

2015 TONGA NATIONAL AGRICULTURE CENSUS

PRELIMINARY RESULTS REPORT

17 NOVEMBER 2015

MINISTRY OF AGRICULTURE AND FOOD FORESTRY AND FISHERIES (MAFFF)

TONGA STATISTICS DEPARTMENT (TSD)

FOOD AND AGRICULTURE ORGANISATION



**Food and Agriculture Organization
of the United Nations**

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Table of Contents

1. INTRODUCTION.....	3
2. KEY FACTS	4
3. PRELIMINARY RESULTS REPORT	5
3.1 Executive summary	5
3.2 Agriculture land area.....	5
3.3 Agriculture active households.....	6
3.4 Crop	7
3.5 Livestock	7
3.6 Fisheries.....	8
3.7 Handicraft	8
4. CONTACT DETAILS.....	9
5. STATISTICAL TABLES SUMMARY	10
6. STATISTICAL TABLES.....	11
Table 1: Number of agricultural active households (2015)	11
Table 2: Total number of agricultural active households by type of activity (2015)	11
Table 3: Total agriculture land area – bush and town allotments (2015)	12
Table 4: Total land area cultivated by five most common annual and perennial crops (2015)	13
Table 5: Total number of livestock by type of species (2015)	13
Table 6: Total household engaged in fishing of five main species (2015)	14
Table 7: Total households engaged in handicraft making by proportion sold (2015)	14
7. TECHNICAL NOTES AND DEFINITIONS.....	15

1. INTRODUCTION

The 2015 Tonga National Agriculture Census (TNAC) took place on 7 April 2015 with the purpose to assess the structure of the agriculture sector in Tonga.

A total of 16,112 households and 10 institutions participated in the census. The 2015 TNAC population was based on the 2011 Population Census. It covered, all the five main regions: Tongatapu; Vava'u; Ha'apai; Eua and Niuas. The 2015 TNAC took place at the aftermath of Cyclone Ian which destroyed a large amount of houses; plantations and trees in the Ha'apai Group. It was noted that the data collected on the Ha'apai Group partly reflected the destruction caused by Cyclone Ian.

The implementation of the 2015 TNAC was a coordinated effort of Ministry of Agriculture and Food, Fisheries and Forestry (MAFFF); Tonga Statistics Department (TSD); Food and Agriculture Organisation (FAO); and Secretariat of the Pacific Community (SPC).

FAO has provided technical assistance to all the main phases of the census: design of the questionnaire; training of field staff; distribution and collection of the questionnaires; table tabulation and dissemination plan; and the writing of the main report and thematic papers. SPC provided technical assistance to editing and processing of the data.

2. KEY FACTS

At 7 April 2015:

- The total agriculture land area for Tonga was 66,406 acres
- The total number of agriculture active households were 13,936
- The total number of sheep raised in Tonga was 1,240
- The total number of pigs raised in Tonga was 110,310
- The total number of households engaged in commercial fishing was 96
- The total number of households engaged in handicraft making were 6,151
- Over 80% (211 households) of the total households in the Niuaus engaged in handicraft making
- The most common type of fishing activities in Tonga was reef finfish followed by tuna fishing

During the year ended 7 April 2015:

- The largest annual crop grown in Tonga was cassava
- Cassava plantation occupied 10,207 acres or 42% of the total land area cultivated with annual crop
- Kava and mulberry were the two largest perennial crops grown in Tonga
- Kava plantation occupied 1,257 acres; with Vava'u being the largest kava growing region (805 acres)
- Mulberry plantation occupied 757 acres mainly in Tongatapu

3. PRELIMINARY RESULTS REPORT

3.1 Executive summary

The preliminary results are released today, Tuesday 17th November, 2015, which covered the national and regional results for key variables such as: total agriculture land area; agriculture active population; performance in crop, livestock, fishing and handicraft making. Figures in this release may differ from the final release as more data processing and analysis will be applied. The final results will be released on Thursday 10th December, 2015 which will provide a detail account of the Census results, at national, regional and district levels.

