samoa raise some chickens, mainly for household

use. In 2015, the number of households raising chickens in Samoa was 15,857, 56 percent of all households in the country. The number of households with chickens increased by 19 percent compared to 2009. Chickens are important in rural areas; in 2015, 81 percent of households in Savaii were raising chickens.

The total number of chickens kept by households in October 2015 was 513,260, an increase of 67 percent from the 2009 total.

The average chicken flock size in 2015 was 32. This did not vary significantly between regions. A half of all chicken holdings raise between 20 and 49 birds; only 3 percent have 100 chickens or more.

The usual system of rearing chickens in Samoa is free range, and nearly all chickens were raised that way in 2015. Only 3 percent of households with chickens used supplementary chicken feed such as brown rice and brewery grain.

There were 295,659 new-born chicks in Samoa in the twelve months to October 2015. This contributed to the large increase in chicken numbers in 2015. Total disposals of chickens

Figure 3.12: Disposal of chickens, twelve months to October 2015, Samoa



during the period amounted to 283,761 birds. Nearly 60 percent of these were slaughtered for family consumption or for family customary purposes. Only 16 percent of total disposals were sold.

Over 60,000 chickens were reported to have died from disease or other natural causes in the twelve months to October 2015. This represents a mortality rate of 12 percent. This high figure was due to bird disease.

5 Vaccination

In Samoa, vaccination of livestock is not common in the household sector. In 2015, only 11 percent of households raising cattle had vaccinated any of their animals. This low figure may be due to the availability and cost of the service, lack of awareness, or the farmers having no confidence in the vaccination programme. Lack of vaccination hampers the development of the cattle industry.

Apia Urban Area has the highest vaccination rate for cattle, with 50 percent of households with cattle vaccinating their animals in 2015. This is much higher than in other regions. In Savaii, only 5 percent of livestock holdings vaccinated their cattle.

The vaccination rate for pigs was less than 1 percent. This low figure is due to the subsistence nature of pig farming in Samoa and lack of active promotion of vaccination for pigs.

6 Income from sales of livestock products

For the country as a whole, the total income from sales of all livestock products by households in the twelve months to October 2015 was SAT\$ 12.4 million. This represents an average of SAT\$ 645 per livestock raising household.

Rest of Upolu and Savaii had the largest income from livestock sales (SAT\$ 5.1 million and SAT\$ 4.3 million respectively).

Cattle sales recorded by far the largest contribution to the income earned, accounting for 65 percent of the value of livestock sales. Pig sales contributed 27 percent to livestock earnings.

Figure 3.13: Income earned from sales of livestock products, Samoa, 2015

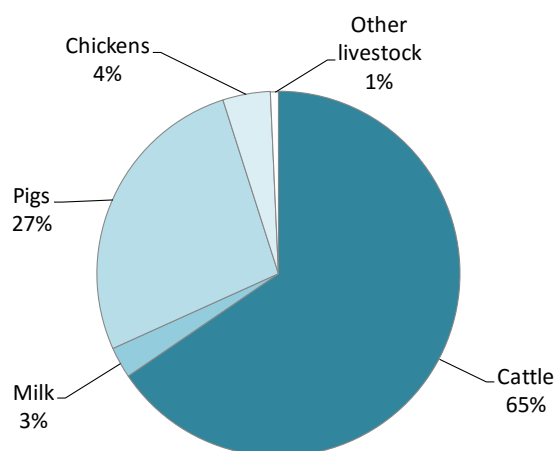


Table 3.3: Number of households raising livestock and livestock numbers by type of livestock and region, 2015

Region	No. of h'holds	No. of h'holds raising livestock	Number of households by livestock type				Number of livestock raised		
			Raise cattle	Raise pigs	Raise chickens	Raise other livestock	Cattle	Pigs	Chickens
SAMOA	28,119	19,208	5,736	12,604	15,857	1,153	56,504	168,597	513,260
Apia Urban Area	5,554	1,753	252	834	1,304	60	4,818	7,454	35,827
North West Upolu	9,732	5,856	546	3,343	4,807	184	7,982	28,292	165,610
Rest of Upolu	6,311	5,447	1,881	3,394	4,459	486	20,354	48,610	155,090
Savaii	6,522	6,152	3,058	5,033	5,287	423	23,349	84,241	156,733

Table 3.4: Number of cattle by type and region, 2015

Region	Number of cattle	Type of cattle					
		Calves (0-3 months)	Cattle (4 months-1 year)	Cows (1-2 years)	Heifers (1-2 years)	Bulls (1-2 years)	Steers (1-2 years)
SAMOA	56,504	8,016	6,013	9,147	5,735	5,017	2,562
Apia Urban Area	4,818	689	620	372	449	345	547
North West Upolu	7,982	1,677	1,169	1,316	850	708	342
Rest of Upolu	20,354	2,923	2,351	3,935	2,112	1,767	913
Savaii	23,349	2,727	1,872	3,524	2,323	2,197	759

cont.

Table 3.4 (cont.): Number of cattle by type and region, 2015

Region	Number of cattle	Type of cattle					Dairy
		Cows (2 or more years)	Heifers (2 or more years)	Bulls (2 or more years)	Steers (2 or more years)		
SAMOA	56,504	10,848	3,681	3,445	1,191	849	
Apia Urban Area	4,818	880	387	219	217	92	
North West Upolu	7,982	700	418	518	196	89	
Rest of Upolu	20,354	3,545	1,306	1,011	312	178	
Savaii	23,349	5,723	1,570	1,697	466	490	

Table 3.5: Number of households raising cattle by size of cattle holding and region, 2015

Region	No. of h'holds raising cattle	Size of cattle holding							Average cattle holding ¹
		1	2	3	4	5-9	10-19	20 & over	
SAMOA	5,736	597	840	589	499	1,528	1,088	596	9.9
Apia Urban Area	252	-	24	12	24	60	64	68	19.1
North West Upolu	546	99	99	12	12	171	66	87	14.6
Rest of Upolu	1,881	165	186	232	164	455	433	245	10.8
Savaii	3,058	333	531	333	298	842	525	196	7.6

1. Average number of cattle for households raising cattle.

Table 3.6: Number of households raising cattle by main rearing system, pasture type and region, 2015

Region	No. of h'holds raising cattle	Main system of rearing cattle				Pasture types used ¹	
		Free range	Enclosed on own land	Enclosed on other land	Tethered	Improved	Native
SAMOA	5,736	293	2,950	153	2,339	1,708	5,383
Apia Urban Area	252	12	180	24	36	188	221
North West Upolu	546	25	404	16	102	252	462
Rest of Upolu	1,881	77	1,305	22	477	644	1,837
Savaii	3,058	180	1,061	92	1,724	625	2,863

1. A household can use more than one pasture type.

Table 3.7: Cattle herd changes during the previous 12 months by region, 2015

Region	No. of cattle at October 2015	No. of cattle added in the previous 12 months			No. of cattle subtracted in the previous 12 months					
		New born	Purchased	Received as gifts	Sold			Not sold		
					Slaughtered retail	Slaughtered customary	Sold live	Slaughtered customary	Given away live	Died
SAMOA	56,504	12,903	2,571	1,022	4,104	2,413	1,181	9,183	446	2,176
Apia Urban Area	4,818	573	60	15	264	125	56	207	54	250
North West Upolu	7,982	2,497	546	185	631	551	335	514	41	150
Rest of Upolu	20,354	4,929	1,331	409	1,731	1,053	276	3,486	87	678
Savaii	23,349	4,904	634	413	1,478	684	514	4,977	265	1,098

Table 3.8: Number of households raising cattle by changes to herd during the previous 12 months and region, 2015

Region	No. of h'holds raising cattle	No. of households adding to cattle herd			No. of households subtracting from cattle herd					
		New born	Purchased	Received as gifts	Sold			Not sold		
					Slaughtered retail	Slaughtered customary	Sold live	Slaughtered customary	Given away live	Died
SAMOA	5,736	3,451	1,052	590	1,316	774	534	2,625	264	1,133
Apia Urban Area	252	149	12	15	87	20	40	92	21	83
North West Upolu	546	352	160	111	143	123	91	193	22	104
Rest of Upolu	1,881	1,203	541	223	519	315	133	857	66	311
Savaii	3,058	1,747	339	241	567	316	270	1,483	155	636

Table 3.9: Sales of cattle and cattle milk during the previous 12 months by region, 2015

Region	Number of households raising cattle	Sale of live or slaughtered cattle			Number of households producing cattle milk	Number of households selling cattle milk
		Number of households selling cattle	Total income earned (SAT\$)	Ave. income earned (SAT\$) ¹		
SAMOA	5,736	2,063	8,110,837	3,932	63	5
Apia Urban Area	252	105	480,828	4,579	12	-
North West Upolu	546	259	1,591,949	6,147	-	-
Rest of Upolu	1,881	760	3,490,238	4,592	35	-
Savaii	3,058	939	2,547,822	2,713	16	5

1. Average for those selling cattle.

Table 3.10: Number of pigs by type and region, 2015

Region	Number of pigs	Type of pigs		
		Piglets	Male adults	Female adults
SAMOA	168,597	98,062	31,724	38,811
Apia Urban Area	7,454	4,405	1,178	1,871
North West Upolu	28,292	16,182	5,515	6,596
Rest of Upolu	48,610	29,149	8,446	11,015
Savaii	84,241	48,327	16,585	19,329

Table 3.11: Number of households raising pigs by size of pig holding and region, 2015

Region	No. of h'holds raising pigs	Size of pig holding							Average pig holding ¹
		1	2	3	4	5-9	10-19	20 & over	
SAMOA	12,604	1,285	1,054	760	635	2,529	3,204	3,137	13.4
Apia Urban Area	834	230	84	60	72	156	132	101	8.9
North West Upolu	3,343	517	492	293	263	996	410	372	8.5
Rest of Upolu	3,394	273	318	210	158	515	960	959	14.3
Savaii	5,033	264	161	196	142	862	1,703	1,704	16.7

1. Average number of pigs for households raising pigs.

Table 3.12: Number of households raising pigs by main rearing system, whether used supplementary feed and region, 2015

Region	Number of households raising pigs	Main system of rearing pigs			Use of supplementary pig feed	
		Free range	Enclosed on own land	Enclosed on other land	Used supplementary pig feed	Did not use supplementary pig feed
SAMOA	12,604	6,980	5,514	110	116	12,488
Apia Urban Area	834	238	596	-	36	798
North West Upolu	3,343	1,135	2,171	37	25	3,318
Rest of Upolu	3,394	1,912	1,460	22	19	3,375
Savaii	5,033	3,695	1,287	51	36	4,997

Table 3.13: Pig herd changes during the previous 12 months by region, 2015

Region	Number of pigs at October 2015	No. of pigs added in the previous 12 months			No. of pigs subtracted in the previous 12 months		
		New born	Purchased	Received as gifts	Sold		
					Slaughtered retail	Slaughtered customary	Sold live
SAMOA	168,597	119,410	1,605	5,210	10,381	5,158	9,114
Apia Urban Area	7,454	3,947	60	441	227	96	102
North West Upolu	28,292	20,815	630	1,903	1,697	521	2,845
Rest of Upolu	48,610	34,517	682	1,220	4,899	2,509	2,423
Savaii	84,241	60,131	234	1,645	3,558	2,033	3,745

cont.

Table 3.13 (cont.): Pig herd changes during the previous 12 months by region, 2015

Region	Number of pigs at October 2015	No. of pigs subtracted in the previous 12 months			
		Not Sold			
		Slaughtered customary	Slaughtered for consumption	Given away live	Died
SAMOA	168,597	32,046	35,600	4,905	12,001
Apia Urban Area	7,454	527	617	42	257
North West Upolu	28,292	5,740	4,536	1,722	2,265
Rest of Upolu	48,610	10,418	9,921	1,061	3,578
Savaii	84,241	15,361	20,527	2,080	5,901

Table 3.14: Number of households raising pigs by changes to herd during the previous 12 months and region, 2015

Region	No. of households raising pigs	No. of households adding to pig herd			No. of households subtracting from pig herd		
		New born	Purchased	Received as gifts	Sold		
					Slaughtered retail	Slaughtered customary	Sold live
SAMOA	12,604	9,348	734	3,077	1,832	1,095	1,692
Apia Urban Area	834	364	12	268	84	24	18
North West Upolu	3,343	2,031	333	1,145	442	165	569
Rest of Upolu	3,394	2,609	307	782	702	483	505
Savaii	5,033	4,343	81	881	603	423	600

cont.

Table 3.14 (cont.): Number of households raising pigs by changes to herd during the previous 12 months and region, 2015

Region	Number of households raising pigs	No. of households subtracting from pig herd			
		Not sold			
		Slaughtered customary	Slaughtered for consumption	Given away live	Died
SAMOA	12,604	6,936	7,375	1,551	3,397
Apia Urban Area	834	167	173	30	102
North West Upolu	3,343	1,399	1,343	546	805
Rest of Upolu	3,394	2,054	2,134	361	844
Savaii	5,033	3,316	3,725	614	1,645

Table 3.15: Sales of pigs during the previous 12 months by region, 2015

Region	No. of households raising pigs	No. of households selling pigs	Number of households by type of sales			Total income earned from sales of pigs (SAT\$)	Average income earned from sales of pigs (SAT\$) ¹
			Slaughtered retail	Slaughtered customary	Sold live		
SAMOA	12,604	3,892	1,832	1,095	1,692	3,319,513	853
Apia Urban Area	834	126	84	24	18	74,782	594
North West Upolu	3,343	959	442	165	569	617,369	644
Rest of Upolu	3,394	1,380	702	483	505	1,391,763	1009
Savaii	5,033	1,428	603	423	600	1,235,600	865

1. Average for those selling pigs.

Table 3.16: Number of households raising chickens by size of chicken holding and region, 2015

Region	No. of h'holds raising chickens	Size of chicken holding							Average chicken holding ¹
		1-4	5-9	10-19	20-49	50-99	100-199	200 & over	
SAMOA	15,857	638	1,011	2,947	7,997	2,751	460	53	32.4
Apia Urban Area	1,304	60	108	261	706	144	24	2	27.5
North West Upolu	4,807	237	364	849	2,281	829	210	37	34.5
Rest of Upolu	4,459	142	241	741	2,245	946	131	13	34.8
Savaii	5,287	199	298	1,096	2,765	832	95	1	29.6

1. Average number of chickens for households raising chickens.

Table 3.17: Number of households raising chickens by main rearing system, use of supplementary feed and region, 2015

Region	No. of households raising chickens	Main system of rearing chickens				Use of supplementary chicken feed	
		Free range	Enclosed on own land	Enclosed on other land	Not reported	Used supplementary chicken feed	Did not use supplementary chicken feed
SAMOA	15,857	15,182	651	12	11	486	15,371
Apia Urban Area	1,304	1,182	109	12	-	2	1,302
North West Upolu	4,807	4,618	189	-	-	230	4,576
Rest of Upolu	4,459	4,338	121	-	-	55	4,405
Savaii	5,287	5,044	232	-	11	200	5,088

Table 3.18: Chicken flock changes during the previous 12 months by region, 2015

Region	No. of chickens at October 2015	No. of chickens added in the previous 12 months			No. of chickens subtracted in the previous 12 months					
		New born	Purchased	Received as gifts	Sold		Not sold			
					Slaughtered	Sold live	Slaughtered customary	Slaughtered for consumption	Given away live	Died
SAMOA	513,260	295,659	2,068	9,181	16,461	28,654	67,137	100,043	10,559	60,907
Apia Urban Area	35,827	17,180	84	1,059	694	547	1,081	3,869	239	4,136
North West Upolu	165,610	90,567	609	4,748	5,060	10,047	15,219	24,009	2,998	22,306
Rest of Upolu	155,090	89,097	940	1,425	5,974	7,801	22,107	27,811	4,201	19,260
Savaii	156,733	98,815	435	1,949	4,732	10,260	28,731	44,356	3,121	15,204

Table 3.19: Number of households raising chickens by changes to flock during the previous 12 months and region, 2015

Region	No. of h'holds raising chickens	Number of households adding to chicken flock			Number of households subtracting from chicken flock					
		New born	Purchased	Received as gifts	Sold		Not sold			
					Slaughtered	Sold live	Slaughtered customary	Slaughtered for consumption	Given away live	Died
SAMOA	15,857	14,642	599	2,609	1,969	3,291	8,063	11,560	1,925	6,741
Apia Urban Area	1,304	1,095	24	296	120	100	231	660	54	518
North West Upolu	4,807	4,264	201	1,071	608	1,099	2,088	3,074	653	2,300
Rest of Upolu	4,459	4,250	275	625	807	865	2,800	3,409	660	1,971
Savaii	5,287	5,032	99	617	435	1,228	2,943	4,417	559	1,950

Table 3.20: Sale of chickens during the previous 12 months by region, 2015

Region	Number of households raising chickens	Number of households selling chickens	Number of households by type of sales		Total income earned from sales of chickens (SAT\$)	Average income from sales of chickens (SAT\$) ¹
			Slaughtered	Sold live		
SAMOA	15,857	4,686	1,969	3,291	522,801	112
Apia Urban Area	1,304	196	120	100	30,906	158
North West Upolu	4,807	1,444	608	1,099	166,631	115
Rest of Upolu	4,459	1,513	807	865	159,433	105
Savaii	5,287	1,533	435	1,228	165,832	108

1. Average for those selling chickens.

Table 3.21: Number of households raising cattle and pigs by use of vaccination and region, 2015

Region	Cattle			Pigs		
	Number of households raising cattle	Use of vaccination		Number of households raising pigs	Use of vaccination	
		Vaccinated	Did not vaccinate		Vaccinated	Did not vaccinate
SAMOA	5,736	624	5,112	12,604	96	12,508
Apia Urban Area	252	126	125	834	24	810
North West Upolu	546	99	447	3,343	25	3,318
Rest of Upolu	1,881	253	1,628	3,394	23	3,371
Savaii	3,058	145	2,912	5,033	24	5,009

Table 3.22: Income (SAT\$) from livestock products in the previous 12 months by source and region, 2015

Region	No. of h'holds raising livestock	Cattle		Income from selling pigs	Income from selling chickens	Income from selling other livestock	Total income from all livestock products	Average income from all livestock products ¹
		Income from selling cattle	Income from selling milk					
SAMOA	19,208	8,110,837	342,822	3,319,513	522,801	88,052	12,384,025	645
Apia Urban Area	1,753	480,828	-	74,782	30,906	7,179	593,695	339
North West Upolu	5,856	1,591,949	-	617,369	166,631	55,469	2,431,418	415
Rest of Upolu	5,447	3,490,238	-	1,391,763	159,433	25,404	5,066,838	930
Savaii	6,152	2,547,822	342,822	1,235,600	165,832	-	4,292,076	698

1. Average for households raising livestock.

CHAPTER 4

FARM POPULATION

1 Main source of income

In 2015, there were 28,119 private households in Samoa, compared with 26,205 in 2011. This represents an annual growth rate of 1.8 percent over the four-year period.

