



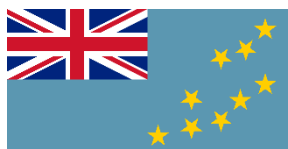
Pacific
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Tuvalu 2015/2016

HIES full report

Household Income & Expenditure Survey



Tuvalu 2015/2016 HIES Household Income & Expenditure Survey full report

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Acronyms

BMI	Body mass index
COICOP	Classification of individual consumption according to purpose
CPI	Consumer price index
CSPRO	Census and survey processing program
GDP	Gross domestic product
HH	Household
HIES	Household income and expenditure survey
ISCO	International standard classification of occupations
ISIC	International standard industrial classification of all economic activities
NA	National accounts
NEC	Not elsewhere classified
NGO	Non-government organisations
NSO	National statistical office
OA	Own account
OO	Owner occupied
PACCOI	Pacific classification of income
PAPI	Paper-based personal interview
PHC	Population and housing census
PPS	Probability proportional to size
PSU	Primary sampling unit
RSE	Relative sampling error
RSE	Recognised seasonal employee (New Zealand)
SE	Standard error
SPC	Pacific Community
SDG	Sustainable development goals
SWP	Seasonal Worker Programme (Australia)
TA	Technical assistance
TDoS	Tuvalu Department of Statistics
AUD	Australian dollar
UN	United Nations

Foreword

It is with great pleasure that I present the “Tuvalu 2015/2016 Household Income and Expenditure Survey, Report”.

And like any other country, Tuvalu needs to have statistics on income and expenditures of households. The information will be valuable for policies, planning, administration and budgeting implications to formulate essential and effective policies and programmes for improvement and betterment of the lives of our people.

I would like to give my sincere thanks to Statistics for Development Division (SDD), of Pacific Community (SPC) for the financial and technical support that were provided. Without their assistance, this survey would not have been implemented successfully and productively.

I would also like to give special thanks to the former Government Statistician, Mr. Semu Malona, and current Government Statistician, Ms. Grace Alapati for taking the leading roles in managing the survey undertakings throughout the whole process. Also extended acknowledgement and thus lots of thanks goes to all staff of the Central Statistics Division (CSD) for their hard work and supports in all activities and survey essentials.

It is also acknowledged that this survey was supported financially by the Government of Tuvalu.

Tuvalu mo te Atua



Hon. Maatia Toafa

Minister of Finance and Economic Development

Key results and executive summary

1. Key results table

Table 1: Sample, population estimates and average annual household (HH) expenditure and income

	Urban - Funafuti	Rural – Outer islands	National
Average annual HH expenditure, by category (AUD)			
Food & non-alcoholic beverages	5,730	5,550	5,630
Alcohol, tobacco and kava	1,060	630	830
Clothing & footwear	310	220	260
Housing & utilities	4,660	3,010	3,780
Furniture & HH maintenance	550	360	450
Health	50	20	30
Transport	1,420	760	1,070
Communication	350	260	300
Education	420	180	290
Recreation & culture	110	70	90
Restaurant & hotel	370	50	200
Miscellaneous	650	280	450
Non-consumption expenditure	720	830	780
Investment expenditure	120	180	150
Total	16,540	12,390	14,320
Average annual HH expenditure, by type (AUD)			
Cash (total)	13,730	7,440	10,360
Subsistence (gross total)	440	2,690	1,650
Imputed rents	2,340	2,210	2,270
In-kind (employer)	20	5	10
Total	16,540	12,390	14,320
Average annual HH net income, by category (AUD)			
Wages & salaries	16,330	4,860	10,190
Business	290	250	270
Primary	230	940	610
Subsistence (net total)	220	2,200	1,280
Capital	910	450	660
Transfer	100	220	160
Casual	100	90	100
Remittances	100	410	270
Home production gifted	70	440	270
Imputed rents	2,340	2,210	2,270
Total	20,690	12,080	16,080
Average annual HH income, by type (AUD)			
Cash	18,040	7,220	12,250
In-kind (employer)	20	5	10
Subsistence (net)	220	2,200	1,280
Home production gifted	70	440	270
Imputed rents	2,340	2,210	2,270
Total	20,690	12,080	16,080

2. Executive summary

Tuvalu 2015/2016 HIES was implemented from October 2015 to October 2016 and this survey report provides an overview of the survey, a summary of the aggregated income and expenditure estimates and a brief population and income and

expenditure distribution analysis. This report is the first analytical output of the survey, however there's a multitude of opportunity for more in-depth thematic analysis and other uses of HIES data for which the survey was implemented, including:

- i. deriving expenditure weights for the revision of the consumer price index (CPI);
- ii. supplementing the data available for use in compiling official estimates of various components in the System of National Accounts (NA); and
- iii. gathering information on poverty lines and the incidence of poverty in Tuvalu.

This summary provides an overview of the survey sample and a summary of HH expenditure, income and the population structure and distribution.

Sample

The 2015/2016 HIES was designed to provide statistically significant results by the tow geographical areas (strata) deined in the sampling frame: Tuvalu urban (Funafuti) and Tuvalu rural (outer islands). The sample was constrained by budget and access to outer islands (logistics), and, as a result, optimum sample allocations were not achieved. Despite this, the aggregated income and expenditure aggregates, by strata, are within acceptable error thresholds (refer Appendix 2).

706 HHs provided a valid response, which amounts to 38 percent of all HHs in Tuvalu. The sample fraction, by strata, is provided in the below table.

Table 2: Sample size and sample fraction, by strata

	Sample	HHs	Sample fraction
Tuvalu - urban	378	870	43%
Tuvalu - rural	328	1,002	33%
National	706	1,872	38%

The results presented herein are the extrapolated estimates from the 2015/2016 HIES sample presented above.

Household expenditure

Total annual HH expenditure in Tuvalu is estimated to be AUD26.8 million (average of AUD14,320 and median of AUD12,200 per annum). 93 percent of HH expenditure is consumption expenditure (expenditure-related to goods and services that are consumed by HHs), 5 percent is non-consumption expenditure and the remainder being investment expenditure (1%).

In terms of expenditure type, 64 percent is cash based (cash purchased goods and services), 8 percent is cash purchased gifts (goods and services purchased for the benefit of another HH), 16 percent imputed rents (the value of services that an owner occupier derives from residing in their dwelling), 10 percent is subsistence (the value of home produced and consumed foods) and the remainder being home produced and gifted items and in-kind items received from the employer and consumed by the HH.

Consumption expenditure – the main expenditure category – is mainly dedicated to food and non-alcoholic beverages (42 percent of expenditure within this category), followed by housing and utilities (28 percent and mainly consisting of imputed rents) and transport (8 percent).

The distribution of HH expenditure is not even and there's a degree of inequality – in terms of total HH expenditure – across Tuvalu and within each strata. Almost 25 percent of total HH expenditure in Tuvalu is accounted by around the highest spending 20 percent spending HHs and the lowest spending 20 percent of HHs account for around 16 percent of expenditure.

Household income

Total annual HH income in Tuvalu is estimated to be AUD30.1 million (average of 16,080 and median of AUD12,730 per annum). 77 percent of total HH income is generated from employment income (income associated with employment activities, such as wages and salaries, business profit distribution (incl. primary industry profits) and subsistence (the net value of home produced and consumed items). Following employment income, imputed rents account for 14 percent of total income and remittances and gifts amount to 5 percent of total HH income (similar to income from capital). The remainder is made up of income from transfer (pension....) and casual receipts (sale of assets).

In terms of income type, 76 percent of total HH income is cash-based income. As mentioned above, 14 percent is imputed rents and 12 percent is subsistence income. In-kind income (in-kind contributions from the employer and home produced items received as gifts) makes up the remainder.

Within the employment income category, wages and salaries make up 79 percent of income in this category. Following this is income from the home production (11 percent). The rest of the employment income are minor at the National level: handicraft (2.4 percent of employment income), non-primary business income (2 percent).

Similarly to expenditure, the distribution of HH income is not even and there's a degree of inequality – in terms of total HH income – across Tuvalu and within each strata. A third of total HH income in Tuvalu is accounted for by around one-quarter of HHs and the lowest earning 20 percent of HHs account for 7.5 percent of total income.

SECTION 1: INTRODUCTION

This report is the first official output from the Tuvalu 2015/2016 HIES. The objective of the report is to present the main statistical tables, focusing on HH income and expenditure, and to provide a summary of the survey procedures and results.

The report provides an overview of the 2015/2016 HIES, including the sampling strategy (Section 2), and the economic context of Tuvalu (Section 3). Following this is a series of chapters reporting the statistical tables, with a brief synopsis that summarises the tables and highlights main areas for policy formation. The chapters include:

- Section 4: Household expenditure
- Section 5: Household income
- Section 6: Population profile and HH characteristics
- Section 7: Additional analysis

Section 7 – additional analysis – is inclusive of: a) the comparison of the results of the 2015/2016 HIES with the real values from the 2010 HIES; a description of intermediate expenditure; and an analysis of the distribution of income and expenditure in Tuvalu.

In addition to these chapters, a number of appendices complement the body of the report.

Appendix 1 provides a detailed description of the formation of the expenditure and income aggregates, various classifications for which the data are coded and some technical notes and definitions to assist with understanding and interpretation of the main statistical tables in this report.

Appendix 2 details the data cleaning and data processing steps that lead to the clean final dataset (ready for analysis).

Appendix 3 presents the error measurements (relative standard errors), which are provided to assist the reader to understand the statistical significance of the results presented herein. A brief discussion on non-sampling errors is also provided in Section 2.

Appendix 4 provides links to various resources which can be contacted in case the reader needs more information regarding this project.

It is important to note this report is not the sole output from the HIES as the data have many applications. For example, in the rebasing of the CPI, updating the HH consumption component of gross domestic product, to assess the incidence of poverty in Tuvalu and in thematic research to guide policy formation.

SECTION 2: SURVEY OVERVIEW

The 2015/2016 HIES is the third HIES to be implemented in Tuvalu; the first was in 2000, the second in 2010. Tuvalu Statistics Division (TSD) conducted a population and housing census (PHC) in November 2017; the previous PHC were conducted in 1979, 1991, 2002 and 2012.

This section provides a brief overview of the survey objectives and methodology, its scope and coverage, sample design, survey procedures, questionnaire, response rate, sampling weights, data processing and error measurements. The methodological report provides more detail on these areas, however below is a brief summary to aid interpretation of the results in this report.

1. Survey objectives

HIES collects a wealth of information on HH income and expenditure, such as source of income by industry, HH expenditure on goods and services, and income and expenditure associated with subsistence production and consumption. In addition to this, HIES collects information on sectoral and thematic areas, such as education, health, labour force, primary activities, transport, information and communication, transfers and remittances, food expenditure (acquisition) and gender.

The Pacific Islands regionally standardized HIES instruments and procedures were adopted by TSD for the 2015/2016 HIES. These standards, were designed to feed high-quality data to HIES data end users for:

- deriving expenditure weights and other useful data for the revision of the CPI;
- supplementing the data available for use in compiling official estimates of various components in the System of NA;
- supplementing the data available for production of the balance of payments; and
- gathering information on poverty lines and the incidence of poverty in Tuvalu.

The data allow for the production of useful indicators and information on the industries covered in the survey, including providing data to inform indicators under the United Nations Sustainable Development Goals (SDGs). This report, the above listed outputs, and additional thematic analyses, collectively provide information to assist with multisector planning and policy formation.