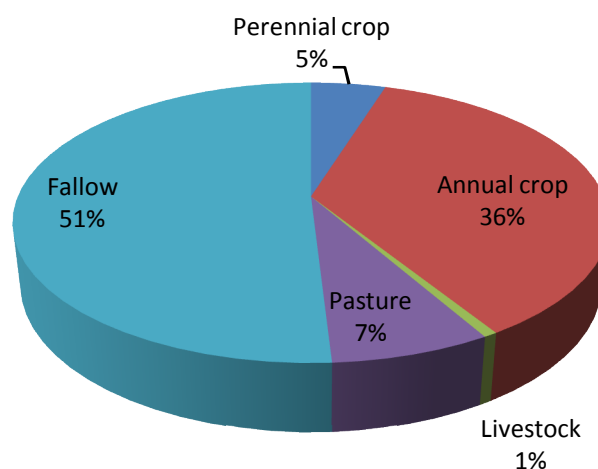
3.2 Agriculture land area

The total agriculture land area for Tonga was 66,406 acres; with total bush allotment agriculture land area recorded as 66,202 acres (99%) while town allotment agriculture land area was equivalent to 204 acres (1%).

Agriculture activities in the town allotment included kitchen garden and small-scale livestock farming, mainly pigs.

Tongatapu has the largest agriculture land area (42,663 acres); Vava'u (11,541 acres); Ha'apai (4,522 acres); ~~Eua~~ Eua (4,993 acres); and Niuaus (2,688 acres). Area covered with pasture was 7%; livestock was 1%; while fallow land covered more than 50%.

Agriculture land area and use (acres)- 2015



3.3 Agriculture active households

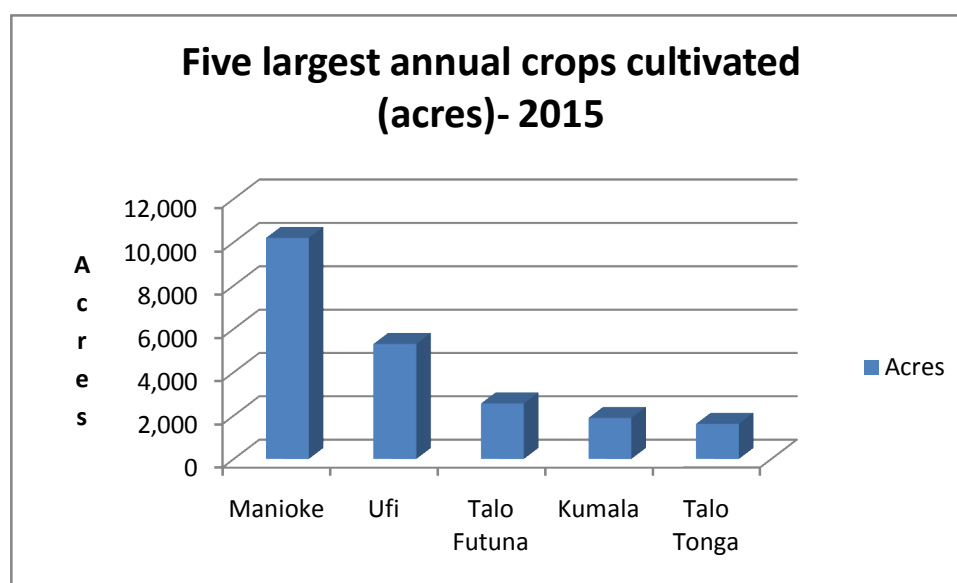
A total of 16,122 households and organisations were enumerated during the 2015 TNAC. The total agriculture active households and organisations were 13,936 or 86% of the households and organisations surveyed during the 2015 TNAC. 14% or 2,176 households and organisations were not engaged in any agriculture activity. A household is active in agriculture if it can be classified into any one of the activity in cropping or livestock or fishery or forestry or handicraft activities.

A total of 10,296 households engaged in crop cultivation during 2015; while 12,255 households engaged in livestock; 2,360 households in fishing; 6,151 households in handicraft making and 2,469 households in forestry. Many of these households would have engaged in more than one subsector; such as growers who may also be raising livestock; thus causing some double counting in the total number.

3.4 Crop

A total of 10,296 household engaged in crop cultivation in 2015. The total cultivated land area was recorded at 57,713 acres, which excluded fallow land kept for over 5 years and livestock land area (refer to Table 3). Annual and perennial crop cultivation occupied 27,206 acres or 47% of the total cultivated land area. Cassava was the largest type of annual crop cultivated, occupying 10,207 acres or 18% of the total cultivated land area. Other crops included ufi (5,315 acres); talo futuna (2,565 acres); kumala (1,901 acres); talo tonga (1,627 acres).