Agriculture is important to the economy of Samoa, but for most households agriculture is only a secondary activity. In 2015, only one in five households had agricultural work as their main source of income. Only 17 percent of households reported growing crops as the main source of income; livestock was the main source of income for less than 2 percent of households.

Agriculture does not provide much paid employment: in 2015, paid work in agriculture was the main source of income for only 1.1 percent of households. There were no major differences between regions.

Fishing is also usually only a secondary activity for households. In 2015, only 2.6 percent of households in Samoa had fishing as the main source of income.

Figure 4.1: Number of households by main source of income, Samoa, 2015

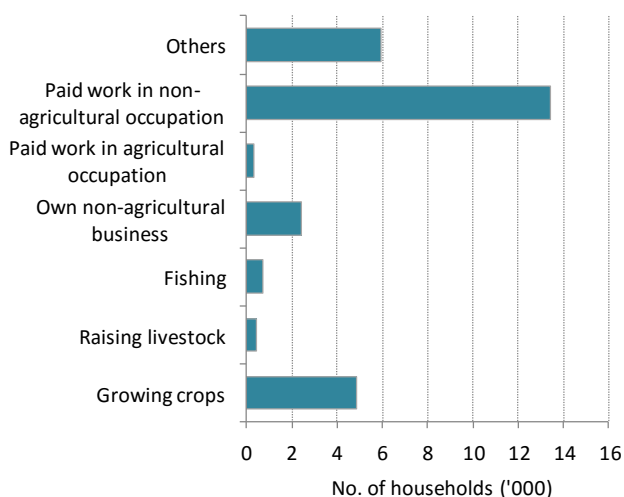
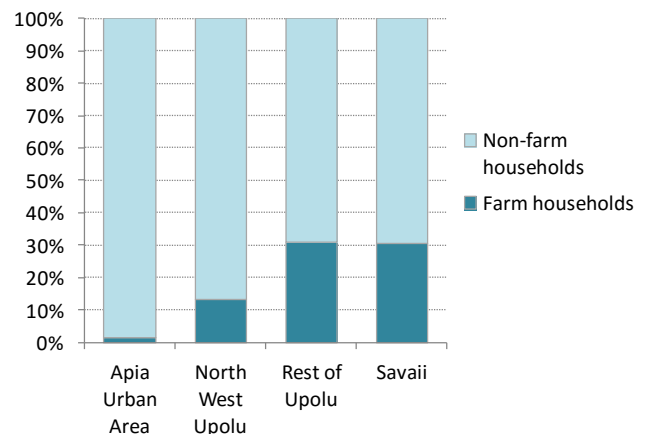


Figure 4.2: Percent of households by farm household status and region, 2015



Paid non-agricultural work provides the main source of income for nearly half the households in Samoa. There are large regional differences: in 2015, paid non-agricultural work was the main source of income for three-quarters of households in Apia Urban Area, compared with only a quarter in Savaii. This reflects the greater employment opportunities in Upolu, especially in Apia. In Savaii, 30 percent of households reported their main source of income as “other”, which includes pensions and remittances. This compares with only 10 percent in Apia Urban Area.

2 Farm households

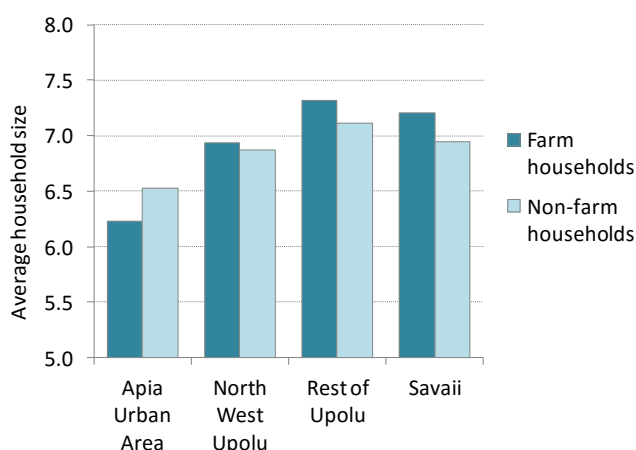
In 2015, there were 5,303 *farm households* in Samoa. A farm household is defined as a household with main source of income growing crops or raising livestock. These households rely on agriculture for their livelihoods and are of special interest in analyzing the agricultural sector. Farm households are most common in Rest of Upolu and Savaii. Nearly a third of households in those two regions are farm

households, compared with only 13 percent in North West Upolu and 1 percent in Apia Urban Area. This reflects the greater urbanization of areas around Apia, and the availability of alternative employment.

3 Household size

Household sizes in Samoa are declining in line with lower fertility rates. The average household size in Samoa in 2015 was 6.9, compared with 7.2 in 2011. Household sizes are largest in Rest of Upolu and Savaii. In Apia Urban Area, household sizes are much lower. In 2015, the average household size in farm households was 7.2, compared with 6.9 in non-farm households.

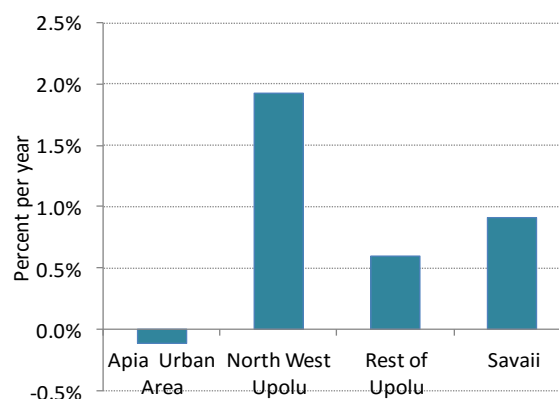
Figure 4.3: Average household size by farm household status and region, 2015



4 Population

In 2015, the population living in private households in Samoa was 194,335, compared with 186,889 in 2011. (The survey covered only private households – people living in institutions were not included.) This indicates a population growth of 4.0 percent over the four-year period – an average annual growth rate of 1.0 percent. This is higher than the rate of 0.6

Figure 4.4: Population growth by region, 2011 to 2015



percent a year recorded in the ten years to 2011. Population growth in Samoa is quite low, and is influenced by high levels of outward migration. Population growth is highest in North West Upolu: 1.9 percent a year between 2011 and 2015. In Apia Urban Area, the population changed little over the same period.

The population is growing more slowly than the number of households – 1.0 percent a year between 2011 and 2015, compared with 1.8 percent a year for households – reflecting declining household sizes.

There are more males than females in the Samoan population. Overall, there are 109 males for every 100 females. This measure is called the *sex ratio*. The high sex ratio has been noted in previous censuses and surveys: in 2011, the sex ratio was 107. The relatively high number of males can be explained by the high sex ratio at birth and the skewing of the age

Table 4.1: Number of households and population by region, 2011 and 2015

Region	No. of h'holds		Population	
	2011	2015	2011	2015
SAMOA	26,205	28,119	186,889	194,335
Apia Urban Area	5,389	5,554	36,400	36,232
North West Upolu	8,776	9,732	62,045	66,969
Rest of Upolu	5,925	6,311	44,235	45,303
Savaii	6,115	6,522	44,209	45,831

Source: Samoa Census of Population and Housing 2011; Samoa Agricultural Survey 2015.

distribution towards younger people as a result of high fertility rates. In 2015, 37 percent of the population was aged under 15, down slightly from 38 percent in 2011. The sex ratio is high for this age group; in 2015, there were 112 males for every 100 females.

In Apia Urban Area, the sex ratio is 99. This is consistent with previous censuses and highlights the different fertility patterns in the more developed part of the country.

Of the population of 194,335, 38,015 live in farm households – one in five of the population. Males outnumber females by more in the farm population than in the non-farm population. In 2015, there were 121 males for every 100 females in farm households, compared with 107 in non-farm households. This reflects the predominance of males working in agriculture.

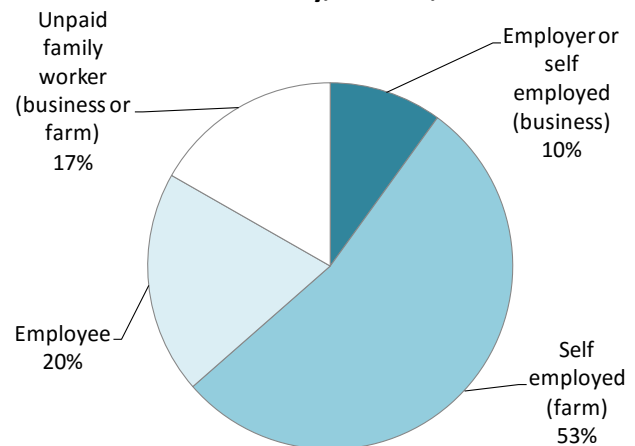
The age structure of the farm population is similar to the non-farm population. In 2015, the percent of the population aged less than 15 years was slightly higher amongst the farm population: 39 percent compared with 37 percent for the non-farm population.

5 Labour force status

In 2015, there were 122,115 people aged 15 years and over in Samoa. Of these, 62,094 were deemed to be *employed*, in that their main activity in the previous week was working as an employer, self-employed, employee, or doing unpaid work in a family business or farm. Thus, 51 percent of the population aged 15 years and over were employed.

The remaining 49 percent of the population were deemed to be *not in the labour force* (that is, they were students, retired, or working on basic household duties) or *unemployed* (that is, they were not employed but were actively seeking work). The employed population increased by 16,917 between 2011 and 2015. There is little difference in employment rates between the farm and non-farm population. In

Figure 4.5: Employed farm population - main activity, Samoa, 2015

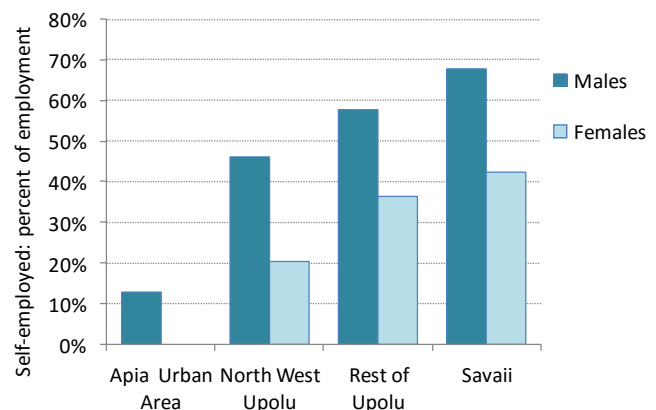


2015, 50 percent of the farm population aged 15 years and over were employed. The lowest farm population employment rate (47 percent) was in Savaii.

Of the 62,094 people employed in 2015, 44,543 were males and 17,551 were females. Between 2011 and 2015, male employment increased by 35 percent, while female employment increased by 44 percent. This suggests increasing labour force participation of women in Samoa.

Female labour force participation is much higher in Apia than elsewhere. In Apia Urban Area, women comprised 40 percent of employment in 2015, compared with only 21 percent in Savaii. For the farm population in

Figure 4.6: Self-employed farm population by sex, Samoa, 2015



Savaii, women comprised only 12 percent of employment.

As expected, agricultural work is less important in the more urbanized parts of the country. In Apia Urban Area, only 2 percent of main employment in 2015 was as a self-employed farmer. By contrast in Savaii, the percentage was 52 percent, with another 11 percent engaged in unpaid work in the family business or farm. For the farm population, 54 percent of employment was as a self-employed farmer and a further 17 percent were engaged in unpaid work in the family business or farm.

6 Educational attainment

An educated farm labour force is likely to be more open to the use of modern farming methods. In Samoa, educational levels of the farm population are much lower than for the general population. In 2011, 13 percent of the Samoan population aged 15 years and over had tertiary qualifications; the corresponding figure for the farm population in 2015 was only 4 percent. Only 25 percent of the farm population had completed secondary school; 7

percent had not completed primary school.

Previous censuses and surveys in Samoa revealed that women have higher levels of educational attainment than men. The Samoa Agricultural Survey 2015 confirmed that this also applies to the farm population. In 2015, 30 percent of women aged 15 and over in farm households had completed secondary school, compared with only 21 percent of men. The percentage of women with tertiary qualifications is double that of men.

Figure 4.7: Farm population with secondary education by sex, Samoa, 2015

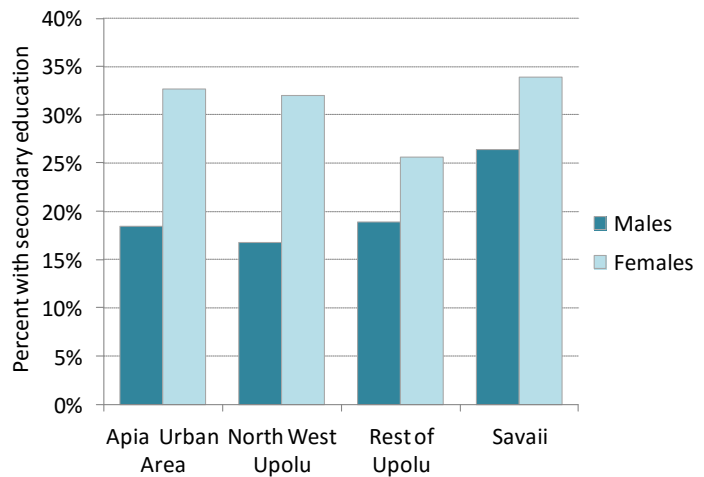


Table 4.2: Number of households by main source of income and region, 2015

Region	Number of h'holds	Main source of income						
		Growing crops	Raising livestock	Fishing	Own non-agric. business	Paid work in agric. occupation	Paid work in other occupation	Others
SAMOA	28,119	4,851	452	724	2,428	309	13,418	5,937
Apia Urban Area	5,554	72	8	24	610	49	4,245	546
North West Upolu	9,732	1,194	94	136	974	158	5,348	1,828
Rest of Upolu	6,311	1,864	95	273	319	33	2,115	1,611
Savaii	6,522	1,721	255	291	525	69	1,710	1,951

Table 4.3: Number of households by farm household status, household size and region, 2015

Region/farm household status	Number of households by household size						Average h'hold size
	Total	1 person	2 or 3 persons	4 or 5 persons	6 - 9 persons	10 or more persons	
All households							
SAMOA	28,119	698	3,827	5,864	12,143	5,586	6.9
Apia Urban Area	5,554	261	999	1,299	1,895	1,100	6.5
North West Upolu	9,732	215	1,276	2,171	4,241	1,829	6.9
Rest of Upolu	6,311	142	789	1,146	2,828	1,405	7.2
Savaii	6,522	80	762	1,248	3,179	1,252	7.0
Farm households							
SAMOA	5,303	70	521	1,040	2,619	1,054	7.2
Apia Urban Area	80	-	-	40	28	12	6.2
North West Upolu	1,288	37	189	259	562	242	6.9
Rest of Upolu	1,959	33	146	357	1,015	407	7.3
Savaii	1,977	-	185	385	1,014	393	7.2
Non-farm households							
SAMOA	22,816	629	3,307	4,824	9,524	4,532	6.9
Apia Urban Area	5,474	261	999	1,259	1,867	1,088	6.5
North West Upolu	8,444	178	1,087	1,912	3,679	1,588	6.9
Rest of Upolu	4,352	109	643	789	1,813	998	7.1
Savaii	4,545	80	577	864	2,166	858	6.9