The 2015/2016 HIES was conducted to update the 2010 HIES data and aimed to estimate the total amount HH spent and earned over the past 12 months at the national and island group level (total expenditure and income).

2. HIES methodology

TDoS adopted the Pacific standard HIES methodology developed by the Statistic for Development Division (SDD) of Pacific Community (SPC) in 2011. This harmonized method consists of:

- The use of a common questionnaire:
 - 4 modules to collect socio-demographic information, and expenditure and income; and
 - a two-week diary to collect daily expenditure, gifts received and home produced items.
- A field collection spread over a 12 month period in order to cover seasonality of income and expenditure.
- Field staff organised in teams where each team is made of two enumerators and one supervisors.
- Decentralised data entry to facilitate in-field error checking.

3. Survey scope and coverage

The scope of the 2015/2016 HIES was all occupied HHs in Tuvalu. HHs are the sampling unit, defined as a group of people (related or not) who pool their money, and cook and eat together. It is not the physical structure (dwelling) in which people live. HIES covered all persons who were considered to be usual residents of private dwellings (must have been living in Tuvalu for a period of 12-months, or have intention to live in Tuvalu for a period of 12-months in order to be included in the survey).

HH members covered in the survey include:

- usual residents currently living in the HH;
- usual residents who are temporarily away (e.g., for work or a holiday);

- usual residents who are away for an extended period, but are financially dependent on, or supporting the HH (e.g., students living in school dormitories outside Tuvalu, or a provider working overseas who hasn't formed or joined another HH in the host country) and plan to return;
- persons who frequently come and go from the HH, but consider the HH being interviewed as their main place of stay;
- any person who lives with the HH and is employed (paid or in-kind) as a domestic worker and who shares accommodation and eats with the host HH; and
- visitors currently living with the HH for a period of 6-months, or more.

The head of HH is the person commonly regarded by the HH members as their head. The head will often be the main income-earner and decision-maker. Despite this guideline, the head is independently nominated by HH members and it could be based on age, gender, or other factors. The only firm guideline is that the HH head must be an adult (aged more than 15 years old) and that there is to be one and only one head.

In addition to the current HH members, members who met the above criteria, but had left the HH within the last 12-months (e.g., passed away or moved into another HH) are covered and their income and expenditure for the period of their stay included.

HHs outside of Tuvalu (e.g., in Australia or New Zealand) and commercial, government or non-government organisations (NGO) in Tuvalu are outside the scope of HIES.

4. Sample design

Findings from the 2010 HIES

The 2010 HIES sample was spread over 12 months rounds – one each quarter – and the specifications are summarised in Table 3.

Table 3: 2010 HIES key indicators used in deriving the 2015 sample

Domain	HHs (N)	Selected HHs	Final responding	Sample fraction	Relative sampling error (RSE)	
					Total expenditure	Total income
Tuvalu urban – Funafuti	791	259	217	27.1%	4.3%	5.5%
Tuvalu rural – Outer atolls	1,036	346	324	31.2%	4.0%	4.4%
Total	1,827	605	541	29.6%	3.1%	3.9%

In 2010, 605 HHs were selected and 541 sufficiently responded. The 2010 HIES provided solid estimates for expenditure aggregates at the national level (sampling error for national expenditure estimate is 3.1%), however it can be seen from Table 3 that the accuracy of the estimates by domain are variable, especially in Funafuti where the relative sampling error for income (RSE) is greater than 5%. This finding was taken into consideration in the 2015/2016 HIES sample allocation and it was recommended that the sample be increased in this domain, however, budget and accessibility were constraining factors.

Sampling frame

Similarly to the 2010 HIES, private occupied dwellings were the statistical unit for the 2015/2016 HIES. Institutions and vacant dwellings were removed from the sampling frame.

Some areas in Tuvalu are very difficult to reach due to the cost of transportation and the remoteness of some islands, which is why they are excluded from the sample selection. The following table presents the distribution of the HHs according to their location (main island or outer islands in each domain).

Table 4: Distribution of islands by island (2012 Population and Housing Census)

Domain	Island	HHs (2012)	Distribution
Urban	7-Funafuti	845	48%
	1-Nanumea	115	7%
	2-Nanumanga	116	7%
	3-Niutao	123	7%
Rural	4-Nui	138	8%
	5-Vaitupu	226	13%
	6-Nukufetau	124	7%
	8-Nukulaelae	67	4%
	9-Niulakita	7	0.4%
Total		1,761	100%

The 2012 Population and Household Census (PHC) was used to select the island to interview, and then in each selected island the HH listing was updated for selection. For budget and logistics reasons the islands of Nui, Nukufetau, Nukulaelae and Niukalita were excluded from the sample selection. In total 19% of the HHs were excluded from the selection but this decision should not affect the HIES outputs as those 19% show similar profile as other HHs who live in the outer islands. This exclusion will be taken into consideration in the sampling weight computation in order to cover 100% of the outer island HHs.

The following table presents the exclusion of areas from the HIES selection.

Table 5: 2015/2016 HIES sampling frame

Domain	Island	HHs (2012)	Inside	Outside	Population (2012)	Inside	Outside
Urban	7-Funafuti	845	845	0	6025	6025	0
	Total	845	845	0	6025	6025	0
	%	100%	100%	0	100%	100%	0
Rural	1-Nanumea	115	115	0	544	544	0
	2-Nanumanga	116	116	0	481	481	0
	3-Niutao	123	123	0	606	606	0
	4-Nui	138	0	138	542	0	542
	5-Vaitupu	226	226	0	1555	1555	0
	6-Nukufetau	124	0	124	536	0	536
	8-Nukulaelae	67	0	67	324	0	324
	9-Niulakita	7	0	7	27	0	27
	Total	916	580	336	4,615	3,186	1,429
	%	100%	63%	37%	100%	69%	31%
National	Total	1,761	1,425	336	10,640	9,211	1,429
	%	100%	81%	19%	100%	87%	13%

Sample selection and Sample size

A simple random selection was used in each of the selected island (HHs were selected directly from the sampling frame). Based on the findings from the 2010 Tuvalu HIES, the sample in Funafuti has been increased and the one in rural remains stable. Within each rural selected atolls, the allocation of the sample size is proportional to its size (based on the 2012 population census).

Table 6: 2015/2016 HIES sample selection

	Total HHs	HHs to survey	HHs to select	Replacements	Number of rounds
Tuvalu urban	845	384	576	192	16
Funafuti	845	384	576	192	16
Tuvalu rural	580	336	505	169	16
Vaitupu	226	126	189	63	6
Nanumea	115	63	95	32	3
Niutao	123	84	126	42	4
Nanumaga	116	63	95	32	3
Tuvalu	1,425	720	1,081	361	16

The expected sample size has been increased by one third (361 HHs) with the aim of pre-empting the non contacted HHs (refusals, absence....).

The 2015/2016 HIES adopted the standardized HIES methodology and survey instruments for the Pacific Islands region. This approach, developed by SPC, has resulted in proven survey forms being used for data collection. It involves collection of data over a 12-month period to account for seasonal changes in income and expenditure patterns, and to keep the field team to a smaller and more qualified group. Their implementation had the objective of producing consistent and high quality data.

The 2015/2016 HIES sampling approach was designed to generate reliable results at the following levels:

- **National:** total HH income and expenditure in Tuvalu.

- **Urban and rural:** total HH income and expenditure, geospatially disaggregated by urban and rural areas. Tuvalu urban - Funafuti (urban) being the only urban area in Tuvalu and the remaining 5 stratum being rural.

The survey was not designed to produce reliable results at any lower level, such as by island or village. The reason for this is partly due to budgetary and logistical constraints, but also because the HIES serves its primary objectives with a sample size that will provide reliable aggregates at the urban/rural and national level.

5. Field operation

The fieldwork was carried out by 6 enumeration teams, 2 in Tuvalu urban (Funafuti) et 1 in each selected outer atolls. Specific training have been delivered in each of the selected atolls, just before they started the field work. In urban Tuvalu (Funafuti atoll) each team is made of 2 enumerators (in charge of 6 HHs each) and 1 supervisor. In rural Tuvalu (outer atolls) all teams are made of 3 uinterviewers (in charge of 7 HHs each) and 1 supervisor. All teams were under the supervision of the HIES Manager from the head office of the Statistics Division in Funafuti.

The survey period is divided in 16 rounds. A round is a 3 week period in which a team will be in charge of 21 HHs in rural areas and 12 HHs in urban areas. Round 1 started in October 2015 and round 16 finished In October 2016.

Table 7: 2015/2016 HIES survey schedule

	Round 1 to 16 - October 2015 to October 2016															
	2015				2016											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Funafuti team 1																
Funafuti team 2																
Vaitupu team 1																
Nanumea team 1																
Niutao team 1																
Nanumaga team 1																

The survey was spread over 16 rounds throughout the 12 month enumeration period (October 2015 to October 2016) in order to take adequate account of seasonal fluctuations in income, expenditure and food acquisition (as a proxy to estimate consumption).

Team supervisors were in charge of the data entry for their team (using laptop), data entry occurred on the same day or the day after the interview for the modules, while the first diary was entered in week-two and the second week diary is entered in week-three of each round. In-field data entry was conducted in order to make use of the entry validation checks and to return to the HH to verify data where inconsistencies were identified.

6. Survey questionnaire

Four modules are completed by paper-based personal interview, including:

1. Demographic information – characteristics of HH members, including activity and education profile;
2. HH characteristics and expenditure;
3. Individual expenditure; and
4. Individual and HH income.

Depending on the information being collected, a recall period (ranging from the last 7 days to the last 12 months) is applied to various sections of the questionnaire.

The forms were completed by face-to-face interview, usually with the HH head providing most of the information, with other HH members being interviewed when necessary. The interviews took place over a 2-week period such that the HH diary, which is completed by the HH on a daily basis for 2 weeks, can be monitored while the module interviews take place.

The HH diary collects information on the HH's daily expenditure on goods and services; and the harvest, capture, collection or slaughter of primary produce (fruit, vegetables and animals) by intended purpose (home consumption, sale or to give away).

The income and expenditure data from the modules and the diary are concatenated (ensuring that double counting does not occur), annualised, and extrapolated to form the income and expenditure aggregates presented herein.

7. Response rate

The table below presents the response rate by strata.

Table 8: Survey response rate, by atoll

	Sample	Valid questionnaire	% valid
Tuvalu urban – Funafuti	384	378	98.4%
Tuvalu rural – Outer atolls	336	328	97.6%
Total	720	706	98.0%

8. Data processing

The survey procedure and enumeration team structure allowed for in-round data entry, which gives the field staff the opportunity to correct the data by manual review and by using the entry system-generated error messages. This process was designed to improve data quality.

The data entry system used system-controlled entry, interactive coding and validity and consistency checks. Despite the validity and consistency checks put in place, the data still required cleaning. The cleaning was a 2-stage process, which included manual cleaning while referencing the questionnaire, whereas the second stage involved computer-assisted code verification and, in some cases, imputation.

Once the data were clean, verified and consistent, they were recoded to form a final aggregated database, consisting of:

1. Person level record – characteristics of every HH member, including activity and education profile;
2. HH level record – characteristics of the dwelling and access to services;
3. Final aggregated income – all HH income streams, by category and type;
4. Final aggregated expenditure – all HH expenditure items, by category and type.

An additional poverty file was also generated.