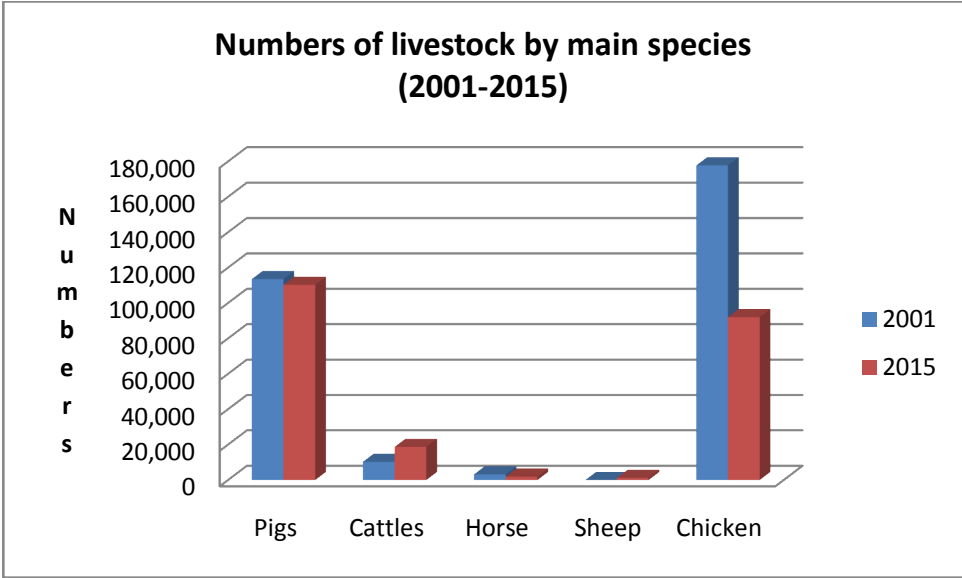
Kava plantation (1,257 acres); mulberry (757 acres) and vanilla (632) were the largest perennial crops cultivated during 2015. Vavaʻu region had the largest area planted with kava; representing 64% (805 acres) of the total area cultivated with kava plantation in Tonga.



3.5 Livestock

A total of 12,255 households continued to engage in livestock farming during 2015. Pigs continued to record the largest number of animal raised during 2015, which was a total of 110,310. This is very similar to the level recorded in 2001. A total of 18,762 cattle were recorded in 2015 compared to 10,354 in 2001.

A total of 1,240 sheep numbers were recorded during the 2015 Census. This is a major increase when compared to 2001 Census where no sheep was recorded. Horse numbers recorded in 2015 were 1,942 compared to 3,255 in 2001. Chicken numbers showed a large decline of 48% from 177,829 in 2001 to only 92,071 in 2015.



3.6 Fisheries

A total of 2,360 households in Tonga engaged in fishing activities in 2015. Reef finfish and tuna fishing were the two main types of fishing activities with 1,386 households engaged in reef finfish fishing while 936 engaged in tuna fishing. Other most common fishing activities included: shellfish; lobster and sea cucumber fishing. Tongatapu and Vavaú regions have the largest fisheries households.

3.7 Handicraft

A total of 6,151 households engaged in handicraft activity. Over 50% of those households engaged in handicraft activity are for subsistence purpose only or only sell their handicraft occasionally. Over 80% of the households in the Niuaus engaged in handicraft making activities.

4. CONTACT DETAILS

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5. STATISTICAL TABLES SUMMARY

<u>Table 1:</u>	Total number of agriculture active households (2015)
<u>Table 2:</u>	Total number of agriculture active households by type and level of activity (2015)
<u>Table 3:</u>	Total agriculture land area and land use (2015)
<u>Table 4:</u>	Total land area cultivated by five most common annual and perennial crops (2015)
<u>Table 5:</u>	Total number of livestock by species type (2015)
<u>Table 6:</u>	Total household engaged in fishing of five main species (2015)
<u>Table 7:</u>	Total households engaged in handicraft making by proportion sold (2015)

6. STATISTICAL TABLES

Table 1: Number of agricultural active households (2015)