Table 4.4: Population by farm household status, sex, age and region, 2015

Region/farm household status	Age group														
	Total			0 - 14			15 - 59			60 and over					
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female			
All households															
SAMOA	194,335	101,516	92,819	72,219	38,223	33,997	106,043	55,506	50,537	16,031	7,763	8,268	41	24	17
Apia Urban Area	36,232	18,001	18,230	12,557	6,277	6,280	20,531	10,166	10,365	3,126	1,546	1,580	18	12	6
North West Upolu	66,969	35,426	31,544	25,039	13,341	11,698	37,051	19,660	17,391	4,867	2,412	2,454	12	12	-
Rest of Upolu	45,303	23,757	21,546	16,812	8,695	8,117	24,855	13,409	11,446	3,625	1,653	1,972	11	-	11
Savaii	45,831	24,332	21,499	17,811	9,910	7,901	23,607	12,271	11,336	4,414	2,151	2,262	-	-	-
Farm households															
SAMOA	38,015	20,783	17,233	14,730	8,051	6,679	20,383	11,220	9,163	2,902	1,512	1,390	-	-	-
Apia Urban Area	498	312	186	175	90	85	260	183	77	63	39	24	-	-	-
North West Upolu	8,939	5,022	3,917	3,459	1,945	1,514	4,879	2,725	2,154	602	353	249	-	-	-
Rest of Upolu	14,329	7,447	6,882	5,385	2,666	2,719	7,960	4,256	3,704	984	526	459	-	-	-
Savaii	14,249	8,001	6,248	5,711	3,350	2,361	7,285	4,056	3,228	1,253	595	659	-	-	-
Non-farm households															
SAMOA	156,320	80,733	75,586	57,489	30,172	27,318	85,660	44,286	41,374	13,129	6,251	6,878	41	24	17
Apia Urban Area	35,734	17,689	18,045	12,381	6,187	6,195	20,271	9,983	10,288	3,063	1,507	1,556	18	12	6
North West Upolu	58,030	30,404	27,627	21,581	11,396	10,184	32,172	16,935	15,237	4,265	2,060	2,205	12	12	-
Rest of Upolu	30,974	16,310	14,664	11,428	6,029	5,399	16,895	9,153	7,742	2,640	1,127	1,513	11	-	11
Savaii	31,582	16,331	15,251	12,099	6,560	5,540	16,322	8,215	8,107	3,160	1,557	1,604	-	-	-

Table 4.5a. Population aged 15 and over by farm population status, main economic activity and region, 2015

Region/farm population status	Total population aged 15 and over	Main activity						
		Employer or self employed (business)	Self employed (farm)	Employee	Unpaid family worker (business or farm)	Unpaid family worker (h'hold duties)	Other	Not reported
Total population								
SAMOA	122,115	5,920	17,702	32,950	5,522	15,873	43,943	204
Apia Urban Area	23,675	1,433	287	10,271	586	3,405	7,680	12
North West Upolu	41,930	2,244	4,122	13,049	1,668	5,018	15,706	123
Rest of Upolu	28,490	1,401	6,313	5,592	1,778	3,270	10,135	-
Savaii	28,020	842	6,979	4,037	1,490	4,180	10,423	69
Farm population								
SAMOA	23,285	1,161	6,211	2,275	1,946	3,187	8,481	23
Apia Urban Area	323	14	24	116	53	32	84	-
North West Upolu	5,480	456	1,137	620	572	714	1,982	-
Rest of Upolu	8,944	467	2,469	957	726	997	3,327	-
Savaii	8,538	223	2,582	583	595	1,445	3,088	23
Non-farm population								
SAMOA	98,830	4,760	11,490	30,675	3,576	12,686	35,462	181
Apia Urban Area	23,352	1,419	263	10,156	533	3,373	7,596	12
North West Upolu	36,450	1,788	2,985	12,429	1,096	4,304	13,724	123
Rest of Upolu	19,546	934	3,844	4,635	1,051	2,273	6,808	-
Savaii	19,482	619	4,398	3,455	896	2,735	7,334	46

Table 4.5b. Male population aged 15 and over by farm population status, main economic activity and region, 2015

Region/farm population status	Total male population aged 15 and over	Main activity						
		Employer or self employed (business)	Self employed (farm)	Employee	Unpaid family worker (business or farm)	Unpaid family worker (h'hold duties)	Other	Not reported
Total population								
SAMOA	63,293	3,899	15,341	20,670	4,633	6,481	12,197	72
Apia Urban Area	11,724	903	197	5,931	503	1,620	2,558	12
North West Upolu	22,085	1,411	3,588	8,620	1,413	2,363	4,652	37
Rest of Upolu	15,062	1,042	5,316	3,662	1,350	1,134	2,559	-
Savaii	14,422	542	6,240	2,457	1,368	1,364	2,428	23
Farm population								
SAMOA	12,731	874	5,569	1,545	1,643	1,027	2,074	-
Apia Urban Area	222	13	24	96	53	-	36	-
North West Upolu	3,077	298	1,022	469	434	290	564	-
Rest of Upolu	4,781	373	2,141	605	595	256	811	-
Savaii	4,651	191	2,382	375	560	481	662	-
Non-farm population								
SAMOA	50,562	3,024	9,772	19,126	2,990	5,454	10,123	72
Apia Urban Area	11,502	890	173	5,835	449	1,620	2,522	12
North West Upolu	19,007	1,114	2,565	8,151	979	2,074	4,088	37
Rest of Upolu	10,281	669	3,175	3,057	755	877	1,747	-
Savaii	9,771	351	3,858	2,082	808	883	1,766	23

Table 4.5c. Female population aged 15 and over by farm population status, main economic activity and region, 2015

Region/farm population status	Total female population aged 15 and over	Main activity						
		Employer or self employed (business)	Self employed (farm)	Employee	Unpaid family worker (business or farm)	Unpaid family worker (h'hold duties)	Other	Not reported
Total population								
SAMOA	58,822	2,022	2,360	12,280	889	9,393	31,746	132
Apia Urban Area	11,951	530	90	4,340	84	1,785	5,122	-
North West Upolu	19,845	833	534	4,429	255	2,655	11,053	86
Rest of Upolu	13,428	359	998	1,930	428	2,137	7,577	-
Savaii	13,598	300	739	1,580	122	2,816	7,995	46
Farm population								
SAMOA	10,554	287	642	731	304	2,160	6,407	23
Apia Urban Area	101	1	-	20	-	32	48	-
North West Upolu	2,403	158	114	151	138	424	1,417	-
Rest of Upolu	4,163	94	328	352	131	741	2,516	-
Savaii	3,887	33	200	207	34	964	2,426	23
Non-farm population								
SAMOA	48,269	1,735	1,718	11,549	585	7,232	25,339	109
Apia Urban Area	11,850	528	90	4,320	84	1,754	5,074	-
North West Upolu	17,442	674	420	4,278	117	2,231	9,636	86
Rest of Upolu	9,266	265	669	1,578	296	1,396	5,061	-
Savaii	9,711	268	539	1,373	88	1,852	5,569	23

Table 4.6a: Farm population aged 15 and over by educational attainment and region, 2015

Region	Educational attainment						
	Total	None	Kinder- garten	Primary	Secondary	Tertiary	Not reported
SAMOA	23,285	307	1,234	15,799	5,085	848	11
Apia Urban Area	323	-	15	170	64	74	-
North West Upolu	5,480	74	494	3,629	1,166	117	-
Rest of Upolu	8,944	26	287	6,658	1,765	208	-
Savaii	8,538	206	439	5,342	2,090	449	11

Table 4.6b: Male farm population aged 15 and over by educational attainment and region, 2015

Region	Educational attainment						
	Total	None	Kinder- garten	Primary	Secondary	Tertiary	Not reported
SAMOA	12,731	160	766	9,073	2,423	308	-
Apia Urban Area	222	-	15	122	44	41	-
North West Upolu	3,077	12	321	2,228	468	47	-
Rest of Upolu	4,781	22	175	3,680	847	58	-
Savaii	4,651	126	256	3,043	1,064	162	-

Table 4.6c: Female farm population aged 15 and over by educational attainment and region, 2015

Region	Educational attainment						
	Total	None	Kinder- garten	Primary	Secondary	Tertiary	Not reported
SAMOA	10,554	147	468	6,726	2,662	540	11
Apia Urban Area	101	-	-	48	20	33	-
North West Upolu	2,403	62	173	1,401	698	70	-
Rest of Upolu	4,163	5	112	2,979	918	150	-
Savaii	3,887	80	184	2,299	1,026	286	11

CHAPTER 5

FARM LABOUR

1 Outside labour

Most agriculture and fishing in Samoa is carried out as a household activity. Few households employ outside labour. In the Samoa Agricultural Survey 2015, only 7 percent of households in the country employed outside labour for crop, livestock or fisheries activities in the week prior to the survey.

Outside labour was most common in Rest of Upolu where 10 percent of households used outside labour for agricultural or fishing activities. As noted previously, farm sizes in this region are higher than elsewhere and, as a consequence, there may be a greater need for outside labour.

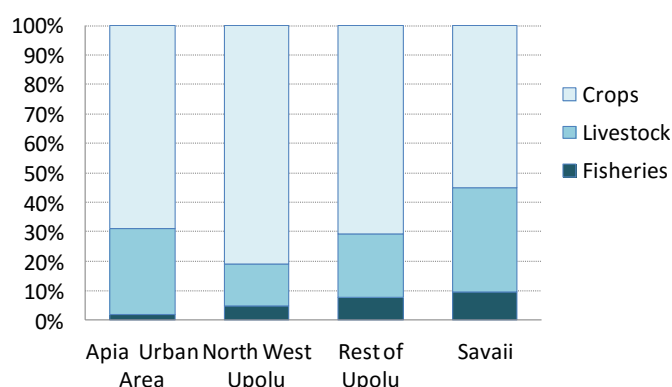
The practice of employing group workers is not common in Samoa. Households prefer to hire individual employees who often work on a long-term basis. Employing groups is more common for one-off type of agricultural work. In 2015, 1,769 households reported that they had employed individual workers in the previous week; only 289 had employed group workers.

2 Employment of individual workers

In all, 3,884 individuals worked for households in paid crop, livestock or fishing employment in the reference week. Of these, 70 percent worked mainly on crop activities; 24 percent worked mainly on livestock activities.

A regional comparison shows that livestock activities are of greater importance in Savaii than elsewhere; 35 percent of the 900 agricultural employees in Savaii were employed in livestock. In North West Upolu,

Figure 5.1: Percentage of individual agricultural employees by type of activity and region, 2015

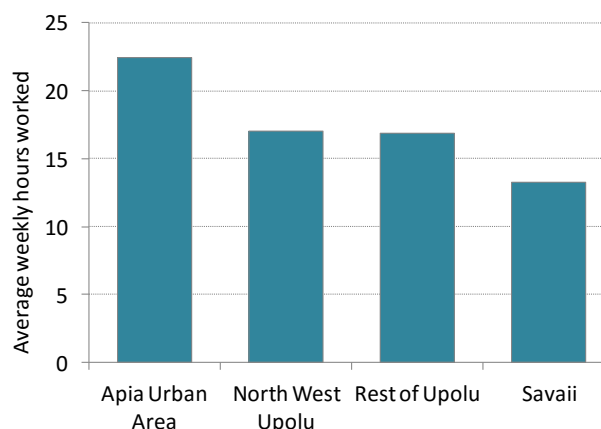


81 percent of outside labour was engaged in crop activities. Fisheries activities accounted for only 6 percent of employees, suggesting that households rely heavily on household members for fishing activities.

Agricultural employees are overwhelmingly male. Only 4 percent are female.

The survey recorded an average of 17 hours per week worked by agricultural employees. Hours worked were lowest in Savaii, with only 13 hours a week worked by employees. The

Figure 5.2: Average weekly hours worked by agricultural employees by region, 2015



low hours worked suggests a degree of underemployment in agriculture, especially in rural areas.

Most agricultural employees are paid in cash, but many also receive free meals and other benefits such as cigarettes and alcoholic beverages to supplement cash payments. In 2015, 86 percent of agricultural employees were paid in cash. For those paid in cash, the average cash payment per week was SAT\$ 81. The level of cash payments was slightly lower in Rest of Upolu and Savaii.

About 80 percent of agricultural employees received free meals as part of their employment conditions. There are only minor regional differences in employment conditions.

3 Group workers

There were 3,576 group workers employed by households in crop, livestock or fisheries activities during the week prior to the survey in 2015. The majority – 83 percent – were employed for crop activities. Three-quarters were paid in cash. Almost all received some non-cash benefits, usually free meals.

4 Work on crop activities

In 2015, 95 percent of household crop holdings in Samoa were identified as being managed by a single operator. The operator is the household member (or members) managing and making day-to-day decisions on the household's crop growing activities. In the Samoan context, the head of household is usually identified as the sole operator even though other members of the household may participate in decision making.

Most of the labour used for household crop production in Samoa is provided by household members. Only 12

percent of major crop households employed outside labour in the twelve months prior to October 2015.

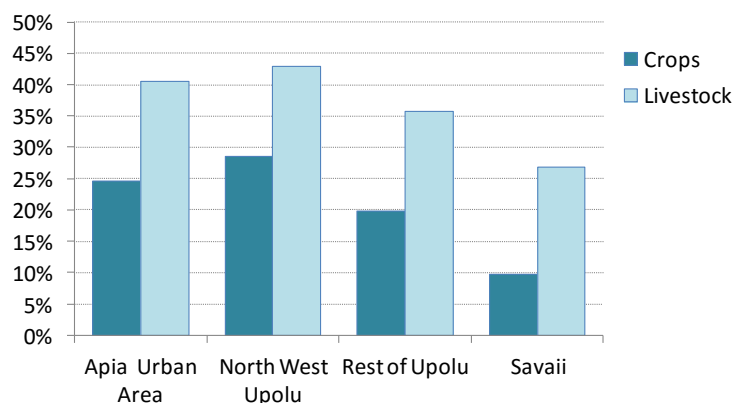
For major crop households, 39 percent had only one household member normally working on crop activities on the family farm; 21 percent had three or more household members normally working on crop activities. *Normally working* means that the household member does regular work on the family farm even if it is only on a part-time basis.

In 2015, 50,418 people were identified as normally working on crop activities on family farms. This represents over 40 percent of all people of working age in the country.

For most household members, agriculture provides only part-time work. For major crop households, of those household members normally engaged in crop work in 2015, only 13 percent worked for 30 hours or more during the previous week; a half worked less than 10 hours during the reference week. Hours worked on crop activities were highest in Rest of Upolu: 19 percent worked for 30 hours or more during the reference week; in Savaii, only 9 percent worked for 30 hours or more during the week.

Minor crop households provide little work for household members. In 2015, 5,387 household members in minor crop households were

Figure 5.3: Percentage of female household labour by type of activity and region, 2015



normally engaged in crop activities, but three-quarters of those worked for less than five hours during the reference week.

Agriculture in Samoa continues to be very much a male dominated activity. Of the 50,418 household members normally engaged in work on household crop activities in 2015, only 22 percent were women. Over 60 percent of men of working age in the country normally work on household crop activities, compared with less than 20 percent of women.

5 Work on livestock activities

In 2015, 88 percent of household livestock raising operations in Samoa were managed by a single operator.

Only 6 percent of households raising livestock used outside labour for livestock work during the twelve months prior to October 2015. This is less than for crops and indicates that most households rely on family members for raising livestock.

In 2015, 37,236 household members were identified as normally working on raising livestock on their family farms, representing over 30 percent of people of working age in the country.

For Samoa as a whole, 64 percent of the households raising livestock had two or more household members normally involved in livestock activities.

This is similar to the contribution of household members to crop activities.

Women are more engaged in livestock raising than in crop activity. Traditionally, women in Samoa are responsible for raising chickens. In 2015, 36 percent of household members normally engaged in livestock activities were women.

6 Work on fishing activities

Like household crop and livestock activities, fishing is primarily a household activity. Only 7 percent of fishing households used outside labour for fishing in the three months prior to October 2015. The figure was as high as 14 percent in Apia Urban Area.

In 2015, 70 percent of fishing households in Samoa had only one household member engaged in fishing. This indicates that fishing is more of an individual activity compared to crops and livestock.

In all, 8,290 persons were engaged in household fishing in the previous three months. Only 14 percent of these were women.