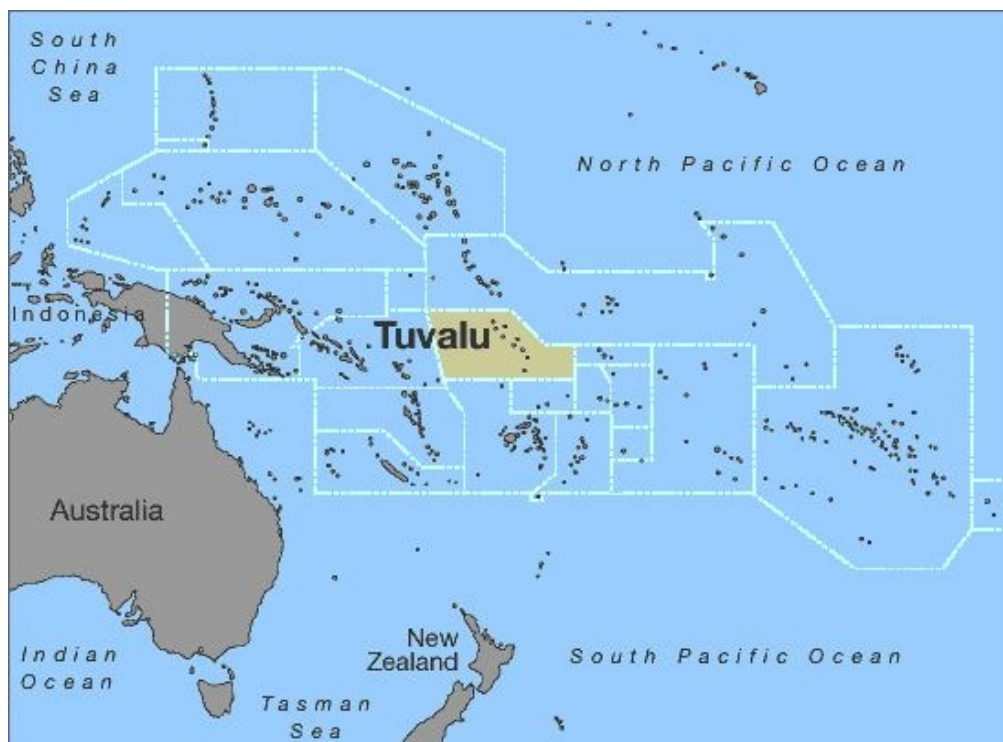
9. Error measurements

RSEs for the aggregated income and expenditure data are presented in Appendix 2. Non-sampling errors cannot be readily measured, however it is worth noting the issues associated with non-sampling errors, including:

- both respondents and interviewers may not entirely understand the information required from the survey, which can result in misinterpretation of the question being asked and the incorrect response;
- enumerator and respondent fatigue, resulting in underreporting, especially in completion of the HH diary;
- unwillingness to fully disclose information – especially in a small-island context - such as income and expenditure on some items (e.g., alcohol, tobacco and cash donations);
- the questionnaire being in English, which could be a second language for both the interviewers and respondents, and the need to complete a written diary (noting that: three-quarters of diaries were in Tuvalun; HHs were given the opportunity to complete a Tuvalun written diary; and enumerators could mostly converse in Tuvalun when required); and
- the inability to interview HHs members living abroad but remain dependent on the HH (e.g., students living in school dormitories) or are working to support the HH (e.g., seamen living on a ship), but who have not formed another HH outside of Tuvalu.

SECTION 3: ECONOMIC CONTEXT

Tuvalu is a Polynesian island nation located midway between Hawaii and Australia in the Pacific region. It consists of nine inhabited coral atolls: Funafuti, Nanumea, Nanumaga, Niutao, Nui, Vaitupu, Nukufetau, Nukulaelae, Niuakita spread over a total land area of 25.6 square kilometres. The main atoll Funafuti is the urban area of Tuvalu and the density is 2,205 inhabitants per square kilometre (203 in outer rural atolls). Tuvalu is a parliamentary democracy and the Parliament has 15 members with elections held every four years. The member of Parliament select the Prime Minister (who is the head of Government). Tuvalu is Commonwealth realm and the Queen is represented by a Governor General.



1. Population

According to the 2012 Population and Housing Census (PHC), Tuvalu has a total population of 10,782 representing an increase in population by 12.8 percent from the previous 2002 PHC. Approximately 57 percent of the total population reside in Tuvalu urban - Funafuti. Thirty-three percent of the resident population was younger than 15 years, and almost 9 percent were older than 60 years. The proportion of the population aged 15-59 was 59 percent.

2. Economy

The official currency used in Tuvalu is the Australian dollar (AUD). The country is isolated, almost entirely dependent on imports, particularly of food and fuel, and vulnerable to climate change and rising sea levels, which pose significant challenges to development.

The public sector dominates economic activity. Tuvalu has few natural resources, except for its fisheries. Earnings from fish exports and fishing licenses for Tuvalu's territorial waters are a significant source of government revenue. In 2013, revenue from fishing licenses doubled and totaled more than 45% of GDP.

Official aid from foreign development partners has also increased. Tuvalu has substantial assets abroad. The Tuvalu Trust Fund, an international trust fund established in 1987 by development partners, has grown to \$104 million (A\$141 million) in 2014 and is an important cushion for meeting shortfalls in the government's budget. While remittances are another substantial source of income, the value of remittances has declined since the 2008-2009 global financial crisis, but has stabilized at nearly \$4 million per year. The financial impact of climate change and the cost of climate related adaptation projects is one of many concerns for the nation.

SECTION 4: HOUSEHOLD EXPENDITURE

In this section, we provide a summary of the main components of HH expenditure in Tuvalu. The first subsection highlights some of the important facts relating to HH expenditure and a second section provided a set of expenditure tables.

1. Household expenditure summary

This summary highlights the main elements of HH expenditure and aims to present the main findings from the HIES. There is a multitude of opportunity for more in-depth analysis, including cross tabulation for more thematic studies, however this is beyond the scope of this report. Below we present the total, average and median annual HH and per capita expenditure; the composition of HH expenditure, by expenditure category and type; and we provide a more in-depth analysis of the composition of main expenditure categories.

2. Average and median expenditure

National average annual HH expenditure amounts to around AUD14,320 (Table 9). This average is higher in urban (AUD16,540) than rural AUD12,390. To give a better understanding of the distribution of expenditure among the HH, the median expenditure – the expenditure of the 50th percentile HH – is provided. The annual national median HH expenditure is AUD12,200 per annum (AUD13,490 in urban and AUD11,270 in rural).

Per capita annual expenditure indicates in rural Tuvalu (average and median) meaning that the HH size is higher in urban

Table 9: Total, average and median annual HH and per capita expenditure, by strata (AUD)

	Total	HHs		Per capita	
		Average	Median	Average	Median
Urban	14,386,960	16,540	13,490	2,490	2,010
Rural	12,420,410	12,390	11,270	2,310	1,930
Total	26,804,430	14,320	12,200	2,400	1,950

Total HH expenditure in Tuvalu amounts to around AUD28 million per annum and is evenly distributed among urban (51%) and rural area (49%).

3. Composition of household expenditure

Household expenditure is made up of different categories and types of expenditure.

Expenditure categories are broadly made up of: i) consumption expenditure; ii) non-consumption expenditure; and iii) investment expenditure. A detailed description of these expenditure categories is provided in Appendix 1, however, they are briefly described below.

Consumption expenditure follows the United Nations Statistical Division's Classification of Individual Consumption According to Purpose (COICOP), consisting of 12 expenditure divisions (Table 10). This expenditure category can generally be defined as expenditure that the HH incurs with the objective of consuming a good or service. Non-consumption expenditure is usually a significant component of Pacific HH expenditure, which is why it is reported, however it is not used for CPI rebasing, in estimating the HH component of NA, nor for poverty analysis. Non-consumption expenditure is expenditure that the HH incurs, but it does not receive a good or service in return for the expenditure. Examples include cash donations to another HH, the Church or other institutions, such as schools. Investment expenditure refers to HH accumulation of capital, such as through the purchase of a house or a major asset.

In consideration of the Pacific context where subsistence and communal sharing are usual elements of HH economics, expenditure is further classified by type. Expenditure types consist of: i) cash; ii) subsistence; iii) cash gifts; iv) home produced gifts; v) imputed rents; and vi) in-kind income consumed. Again, these are defined in Appendix 1, however a brief definition is provided below.

Cash expenditure refers to expenditure incurred through a cash-based transaction where a good or service is acquired. Subsistence expenditure refers to the value of a home-produced primary product (e.g., agriculture, fish or livestock) for consumption by the HH. A cash gift refers to the cash purchase of a good or service for the beneficiary of another HH and, similarly, a home-produced gift refers to the value of a home-produced item that is gifted to another HH. Imputed rents are

the value of the services that an owner occupied HH derives from living in that dwelling. In-kind income consumed refers to income provided by an employer that is in the form of a good or service that is consumed by the HH.

Below, we provide a breakdown of the composition of HH expenditure by category and type.

Expenditure category

By broad expenditure category, consumption expenditure makes up majority of total HH expenditure. Nationally, it accounts for 93.5 percent (94.9 percent in Tuvalu urban). Non-consumption expenditure makes up the large remaining majority, accounting for 5.5 percent nationally (6.7 percent in urban), with investment expenditure amounting to around 1 percent of total HH expenditure (in urban and rural).

At the National level, 39.4 percent of total HH expenditure is on food and non-alcoholic beverages (COICOP division 1). In Tuvalu urban one third of the total HH expenditure is on food and more than 40 percent in rural. The consumption expenditure seems to show different profiles between urban and rural (Table 10).

Following COICOP division 1 is COICOP division 4 (Housing, water, electricity, gas and other fuels), amounting to one-quarter of total HH expenditure. Tuvalu urban - Funafuti (urban) HH allocate 24 percent of their total expenditure to this division, with Tuvalu rural allocating the least amount of 28 percent. Transport is the final significant consumption expenditure group and accounting for 7 percent of total HH expenditure. Other significant COICOP divisions include division 2 (alcohol, tobacco and narcotics), making up 5.8 percent of total HH expenditure, miscellaneous goods and services and furnishing (3 percent).

Nationally, expenditure on food, housing and transport make up 73.2 percent of total HH expenditure.

Table 10: Composition of HH expenditure, by expenditure category and strata

	Urban	Rural	Total
Consumption expenditure			
Food & non-alcohol beverage	34.7%	44.8%	39.4%
Alcohol beverage, tobacco & narcotics	6.4%	5.1%	5.8%
Clothing & footwear	1.9%	1.8%	1.8%
Housing, water, electricity, gas, etc	28.2%	24.3%	26.4%
Furnishings, HH equipment & maintenance	3.3%	2.9%	3.1%
Health	0.3%	0.1%	0.2%
Transport	8.6%	6.1%	7.4%
Communication	2.1%	2.1%	2.1%
Recreation and culture	2.5%	1.5%	2.0%
Education	0.7%	0.6%	0.6%
Restaurants and hotels	2.2%	0.4%	1.4%
Miscellaneous goods & services	4.0%	2.3%	3.2%
Total consumption expenditure	94.9%	91.9%	93.5%
Non-consumption expenditure			
Donation to other HHs	2.8%	2.9%	2.9%
Donation to Church	0.8%	1.5%	1.1%
Other donation	0.7%	1.9%	1.2%
Taxes and fines	0.1%	0.4%	0.3%
Total non-consumption expenditure	4.4%	6.7%	5.5%
Investment expenditure			
Land and house	0.4%	1.1%	0.7%
Plant	0.3%	0.4%	0.3%
Total investment expenditure	0.7%	1.4%	1.1%
Total annual HH expenditure	100.0%	100.0%	100.0%

Expenditure type

A bit less than two-thirds of HH expenditure is cash-based expenditure for the benefit of the HH with another 7.8 percent being cash purchased gifts (in total 72.4 percent is cash based expenditure at National level). Rural HHs have a lower proportion of their expenditure being cash-based (51.8 percent) and they compensate by a higher subsistence expenditure.