Island Divisions	Total Households & Organizations			Households			Organizations		
	Total	Agriculture active	Non-Agriculture active	Total	Agriculture active households	Non-Agriculture active households	Total	Agriculture active households	Non-Agriculture active households
Total	16,122	13,944	2,178	16,112	13,936	2,176	10	8	2
Tongatapu	11,914	9,963	1,951	11,908	9,958	1,950	6	5	1
Vava'u	2,360	2,191	169	2,359	2,190	169	1	1	-
Ha'apai	934	916	18	932	915	17	2	1	1
Eua	644	620	24	643	619	24	1	1	-
Ongo Niua	270	254	16	270	254	16	-	-	-

Table 2: Total number of agricultural active households by type of activity (2015)

Cropping				
Islands Divisions	TOTAL	Semi		
		Subsistence	subsistence	Commercial
TONGA	10,296	3,849	6,358	89
Tongatapu	6,677	2,331	4,272	74
Vava'u	2,006	1,052	946	8
Ha'apai	824	280	543	1
'Eua	514	91	421	2
Ongo Niua	275	95	176	4

Livestock				
Islands Divisions	TOTAL	Semi		
		Subsistence	subsistence	Commercial
TONGA	12,255	3,396	8,530	329
Tongatapu	7,289	2,430	4,613	246
Vava'u	2,834	584	2,209	41
Ha'apai	1,075	208	846	21
'Eua	827	139	668	20
Ongo Niua	230	35	194	1

Fisheries				
Islands Divisions	TOTAL	Semi		
		Subsistence	subsistence	Commercial
TONGA	2,360	1,267	997	96
Tongatapu	980	376	520	84
Vava'u	835	590	236	9
Ha'apai	317	149	165	3
'Eua	69	28	41	0
Ongo Niua	159	124	35	0

Forestry				
Islands Divisions	Total	Subsistence	Semi Subsistence	Commercial
TONGA	2,469	577	1,548	344
Tongatapu	1,070	296	663	111
Vava'u	953	154	577	222
Ha'apai	10	1	9	0
'Eua	395	112	280	3
Ongo Niua	41	14	19	8

Handicraft				
Islands Divisions	TOTAL	Subsistence	Semi subsistence	Commercial
TONGA	6,151	2,655	3,230	266
Tongatapu	3,481	1,345	1,945	191
Vava'u	1,376	835	502	39
Ha'apai	687	265	405	17
'Eua	396	137	244	15
Ongo Niua	211	73	134	4

Table 3: Total agriculture land area - bush and town allotments (2015)

Island Divisions	Agriculture Land Area								
	Total	Bush allotment agr. Land area (acres)							Town allotment agr. Land area (acres)
		Total	Perennial crop	Annual crop	Livestock	Pasture	Fallow		Total
							less than 5 years	5 years and above	
Total	66,406	66,202	3,207	23,999	421	4,858	25,445	8,272	204
Tongatapu	42,663	42,545	1,163	18,148	176	3,885	16,006	3,166	118
Vava'u	11,541	11,513	1,343	2,424	76	571	4,636	2,463	28
Ha'apai	4,522	4,507	158	1,643	9	43	2,277	378	15
Eua	4,993	4,964	443	1,160	159	351	2,114	737	29
Ongo Niua	2,688	2,674	100	624	2	8	412	1,527	14

Table 4: Total land area cultivated by five most common annual and perennial crops (2015)

Top 5 Annual Crops (acres)					
Island Divisions	Cassava (Manioke)	Yam (Ufi)	Yautia (Talo Futuna)	Sweet potato (Kumala)	Swamp taro (Talo Tonga)
TONGA	10,207	5,315	2,565	1,901	1,627
Tongatapu	8,160	4,248	1,956	1,408	1,216
Vava'u	800	585	248	154	130
Ha'apai	815	197	136	127	70
'Eua	291	163	161	166	155
Ongo Niua	142	121	65	46	56
Top 5 Perennial Crops (acres)					
Island Divisions	Kava	Paper mulberry (Hiapo)	Vanilla	Pineapple (Faina)	Pandanus (Louakau)
TONGA	1,257	757	632	454	77
Tongatapu	141	587	159	208	9
Vava'u	805	5	341	226	8
Ha'apai	7	92	6	7	23
'Eua	249	73	104	9	1
Ongo Niua	55	2	22	3	37

Table 5: Total number of livestock by species type (2015)