Table 5.1: Number of household members engaged in fisheries in the previous three months by sex and region, 2015

Region	No. of h'hold members engaged in fisheries		
	Total	Sex	
		Males	Females
SAMOA	8,290	7,121	1,169
Apia Urban Area	378	348	30
North West Upolu	1,860	1,478	383
Rest of Upolu	3,047	2,686	361
Savaii	3,004	2,609	396

Table 5.2: Number of households by use of outside labour for crops, livestock or fisheries in the previous week, type of labour and region, 2015

Region	Number of households	Number of households by use of outside labour in the previous week			
		Did not employ outside labour	Employed outside labour	Type of labour employed ¹	
				Employed individual labour	Employed group workers
SAMOA	28,119	26,105	2,014	1,769	289
Apia Urban Area	5,554	5,248	306	306	-
North West Upolu	9,732	9,114	618	557	77
Rest of Upolu	6,311	5,663	648	534	127
Savaii	6,522	6,081	441	372	85

1. A household may employ both individual labour and groups.

Table 5.3: Number of individual employees and groups working in the previous week by main activity and region, 2015

Region	Number of individual employees				Number of groups				Number of group workers
	Total	Main activity			Total	Main activity			
		Fisheries	Livestock	Crops		Fisheries	Livestock	Crops	
SAMOA	3,884	245	934	2,706	303	-	52	251	3,576
Apia Urban Area	649	11	191	447	-	-	-	-	-
North West Upolu	1,066	49	152	865	80	-	3	77	1,344
Rest of Upolu	1,270	98	272	899	127	-	27	101	1,140
Savaii	900	86	319	495	97	-	23	74	1,092

Table 5.4: Number of individual employees and hours worked in the previous week by sex and region, 2015

Region	Individual workers								
	Number of employees			Hours worked in the previous week			Average hours worked per employee		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
SAMOA	3,884	3,715	169	66,044	62,757	3,287	17.0	16.9	19.4
Apia Urban Area	649	601	48	14,579	13,382	1,197	22.5	22.3	24.9
North West Upolu	1,066	1,029	37	18,118	18,043	74	17.0	17.5	2.0
Rest of Upolu	1,270	1,259	11	21,443	21,005	437	16.9	16.7	39.7
Savaii	900	826	74	11,906	10,327	1,579	13.2	12.5	21.3

Table 5.5: Cash and non cash payments received by individual employees working in the previous week by region, 2015

Region	No. of individual employees			Cash payment in the last week (SAT\$)		Non-cash payment: number of employees receiving benefits			
	Total	Paid in cash	Not paid in cash	Total	Average ¹	No benefit	Free or subsidized housing	Free meals	Other benefits
SAMOA	3,884	3,356	528	273,369	81	443	369	3,107	1,796
Apia Urban Area	649	561	88	59,564	106	72	201	529	224
North West Upolu	1,066	943	123	76,900	82	189	37	729	420
Rest of Upolu	1,270	1,118	152	81,259	73	98	98	1,059	651
Savaii	900	735	165	55,647	76	83	32	790	500

1. Average of those employees paid in cash.

Table 5.6: Cash and non-cash payments received by groups working in the previous week by region, 2015

Region	Number of groups			Non-cash payment: no. of groups receiving benefits			
	Total	Paid in cash	Not paid in cash	No benefit	Free or subsidized housing	Free meals	Other benefits
SAMOA	303	225	78	12	-	275	110
Apia Urban Area	-	-	-	-	-	-	-
North West Upolu	80	80	-	12	-	67	25
Rest of Upolu	127	77	51	-	-	127	35
Savaii	97	69	28	-	-	80	51

Table 5.7: Number of crop households by level of crop activity, type of operator and region, 2015

Region/level of crop activity	Number of crop households	Type of crop operator		
		Sole operator	Joint operators	Not reported
Crop households				
SAMOA	27,359	25,890	1,247	221
Apia Urban Area	5,056	4,853	132	72
North West Upolu	9,519	9,153	304	61
Rest of Upolu	6,311	5,951	283	77
Savaii	6,473	5,933	529	11
Major crop households				
SAMOA	23,877	22,561	1,186	129
Apia Urban Area	3,538	3,402	96	40
North West Upolu	7,834	7,542	279	12
Rest of Upolu	6,180	5,831	283	66
Savaii	6,326	5,786	529	11
Minor crop households				
SAMOA	3,482	3,329	61	92
Apia Urban Area	1,518	1,451	36	32
North West Upolu	1,685	1,611	25	49
Rest of Upolu	131	120	-	11
Savaii	147	147	-	-

Table 5.8: Number of crop households by level of crop activity, number of household members normally engaged in crop activities, use of outside labour and region, 2015

Region/level of crop activity	No. of crop h'holds	No. of h'hold members normally engaged in crop activities				Use of outside labour for crops in the previous twelve months		
		One member	Two members	Three or more members	Not reported	Used outside labour	Didn't use outside labour	Not reported
Crop households								
SAMOA	27,359	11,099	10,763	5,275	222	2,887	24,250	222
Apia Urban Area	5,056	2,746	1,647	591	72	322	4,662	72
North West Upolu	9,519	2,587	4,615	2,256	61	948	8,510	61
Rest of Upolu	6,311	2,215	2,399	1,620	77	868	5,367	76
Savaii	6,473	3,551	2,102	808	12	750	5,712	11
Major crop households								
SAMOA	23,877	9,313	9,469	4,966	129	2,812	20,936	129
Apia Urban Area	3,538	1,822	1,222	453	40	283	3,214	41
North West Upolu	7,834	1,914	3,812	2,096	12	911	6,911	12
Rest of Upolu	6,180	2,149	2,356	1,609	66	868	5,246	66
Savaii	6,326	3,427	2,079	808	12	750	5,565	11
Minor crop households								
SAMOA	3,482	1,786	1,294	309	92	76	3,314	92
Apia Urban Area	1,518	924	425	138	32	39	1,448	31
North West Upolu	1,685	673	803	161	49	37	1,599	49
Rest of Upolu	131	66	44	11	11	-	120	11
Savaii	147	124	23	-	-	-	147	-

Table 5.9: Number of household members normally engaged in crop activities by level of household crop activity, hours worked on crops in the previous week, sex and region, 2015

Region/level of crop activity	Number of household members normally engaged in crop activities								
	Total	Sex		Hours spent					
		Males	Females	None	Less than 5 hours	5-9 hours	10-19 hours	20-29 hours	30 hours or more
Crop households									
SAMOA	50,418	39,408	11,010	7,190	11,221	9,199	10,566	6,457	5,785
Apia Urban Area	7,948	5,991	1,956	1,968	2,937	1,675	749	404	215
North West Upolu	19,428	13,886	5,542	2,615	5,658	4,154	3,376	1,397	2,227
Rest of Upolu	12,634	10,130	2,504	1,297	1,565	1,862	3,054	2,444	2,412
Savaii	10,408	9,400	1,008	1,311	1,061	1,507	3,387	2,212	931
Major crop households									
SAMOA	45,032	35,984	9,047	5,623	8,833	8,219	10,284	6,347	5,725
Apia Urban Area	5,713	4,545	1,169	1,375	1,814	1,329	623	368	203
North West Upolu	16,631	12,114	4,517	1,714	4,516	3,636	3,253	1,323	2,190
Rest of Upolu	12,448	10,032	2,416	1,264	1,499	1,819	3,022	2,444	2,401
Savaii	10,238	9,293	945	1,270	1,004	1,436	3,387	2,212	931
Minor crop households									
SAMOA	5,387	3,424	1,963	1,567	2,388	980	282	110	60
Apia Urban Area	2,234	1,447	788	592	1,123	346	126	36	12
North West Upolu	2,797	1,772	1,025	901	1,142	519	123	74	37
Rest of Upolu	186	98	87	33	66	44	33	-	11
Savaii	170	107	63	41	57	72	-	-	-

Table 5.10: Number of households raising livestock by type of operator and region, 2015

Region	No. of h'holds raising livestock	Type of livestock operator	
		Sole operator	Joint operators
SAMOA	19,208	16,861	2,348
Apia Urban Area	1,753	1,694	60
North West Upolu	5,856	5,429	427
Rest of Upolu	5,447	4,806	641
Savaii	6,152	4,932	1,220

Table 5.11: Number of households raising livestock by number of household members normally engaged in livestock activities, use of outside livestock labour and region, 2015

Region	Number of households raising livestock	Number of household members normally engaged in livestock activities			Use of outside labour for livestock in the previous year	
		One member	Two members	Three or more members	Used outside labour	Didn't use outside labour
SAMOA	19,208	6,855	8,181	4,172	1,123	18,085
Apia Urban Area	1,753	1,025	519	209	133	1,620
North West Upolu	5,856	1,627	2,794	1,435	253	5,603
Rest of Upolu	5,447	1,765	2,095	1,586	382	5,065
Savaii	6,152	2,438	2,772	941	354	5,797

Table 5.12: Number of household members normally engaged in livestock activities by hours worked on livestock in the previous week, sex and region, 2015

Region	Number of household members normally engaged in livestock activities								
	Total	Sex		Hours spent					
		Males	Females	None	Less than 5 hours	5-9 hours	10-19 hours	20-29 hours	30 hours or more
SAMOA	37,236	23,897	13,339	2,628	10,984	12,443	8,926	1,902	354
Apia Urban Area	2,727	1,620	1,107	210	1,052	983	402	55	27
North West Upolu	12,068	6,891	5,176	1,192	4,700	3,912	1,784	351	129
Rest of Upolu	11,474	7,368	4,106	878	2,694	3,127	3,456	1,151	167
Savaii	10,967	8,017	2,950	348	2,537	4,421	3,285	346	31

Table 5.13: Number of households engaged in fisheries by number of household members engaged in fisheries in the last three months, use of outside fishing labour and region, 2015

Region	No. of h'holds engaged in fisheries	Number of household members engaged in fisheries in the previous three months			Use of outside labour for fisheries in the previous 3 months	
		One member	Two members	Three or more members	Used outside labour	Didn't use outside labour
SAMOA	5,943	4,152	1,360	431	441	5,503
Apia Urban Area	288	222	42	24	39	249
North West Upolu	1,175	638	401	136	95	1,080
Rest of Upolu	2,051	1,295	581	175	155	1,896
Savaii	2,429	1,997	336	97	152	2,278

CHAPTER 6

FISHERIES

1 Households engaged in fishing activities

Fishing is an important household activity in Samoa. Households rely on fisheries as a major source of vitamins in their diets. Fishing is also a source of income, particularly for rural households.

The number of households engaged in fisheries in Samoa in 2015 was 5,943, accounting for 21 percent of all households in the country. Few households in Apia Urban Area fish as most household members are likely to be in some form of paid employment. In 2015, only 5 percent of households in Apia Urban Area were engaged in fishing, compared with 32 percent in Rest of Upolu and 37 percent in Savaii.

The number of Samoan households fishing rose slightly between 2009 and 2015 – from 5,752 to 5,943. However, in percentage terms, the importance of fishing has declined; the percentage of households engaged in fishing recorded a decrease from 25 to 21 percent from 2009 to 2015. The percent of households

Figure 6.1: Percentage of households engaged in fisheries by region, 2009 and 2015

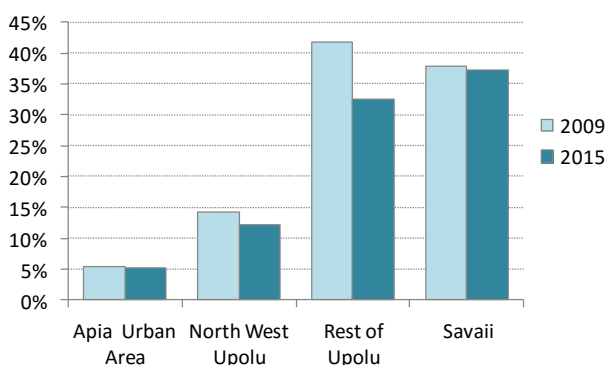


Table 6.1: Number of households by fishing habitat¹ and region, 2015

Region	No. of fishing h'holds	Inshore	Offshore	Fresh water
SAMOA	5,943	5,533	872	377
Apia Urban Area	288	213	51	24
North West Upolu	1,175	1,125	98	12
Rest of Upolu	2,051	1,952	208	66
Savaii	2,429	2,242	516	275

1. A household can fish in more than one habitat.

fishing in Savaii changed little over this period; North West Upolu declined from 14 to 12 percent and Rest of Upolu declined from 42 to 32 percent.

2 Fishing habitats

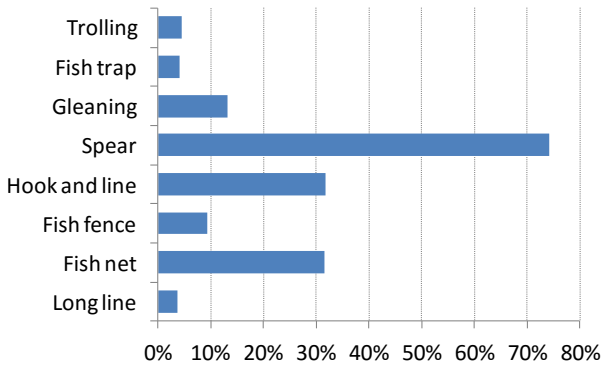
Samoa has few rivers or lakes, and fishing is predominantly carried out in the sea. In 2015, only 6.3 percent of households undertook fresh water fishing.

Of households engaged in seawater fishing in 2015, 85 percent engaged in inshore fishing only. Inshore fishing is predominantly for home consumption and is normally undertaken by household members as a secondary activity. Women are normally engaged in the collection of shellfish, seaweed and sea cucumbers from the shore.

The most common habitats for fishing are lagoons and coastal reefs; in 2015, 80 percent of fishing households fished in lagoons and 66 percent fished in coastal reefs. Access to these habitats is relatively easy, which contributes to their widespread use. Furthermore, fishing equipment used in lagoons and coastal reefs are relatively cheap and easy to obtain.

There is some freshwater fishing in Savaii; in 2015, 275 households were engaged in

Figure 6.2: Percentage of fishing households by type of fishing gear, Samoa, 2015

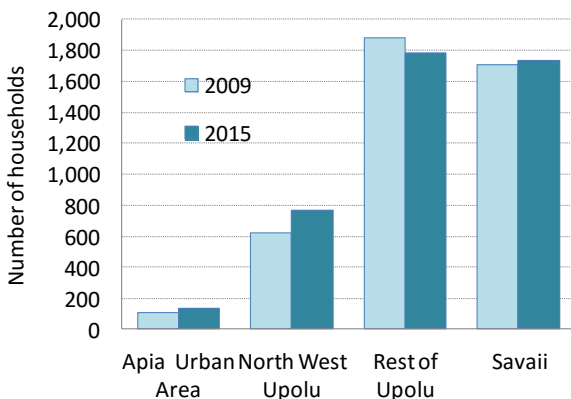


freshwater fisheries, 11 percent of all fisheries households in the region. Many villages have regulated fresh water areas to raise fish species like tilapia, eels and shrimps.

3 Fishing gear

Fishing gear is the apparatus used for catching or trapping fish and other aquatic products. Fishing methods and equipment have a strong relationship to the habitat in which fishing takes place. The most used fishing equipment are spear, hook and line, fish net and gleaning. These are predominantly used for fishing in lagoons and coastal reefs. About three-quarters of fishing households used spears

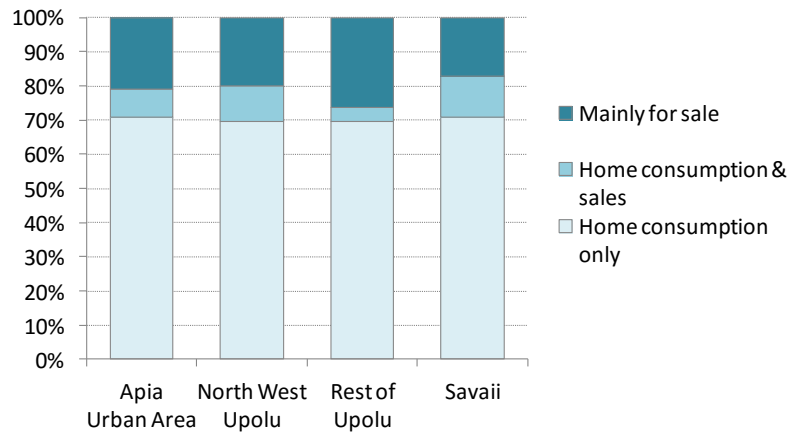
Figure 6.3: Number of households using spears by region, 2009 and 2015



in 2015. About a third used hook and line; a similar number used fish nets. Households may use one or more types of fishing gear.

In national terms, there was a slight increase in the number of households using spears between 2009 and 2015. However, Apia Urban Area and North West Upolu regions registered significant increases of 25 and 23 percent respectively, while Rest of Upolu recorded a decrease of 5 percent. The decrease in Rest of Upolu and only a slight increase in Savaii is most likely the effect of able-bodied males from these regions being engaged in the Recognised Seasonal Employment scheme during the survey period.

Figure 6.4: Percentage of fishing households by main purpose of fishing and region, 2015



4 Main purpose of fishing

Home consumption is the major purpose of fishing in the country, representing 70 percent of total fishing households in 2015. This percentage is similar in all four regions.