Table 11: Composition of HH expenditure, by expenditure type and strata

	Urban	Rural	Total
Cash	75.6%	51.8%	64.6%
Subsistence	2.3%	18.6%	9.8%
Cash – gifts	7.5%	8.2%	7.8%
Home produced – gifts	0.4%	3.5%	1.9%
Imputed rents	14.2%	17.9%	15.9%
In-kind income consumed	0.1%	0.0%	0.1%
Total	100%	100%	100%

Expenditure composition by category and type

Constructing HH expenditure by category and type allows us to understand the composition of each expenditure category, by type. The below figures present this information. In summary, and as specified above, majority of expenditure is cash based. The most notable category where this is not the case is COICOP division 1, where around 11 percent of expenditure in this division is home produced (subsistence or home produced gifts). By strata, however, subsistence consumption and gifting is far more significant, accounting for 22 percent in the outer islands (Figure 1).

The other notable category is division 4 (housing, etc.), where imputed rents (non-cash) makes up 16 percent of the total expenditure nationally and this proportion is fairly consistent across all strata.

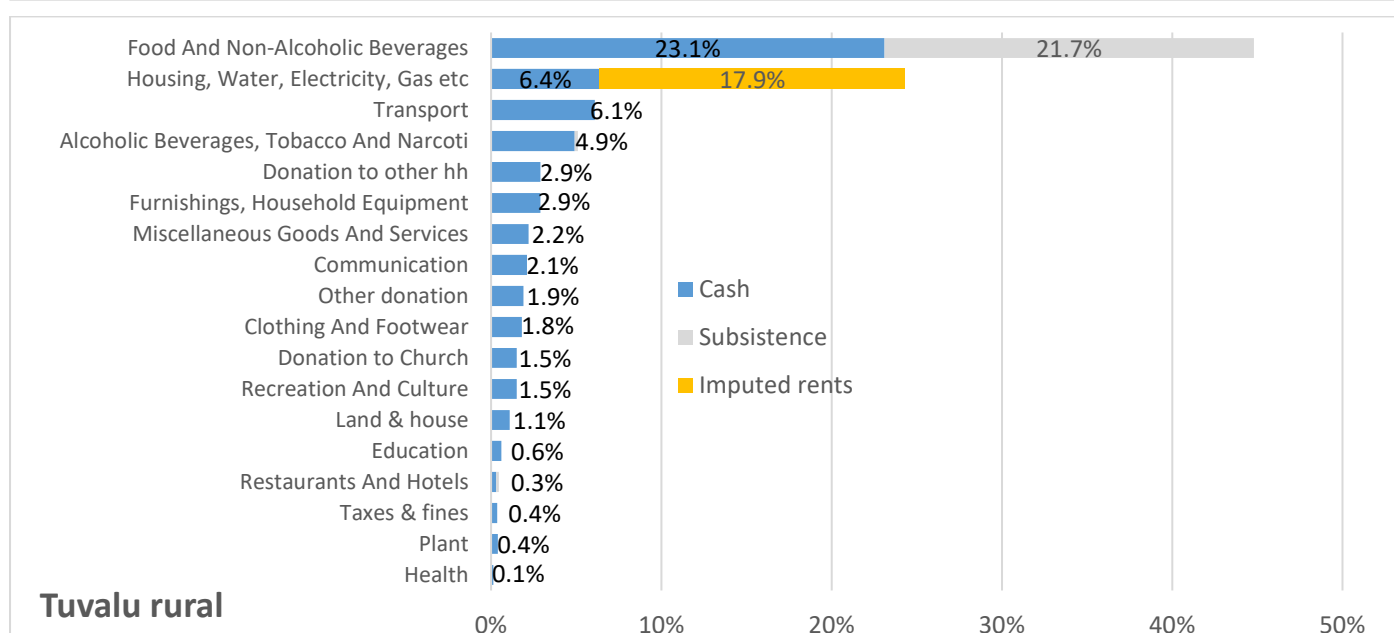
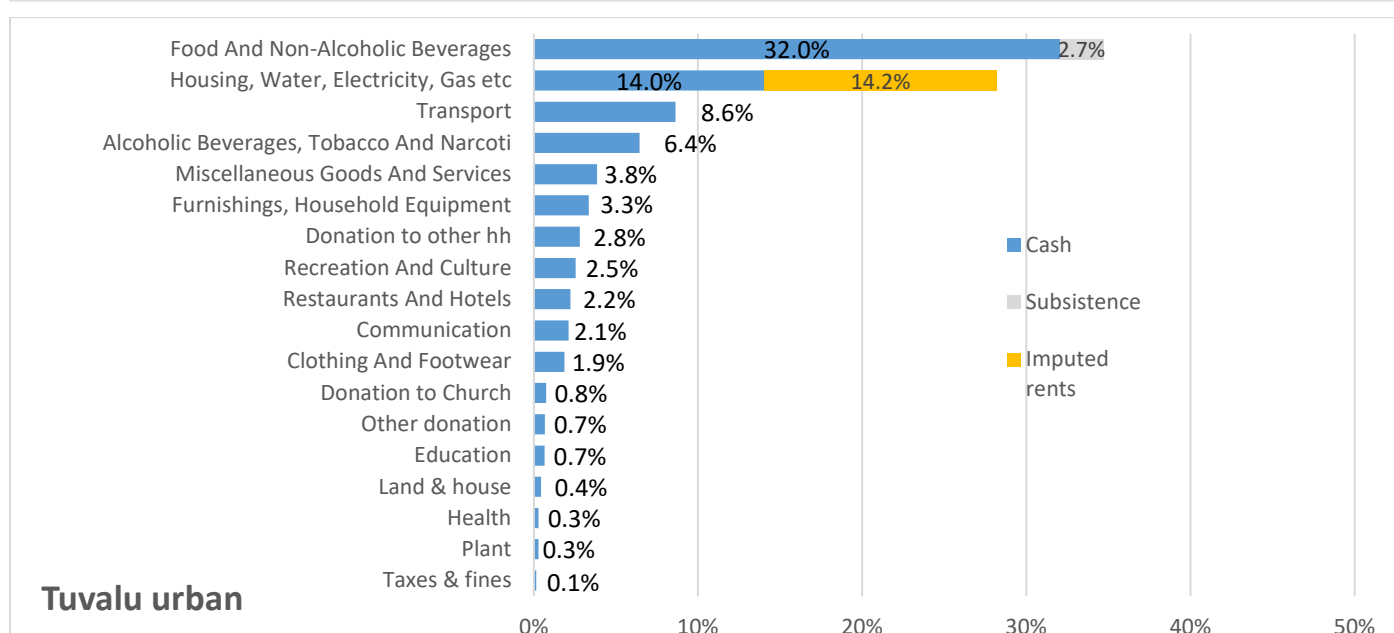
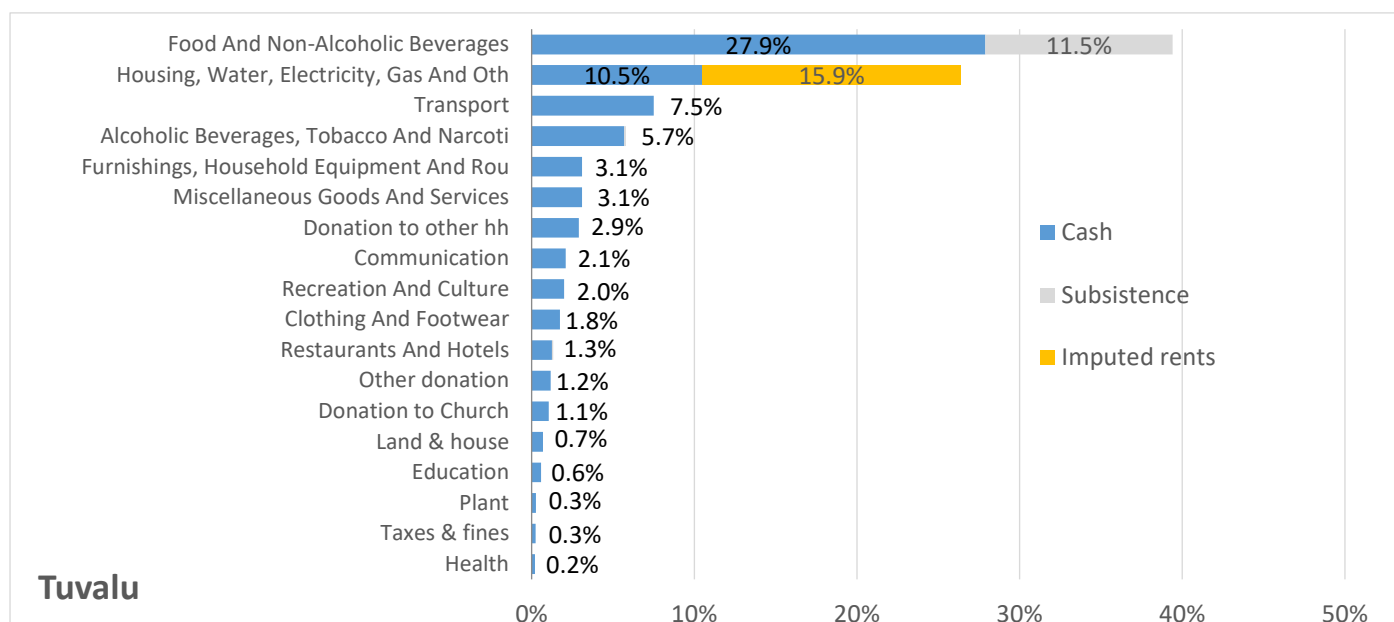


Figure 1: Composition of HH expenditure, by expenditure category and type (National, urban, rural)

Composition of expenditure on food and non-alcoholic beverages (COICOP division 1)

Food and non-alcoholic beverages is the main expenditure division and it accounts for almost 40 percent of the total expenditure. Average HH expenditure within this division amounts to AUD5,630 per annum (median AUD4,450), which translates into an average annual per capita expenditure on food and non-alcoholic beverages of AUD940 (median AUD700).

Table 12: Total, average and median annual HH and per capita expenditure on COICOP division 1, by strata (AUD)

	Total	HHs		Per capita	
		Average	Median	Average	Median
Urban	4,986,400	5,730	4,330	860	640
Rural	5,562,400	5,550	4,510	1,040	810
Total	10,548,810	5,630	4,450	940	700

HH expenditure on food and non-alcoholic beverages (COICOP division 1) is concentrated around meat, fruit, bread and cereals, and fish and seafood, with these classes making up 72 percent of total HH expenditure within this division (Table 13). This expenditure distribution is very different among urban and rural areas. In urban Tuvalu (Funafuti) “Meat”, “Bread and cereals” make up 56% of the food consumption while in rural Tuvalu (outer atolls) “Fish and sea food” is the main food class.