Island Divisions	Livestock Species							
	Beef cattle	Dairy cattle	Pig	Horse	Sheep	Goat	Chicken	Duck
TONGA	16,755	2,007	110,310	1,942	1,240	1,744	92,071	2,705
Tongatapu	8,847	1,052	60,047	396	653	419	55,756	2,565
Vava'u	5,130	582	25,019	690	283	613	17,629	39
Ha'apai	1,318	229	11,749	424	9	269	9,805	21
'Eua	1,411	144	8,434	261	266	329	5,170	77
Ongo Niua	49	-	5,061	171	29	114	3,711	3

Table 6: Total household engaged in fishing of five main species (2015)

Island Divisions	Reef finfish	Tuna & pelagic fish	Shellfish	Sea cucumber	Lobster	Other species
TONGA	1,386	936	710	527	504	1904
Tongatapu	570	326	241	131	142	679
Vava'u	465	352	352	325	229	947
Ha'apai	190	207	93	57	112	205
'Eua	31	35	7	6	16	46
Ongo Niua	130	16	17	8	5	27

Table 7: Total households engaged in handicraft making by proportion sold (2015)

Island Divisions	Proportion of handicrafts sold					
	Total	None	1 - 25%	26 - 50%	51 - 75%	76 - 100%
TONGA	6,151	2,661	1,435	1,193	602	266
Tongatapu	3,481	1,351	794	767	384	191
Vava'u	1,376	835	297	148	57	39
Ha'apai	687	265	171	123	111	17
'Eua	396	137	112	103	29	15
Ongo Niua	211	73	61	52	21	4

7. TECHNICAL NOTES AND DEFINITIONS

- i. All numbers are rounded-up to whole number, therefore some of the totals may not add up due to rounding.
- ii. Agriculture active household is a household that is active in any of the agriculture activities: cropping; livestock; fisheries; forestry and handicraft. A household is active in any of these agriculture activities if it can be classified into either: subsistence, semi subsistence or commercial.
- iii. A household is non active in agriculture if it cannot be classified into any of the agriculture activities: cropping; livestock; fishery; forestry or handicraft.
- iv. Subsistence is a type of agriculture activities (cropping; livestock; fishing; forestry or handicraft making) in which most of the produce is consumed by the farmer and his family, leaving nothing to be marketed.
- v. Semi-subsistence is a type of agriculture activities in which some of the produces are to be consumed by the farmer and his family and some of them are to be marketed.
- vi. Commercial is a type of agriculture activities in which most of the produces are to be marketed.
- vii. For the 2015 TNAC, the following definition was used to classify the levels of agriculture activities whether it was subsistence; semi-subsistence or commercial.

Crop was based on total cultivated land area.

Subsistence	0 <	= < 1 acres
Semi Subsistence	1 acres <	= < 8 acres
Commercial		> 8 acres

Livestock was based on type and number of livestock kept.

Subsistence	If Milk Cattle and Beef Cattle =1 If Sow 1
Semi Subsistence	If Milk Cattle and Beef Cattle 2 - 100 If Sow 2 - 25
Commercial	If Milk Cattle and Beef Cattle > 100 If Sow > 25 If Egg layer >0 If Broiler > 0

Fishery was based households or organisations response to the question on purpose of their fishing activities; whether it was for subsistence; semi-subsistence or commercial.

Forestry was based on number of high value trees and timber trees that households have grown at the time of the census.

Subsistence	number of trees	1 - 4
Semi Subsistence	number of trees	5 - 100
Commercial	number of trees	101 - 999

Handicraft was based on proportion of handicraft being sold

Subsistence	no handicraft sold
Semi Subsistence	1% . 75 % sold
Commercial	76% - 100% sold

viii Data entry and processing

The data entry application for the 2015 TNAC was designed using the software package CSPro. The application was designed using the CAPI concept where all necessary checks were incorporated to allow the Data Entry Operators (DEO) to verify data while doing data entry. With all the in-built checks, this ensures capturing good quality data efficiently and effectively. The final steps for final editing included:

- Verifying all questionnaires has been captured. This is done by running frequency statistics on each variable and checking

this against the register of data entry and listing of blocks/questionnaires from the census;

- Checking for missing variables from the frequency statistics. Some missing variables were imputed and some were left as it is, for example, values for items like livestock, fish, handicraft, number of livestock, fish etc; and
- Edit check programs were run twice before it was decided to finalise the data.

Metadata documentation is in progress which should be completed in time for the final release of the data and the Main Report.