By contrast, 21 percent of households indicated that their main purpose of fishing was mainly for sale; the remaining 9 percent was for home consumption and occasional sale. A contributing factor limiting sales is the affordability of advanced fishing accessories such as motor and alia fishing boats, which are needed for bigger catches.

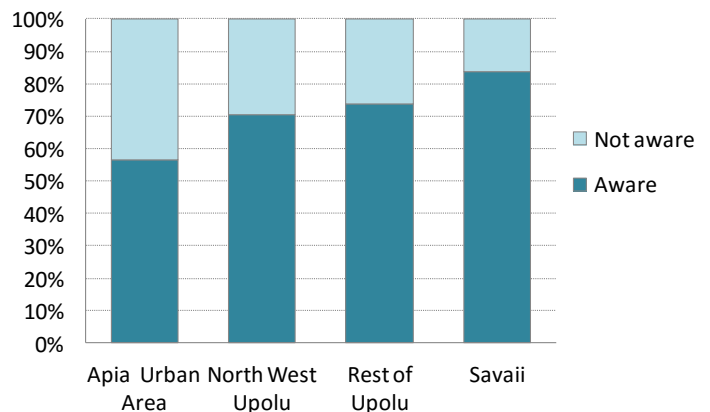
Regionally, Savaii has fewer households fishing for sale. In 2015, only 17 percent of fishing households in Savaii fished mainly for sale, compared with 24 percent in the three regions of Upolu. This may be the result of the lack of markets in Savaii.

In 2015, 70 percent of fishing households did not sell any fish, and only 3 percent sold all their catch. A further 9 percent sold three-quarters of their catch. This highlights the subsistence nature of much of the fishing activity in Samoa.

5 Awareness of fisheries management programmes

Fisheries Division of MAF has various awareness programmes delivered through the media, workshops and seminars to develop capacity and knowledge of sustainable fisheries management and its contribution to food security and livelihoods of households in Samoa. Communities with the Community Base Fisheries Management Programme (CBFMP) and the Marine Protective Area (MPA) have more fishers than elsewhere.

Figure 6.5: Percentage of households by awareness of fisheries programmes and region, 2015



Awareness of fisheries management programmes is highest in Savaii; in 2015, 84 percent of households in Savaii were aware of the programmes. In North West Upolu and Rest of Upolu, the percentages were 70 and 74 percent respectively. By contrast, only 57 percent of households in Apia Urban Area were aware of the programmes – a surprisingly low figure given accessibility to television, newspaper and other form of media. Almost all of those aware of the fisheries management programmes considered them to be beneficial.

Table 6.2: Number of households by type of fisheries activities in the previous three months and region, 2015

Region	Number of households	Number of households engaged in fisheries	Number of households engaged in seawater fisheries	Type of seawater fisheries			Number of households engaged in freshwater fisheries
				Inshore fishing only	Offshore fishing only	Inshore and offshore fishing	
SAMOA	28,119	5,943	5,841	4,968	307	565	377
Apia Urban Area	5,554	288	264	213	51	-	24
North West Upolu	9,732	1,175	1,175	1,076	49	49	12
Rest of Upolu	6,311	2,051	2,018	1,810	66	142	66
Savaii	6,522	2,429	2,384	1,868	142	374	275

Table 6.3: Number of households engaged in fisheries in the previous three months by fishing habitat¹ and region, 2015

Region	No. of h'holds engaged in fisheries	Man-groves	Lagoons	Coastal reefs	Outer reefs	Pelagic or open oceans	Fish aggregating device	Fresh water
SAMOA	5,943	173	4,728	3,945	936	192	23	377
Apia Urban Area	288	36	177	102	27	51	-	24
North West Upolu	1,175	37	796	712	86	37	12	12
Rest of Upolu	2,051	66	1,789	1,316	295	33	11	66
Savaii	2,429	34	1,965	1,816	527	72	-	275

1. A household can fish in more than one habitat.

Table 6.4: Number of households engaged in fisheries in the previous three months by fishing method¹ and region, 2015

Region	No. of h'holds engaged in fisheries	Fishing method							
		Long line	Fish net	Fish fence	Hook & line	Spear	Gleaning	Fish trap	Trolling
SAMOA	5,943	217	1,876	556	1,888	4,413	784	245	270
Apia Urban Area	288	36	60	12	94	132	24	12	15
North West Upolu	1,175	25	545	148	395	766	74	86	37
Rest of Upolu	2,051	77	880	350	628	1,784	120	87	55
Savaii	2,429	80	391	46	771	1,732	566	59	163

1. A household can use more than one fishing method.

Table 6.5: Number of households engaged in fisheries in the previous three months by main purpose of fishing, proportion of fish sold and region, 2015

Region	No. of h'holds engaged in fisheries	Main purpose of fishing			Proportion of fish products sold					
		Home consumption only	Home consumption and sales	Mainly for sale	None	About 1/4	About 1/2	About 3/4	All	Not reported
SAMOA	5,943	4,169	527	1,247	4,169	471	610	510	172	11
Apia Urban Area	288	204	24	60	204	24	12	48	-	-
North West Upolu	1,175	817	123	235	817	123	123	49	62	-
Rest of Upolu	2,051	1,425	90	536	1,425	57	383	98	87	-
Savaii	2,429	1,723	290	417	1,723	267	92	314	23	11

Table 6.6: Number of households by awareness of fisheries management programmes, perceived benefit and region, 2015

Region	Number of households	Not aware of programmes	Aware of programmes			
			Total	Whether beneficial		
				Beneficial	Not beneficial	Don't know
SAMOA	28,119	8,024	20,095	19,550	95	451
Apia Urban Area	5,554	2,414	3,140	2,948	12	179
North West Upolu	9,732	2,883	6,849	6,689	37	123
Rest of Upolu	6,311	1,656	4,655	4,524	33	98
Savaii	6,522	1,070	5,452	5,389	13	49

APPENDIX 1

METHODOLOGY FOR SAMOA AGRICULTURAL SURVEY 2015

1 Introduction

The Samoa Agricultural Survey 2015 was carried out by SBS in collaboration with MAF.

The survey is part of the national census/survey programme included in the Samoa Strategy for the Development of Statistics 2011-2021. The strategy provides for an agricultural census to be conducted every ten years and an agricultural survey to be conducted in between the agricultural censuses. Agricultural censuses in Samoa were conducted in 1989, 1999 and 2009. Two agricultural surveys have been conducted. The first was in 2005. The Samoa Agricultural Survey 2015 is the second such survey, and was carried out in October/November 2015.

The aim of the agricultural censuses is to provide basic structural data on agriculture such as farm size, cropping patterns, and use of machinery and inputs. Because the census is done ten-yearly, the focus is on aspects that do not change significantly from year to year.

The purpose of the agricultural surveys is to update the census information and provide some additional data on current agricultural conditions.

2 Authority for the survey

Authority for the survey rested with the Government Statistician, who has the legal power to collect such information under the Statistics Act 2015. The Act provides for confidentiality of the information collected in the survey.

3 Survey coverage

The survey covered:

- all crop, livestock and fisheries production activities undertaken by households living in private dwellings (households living in institutions such as hotels and boarding schools were excluded); and
- all crop and livestock production activities undertaken by institutions such as religious organizations and private companies.

4 Statistical unit

In its guidelines for agricultural censuses¹, FAO defines the main statistical unit for agricultural censuses and surveys as the agricultural holding, defined as “an economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes”.

Some households in Samoa have their own household land and also have access to family land operated jointly by households in the family. In accordance with FAO guidelines, two household related units were defined:

- agricultural household, comprising all agricultural production activities undertaken by the household on its own land; and
- joint family holding, comprising all crop production activities undertaken as a

1. FAO Statistical Development Series, No. 11; A System Of Integrated Agricultural Censuses And Surveys, Volume 1; World Programme for the Census of Agriculture 2010. FAO 2005.

partnership between households in a family on joint family land.

Agricultural households and joint family holdings were identified in the survey, and data were collected separately for the two units. A household may be an agricultural household as well as being part of a joint family holding. For the purpose of the survey, partnership arrangements between households other than within the family are disregarded.

As well as agricultural households and joint family holdings, there was a third type of agricultural unit in the survey; namely, institutional holdings.

5 Sample design

The sample was selected using a dual frame sample approach in each of the four regions of Samoa: Apia Urban Area; North West Upolu; Rest of Upolu; and Savaii. Significant agricultural households and agricultural institutions were sampled using list sampling; other households were sampled using multi-stage sampling based on the master sample frame established by SBS from the Census of Population and Dwellings 2011.

Significant agricultural households were defined in terms of their livestock holdings and crop area. Significant livestock holdings were identified from the Census of Population and Dwellings 2011. Significant crop holdings and agricultural institutions were identified from information provided by MAF.

For sampling purposes, units were formed into six strata in each region.

- Stratum 1 (list sample). Households with: more than 100 cattle; or 200 pigs or more; or 500 chickens or more; or with 20 or more acres of crops (in Apia Urban Area).
- Stratum 2 (list sample). Households with between 51 and 100 cattle.
- Stratum 3 (list sample). Households with

10 or more acres of crops (except in Apia Urban Area).

- Stratum 4 (list sample). Households with between 31 and 50 cattle.
- Stratum 5 (master sample frame). All other households.
- Stratum 6 (list sample). Institutional holdings.

For the list sample component (Strata 1, 2, 3, 4 and 6), the sample of households/institutions was selected directly from lists of units in each stratum.

For Stratum 5, the Census of Population and Dwellings 2011 was used as the sample frame in preference to the Samoa Agricultural Census 2009 because it was more up-to-date. Two-stage sampling was used. First, a sample of census enumeration areas² was selected using probability proportional to size methods (with number of households as the size measure). Second, a sample of census households was selected in each sample enumeration area using systematic random sampling. Usually, there were five sample households per enumeration area in Apia Urban Area and ten in other regions. Note that households in selected enumeration areas were sampled from the list of households enumerated in the Census of Population and Dwellings 2011, and therefore the survey does not cover current households not present at the time of the census.

The sampling fraction varied from stratum to stratum according to its agricultural importance. This provides a more efficient sample design and therefore more reliable survey results. In Stratum 5, the sampling was done in such a way that each household in the stratum had the same probability of selection.

The sampling fractions in each stratum were:

- Stratum 1: enumerate all households.

² For the Census of Population and Dwellings 2011, villages were divided into enumeration areas to facilitate enumeration.

Table A1: Samoa Agricultural Survey 2015 - sample design

Region	Household sector								
	Stratum 1			Stratum 2			Stratum 3		
	No. of h'holds	Sample h'holds	Enumerated h'holds	No. of h'holds	Sample h'holds	Enumerated h'holds	No. of h'holds	Sample h'holds	Enumerated h'holds
SAMOA	18	18	14	70	36	29	15	8	7
Apia Urban Area	4	4	3	14	7	6	-	-	-
North West Upolu	5	5	3	8	4	3	11	6	5
Rest of Upolu	3	3	3	25	13	12	4	2	2
Savaii	6	6	5	23	12	8	-	-	-

cont.

Table A1 (cont.): Samoa Agricultural Survey 2015 - sample design

Region	Household sector							Institutions		
	Stratum 4			Stratum 5				Stratum 6		
	No. of h'holds	Sample h'holds	Enumerated h'holds	No. of h'holds	Sample enum. areas	Sample h'holds	Enumerated h'holds	No. of units	Sample units	Enumerated units
SAMOA	103	26	22	25,999	331	2,730	2,435	6	6	6
Apia Urban Area	14	4	4	5,356	113	560	481	6	6	6
North West Upolu	15	4	2	8,738	92	916	825	-	-	-
Rest of Upolu	38	9	7	5,855	62	617	569	-	-	-
Savaii	36	9	9	6,050	64	637	560	-	-	-

- Strata 2 and 3: sample approximately 50 percent of households in each region.
- Stratum 4: sample approximately 25 percent of households in each region.
- Stratum 5: sample 10.5% of households in each region.
- Stratum 6: enumerate all institutions.
- Section I Household composition: age, sex, education and labour force activity of household members.
- Section II Land: location, area, land tenure, land use, and period of use for each parcel of the household's own land and family land.
- Section III Crops: area and/or number of trees/plants for each crop grown, quantity and value of produce sold for core crops (taro, ta'amu, taro palagi, coconut, cocoa, breadfruit and banana), time spent on crop activities by household members, main crop operator in the household, use of outside labour for crops, use of inorganic fertilizers and agricultural chemicals, use of organic materials, and main purpose of crop production.
- Section IV Livestock: time spent on livestock activities by household members, main livestock operator in the household, use of outside labour for livestock, number of cattle by type, changes in cattle herd, value of sales of cattle, value of sales of cattle milk, system of rearing cattle, type of cattle pasture, whether cattle vaccinated,

A summary of the sample design is shown in Table A1. This shows the number of units selected and the number actually enumerated. The total number of households enumerated was 2,507.

6 Topics covered in the survey

There were two survey questionnaires: one for households, which covered agricultural households and joint family holdings; the other for institutions.

(a) Household questionnaire

The household questionnaire is given in Appendix 3. It is divided into eight sections.

number of pigs by type, changes in pig herd, value of sales of pigs, system of rearing pigs, whether supplementary pig feed purchased, whether pigs vaccinated, number of chickens, changes in chicken flock, value of sales of chickens, system of rearing chickens, whether supplementary chicken feed purchased, number of other livestock, value of sales of other livestock.

- Section V Fisheries: time spent on fishing by household members, main fisheries operator in the household, use of outside labour for fisheries, types of fishing, fishing habitats, use of fishing equipment, main purpose of fisheries, proportion of fisheries catches sold, awareness of fish management programmes.
- Section VI Labour inputs: age, sex, hours worked, cash payment and other benefits for outside labour.
- Section VII Equipment: use and ownership of various types of farm equipment.
- Section VIII Income and credit: main source of income, receipt of credit.

The topics covered were similar to the Samoa Agricultural Census 2009, as shown in Table A2.

(b) Institution questionnaire

The institution questionnaire is similar to the household questionnaire. The main differences are:

- Items on household composition, family land, purpose of production, fisheries, and use of household/outside farm labour were omitted.
- Data were included on crop production for the seven core crops, number of persons currently employed full- and part-time by sex, and wages and salaries paid to employed persons.

7 Survey reference period

The general reference period for the survey was the twelve months prior to the survey enumeration in October/November 2015. Reference periods for specific topics in the survey were:

- Household composition: covers usual residents; activity data refers to the previous week.
- Land: day of enumeration.

Table A2: Samoa Agricultural Survey 2015 – main changes in scope from Samoa Agricultural Census 2009

Section of questionnaire	Changes from Samoa Agricultural Census 2009
I. Household composition	Activity status categories expanded to be consistent with other SBS surveys.
II. Land	Land questions strengthened to distinguish between land operated by the household itself and extended family land to which the household has access.
III. Crops	The concept of temporary/permanent crops introduced in the survey to clarify the reporting of data. Each crop grown is identified, but detailed data are collected only for the core crops. Sales data included for the core crops.
IV. Livestock	Survey focuses mainly on the core livestock types (cattle, pigs and chickens). More detailed breakdowns by type and age provided. Questions added on changes in herd structure, rearing methods, feed, milk production, and earnings from the sale of livestock products. Questions on dogs and cats omitted.
V. Fisheries	Additional data on fishing habitats and awareness of fisheries management programmes included.
VI. Labour inputs	Questions expanded to cover employment of groups or organizations, as well as individuals.
VII. Equipment	Farm equipment rationalized because of sampling considerations.
VIII. Income and credit	Servicing of loans omitted. Main source of income added.
Consumption of crops	Omitted.
Forestry	Omitted.

- Crops: previous year for temporary crops; day of enumeration for permanent crops; previous week for household labour inputs.
- Livestock: day of enumeration for number of animals and related data; previous week for household labour; previous year for sales.
- Fisheries: previous three months for most items; previous week for number of fishing trips.
- Labour input: previous week.
- Equipment: previous year.
- Income and credit: previous year.

8 Survey field organization

Once the sample had been selected, lists of sample households were prepared. Suitable enumerator workloads were formed and enumeration schedules developed. Two enumeration teams were formed to do the survey field work, consisting of enumerators, supervisors and data entry operators.

One enumeration team was assigned to do the enumeration for Savaii. The team worked out of a survey base established on the island. Each day, enumerators and supervisors travelled to the field, returning each evening to the survey base. Data entry operators received completed questionnaires and carried out the data entry. At the end of the enumeration, the enumeration team returned to Apia with the electronic data and completed questionnaires.

The other enumeration team was responsible for enumeration in the three regions of Upolu. A similar approach was used, with the enumeration team based in Apia. Enumerators and supervisors travelled to and from the field each day. Data entry was done progressively by data entry operators based in SBS.

Enumerators were recruited specially for the survey. Enumerators received four days of training from 20-23 October 2015, covering all

elements of the data collection operation and the duties of the enumerators. An enumerator manual was prepared to assist enumerators in their work.