Table 13: Composition of HH expenditure on COICOP division 1, by COICOP class

	Urban	Rural	Total
Bread and cereals	22%	15%	18%
Meat	34%	21%	27%
Fish and seafood	12%	22%	17%
Milk, cheese and eggs	6%	4%	5%
Oils and fats	3%	2%	2%
Fruit	2%	16%	10%
Vegetables	6%	6%	6%
Sugar, jam, honey, chocolate	8%	7%	8%
Food products N.E.C.	3%	1%	2%
Coffee, tea and cocoa	1%	1%	1%
Mineral water, soft drinks, juices	3%	5%	4%
Total	100%	100%	100%

Expenditure with COICOP division 1 is not solely cash based (Figure 2). At the national level, 29 percent of the value of the food consumed by the HHs is home produced, and it amounts 49 percent in the outer atolls (rural Tuvalu). The urban HHs are highly dependant on cash for food supply (92 percent of the food they consume is purchased).

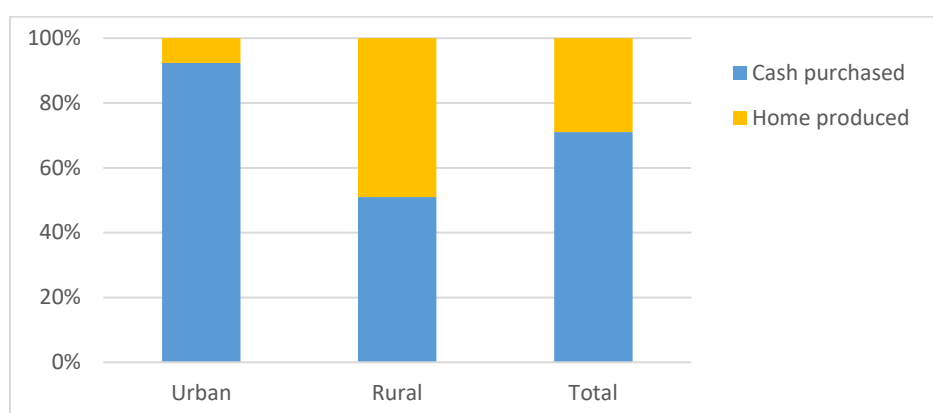


Figure 2: Distribution of HH expenditure on COICOP division 1, by expenditure type

The detail by COICOP class for food consumption shows the difference in food consumption and origin of the food (type of expenditure) between urban and rural HHS in Tuvalu.

Home production in urban HHs is very low and occurs for only meat and fish consumption. 6 percent of the meat consumption is home produced and is mainly related to pigs consumed for ceremonies (adding the pigs gifted for

ceremonies it amounts 17 percent of the meat consumption home produced). Looking at the fish consumption, 23 percent of the value consumed comes from urban HHs fishing activities. On a very different profile, HHs in outer atolls spend only on “Bread and cereals”, “Meat”, “Sugar products” and to a minor extent on “Fish and sea food” (tinned fish). “Fruit” are almost exclusively home produced or received as a gift, almost 70 percent of the “Fish and seafood” class is home produced, and a quarter of the “Meat” (Figure 3).

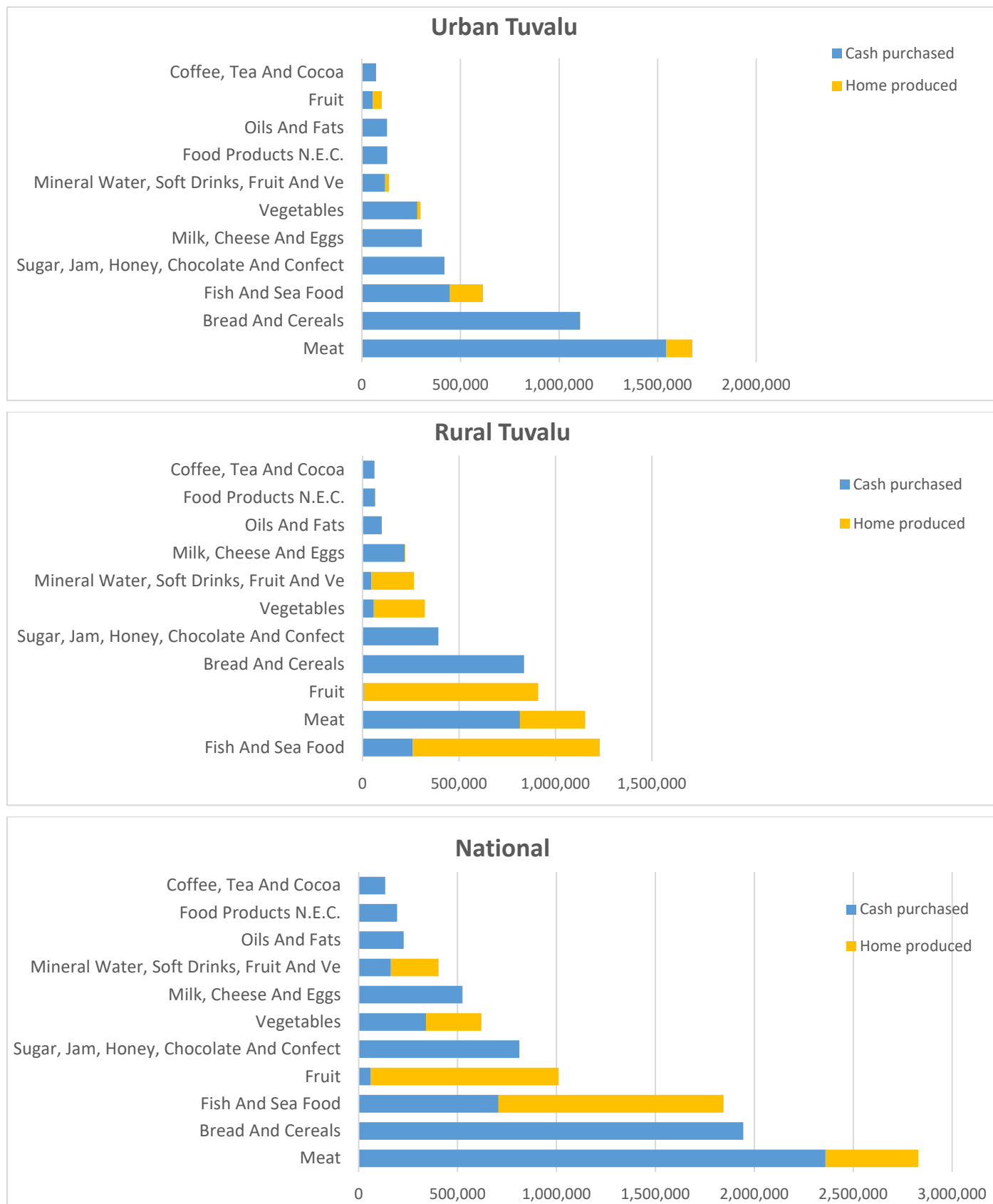


Figure 3: Distribution of HH expenditure on COICOP division 1, by expenditure type and COICOP class (Total, Urban, Rural)

The below table shows the top 12 ranked items by national total expenditure on food and non-alcoholic beverages (COICOP division 1). These 12 food sub-classes make up 76 percent of total expenditure on COICOP division 1 – a fairly concentrated food basket, with 12 items making up more than three quarters of total expenditure on food and beverage.

These items are ranked by total national expenditure (i.e., not by individual strata), however it can be seen that there's a large degree of heterogeneity in food expenditure, by COICOP sub-class, across urban and rural (as demonstrated previously). HH expenditure – both in the form of cash and subsistence – is the highest on "Chicken" (amounting to 15 percent of total HH expenditure within COICOP division 1 but only 11 percent in rural HHs where it comes third), followed by "Fish" (13 percent at National level but 10 percent in urban), "Fruit" (10 percent and very high in rural and low in urban) (refer Table 14).

Table 14: Distribution of total HH expenditure on food and non-alcoholic beverages, by the top 12 food items and strata

Code	Subclass COICOP	Urban	Rural	Total
112015	Chicken (fresh or frozen)	19%	11%	15%
113022	Fish (Fresh or frozen)	10%	16%	13%
116042	Fruit (fresh or frozen)	2%	16%	10%
111001	Rice	10%	8%	9%
118049	Sugar	7%	7%	7%
117046	Tuber	3%	5%	4%
111005	Biscuits	4%	3%	3%
122073	Fruit Juices	1%	4%	2%
112013	Sheep (fresh or frozen)	4%	1%	2%
113023	Sea food (fresh or frozen)	0%	4%	2%
112012	Swine (fresh or frozen)	3%	2%	2%
112020	Tinned meat	3%	2%	2%
Total		66%	78%	72%

Table 15 shows the expenditure type (by cash or subsistence) for the 12 main expenditure sub-classes within COICOP division 1 (the total represents total expenditure, by source). Overall, seafood, fruits, swine, and fruit juice are home produced by more than 90 percent. Tuber and fresh fish at a lower extent are partially home produced too (respectively 56 and 62 percent).

Major cash-based food items are: chicken, rice, sugar, biscuits, sheep and canned meat. The remainder are a mixture of cash and subsistence, with rural HHs primarily acquiring the remainder through subsistence means and urban HHs through cash.

Table 15: Distribution of total HH expenditure on food and non-alcoholic beverages, by the top 12 food items, strata and expenditure type

		Urban			Rural			National		
		Cash	Home produced	Total	Cash	Home produced	Total	Cash	Home produced	Total
112015	Chicken (fresh or frozen)	100%	0%	100%	95%	5%	100%	98%	2%	100%
113022	Fish (Fresh or frozen)	69%	31%	100%	20%	80%	100%	38%	62%	100%
116042	Fruit (fresh or frozen)	52%	48%	100%	1%	99%	100%	5%	95%	100%
111001	Rice	100%	0%	100%	100%	0%	100%	100%	0%	100%
118049	Sugar	100%	0%	100%	100%	0%	100%	100%	0%	100%
117046	Tuber	97%	3%	100%	12%	88%	100%	44%	56%	100%
111005	Biscuits	100%	0%	100%	100%	0%	100%	100%	0%	100%
122073	Fruit Juices	40%	60%	100%	4%	96%	100%	9%	91%	100%
112013	Sheep (fresh or frozen)	100%	0%	100%	100%	0%	100%	100%	0%	100%
113023	Sea food (fresh or frozen)	27%	73%	100%	0%	100%	100%	1%	99%	100%
112012	Swine (fresh or frozen)	4%	96%	100%	4%	96%	100%	4%	96%	100%
112020	Tinned meat	100%	0%	100%	100%	0%	100%	100%	0%	100%
Total		92%	8%	100%	51%	49%	100%	71%	29%	100%

Composition of expenditure on housing, water, electricity, gas and other fuels (COICOP division 4)

Housing, water, electricity, gas and other fuels is the second most significant expenditure division and it accounts for 25 percent of total HH expenditure (28 percent in urban and 22% in rural). Average HH expenditure within this division amounts

to AUD3,780 per annum (median AUD3,100), which translates into an average annual per capita expenditure of AUD630 (median AUD480). All expenditure within this division is cash-based, or imputed rents.