The field supervisors were SBS and MAF staff. Their job was to oversee the data collection operation and check the completed questionnaires to ensure high quality data were provided. Doing the data entry in the field helped in identifying and correcting errors and in speeding up the data processing.

The survey was undertaken over the four week period 26 October to 20 November 2015. All completed questionnaires and the associated survey database were available in Apia by 4 December 2015.

9 Non-response

In the survey, 2,818 households were selected for inclusion in the survey, of which 2,507 were enumerated. Thus, 311 sample households (11 percent of sample households) were not enumerated. All six institutions were enumerated.

Because the sample was selected from households enumerated in the Census of Population and Dwellings 2011, some sample households were not able to be enumerated in the survey because the selected dwelling was vacant or had been destroyed. This arose because the selected household had moved between 2011 and 2015 or because it no longer existed due to deaths or re-forming of households. There were 245 sample households not enumerated for these reasons.

The remaining 66 households were non-respondents. This represents a non-response rate of less than 3 percent. Non-response occurred because no household member was available for interview at the time of the survey, the household refused to participate in the survey, or it was not possible to complete the questionnaire for other reasons. Because non-

response is so low, it should have little effect on the reliability of the survey results.

Most questionnaires were completed in full. In a few cases, missing data were able to be “imputed” based on responses to other questions. Otherwise, missing data are shown in the tables as “Not reported”.

10 Survey processing

Data processing was done by SBS using the survey processing package CSPro. Data were first entered into the computer in the field. After questionnaires had been returned to Apia, a second data entry was done to correct any data entry errors. A computer editing system was used to apply consistency and other checks to the reported data. A list of errors was generated and corrections made as necessary.

Because the survey was based on a sample, the data needed to be weighted in order to make survey estimates. The weights were based on probabilities of selection of households, taking into account non-response. Adjustments were also made to ensure that survey estimates of the number of households for each region were the same as the SBS official estimates for 2015. The weighting method was in accordance with sound statistical methods.

11 Reliability of data

The survey data are based on a sample and are therefore subject to sampling errors. These are

errors that arise because the survey results are estimated from a sample of households rather than all households. The survey was designed to provide reliable national and regional data; that is, data with acceptable sampling errors at these levels. Generally, national data are more reliable than regional data. District data cannot be provided because of high sampling errors. It is possible to estimate sampling errors, but this has not yet been done.

The survey results are also subject to non-sampling errors. These are errors that arise as a result of mistakes in the survey data collection or processing. Every effort was made to ensure that reported data were of high quality by training of enumerators, supervising enumeration work, checking of reported data, and data editing. Data entry errors were eliminated by using double data entry.

12 Data dissemination

This report presents the main results of the agricultural household component of the survey. Additional tables can be provided on request to SBS. Data for joint family holdings and institutional holdings are not shown.

More analysis will be done on other aspects of the survey, including joint family holdings and institutional holdings. Further analysis of crop data will also be carried out, including an assessment of the use of survey data for estimating crop production. Results will be made available on the SBS website.

APPENDIX 2

DEFINITIONS OF ITEMS USED IN THIS REPORT

1 Definitions

A household is a group of people making common arrangements for food, shelter and other acts of daily living. A household usually consists of relatives such as a spouse, children or parents, but sometimes includes unrelated people such as live-in household or farm workers. A household is not the same as a family, which consists of related persons. Household size is the number of persons who usually live in the household.

An agricultural household is a household that is growing any agricultural crops on its own land or raising livestock. The agricultural household corresponds to FAO's concept of agricultural holding for the household sector (see Appendix 1, Section 4)

A crop household is an agricultural household that is growing crops. Crop households are divided into major and minor crop households. A minor crop household is an agricultural household with: less than 625 square yards of land under temporary crops; and less than 20 coconut trees; and less than 20 banana plants; and less than 20 other tree crops. A major crop household is an agricultural household that is not a minor crop household.

Area of holding is the area of all agricultural and non-agricultural land operated by the agricultural household. This includes land on which agricultural activities are carried out, as well as non-agricultural land such as homestead land, forest land, fish ponds, grazing land and wasteland.

To operate land means to have management control over growing crops or other activities on that land. Thus, land operated by an agricultural household includes land owned and

operated by the household, as well as land operated by the household but rented from someone else. Land owned by the household but rented out to someone else is excluded.

A parcel is a contiguous piece of land operated by an agricultural household; that is, a piece of land entirely surrounded by other land, water, forest, road, etc., not forming part of the land operated by that agricultural household. A parcel may consist of one or more adjacent fields. An agricultural household may have one or more parcels.

Land tenure refers to the arrangements or rights under which the household operates the parcel of land. *Customary land* is land owned by or belonging to a village or extended family that is currently operated by the household. *Leased customary land* is land owned by or belonging to a village or another extended family that is currently leased by the household, whether it is paying for it or not. *Leased government land* is land owned by or belonging to the government that is currently operated by the household for payment. *Own freehold land* is land that is privately owned by the household. *Leased freehold land* is land owned by a different household but currently being operated by the enumerated household, regardless of whether the household is paying any lease for the land. *Other* includes land owned by the church or other institutions.

Permanent crops are crops with a greater than one-year growing cycle, such as fruit and nut trees, bananas, coffee, tea and cardamom. Temporary crops are crops with a less than one-year growing cycle.

Land use refers to the main use of the parcel of land. If the parcel has two uses, it is assigned to one or the other land use type based on the

economic importance of the two activities. *Land under livestock* refers to land that is currently used for raising livestock. *Land temporarily fallow* refers to land that: was used for growing crops sometime in the past; is not currently used for growing crops; and is not expected to remain idle for more than five years. *Land under non-agricultural use* refers to land that is under buildings, roads, etc.

Agricultural land refers to land under any of the following three main land uses: permanent crops, temporary crops, and land temporarily fallow.

Period of land use refers to the number of years the parcel has been used for the purpose described by the land use type.

Data on temporary crops refer to the twelve months period prior to the enumeration. The crop area data in this report relate to land under temporary crops (net crop area). This refers to land on which temporary crops were grown during the reference year. This may be different from the area of temporary crops grown (gross crop area) which refers to the total area of all crops grown during the reference year. The latter may be larger because of double cropping; that is, crops grown and harvested successively on the same land during the reference year.

Data on permanent crops refer to the crops present on the day of enumeration.

A crop is said to be grown as a single crop if it is grown alone in a field. A mixed crop is a crop grown in a field together with one or more other crops, either as a mixture of crops or interplanted with other crops.

Livestock refers to animals and poultry raised mainly for agricultural purposes. To raise livestock means to have primary responsibility for looking after the animals on a long-term basis and making day-to-day decisions about their use. Livestock numbers refer to those present on the day of enumeration. Average

livestock holding is the average for those households with the given type of livestock (not the average for all agricultural households).

Vaccination refers to administering an animal with a substance to control disease. The data refer to whether any of the household's existing animals had been vaccinated.

Agricultural machinery used refers to use of machinery by the household wholly or partly for crop, livestock or fisheries production purposes during the previous twelve months. Equipment may be owned by the household or hired/borrowed from someone else.

Inorganic fertilizers are fertilizers prepared from inorganic materials manufactured through an industrial process to supply plants with nutrients or to enhance plant growth. Fertilizers contain the three primary nutrients (N, P₂O₅ and K₂O). Data on inorganic fertilizers refer to their use during the previous twelve months.

Pesticides are materials intended to mitigate, control or eliminate pests in plants or animals, including insecticides, herbicides and fungicides. Data on pesticides refer to their use during the previous twelve months.

Organic farming practices refer to farming using organic products such as compost and manure.

Loans refer to whether the household received a loan for crop, livestock or fisheries purposes in the previous twelve months. This includes loans for purchasing crop, livestock and fisheries inputs, constructing farm buildings, and purchasing farm or fisheries equipment. Loans not related to crop, livestock or fisheries activities – such as for construction of a house, for other family businesses, or for consumption expenditure – are excluded. Loan data refer to whether the loan was obtained during the reference year, not whether the loan was outstanding at the time of the survey. Money may be borrowed through a lending institution, or other organizations or persons. Buying goods on credit is also included.

A farm household in Chapter 4 is a household whose main source of cash income is growing crops or raising livestock. The farm population consists of the household members of farm households.

A person's main activity is the activity on which the person spent most hours working in the previous week. An *employer* is a person who hires employees/workers to perform work. *Self-employed (business)* refers to work in a non-farm business, such as running a shop or driving a taxi. *Self-employed (farm)* refers to work on the household's own farm. An *employee* is a person working in a paid job in either the public or private sector. *Unpaid family worker (business or farm)* refers to a person who works in a family business or farm without pay. *Unpaid family worker (household duties)* refers to a person who helps with basic household duties. *Other* includes voluntary workers, students and retirees.

Outside labour means the employment of people, other than household members, to do crop, livestock or fisheries work for the household. Outside labour can be in the form of individual employees or groups of workers.

The main operator is the person or persons exercising management control over the operation of crop, livestock or fisheries

activities for the household. Normally, there is a sole operator; that is, one household member – often the head of the household – is the main operator. However, there may be joint operators; that is, two or more people in the household – for example, husband and wife – make joint decisions on the management of the household's crop, livestock or fisheries activities.

Inshore fishing is fishing in the lagoon to just beyond the waves. Offshore fishing is fishing in the open sea. Fresh water fishing is fishing in lakes and rivers.

2 Notes on the tables

Figures in the tables may not add to totals because of rounding in the survey estimation process.

The symbol "-" in a table means that the survey estimate is zero. Because the estimate is subject to sampling error, it does not necessarily mean that the actual figure is zero; it should be interpreted as zero or very small.

The symbol ".." in a table indicates that the table cell is not applicable.

The symbol "n.a." in a table indicates that the data are not available.

SAMOA AGRICULTURAL SURVEY 2015

HOUSEHOLD QUESTIONNAIRE



AGRICULTURE SURVEY - 2015



This survey aims to collect agricultural data to help Government monitor short-term changes in agricultural conditions and assess current issues affecting the performance of the sector. The information is being collected under the Statistics Act 1971 and will be kept **Strictly Confidential** and will be used for **Statistical Purposes Only**.

- | | |
|--|---|
| <p>Section I. HOUSEHOLD COMPOSITION</p> <p>Section II. LAND</p> <p>Section III. CROPS</p> <p>Section IV. LIVESTOCK</p> | <p>Section V. FISHERIES</p> <p>Section VI. LABOUR INPUT</p> <p>Section VII. EQUIPMENT</p> <p>Section VIII. HOUSEHOLD AGRICULTURAL & FISHERIES INCOME & CREDIT</p> |
|--|---|

IDENTIFICATION

NAME OF REGION _____

NAME OF DISTRICT _____

NAME OF VILLAGE _____

ENUMERATION AREA

HOUSEHOLD NUMBER

NAME OF HOUSEHOLD HEAD _____

INTERVIEWER VISITS

	1	2	3	FINAL VISIT				
DATE	_____	_____	_____	DAY _____ MONTH _____ YEAR <table style="display: inline-table; border: 1px solid black; text-align: center;"> <tr><td style="width: 20px;">2</td><td style="width: 20px;">0</td><td style="width: 20px;">1</td><td style="width: 20px;">5</td></tr> </table>	2	0	1	5
2	0	1	5					
INTERVIEWER'S NAME	_____	_____	_____	INT. NUMBER _____				
RESULT*	_____	_____	_____	RESULT _____				
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS <table style="display: inline-table; border: 1px solid black; width: 30px; height: 20px;"></table>				
NEXT VISIT: TIME	_____	_____						

***RESULT CODES:**

- 1 COMPLETED
 - 2 NO HOUSEHOLD MEMBER AT HOME AT TIME OF VISIT
 - 3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME
 - 4 POSTPONED/INCOMPLETE
 - 5 REFUSED
 - 6 VACANT
 - 7 BUILDING DESTROYED
 - 8 DWELLING NOT FOUND
 - 9 OTHER _____
- (SPECIFY)

TOTAL PERSONS IN HOUSEHOLD

RESPONDENT TO HOUSEHOLD QUESTIONNAIRE

OFFICE USE ONLY

STRATUM CODE

<p>SUPERVISOR</p> <p>NAME _____</p> <p>DATE _____</p>	<p>FIELD EDITOR</p> <p>NAME _____</p> <p>DATE _____</p>	<p>OFFICE EDITOR</p> <p>_____</p>	<p>KEYED BY</p> <p>_____</p>
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SECTION 1 - HOUSEHOLD COMPOSITION

1.1 Who are the usual members of this household? (as on the day of enumeration)
(Exclude temporary visitors but include usual household members.)

O ai tagata masani o loo nonofo i lo outou aiga?

Member ID	Full Name	Sex	Birthdate	Completed Age	ALL Persons Aged 15 Years and over	
					Level of Education Completed	Main Activity (Last Week)
					CODE	CODE
1101	1102	1103	1104	1105	1106	1107
01		□	/ /	□□□	□	□□
02		□	/ /	□□□	□	□□
03		□	/ /	□□□	□	□□
04		□	/ /	□□□	□	□□
05		□	/ /	□□□	□	□□
06		□	/ /	□□□	□	□□
07		□	/ /	□□□	□	□□
08		□	/ /	□□□	□	□□
09		□	/ /	□□□	□	□□
10		□	/ /	□□□	□	□□
11		□	/ /	□□□	□	□□
12		□	/ /	□□□	□	□□
13		□	/ /	□□□	□	□□
14		□	/ /	□□□	□	□□
15		□	/ /	□□□	□	□□
16		□	/ /	□□□	□	□□
17		□	/ /	□□□	□	□□
18		□	/ /	□□□	□	□□
19		□	/ /	□□□	□	□□
20		□	/ /	□□□	□	□□
21		□	/ /	□□□	□	□□
22		□	/ /	□□□	□	□□
23		□	/ /	□□□	□	□□
24		□	/ /	□□□	□	□□

1106 : Level of Education Completed

- 1 None
- 2 Kindergarten
- 3 Primary
- 4 Secondary
- 5 Tertiary

1107 : Main Activity

- 01 Employer
- 02 Employee, working for wages/salary in public sector
- 03 Employee, working for wages/salary in private sector
- 04 Producing goods or services for sale, running a business (self employed)
- 05 Producing goods for own and/or family consumption (self employed)
- 06 Unpaid family worker (family business/farm)
- 07 Unpaid family worker (help with basic household duties)
- 08 Voluntary work/community work (work for free)
- 09 Home duties
- 10 Student - full time
- 11 Student - part time
- 12 Retired/Too old
- 13 None - Do not pursue any activity at all

Observations

SECTION II - LAND

Reference Period as of Day of Enumeration
Date : ____ / ____ / ____

2.1 How many parcels of land does this household now operate? (Enter the number in the boxes provided)

E fia ni fanua o loo galueaina e lo outou aiga i le taimi nei?

Number of Parcels

--	--

2.2 Give details of these parcels :
Faamatalaga auiliili o ia fanua :

Parcel No	Location		Total Area		Land Tenure (Code) 2206	Main Land Use (Code) 2207	Period of Main Land Use (Code) 2208
	District (Code) 2202	Village (Code) 2203	Whole Acre 2204	Fractions of Acre 2205			
01 (Homestead)							
02							
03							
04							
05							
06							
07							
08							
09							
TOTAL							

CODES for Questions 2.2 and 2.5

Land Tenure (Column 2206)	Main Land Use (Column 2207)	Period of Use (Column 2208)
1. Customary Land	1. Land Under Tree Crops	1. In the last year
2. Leased Customary Land	2. Land Under Garden Crops	2. 1 - 4 years
3. Leased Government Land	3. Land Under Livestock	3. 5 - 9 years
4. Own Freehold Land	4. Land Temporarily Fallow	4. 10+ years
5. Leased Freehold Land	5. Land Under Non-Agricultural Use	
6. Other		

2.3 Does this household have access to any other parcel of land operated together with other households?

E iai nisi fanua o loo outou faaogaina ma nisi aiga? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

1 YES

2 NO

➡ If NO go to Question 3.2

--

2.4 How many parcels of extended family land does this household have access to? (Enter the number in the boxes provided)

E fia se aofaiga o fanua o loo outou faaogaina faatasi ma isi aiga?

Number of Parcels

--	--

2.5 Give details of these parcels :
Faamatalaga auiliili o ia fanua :

Parcel No	Location		Total Area		Land Tenure (Code) 2506	Main Land Use (Code) 2507	Period of main land use (Code) 2508
	District (Code) 2502	Village (Code) 2503	Whole Acre 2504	Fractions of Acre 2505			
10							
11							
12							
13							
14							
TOTAL							

See BOX above for Codes

Observations

2.6 How many other households have access to the extended family land? (Enter the number in the boxes provided)

E fia ni aiga o loo outou faaaogaina faatasi ia fanua?

Number of households

--	--

SECTION III - CROPS

3.1 What tree or other permanent crops are growing on the parcels this household has access to (extended family land)? (Encircle crop codes in column 3102, then for each crop, enter code "1" for Yes or code "2" for No in column 3103, and record the number of trees or plants in the corresponding columns)

O lai ni laau toto o loo taua i lalo, I fanua o loo faaaogaina faatasi ma isi aiga?

CROP	CROP Code	Is this crop grown? 1 - Yes 2 - No	PARCEL NUMBER				
			10	11	12	13	14
			No of Trees/Plants	No of Trees/Plants	No of Trees/Plants	No of Trees/Plants	No of Trees/Plants
3101	3102	3103	3104	3105	3106	3107	3108
Coffee	10						
Rambutan	11						
Nonu	12						
Starfruit	13						
Mango	14						
Avocado	15						
Vi	16						
Orange	17						
Lemon	18						
Lime	19						
Papaya	20						
Sasalapa	21						
Apiu	22						
Vanilla	23						
Mangosteen	24						

3.2 Are there any coconut, cocoa, breadfruit or banana growing on the parcels of household operated land and extended family land? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

O iai ni niu, koko, ulu ma fa'i o loo ola i fanua o loo outou galueaina ma fanua o loo faaaogaina faatasi ma isi aiga?

1 YES

2 NO



If NO go to Question 3.4

--

3.3 Record details of coconut, cocoa, breadfruit and bananas grown parcel by parcel.

Faamauina faamatalaga auiliili o niu, koko, ulu ma fa'i o loo ola i fanua taitasi.

CROP	Crop Code	Parcel Number	Single Crop			Mixed Crops/ Scattered
			No. of Plants	AREA		
				Acres	Fractions	
3301	3302	3303	3304	3305	3306	3307
Coconut	01					
	01					
	01					
	01					
	01					
Cocoa	02					
	02					
	02					
	02					
	02					
Breadfruit Puou	03					
	03					
	03					
	03					
	03					

CROP	Crop Code	Parcel Number	Single Crop			Mixed Crops/ Scattered
			No. of Plants	AREA		
				Acres	Fractions	
3301	3302	3303	3304	3305	3306	3307
Breadfruit Maafala	04					
	04					
	04					
	04					
	04					
	04					
Breadfruit other	05					
	05					
	05					
	05					
	05					
Banana	06					
	06					
	06					
	06					
	06					

Observations

3.4 Are the following permanent crops growing on the parcels of household operated land?

(Encircle crop codes in Column 3402, then for each crop, enter code "1" for Yes or code "2" for No in column 3403 and record the number of trees or plants in the corresponding columns)

O la o ni laau toto o loo taua i lalo i fanua o loo galueaina e lo outou aiga? (e le aofia ai fanua o loo faaogaina faatasi ma isi aiga)

1 YES

2 NO



If NO go to Question 3.5

CROP	CROP CODE	Is this crop grown? 1 - Yes 2 - No	Parcel Number								
			01	02	03	04	05	06	07	08	09
			No of Trees/Plants	No of Trees/Plants	No of Trees/Plants	No of Trees/Plants	No of Trees/Plants	No of Trees/Plants	No of Trees/Plants	No of Trees/Plants	No of Trees/Plants
3401	3402	3403	3404	3405	3406	3407	3408	3409	3410	3411	3412
Coffee	10										
Rambutan	11										
Nonu	12										
Starfruit	13										
Mango	14										
Avocado	15										
Vi	16										
Oranges	17										
Lemon	18										
Tahitian Lime	19										
Papaya	20										
Sasalapa	21										
Api	22										
Vanilla	23										
Mangosteen	24										

3.5 What proportion of coconut, cocoa, breadfruit and banana did this household sell in the last 12 months?

(For each crop, record appropriate code in column 3503)

Faamatalaga auiliili o le faatauina atu o popo, koko, ulu poo fai a lo outou aiga, i le 12 masina talu ai?

CROP	Crop Code	Proportion of Produce sold
		1 None 2 About 1/4 3 About 1/2 4 About 3/4 5 All of produce
3501	3502	3503
Coconut	01	
Cocoa	02	
Breadfruit	29	
Banana	06	



If some produce sold, go to Question 3.6 for the corresponding crop(s).
If no produce sold, go to Question 3.7.

3.6 Record details of coconut, cocoa, breadfruit and bananas sold by this household during the last 12 months.

Faamanuina faamatalaga auiliili o le faatauina atu o popo, koko, ulu poo fa'i a lo outou aiga, i le 12 masina talu ai?

CROP	Crop Code	Quantity	UNIT	Value (SAT)	No. of Sales (last 12 months)
			1. Each 2. Packet 3. Pile 4. Sack 5. Basket 6. Pail 7. Cup 8. Bunch 9. Finger		
3601	3602	3603	3604	3605	3606
Coconut	01				
	01				
	01				
Cocoa	02				
	02				
	02				
Breadfruit	29				
	29				
	29				
Banana	06				
	06				
	06				

Observations

3.7 Did this household plant any annual crops (not tree or permanent crops) in the last 12 months?

(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

Na totoina e lo outou aiga ni laau toto e selesele i totonu o le tausaga, i le 12 masina talu ai?

1 YES

2 NO **➔** *If NO go to Question 3.14*

3.8 What annual crops (not tree or permanent crops) did this household plant in the last 12 months?

(Encircle crop codes in column 3802, then for each crop, enter code "1" for Yes or code "2" for No in Column 3803 and number of plants in Column 3804)

O a laau toto i le lisi o loo taua i lalo na totoina e lo outou aiga, i le 12 masina talu ai?

CROP	Crop Code	1 - YES 2 - NO	Number of plants on the field	CROP	Crop Code	1 - YES 2 - NO	Number of plants on the field	CROP	Crop Code	1 - YES 2 - NO	Number of plants on the field
3801	3802	3803	3804	3801	3802	3803	3804	3801	3802	3803	3804
Taro	30			Cucumber	39			Brown Onion	48		
Ta'amu	31			Head Cabbage	40			Ginger	49		
Yam	32			Chinese Cabbage	41			Chilli	50		
Cassava	33			Lettuce	42			Sweet corn	51		
Taro Palagi	34			Pumpkin	43			Peanut	52		
Umala	35			Laupele	44			Pineapple	53		
Tomato	36			Water cress	45			Watermelon	54		
Eggplant	37			Green pepper	46						
Bean	38			Spring onion	47						

3.9 If No taro, ta'amu or taro palagi planted

A fai e lei totoina ni talo, ta'amu ma talo palagi



Go to Question 3.14

3.10 If planted taro, what is the planting cycle or pattern for taro? (provide full description in the box provided)

A fai na totoina ni talo o le a le faasologa na toto ai?

3.11 If planted ta'amu, what is the planting cycle or pattern for ta'amu? (provide full description in the box)

A fai na totoina ni ta'amu o le a le faasologa na toto ai?

Observations

3.12 If planted taro palagi, what is the planting cycle or pattern for taro palagi? (provide full description in the box)
 A fai na totoina ni talo palagi o le a le faasologa na toto ai?

3.13 Record details of taro, ta'amu and taro palagi grown in the last 12 months parcel by parcel.
 Faamanuina faamatalaga auiliili o talo, ta'amu ma talo palagi na totoina I fanua taitasi, i le 12 masina talu ai.

Crop Description	Crop Code	Parcel Number	Area of land used for growing crops		Mixed Crops/Scattered
			Acres	Fractions	No. of plants now growing
31301	31302	31303	31304	31305	31306
Taro	30				
	30				
	30				
	30				
	30				
Ta'amu	31				
	31				
	31				
	31				
	31				
Taro Palagi	34				
	34				
	34				
	34				
	34				

3.14 What proportion of taro, ta'amu and taro palagi did this household sell in the last 12 months?

(For each crop, record appropriate code in column 31403)

O le a se vaega o talo, ta'amu, ma talo palagi na faatauina atu I le 12 masina talu ai?

CROP	Crop Code	Proportion of Produce sold
		1 None 2 About ¼ 3 About ½ 4 About ¾ 5 All of produce
31401	31402	31403
Taro	30	
Ta'amu	31	
Taro palagi	34	



If some produce sold, go to Question 3.15 for the appropriate crop(s).

If no produce sold, go to Question 3.16.

Observations

3.15 Record details of taro, ta'amu and taro palagi sold by this household during the last 12 months.
 Faamatalaga auiliili o talo, ta'amu ma talo palagi na faatauina atu e lo outou aiga, i le 12 masina talu ai.

CROP	Crop Code	Quantity	UNIT 1. Each 2. Packet 3. Pile 4. Sack 5. Basket 6. Pail 7. Cup 8. Bunch 9. Finger	Last Sale		No. of Sales (last 12 months)
				Value (SAT)		
31501	31502	31503	31504	31505	31506	
Taro	30					
	30					
	30					
Ta'amu	31					
	31					
	31					
Taro palagi	34					
	34					
	34					

3.16 What is the main purpose of this household's crop production?
 (Encircle the appropriate code and enter it in the box provided)

O le a le faamoemoega autu na fai ai le faatoaga?

- 1 Only for home consumption
- 2 Mainly for home consumption with occasional selling
- 3 Mainly for sale

3.17 Which members of this household are normally engaged in crop activities?
 O ai tagata o lo outou aiga e masani ona galulue i lo outou faatoaga?

Household member number from Question 1.1 (column 1101)	How many hours did this person work last week on crop activities?	Is this person the <u>main operator</u> for crops in the household? (Enter code "1" for Yes or code "2" for No)
31701	31702	31703

3.18 Did this household hire anyone (non-household member) to work on crop activities in the last 12 months? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

Na faafaigaluegaina e lo outou aiga ni tagata e ese mai i tagata o lo outou aiga i le faatoaga, i le 12 masina talu ai?

- 1 YES
- 2 NO

Observations

3.19 Did this household use any inorganic fertilizers for crop activities in the last 12 months?

(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

Na faaogaina e lo outou aiga ni faalelei elelee faonapo nei i lo outou faatoaga, i le 12 masina talu ai?

1 YES

2 NO

3.20 Did this household practise organic farming in the last 12 months? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

Na faaogaina e lo outou aiga ni faalelei elelee faalenatura (faapalaga), i le 12 masina talu ai?

1 YES

2 NO

If No go to Question 3.22

3.21 What type of organic inputs did this household use in the last 12 months? (For each type, encircle code "1" for Yes or code "2" for No; then enter appropriate codes in the boxes provided)

O a ituaiga faapalaga na faatinoina e lo outou aiga, i le 12 masina talu ai?

1 Compost 1 (Faapalaga faasalalau solo) 1 - YES 2 - NO

2 Compost 2 (Faapalaga ufiufi lelei) 1 - YES 2 - NO

3 Green manures (Otaota o manu) 1 - YES 2 - NO

4 Chilli spray 1 - YES 2 - NO

5 Others (Specify) _____ 1 - YES 2 - NO

3.22 Did this household use any agricultural chemicals for weeds, pests or disease control in the last 12 months? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

Na faaogaina e lo outou aiga ni vailaau tau faatoaga mo vao, iniseti ma faamai, i le 12 masina talu ai?

1 YES

2 NO

If NO go to Section IV

3.23 Which types of agricultural chemicals were bought in the last 12 months?

Faailoa mai vailaau faatoaga na faatauina, i le 12 masina talu ai?

Type of Chemicals	Main Chemical Used	Volume Bought (last 12 months)	Units
32301	32302	32303	32304
Insecticide			
Herbicide			
Fungicide			

Observations

SECTION IV - LIVESTOCK

Reference Period 12 months
from: ___ / ___ / ___
to: ___ / ___ / ___

4.1 Is this household now raising any livestock or poultry of any kind?
(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)
O tausia e lo outou aiga ni manu e pei o povi, puua, moa, mamoe, oti ma solofanua?

1 YES 2 NO If NO go to Section V

4.2 Which members of this household are normally engaged in livestock?
O ai tagata o lo outou aiga e gafa ma le tausaiaina o a outou manu?

Household member number from Question 1.1 (column 1101)	How many hours did this person work <i>last week</i> in livestock activities?	Is this person the main operator for livestock in the household? (Enter code "1" for Yes or code "2" for No)
4201	4202	4203

4.3 Did this household hire anyone (non-household member) to work on livestock activities
in the last 12 months? (Encircle code "1" for Yes or code "2" for No; then enter the code in the
box provided)
Na faafaigaluegaina e lo outou aiga ni tagata e ese mai l tagata o lo outou aiga i a outou lafumanu
i le 12 masina talu ai?

1 YES 2 NO

4.4 Is this household now raising any **CATTLE**? (Encircle code "1" for Yes or code "2" for No;
then enter the code in the box provided)
O tausia e lo outou aiga ni **POVI**?

1 YES 2 NO If NO go to Question 4.15

4.5 How many cattle does this household currently keep? (Enter the number in the boxes provided)
E fia se aofaiga o povi a lo outou aiga o loo iai?

Total Number of Cattle

--	--	--

Observations

4.6 **How many cattle are of the following types?** *(Enter the numbers in the boxes provided)*
E fia se aofaiga o ituaiga povi o loo taua I lalo?

1 Total Number of Cattle **(2+3+4+5+6+7+8+9+10+11+12)**

2 Dairy Cattle

3 Calves *(0-3 months)*

4 Cattle *(4 months - 1 year)*

5 Cows *(between 1 and 2 years)*

6 Heifers *(between 1 and 2 years)*

7 Bulls *(between 1 and 2 years)*

8 Steers *(between 1 and 2 years)*

9 Cows *(2 or more years)*

10 Heifers *(2 or more years)*

11 Bulls *(2 or more years)*

12 Steers *(2 or more years)*

4.7 **During the last 12 months, how many cattle were:** *(Enter the numbers in the boxes provided)*
I le 12 masina talu ai, e fia le aofaiga o povi na :

1 Slaughtered sold (retailed)

2 Slaughtered sold (customary)

3 Sold live

4 Slaughtered for customary purposes

5 Given away live

6 Died

7 Total Subtraction **(1+2+3+4+5+6)**

8 Born

9 Purchased

10 Received as gifts

11 Total Addition **(8+9+10)**

4.8 **How much did this household earn from selling live or slaughtered cattle in the last 12 months?** **[Only for those with answers to 1, 2 or 3 in Question 4.7]**
(Enter the total income earned in the boxes provided)

E fia se aofaiga o tupe na maua e lo outou aiga i le faatauina atu o povi (ola poo tape/faamama) i le 12 masina talu ai?

Total Income earned (SAT)

\$

--	--	--	--	--

Observations

<p>4.9 Did this household produce any milk from cattle in the last 12 months? (<i>Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided</i>) Na maua mai e lo outou aiga susu povi mai ia outou povi, i le 12 masina talu ai?</p> <p style="text-align: center;">1 YES 2 NO ➔ If No go to Question 4.12</p> <div style="text-align: right; margin-right: 20px;"><input style="width: 50px; height: 30px;" type="text"/></div>								
<p>4.10 Did this household sell any of the milk produced? (<i>Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided</i>) Na faatau atu e lo outou aiga ni susu povi?</p> <p style="text-align: center;">1 YES 2 NO ➔ If No go to Question 4.12</p> <div style="text-align: right; margin-right: 20px;"><input style="width: 50px; height: 30px;" type="text"/></div>								
<p>4.11 How much did this household earn from selling cattle milk in the last 12 months? <i>(Enter the total income earned in the boxes provided)</i> E fia se tupe na maua e lo outou aiga i le faatauina atu o susu povi, i le 12 masina talu ai?</p> <p>Total income earned (SAT) \$ <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/></p>								
<p>4.12 What is the <u>main system</u> of rearing cattle used by this household? (<i>Encircle the appropriate code and enter the code in the box provided</i>) O le a le <u>auala autu</u> o loo tausia ai povi a lo outou aiga?</p> <p>1 Free range 2 Enclosed own 3 Enclosed other 4 Tether</p> <div style="text-align: right; margin-right: 20px;"><input style="width: 50px; height: 30px;" type="text"/></div>								
<p>4.13 What kind of pasture does this household use for cattle? (<i>For each type, encircle code "1" for Yes or code "2" for No; then enter the appropriate codes in the boxes provided</i>) O le a le ituaiga vao o loo faaogaina e povi a lo outou aiga?</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 35%;">1 Improved</td> <td style="width: 15%;">1 - YES</td> <td style="width: 15%;">2 - NO</td> <td style="width: 35%; text-align: right;"><input style="width: 50px; height: 25px;" type="text"/></td> </tr> <tr> <td>2 Native</td> <td>1 - YES</td> <td>2 - NO</td> <td style="text-align: right;"><input style="width: 50px; height: 25px;" type="text"/></td> </tr> </table>	1 Improved	1 - YES	2 - NO	<input style="width: 50px; height: 25px;" type="text"/>	2 Native	1 - YES	2 - NO	<input style="width: 50px; height: 25px;" type="text"/>
1 Improved	1 - YES	2 - NO	<input style="width: 50px; height: 25px;" type="text"/>					
2 Native	1 - YES	2 - NO	<input style="width: 50px; height: 25px;" type="text"/>					
<p>4.14 Have any of this household's cattle been vaccinated? (<i>Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided</i>) Na faaogaina ni tui/vailaau e puipuia ai povi mai i faamai?</p> <p style="text-align: center;">1 YES 2 NO</p> <div style="text-align: right; margin-right: 20px;"><input style="width: 50px; height: 30px;" type="text"/></div>								
<p>4.15 Is this household now raising any <u>PIGS</u>? (<i>Encircle code "1" for Yes or code "2" for No, then enter the code in the box provided</i>) E tausia e lo outou aiga ni <u>PUAA</u>?</p> <p style="text-align: center;">1 YES 2 NO ➔ If NO go to Question 4.23</p> <div style="text-align: right; margin-right: 20px;"><input style="width: 50px; height: 30px;" type="text"/></div>								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="text-align: center; padding: 5px;">Observations</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td></tr> </tbody> </table>	Observations							
Observations								

4.16 **How many pigs does this household currently keep?** *(Enter the total number of pigs in the boxes provided)*
E fia se aofaiga o puaa a lo outou aiga o loo iai?