Table 16: Total, average and median annual HH and per capita expenditure on COICOP division 4, by strata (AUD)

	Total	HHs		Per capita	
		Average	Median	Average	Median
Urban	4,057,955	4,660	4,060	700	540
Rural	3,012,859	3,010	2,660	560	430
Total	7,070,814	3,780	3,100	630	480

The majority (40 in urban to 68 percent in rural) of expenditure within this division, by strata, is made up of imputed rents – the estimated value of services that the owner occupier derives from living in their dwelling (Table 17). Imputed rents are made of rents declared by owners occupied (72 percent of the HHs) and HHs who live in the house free rent (11 percent), the rest are the tenants (18 percent) and they pay an actual rent. Utilities (electricity, water, gas, fuel) make up between 21 and 29 percent respectively in rural and urban of expenditure within this division.

Table 17: Composition of HH expenditure on COICOP division 4

	Urban	Rural	Total
Imputed Rentals Of Owner Occupiers	40.4%	68.4%	52.3%
Electricity	20.3%	12.9%	17.2%
Actual Rentals Paid By Tenants	15.9%	1.4%	9.7%
Other Imputed Rentals (live in for free)	9.9%	5.2%	7.9%
Gas	6.7%	4.5%	5.8%
Materials For The Maintenance And Repair	3.6%	3.2%	3.4%
Liquid Fuels	1.8%	3.3%	2.4%
Water Supply	0.8%	0.3%	0.6%
Other	0.6%	0.8%	0.7%
Total	100%	100%	100%

Composition of expenditure on transport (COICOP division 7)

Transport is the third most significant expenditure division and it accounts for 7 percent (8 and 5 percent respectively in urban and rural) of total HH expenditure at National level. Average HH expenditure within this division amounts to AUD1,070 per annum (median AUD510), which translates into an average annual per capita expenditure of AUD180 (median AUD90). All expenditure within this division is cash-based.

Table 18: Total, average and median annual HH and per capita expenditure on COICOP division 7, by strata (AUD)

	Total	HHs		Per capita	
		Average	Median	Average	Median
Urban	1,238,330	1,420	610	210	100
Rural	757,030	760	370	140	70
Total	1,995,360	1,070	510	180	90

The majority (around 40 percent) of expenditure within this division, by strata, is made up of the purchase of motor cycles (scooter) which is the main mean of transport in Tuvalu, followed by fuel. As expected urban HHs spend more on air fare and rural HHs more on boat fare (Table 19).

Table 19: Composition of HH expenditure on COICOP division 7

	Urban	Rural	Total
Purchase of motor cycle	37.7%	42.4%	39.5%
Fuels And Lubricants	35.5%	37.4%	36.2%
Air fare	9.4%	2.7%	6.8%
Purchase of motor cars	6.6%	3.6%	5.5%
Other services in respect of personal transport	5.1%	2.5%	4.1%
Boat fare	1.0%	5.5%	2.7%
Maintenance of vehicle	1.5%	2.2%	1.8%
Bicycles	0.6%	2.0%	1.2%
Other Purchased Transport Services	1.1%	1.3%	1.2%
Taxi / bus fare	1.4%	0.2%	1.0%
Spare parts and accessories for vehicles	0.0%	0.1%	0.1%
Total	100.0%	100.0%	100.0%

4. Main expenditure items (total, cash and non-cash)

The following tables show the proportion of total expenditure (Table 20) cash-based expenditure (Table 21) and subsistence expenditure (Table 22) that the top HH expenditure items account for.

In terms of total expenditure (cash, subsistence and imputed rents), it can be seen that imputed rents are the most significant expenditure item, by COICOP sub-class, making up 15 percent of total national HH expenditure. Following this is Fruit (8 percent), chicken (5 percent) and fish (5 percent). Overall, almost 70% of the total HH expenditure is allocated to the below 22 items across all domains in Tuvalu.

Table 20: Proportion of total expenditure that top 22 items account for, by strata

Subclass	Urban	Rural	Total
1 Imputed rents (owner and live in for free)	11.4%	16.6%	13.8%
2 Fruit	6.6%	4.8%	5.8%
3 Chicken (Fresh or frozen)	3.5%	7.2%	5.2%
4 Fish (fresh or frozen)	5.7%	3.1%	4.5%
5 Electricity Charges	0.7%	7.3%	3.7%
6 Rice	3.4%	3.8%	3.6%
7 Motor Cycles, Scooters	3.2%	2.6%	2.9%
8 Cash transfer - remittance sent to another HH	2.8%	2.9%	2.9%
9 Sugar	2.5%	2.9%	2.7%
10 Fuel	3.1%	2.3%	2.7%
11 Actual rents paid by tenants	4.5%	0.3%	2.6%
12 Telephone services	2.8%	1.3%	2.1%
13 Cigarettes	1.9%	2.0%	2.0%
14 Liquefied Hydrocarbons (Butane)	2.2%	1.3%	1.8%
15 Tuber	1.9%	1.1%	1.5%
16 Tobacco	1.0%	2.0%	1.5%
17 Beer	0.2%	2.6%	1.3%
18 Biscuits	2.3%	0.1%	1.3%
19 Take away food	1.3%	1.2%	1.2%
20 Cleaning And Maintenance Products (Soaps...)	2.0%	0.3%	1.2%
21 Cash transfer - Church	1.0%	1.3%	1.1%
22 Other Products for personal car (Toilet Paper...)	0.8%	1.5%	1.1%
Total	64.8%	68.7%	66.6%

Looking at cash expenditure only (i.e., excluding subsistence and imputed rents), the main items (and their proportion of total cash expenditure) are: chicken, electricity charges, rice. Those 3 items account for almost 20% of the HH cash

expenditure (Table 21). On the overall the 22 items that HHs spend the most on account for 337 percent of the HH cash budget.

Table 21: Proportion of total cash expenditure that top 22 cash items account for, by strata

	Subclass COICOP	Urban	Rural	Total
1	Chicken (fresh or frozen)	7.9%	7.7%	7.8%
2	Electricity Charges	6.9%	5.2%	6.3%
3	Rice	4.1%	6.4%	4.9%
4	Motor Cycles, Scooter	3.9%	4.3%	4.1%
5	Cash transfer - remittance sent to another HH	3.4%	4.9%	4.0%
6	Sugar	3.0%	4.9%	3.7%
7	Fuels	3.7%	3.8%	3.7%
8	Actual rents paid by tenants	5.4%	0.5%	3.5%
9	Fish (fresh or frozen)	2.9%	2.4%	2.7%
10	Telephone services	2.3%	3.4%	2.7%
11	Cigarettes	2.7%	2.2%	2.5%
12	Liquefied Hydrocarbons (Butane)	2.3%	1.8%	2.1%
13	Tobacco	0.3%	4.4%	1.8%
14	Local Beer	2.8%	0.1%	1.8%
15	Biscuits	1.6%	1.9%	1.7%
16	Cleaning And Maintenance Products (Soaps...)	1.3%	2.1%	1.6%
17	Take away food	2.3%	0.3%	1.6%
18	Cash transfer - Church	0.9%	2.5%	1.5%
19	Other Products for personal car (Toilet Paper...)	1.6%	1.0%	1.4%
20	Sheep (fresh or frozen)	1.8%	0.6%	1.3%
21	Preserved meat	1.2%	1.2%	1.2%
22	Articles Of Personal Hygiene (Toilet Soap...)	1.2%	1.2%	1.2%
Total		36.6%	36.9%	36.7%

In terms of subsistence expenditure (i.e., excluding cash and imputed rents), it can be seen that ten items make up almost all subsistence consumption expenditure. Fruit make up more than half, followed by fish (19 percent), seafood (6 percent).

Table 22: Proportion of total subsistence (home production) expenditure that top 10 items account for, by strata

		Urban	Rural	Total
1	Fruit	11.9%	32.9%	30.3%
2	Fish (fresh or frozen)	41.3%	25.9%	27.8%
3	Seafood (fresh or frozen)	2.1%	9.0%	8.1%
4	Fruit Juices	5.1%	8.0%	7.7%
5	Swine (fresh or frozen)	33.5%	3.9%	7.5%
6	Tuber	1.3%	8.1%	7.2%
7	Other meat (fresh or frozen)	0.0%	7.3%	6.4%
8	Vegetables	2.8%	1.6%	1.7%
9	Chicken	0.8%	1.1%	1.1%
10	Other Related Alcoholic Drinks	0.2%	1.0%	0.9%
Total		99.0%	98.7%	98.7%

5. Expenditure tables

Annual household expenditure

Table 23: Total annual HH expenditure (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed	Total
Consumption expenditure							
Food and non-alcoholic beverages	7,115,660	2,628,840	351,650	452,670	-	-	10,548,810
Alcoholic beverages, Tobacco	1,532,340	4,180	-	24,340	-	-	1,560,870
Clothing and footwear	487,170	-	5,480	-	-	-	492,650
Housing, water, electricity, gas	2,693,840	-	119,850	-	4,255,170	-	7,068,870
Furnishings, HH equipment	829,180	-	8,700	-	-	-	837,880
Health	59,120	-	280	-	-	-	59,400
Transport	1,927,060	-	68,310	-	-	-	1,995,370
Communication	559,570	-	1,500	-	-	-	561,070
Recreation and culture	516,500	-	29,590	-	-	-	546,090
Education	140,160	-	24,900	-	-	-	165,060
Restaurants and hotels	346,130	-	6,500	21,330	-	-	373,960
Miscellaneous goods and services	816,130	-	10,870	-	-	21,210	848,200
Total consumption expenditure	17,022,860	2,633,020	627,630	498,340	4,255,170	21,210	25,058,230
Non-consumption expenditure							
Donation to other HH	-	-	767,380	-	-	-	767,380
Donation to church	-	-	297,550	-	-	-	297,550
Other donation	-	-	328,210	-	-	-	328,210
Taxes and fines	-	-	70,900	-	-	-	70,900
Total non-consumption expenditure	0	0	1,464,040	0	0	0	1,464,040
Investment expenditure							
Land and house	197,890	-	-	-	-	-	197,890
Plant	84,310	-	-	-	-	-	84,310
Total investment expenditure	282,200	0	0	0	0	0	282,200
TOTAL EXPENDITURE	17,305,060	2,633,020	2,091,670	498,340	4,255,170	21,210	26,804,470

Table 24: Total annual urban HH expenditure (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed	Total
Consumption expenditure							
Food and non-alcoholic beverages	4,362,110	325,510	241,640	57,150	-	-	4,986,410
Alcoholic beverages, Tobacco	926,310	600	-	-	-	-	926,910
Clothing and footwear	265,930	-	2,690	-	-	-	268,620
Housing, water, electricity, gas	1,910,220	-	107,620	-	2,038,160	-	4,056,010
Furnishings, HH equipment	472,130	-	8,160	-	-	-	480,290
Health	40,790	-	280	-	-	-	41,070
Transport	1,189,960	-	48,380	-	-	-	1,238,330
Communication	303,530	-	1,500	-	-	-	305,030
Recreation and culture	347,430	-	17,860	-	-	-	365,290
Education	92,150	-	2,140	-	-	-	94,290
Restaurants and hotels	313,880	-	5,700	540	-	-	320,120
Miscellaneous goods and services	544,220	-	7,710	-	-	16,570	568,490
Total consumption expenditure	10,768,650	326,110	443,670	57,690	2,038,160	16,570	13,650,860
Non-consumption expenditure							
Donation to other HH	-	-	402,770	-	-	-	402,770
Donation to church	-	-	108,640	-	-	-	108,640
Other donation	-	-	96,900	-	-	-	96,900
Taxes and fines	-	-	21,250	-	-	-	21,250
Total non-consumption expenditure	0	0	629,560	0	0	0	629,560
Investment expenditure							
Land and house	63,980	-	-	-	-	-	63,980
Plant	40,620	-	-	-	-	-	40,620
Total investment expenditure	104,610	0	0	0	0	0	104,610
TOTAL EXPENDITURE	10,873,260	326,110	1,073,230	57,690	2,038,160	21,210	14,386,960