Total number of pigs

--	--	--

4.17 **How many pigs are of the following types?** *(Enter the numbers in the boxes provided)*
E fia se aofaiga o ituaiga puaa o loo taua l lalo?

1 Total number of pigs (2+3+4)

--	--	--

2 Piglets *(below 6 months)*

--	--	--

3 Male pigs *(6 months or more)*

--	--	--

4 Female pigs *(6 months or more)*

--	--	--

4.18 **During the last twelve months, how many pigs were:** *(Enter the numbers in the boxes provided)*
I le 12 masina talu ai, e fia se aofaiga o puaa na :

1 Slaughtered sold (retailed)

--	--

2 Slaughtered sold (customary)

--	--

3 Sold live

--	--

4 Slaughtered for customary purposes

--	--

5 Slaughtered for consumption

--	--

6 Given away live

--	--

7 Died

--	--

8 Total Subtraction (1+2+3+4+5+6+7)

--	--

9 Born

--	--

10 Purchased

--	--

11 Received as gifts

--	--

12 Total Addition (9+10+11)

--	--

4.19 **How much did this household earn from selling live or slaughtered pigs in the last 12 months?**
[Only for those with answers to 1,2 or 3 in Question 4.18] (Enter the total income earned in the boxes provided)

E fia se tupe na maua e lo outou aiga i le faatauina atu o puaa (ola pe tape/faamama) i le 12 masina talu ai?

Total income earned (SAT) \$

--	--	--	--	--

Observations

4.20 **What is the main system of rearing pigs used by this household?** *(Encircle the appropriate code and enter the code in the box provided)*
O le a le auala autu o loo tausia ai puaa a lo outou aiga?

1 Free range

2 Enclosed on own land

3 Enclosed on another household's land

4.21 **Did this household purchase any supplementary pig feed during the last 12 months?** *(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)*
Na faatauina e lo outou aiga ni meaai puaa faonapo nei, i le 12 masina talu ai?

1 YES 2 NO

4.22 **Have any of this household's pigs been vaccinated?** *(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)*
Ua fai ni tui / vailaau e puipuia ai puaa mai faamai?

1 YES 2 NO

4.23 **Is this household now raising any CHICKENS?** *(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)*
E tausia e lo outou aiga ni MOA?

1 YES 2 NO ➡ *If No go to Question 4.29*

4.24 **How many chickens (including chicks) does this household currently keep?** *(Enter the total number of chickens in the boxes provided)*
E fia se aofaiga o moa (e aofia ai ma tamai moa) a lo outou aiga o loo iai?

Total number of chickens (including chicks)

4.25 **During the last 12 months, how many chickens were:** *(Enter numbers in the boxes provided)*
I le 12 masina talu ai, e fia se aofaiga o moa na:

1 Slaughtered sold	<input type="text"/>	<input type="text"/>
2 Sold live	<input type="text"/>	<input type="text"/>
3 Slaughtered for customary purposes	<input type="text"/>	<input type="text"/>
4 Slaughtered for consumption	<input type="text"/>	<input type="text"/>
5 Given away live	<input type="text"/>	<input type="text"/>
6 Died	<input type="text"/>	<input type="text"/>
7 Total Subtraction (1+2+3+4+5+6)	<input type="text"/>	<input type="text"/>
8 Born	<input type="text"/>	<input type="text"/>
9 Purchased	<input type="text"/>	<input type="text"/>
10 Received as gifts	<input type="text"/>	<input type="text"/>
11 Total Addition (8+9+10)	<input type="text"/>	<input type="text"/>

Observations

4.26 How much did this household earn from selling live or slaughtered chickens in the last 12 months?
 [Only for those with answers to 1 or 2 in Question 4.25] (Enter the total income earned in the boxes provided)
 E fia se tupe na maua e lo outou aiga i le faatauina atu o moa (ola pe tape/ faamama) i le 12 masina talu ai?

Total income earned (SAT) \$

4.27 What is the main system of rearing chickens used by this household? (Encircle the appropriate code and enter the code in the box provided)
 O le a le auala autu o loo tausia ai moa a lo outou aiga?

1 Free range


2 Enclosed on own land

3 Enclosed on another household's land

4.28 Did this household purchase any supplementary chicken feed (excluding white rice) during the last 12 months? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)
 Na faatauina e lo outou aiga ni meaai moa faaonapo nei I le 12 masina talu ai?

1 YES 2 NO


4.29 Is this household raising any sheep, ducks, goats or horses? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)
 O tausia e lo outou aiga ni mamoe, pato, oti, poo solofanua?

1 YES 2 NO  **If No go to Section V**

4.30 How many livestock of the following types does this household currently keep? (Enter the numbers in the boxes provided)
 E fia ni mamoe / pato / oti / solofanua o loo tausia e lo outou aiga I le taimi nei?

1 Sheep	<input type="text"/>	<input type="text"/>
2 Ducks	<input type="text"/>	<input type="text"/>
3 Goats	<input type="text"/>	<input type="text"/>
4 Horses	<input type="text"/>	<input type="text"/>

4.31 During the last 12 months, did this household sell any livestock other than cattle, pigs or chickens? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)
 I le 12 masina talu ai, na faatauina atu e lo outou aiga ni mamoe / pato / oti / solofanua?

1 YES 2 NO  **If No go to Section V**

4.32 How much did this household earn from selling any other livestock in the last 12 months?
 (Enter the total income earned in the boxes provided)
 E fia se tupe na maua e lo outou aiga i le faatauina atu o ia manu, i le 12 masina talu ai?

Total income earned (SAT) \$

Observations

SECTION V - FISHERIES

Reference Period 3 months
from: ___ / ___ / ___
to: ___ / ___ / ___

5.1 During the last three months, was this household engaged in any fishing activities?

(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

Na faatinoina e lo outou aiga ni faigafaiva, i le 3 masina talu ai?

1 YES

2 NO ➔ If NO go to Question 5.10

5.2 Which members of this household were engaged in fishing in the last three months?

(Enter the household member number in column 5201 and corresponding individual information in columns 5202 and 5203)

O ai tagata o lo outou aiga na faatinoina faigafaiva, i le 3 masina talu ai?

Household member number from Question 1.1 (column 1101)	How many hours did this person work last week in fishing activities?	Is this person the main fishing operator in the household? <i>(Enter code "1" for Yes or code "2" for No)</i>
5201	5202	5203

5.3 Did this household hire anyone (non-household member) to work on fishing activities in the last three months? *(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)*

Na faafaigaluegaina e lo outou aiga ni tagata ese e faatinoina faigafaiva, i le 3 masina talu ai?

1 YES

2 NO

5.4 In what types of fishing did this household engage in the last three months? *(For each type, encircle code "1" for Yes or code "2" for No; then enter the appropriate codes in the boxes provided)*

O a ituaiga faigafaiva sa faatinoina e lo outou aiga, i le 3 masina talu ai?

- | | | | |
|--------------------|---------|--------|--|
| 1 Inshore Fishing | 1 - YES | 2 - NO | |
| 2 Offshore Fishing | 1 - YES | 2 - NO | |
| 3 Fresh Water | 1 - YES | 2 - NO | |

Observations

5.5 In which areas / habitat did this household fish in the last three months? (For each type, encircle code "1" for Yes or code "2" for No; then enter the appropriate codes in the boxes provided)

O fea vaega sa faatinoina ai e lo outou aiga faigafaiva, i le 3 masina talu ai?

1 Mangroves	1 - YES	2 - NO	<input type="text"/>
2 Lagoons	1 - YES	2 - NO	<input type="text"/>
3 Coastal Reefs	1 - YES	2 - NO	<input type="text"/>
4 Outer Reefs	1 - YES	2 - NO	<input type="text"/>
5 Pelagic/Open Ocean	1 - YES	2 - NO	<input type="text"/>
6 Fresh Water	1 - YES	2 - NO	<input type="text"/>
7 Fish Aggregating Device	1 - YES	2 - NO	<input type="text"/>

5.6 Did this household use the following in their fishing activities in the last three months?

(For each type, encircle code "1" for Yes or code "2" for No; then enter the appropriate codes in the boxes provided)

Na faaaogaina e lo outou aiga ni meafagota o loo taua i lalo i faigafaiva, i le 3 masina talu ai?

1 Long Line	1 - YES	2 - NO	<input type="text"/>
2 Fish Net	1 - YES	2 - NO	<input type="text"/>
3 Fish Fence	1 - YES	2 - NO	<input type="text"/>
4 Hook and Line	1 - YES	2 - NO	<input type="text"/>
5 Spear	1 - YES	2 - NO	<input type="text"/>
6 Gleaning	1 - YES	2 - NO	<input type="text"/>
7 Fish Trap	1 - YES	2 - NO	<input type="text"/>
8 Trolling	1 - YES	2 - NO	<input type="text"/>

5.7 How many fishing trips did this household make during the last week?

(Enter the number of fishing trips in the boxes provided)

E faafia ona fagogota lo outou aiga i le vaiaso talu ai?

Number of fishing trips

<input type="text"/>	<input type="text"/>
----------------------	----------------------

5.8 What was the main purpose of this household's fishing activities in the last three months?

(Encircle the appropriate code and enter it in the box provided)

O le a le faamoemoega autu o fagotaga a lo outou aiga , i le 3 masina talu ai?

- 1 Home Consumption
- 2 Mainly for Sale

Observations

5.9 **How much of the fish or other aquatic products caught during the last three months were sold?**
(Encircle the appropriate code and enter in the box provided)
O le a se aofaiga o l'a ma figota na maua mai i faiva na faatau atu, i le 3 masina talu ai?

1 None
 2 About ¼
 3 About ½
 4 About ¾
 5 All

5.10 **Is this household aware of any fisheries management programme (fish reserve/management programme) in the village or elsewhere?** *(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)*
O silafia e lo outou aiga ni polokalame faalauiloa i l'a ma figota faasao i totonu o lo outou nuu poo nisi nofoaga?

1 YES 2 NO **➔ If NO go to Section VI**

5.11 **Where did this household hear about this fisheries management programme?** *(For each type, encircle code "1" for Yes or code "2" for No; then enter the codes in the boxes provided)*
O fea na outou silafia mai ai ia polokalame faasao?

1 MAF	1- YES	2 - NO	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>
2 Within the village	1- YES	2 - NO	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>
3 Nearby village	1- YES	2 - NO	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>
4 Radio	1- YES	2 - NO	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>
5 Television	1- YES	2 - NO	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>
6 Newspaper	1- YES	2 - NO	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>
7 Schools	1- YES	2 - NO	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>
8 Others (Specify)	1- YES	2 - NO	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>

5.12 **How beneficial do you think this programme is?** *(Encircle the appropriate code and enter in the box provided)*
E te manatu e taua ia polokalame?

1 Beneficial 2 Not beneficial 3 Don't know

Observations

SECTION VI - LABOUR INPUT

Reference Period Last Week	
from:	___ / ___ / ___
to:	___ / ___ / ___

6.1 Did this household employ any non household members for fishing, livestock or crop activities during the last week? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

Na faafaigaluegaina e lo outou aiga ni tagata e ese mai i tagata o lo outou aiga i faigafaiva, lafumanu ma faatoaga, i le vaiaso talu ai?

1 YES 2 NO **➔** *If NO go to Section VII*

--

A : INDIVIDUAL (Last Week)

Line No.	Names	Sex		Age	Main Activity 1. Fisheries 2. Livestock 3. Crops	Hours (worked last week)	Paid in cash 1. YES 2. NO (If No skip to 6108)	Cash payment made last week (SAT)	Benefits (circle 1 or more codes)			
		1. Male	2. Female						1 No other benefits	2 Free or subsidized housing	3 Free meals	4 Other benefits
		6101	6102	6103	6104	6105	6106	6107	6108			
1									1	2	3	4
2									1	2	3	4
3									1	2	3	4
4									1	2	3	4
5									1	2	3	4

6.2 Did this household employ any group / organization for fishing, livestock or crop activities during the last week? (Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

Na faafaigaluegaina e lo outou aiga ni faalapopotoga poo ni kulupu mo faigafaiva, lafumanu ma faatoaga, i le vaiaso talu ai?

1 YES 2 NO **➔** *If NO go to Section VII*

--

B: GROUPS / ORGANIZATIONS (Last Week)

Line No.	No. of Persons in the Group	SEX		Main Activity 1. Fisheries 2. Livestock 3. Crops	Hours worked by the Group	Paid in cash 1. YES 2. NO (If No skip to 6208)	Cash payments made last week (SAT)	Benefits (circle 1 or more codes)				
		No. of Males	No. of Females					1 No other benefits	2 Free of subsidized housing	3 Free Meals	4 Others	
		6201	6202	6203	6204	6205	6206	6207	6208			
1									1	2	3	4
2									1	2	3	4
3									1	2	3	4
4									1	2	3	4
5									1	2	3	4

Observations

SECTION VII - EQUIPMENT

Reference Period
last 12 months

from: ___ / ___ / ___

to: ___ / ___ / ___

7.1 Did this household use any of the following equipment during the last 12 months?

(Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided)

Na faaogaina e lo outou aiga mea faigaluega o loo taua i lalo, i le 12 masina talu ai?

1 YES

2 NO



If NO go to Section VIII

Type of Equipment	Code	USED 1.YES 2.NO	Number Owned (as of visit)	HIRED or BORROWED	
				(last 12 months to day of enumeration)	
7101	7102	7103	7104	7105	
Tractor & Implements	01			1 - YES	2 - NO
Roto-Tiller	02			1 - YES	2 - NO
Copra Drier	03			1 - YES	2 - NO
Banana Injector	04			1 - YES	2 - NO
Knapsack Sprayer	05			1 - YES	2 - NO
Mist Blower	06			1 - YES	2 - NO
Power Slasher	07			1 - YES	2 - NO
Chainsaw	08			1 - YES	2 - NO
Irrigation Water Pump	09			1 - YES	2 - NO
Electric Generator	10			1 - YES	2 - NO
Pickup or Truck	11			1 - YES	2 - NO
Hand Tractor	12			1 - YES	2 - NO
Rock Remover	13			1 - YES	2 - NO
Peanut Drier	14			1 - YES	2 - NO
Canoe	15			1 - YES	2 - NO
Motorized Boat	16			1 - YES	2 - NO
Stockyard	17			1 - YES	2 - NO
Water Tank	18				
Tunnel House	19				
Shade House	20				
Fish Pond	21				

Observations

SECTION VIII - HOUSEHOLD AGRICULTURAL / FISHERIES INCOME AND CREDIT

8.1 What is the **main source** of cash income for this household? (*Encircle one code only and enter into the box provided*)

O le a le **alagaoa autu** o loo maua mai ai tupe o lo outou aiga?

- 1 Growing crops
- 2 Raising livestock
- 3 Fishing
- 4 Own non-agricultural business
- 5 Paid work in agricultural occupation
- 6 Paid work in non-agricultural occupation
- 7 Pension
- 8 Remittances
- 9 Other

8.2 Did any member of this household receive any loans that were used for fisheries, livestock or crop activities in the last 12 months? (*Encircle code "1" for Yes or code "2" for No; then enter the code in the box provided*)

Na iai se isi o lo outou aiga na maua se nonoga tupe e atinaeina ai faigafaiva, lafumanu ma faatoaga i le 12 masina talu ai?

- 1 YES 2 NO **➡ If NO End of Interview**

8.3 What is the source of loans that were used for fisheries, livestock or crop activities in the last 12 months? (*For each type, encircle code "1" for Yes or code "2" for No; then enter the codes in the boxes provided*)

O fea na maua ma ai nonoga tupe na atinaeina ai faigafaiva, lafumanu ma faatoaga i le 12 masina talu ai?

- | | | | |
|---------------|---------|--------|--|
| 1 DBS | 1 - YES | 2 - NO | |
| 2 NPF | 1 - YES | 2 - NO | |
| 3 SBEC | 1 - YES | 2 - NO | |
| 4 SPBD | 1 - YES | 2 - NO | |
| 5 Other Banks | 1 - YES | 2 - NO | |
| 6 Other | 1 - YES | 2 - NO | |

Observations

END OF INTERVIEW

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