Table 25: Total annual rural HH expenditure (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed	Total
Consumption expenditure							
Food and non-alcoholic beverages	2,753,550	2,303,330	110,010	395,520	-	-	5,562,410
Alcoholic beverages, Tobacco	606,030	3,580	-	24,340	-	-	633,950
Clothing and footwear	221,240	-	2,790	-	-	-	224,030
Housing, water, electricity, gas	783,620	-	12,230	-	2,217,010	-	3,012,860
Furnishings, HH equipment	357,050	-	540	-	-	-	357,590
Health	18,330	-	-	-	-	-	18,330
Transport	737,100	-	19,940	-	-	-	757,030
Communication	256,040	-	-	-	-	-	256,040
Recreation and culture	169,070	-	11,730	-	-	-	180,800
Education	48,000	-	22,760	-	-	-	70,760
Restaurants and hotels	32,260	-	800	20,790	-	-	53,840
Miscellaneous goods and services	271,910	-	3,160	-	-	4,640	279,700
Total consumption expenditure	6,254,200	2,306,910	183,960	440,650	2,217,010	4,640	11,407,340
Non-consumption expenditure							
Donation to other HH	-	-	364,610	-	-	-	364,610
Donation to church	-	-	188,900	-	-	-	188,900
Other donation	-	-	231,320	-	-	-	231,320
Taxes and fines	-	-	49,650	-	-	-	49,650
Total non-consumption expenditure	0	0	834,480	0	0	0	834,480
Investment expenditure							
Land and house	133,900	-	-	-	-	-	133,900
Plant	43,680	-	-	-	-	-	43,680
Total investment expenditure	177,580	0	0	0	0	0	177,580
TOTAL EXPENDITURE	6,431,790	2,306,910	1,018,440	440,650	2,217,010	4,640	12,419,410

Table 26: Average annual HH expenditure (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed	Total
Consumption expenditure							
Food and non-alcoholic beverages	3,800	1,400	190	240	-	-	5,640
Alcoholic beverages, Tobacco	820	-	-	10	-	-	830
Clothing and footwear	260	-	-	-	-	-	260
Housing, water, electricity, gas	1,440	-	60	-	2,270	-	3,780
Furnishings, HH equipment	440	-	-	-	-	-	450
Health	30	-	-	-	-	-	30
Transport	1,030	-	40	-	-	-	1,070
Communication	300	-	-	-	-	-	300
Recreation and culture	280	-	20	-	-	-	290
Education	70	-	10	-	-	-	90
Restaurants and hotels	180	-	-	10	-	-	200
Miscellaneous goods and services	440	-	10	-	-	10	450
Total consumption expenditure	9,090	1,400	340	270	2,270	10	13,390
Non-consumption expenditure							
Donation to other HH	-	-	410	-	-	-	410
Donation to church	-	-	160	-	-	-	160
Other donation	-	-	180	-	-	-	180
Taxes and fines	-	-	40	-	-	-	40
Total non-consumption expenditure	0	0	780	0	0	0	780
Investment expenditure							
Land and house	110	-	-	-	-	-	110
Plant	40	-	-	-	-	-	40
Total investment expenditure	150	0	0	0	0	0	150
TOTAL EXPENDITURE	9,240	1,400	1,120	270	2,270	10	14,320

Table 27: Average annual urban HH expenditure (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed	Total
Consumption expenditure							
Food and non-alcoholic beverages	5,010	370	280	70	-	-	5,730
Alcoholic beverages, Tobacco	1,060	0	-	-	-	-	1,070
Clothing and footwear	310	-	0	-	-	-	310
Housing, water, electricity, gas	2,200	-	120	-	2,340	-	4,660
Furnishings, HH equipment	540	-	10	-	-	-	550
Health	50	-	0	-	-	-	50
Transport	1,370	-	60	-	-	-	1,420
Communication	350	-	0	-	-	-	350
Recreation and culture	400	-	20	-	-	-	420
Education	110	-	0	-	-	-	110
Restaurants and hotels	360	-	10	0	-	-	370
Miscellaneous goods and services	630	-	10	-	-	20	650
Total consumption expenditure	12,380	370	510	70	2,340	20	15,690
Non-consumption expenditure							
Donation to other HH	-	-	460	-	-	-	460
Donation to church	-	-	120	-	-	-	120
Other donation	-	-	110	-	-	-	110
Taxes and fines	-	-	20	-	-	-	20
Total non-consumption expenditure	0	0	720	0	0	0	720
Investment expenditure							
Land and house	70	-	-	-	-	-	70
Plant	50	-	-	-	-	-	50
Total investment expenditure	120	0	0	0	0	0	120
TOTAL EXPENDITURE	12,500	370	1,230	70	2,340	21,210	16,540

Table 28: Average annual rural HH expenditure (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed	Total
Consumption expenditure							
Food and non-alcoholic beverages	2,750	2,300	110	390	-	-	5,550
Alcoholic beverages, Tobacco	600	0	-	20	-	-	630
Clothing and footwear	220	-	0	-	-	-	220
Housing, water, electricity, gas	780	-	10	-	2,210	-	3,010
Furnishings, HH equipment	360	-	0	-	-	-	360
Health	20	-	-	-	-	-	20
Transport	740	-	20	-	-	-	760
Communication	260	-	-	-	-	-	260
Recreation and culture	170	-	10	-	-	-	180
Education	50	-	20	-	-	-	70
Restaurants and hotels	30	-	0	20	-	-	50
Miscellaneous goods and services	270	-	0	-	-	5	280
Total consumption expenditure	6,240	2,300	180	440	2,210	0	11,380
Non-consumption expenditure							
Donation to other HH	-	-	360	-	-	-	360
Donation to church	-	-	190	-	-	-	190
Other donation	-	-	230	-	-	-	230
Taxes and fines	-	-	50	-	-	-	50
Total non-consumption expenditure	0	0	830	0	0	0	830
Investment expenditure							
Land and house	130	-	-	-	-	-	130
Plant	30	-	-	-	-	-	30
Total investment expenditure	170	0	0	0	0	0	170
TOTAL EXPENDITURE	6,410	2,300	1,020	440	2,210	0	12,380

Table 29: Average annual per capita expenditure (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed	Total
Consumption expenditure							
Food and non-alcoholic beverages	640	240	30	40	-	-	940
Alcoholic beverages, Tobacco	140	-	-	-	-	-	140
Clothing and footwear	40	-	-	-	-	-	40
Housing, water, electricity, gas	240	-	10	-	380	-	630
Furnishings, HH equipment	70	-	-	-	-	-	80
Health	10	-	-	-	-	-	10
Transport	170	-	10	-	-	-	180
Communication	50	-	-	-	-	-	50
Recreation and culture	50	-	-	-	-	-	50
Education	10	-	-	-	-	-	10
Restaurants and hotels	30	-	-	-	-	-	30
Miscellaneous goods and services	70	-	-	-	-	2	80
Total consumption expenditure	1,520	240	60	40	380	2	2,240
Non-consumption expenditure							
Donation to other HH	-	-	70	-	-	-	70
Donation to church	-	-	30	-	-	-	30
Other donation	-	-	30	-	-	-	30
Taxes and fines	-	-	10	-	-	-	10
Total non-consumption expenditure	0	0	130	0	0	0	130
Investment expenditure							
Land and house	20	-	-	-	-	-	20
Plant	10	-	-	-	-	-	10
Total investment expenditure	20	0	0	0	0	0	20
TOTAL EXPENDITURE	1,550	240	190	40	380	2	2,400

Table 30: Average annual urban per capita expenditure (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed	Total
Consumption expenditure							
Food and non-alcoholic beverages	750	60	40	10	-	-	860
Alcoholic beverages, Tobacco	160	0	-	-	-	-	160
Clothing and footwear	50	-	0	-	-	-	50
Housing, water, electricity, gas	330	-	20	-	350	-	700
Furnishings, HH equipment	80	-	0	-	-	-	80
Health	10	-	0	-	-	-	10
Transport	210	-	10	-	-	-	210
Communication	50	-	0	-	-	-	50
Recreation and culture	60	-	0	-	-	-	60
Education	20	-	0	-	-	-	20
Restaurants and hotels	50	-	0	0	-	-	60
Miscellaneous goods and services	90	-	0	-	-	3	100
Total consumption expenditure	1,860	60	80	10	350	3	2,360
Non-consumption expenditure							
Donation to other HH	-	-	70	-	-	-	70
Donation to church	-	-	20	-	-	-	20
Other donation	-	-	20	-	-	-	20
Taxes and fines	-	-	0	-	-	-	0
Total non-consumption expenditure	0	0	110	0	0	0	110
Investment expenditure							
Land and house	10	-	-	-	-	-	10
Plant	10	-	-	-	-	-	10
Total investment expenditure	20	0	0	0	0	0	20
TOTAL EXPENDITURE	1,880	60	190	10	350	3	2,500

Table 31: Average annual rural per capita expenditure (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed	Total
Consumption expenditure							
Food and non-alcoholic beverages	510	430	20	70	-	-	1,030
Alcoholic beverages, Tobacco	110	0	-	0	-	-	120
Clothing and footwear	40	-	0	-	-	-	40
Housing, water, electricity, gas	150	-	0	-	410	-	560
Furnishings, HH equipment	70	-	0	-	-	-	70
Health	0	-	-	-	-	-	0
Transport	140	-	0	-	-	-	140
Communication	50	-	-	-	-	-	50
Recreation and culture	30	-	0	-	-	-	30
Education	10	-	0	-	-	-	10
Restaurants and hotels	10	-	0	0	-	-	10
Miscellaneous goods and services	50	-	0	-	-	5	50
Total consumption expenditure	1,160	430	30	80	410	5	2,120
Non-consumption expenditure							
Donation to other HH	-	-	70	-	-	-	70
Donation to church	-	-	40	-	-	-	40
Other donation	-	-	40	-	-	-	40
Taxes and fines	-	-	10	-	-	-	10
Total non-consumption expenditure	0	0	160	0	0	0	160
Investment expenditure							
Land and house	20	-	-	-	-	-	20
Plant	10	-	-	-	-	-	10
Total investment expenditure	30	0	0	0	0	0	30
TOTAL EXPENDITURE	1,190	430	190	80	410	5	2,310

Proportion of households incurring expenditure, by expenditure category and type

Table 32: Proportion of HHs incurring expenditure by expenditure category and type

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed
Food and non-alcoholic beverages	98%	63%	12%	23%	-	-
Alcoholic beverages, Tobacco	58%	0%	-	0%	-	-
Clothing and footwear	67%	-	2%	-	-	-
Housing, water, electricity, gas	99%	-	2%	-	82%	-
Furnishings, HH equipment	78%	-	1%	-	-	-
Health	5%	-	0%	-	-	-
Transport	90%	-	2%	-	-	-
Communication	64%	-	0%	-	-	-
Recreation and culture	55%	-	3%	-	-	-
Education	43%	-	1%	-	-	-
Restaurants and hotels	22%	-	1%	2%	-	-
Miscellaneous goods and services	86%	-	4%	-	4%	-
Donation to other HH	-	-	76%	-	-	-
Donation to church	-	-	61%	-	-	-
Other donation	-	-	46%	-	-	-
Taxes and fines	-	-	55%	-	-	-
Land and house	4%	-	-	-	-	-
Plant	1%	-	-	-	-	-

Table 33: Proportion of Tuvalu urban – Funafuti HHs incurring expenditure by expenditure category and type

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed
Food and non-alcoholic beverages	99%	25%	12%	5%	-	-
Alcoholic beverages, Tobacco	55%	0%	-	-	-	-
Clothing and footwear	70%	-	1%	-	-	-
Housing, water, electricity, gas	99%	-	2%	-	66%	-
Furnishings, HH equipment	79%	-	1%	-	-	-
Health	7%	-	0%	-	-	-
Transport	89%	-	3%	-	-	-
Communication	49%	-	1%	-	-	-
Recreation and culture	55%	-	2%	-	-	-
Education	53%	-	1%	-	-	-
Restaurants and hotels	36%	-	2%	1%	-	-
Miscellaneous goods and services	89%	-	4%	-	-	7%
Donation to other HH	-	-	79%	-	-	-
Donation to church	-	-	67%	-	-	-
Other donation	-	-	38%	-	-	-
Taxes and fines	-	-	30%	-	-	-
Land and house	1%	-	-	-	-	-
Plant	1%	-	-	-	-	-

Table 34: Proportion of Tuvalu rural – Outer islands HHs incurring expenditure by expenditure category and type

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind consumed
Food and non-alcoholic beverages	97%	96%	13%	38%	-	-
Alcoholic beverages, Tobacco	60%	1%	-	1%	-	-
Clothing and footwear	64%	-	2%	-	-	-
Housing, water, electricity, gas	98%	-	3%	-	96%	-
Furnishings, HH equipment	76%	-	2%	-	-	-
Health	3%	-	-	-	-	-
Transport	91%	-	1%	-	-	-
Communication	77%	-	-	-	-	-
Recreation and culture	56%	-	4%	-	-	-
Education	35%	-	1%	-	-	-
Restaurants and hotels	11%	-	0%	2%	-	-
Miscellaneous goods and services	83%	-	4%	-	-	1%
Donation to other HH	-	-	72%	-	-	-
Donation to church	-	-	56%	-	-	-
Other donation	-	-	53%	-	-	-
Taxes and fines	-	-	77%	-	-	-
Land and house	6%	-	-	-	-	-
Plant	1%	-	-	-	-	-

Household expenditure by COICOP division and class

Table 35: National HH total expenditure, by COICOP division and class (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind	Total
Food and non-alcoholic beverages							
Bread and cereals	1,881,460	1,200	62,410	0	0	0	1,945,070
Meat	2,165,720	372,440	193,980	96,860	0	0	2,829,010
Fish and sea food	683,950	989,130	23,030	147,940	0	0	1,844,040
Milk, cheese and eggs	499,700	720	23,790	1,980	0	0	526,190
Oils and fats	225,290	0	2,010	0	0	0	227,300
Fruit	54,020	804,240	7,670	145,700	0	0	1,011,630
Vegetables	324,360	234,210	16,000	45,870	0	0	620,440
Sugar, jam, honey, chocolate and confectionary	799,230	0	12,940	290	0	0	812,460
Food products N.E.C.	188,170	240	6,230	160	0	0	194,790
Coffee, tea and cocoa	132,280	0	1,620	0	0	0	133,900
Mineral water, soft drinks	161,490	226,660	1,970	13,880	0	0	404,000
Sub-total	7,115,670	2,628,840	351,650	452,680	0	0	10,548,830
Alcoholic beverages, tobacco							
Spirits	49,190	0	0	0	0	0	49,190
Wine	220,600	0	0	0	0	0	220,600
Beer	370,920	4,180	0	24,340	0	0	399,440
Tobacco	845,200	0	0	0	0	0	845,200
Narcotics	46,440	0	0	0	0	0	46,440
Sub-total	1,532,350	4,180	0	24,340	0	0	1,560,870
Clothing and footwear							
Clothing materials	59,730	0	1,420	0	0	0	61,150
Garments	372,460	0	3,600	0	0	0	376,070
Other articles of clothing	2,710	0	0	0	0	0	2,710

Cleaning, repair and hire of clothing	540	0	0	0	0	0	540
Shoes and other footwear	51,730	0	460	0	0	0	52,190
Sub-total	487,170	0	5,480	0	0	0	492,660
Housing, water, electricity, gas							
Actual rentals paid by tenants	618,320	0	69,310	0	0	0	687,640
Imputed rentals of owner occupiers	0	0	0	0	3,697,650	0	3,697,650
Other imputed rentals	0	0	0	0	557,520	0	557,520
Materials for the maintenance	203,300	0	38,440	0	0	0	241,740
Services for the maintenance	12,140	0	2,070	0	0	0	14,210
Water supply	41,910	0	0	0	0	0	41,910
Refuse collection	14,580	0	0	0	0	0	14,580
Sewer collection and disposal	180	0	0	0	0	0	180
Electricity	1,205,570	0	8,330	0	0	0	1,213,900
Gas	407,740	0	0	0	0	0	407,740
Liquid fuels	171,530	0	1,540	0	0	0	173,070
Solid fuels	510	0	0	0	0	0	510
Heat energy	18,040	0	160	0	0	0	18,200
Sub-total	2,693,820	0	119,850	0	4,255,170	0	7,068,850
Furnishings, HH equipment							
Furniture and furnishings	55,220	0	4,240	0	0	0	59,460
Carpets and other floor coverings	39,620	0	480	0	0	0	40,100
Repair of furniture, furnishings	5,850	0	690	0	0	0	6,540
HH textiles	56,420	0	910	0	0	0	57,330
Major HH appliances	261,380	0	2,000	0	0	0	263,380
Small electric HH appliances	15,020	0	0	0	0	0	15,020
Glassware, tableware and HH utensiles	2,370	0	0	0	0	0	2,370
Major tools and equipment	16,000	0	0	0	0	0	16,000
Small tools and miscellaneous accessories	19,410	0	230	0	0	0	19,640
Non-durable HH goods	338,840	0	140	0	0	0	338,980
Domestic services and HH services	19,070	0	0	0	0	0	19,070
Sub-total	829,200	0	8,690	0	0	0	837,890
Health							
Pharmaceutical products	22,900	0	280	0	0	0	23,180
Therapeutic appliances and equipment	10	0	0	0	0	0	10
Paramedical services	3,990	0	0	0	0	0	3,990
Hospital services	32,220	0	0	0	0	0	32,220
Sub-total	59,120	0	280	0	0	0	59,400
Transport							
Motor cars	109,750	0	0	0	0	0	109,750
Motor cycle, scooter	734,510	0	53,230	0	0	0	787,740
Bicycles	23,110	0	280	0	0	0	23,390
Spare parts and accessories for personal transport	1,130	0	0	0	0	0	1,130
Fuels and lubricants for personal transport	720,330	0	2,760	0	0	0	723,090
Maintenance and repair of personal transport	35,690	0	60	0	0	0	35,750
Other services in respect of personal transport	74,080	0	7,680	0	0	0	81,760
Passenger transport by road	18,420	0	600	0	0	0	19,030
Passenger transport by air	136,210	0	0	0	0	0	136,210
Passenger transport by sea	54,240	0	0	0	0	0	54,240
Other purchased transport services	19,590	0	3,700	0	0	0	23,290
Sub-total	1,927,060	0	68,310	0	0	0	1,995,380
Communication							
Postal services	50	0	0	0	0	0	50
Telephone and telefax equipment	34,720	0	1,500	0	0	0	36,210

Telephone and telefax services	524,810	0	0	0	0	0	524,810
Sub-total	559,580	0	1,500	0	0	0	561,070
Recreation and culture							
Equipment for sound and picture	114,220	0	1,840	0	0	0	116,060
Photographic and cinematographic equipment	4,630	0	0	0	0	0	4,630
Information processing equipment	167,340	0	7,710	0	0	0	175,050
Recording media	480	0	0	0	0	0	480
Major durables for outdoor recreation	40	0	0	0	0	0	40
Musical instruments and major durables for indoor recreation	8,750	0	0	0	0	0	8,750
Maintenance and repair of durables	4,220	0	0	0	0	0	4,220
Games, toys and hobbies	3,020	0	0	0	0	0	3,020
Equipment for sport, camping and open air recreation	2,750	0	0	0	0	0	2,750
Gardens, plants and flowers	150	0	0	0	0	0	150
Pets and related products	14,180	0	0	0	0	0	14,180
Recreational and sporting services	450	0	0	0	0	0	450
Cultural services	60,590	0	0	0	0	0	60,590
Games of chance	80,250	0	19,810	0	0	0	100,060
Books	38,680	0	160	0	0	0	38,840
Stationery and drawing materials	16,770	0	60	0	0	0	16,830
Sub-total	516,520	0	29,580	0	0	0	546,100
Education							
Pre- primary and primary education	24,530	0	70	0	0	0	24,600
Secondary education	68,680	0	3,450	0	0	0	72,120
Post- secondary Non-Tertiary education	510	0	0	0	0	0	510
Tertiary education	40,590	0	21,380	0	0	0	61,980
Educational program for adults	5,850	0	0	0	0	0	5,850
Sub-total	140,160	0	24,900	0	0	0	165,060
Restaurants and hotels							
Restaurants, cafes and the like	334,490	0	6,500	21,330	0	0	362,310
Accommodation services	11,650	0	0	0	0	0	11,650
Sub-total	346,140	0	6,500	21,330	0	0	373,960
Miscellaneous goods and services							
Hairdressing salons and personal grooming	60	0	0	0	0	0	60
Other appliances, articles and products	611,360	0	9,350	0	0	0	620,710
Jewellery, clocks and watches	11,050	0	120	0	0	0	11,160
Other personal effects	18,540	0	40	0	0	0	18,580
Social protection	16,570	0	0	0	0	0	16,570
Life insurance	10,590	0	0	0	0	0	10,590
Insurance connected with the dwelling	114,910	0	0	0	0	0	114,910
Insurance connected with health	4,780	0	0	0	0	0	4,780
Insurance connected with transport	7,460	0	0	0	0	0	7,460
Other financial services N.E.C.	8,610	0	1,370	0	0	0	9,980
Other services N.E.C.	12,190	0	0	0	0	0	12,190
Income in kind from employer	0	0	0	0	0	21,210	21,210
Sub-total	816,120	0	10,880	0	0	21,210	848,200
Non-Consumption & investment expenditure							
Current transfers in cash	0	0	1,393,140	0	0	0	1,393,140
Taxes and fines	0	0	70,900	0	0	0	70,900
HH investment - land and home	197,890	0	0	0	0	0	197,890
HH investment - equipment	84,310	0	0	0	0	0	84,310
Sub-total	282,200	0	1,464,040	0	0	0	1,746,240
Total	17,305,050	2,633,020	2,091,660	498,350	4,255,120	21,210	26,804,460

Table 36: Tuvalu urban HH total expenditure, by COICOP division and class (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind	Total
Food and non-alcoholic beverages							
Bread and cereals	1,079,700	1,200	27,160	0	0	0	1,108,050
Meat	1,404,160	110,650	139,570	21,000	0	0	1,675,380
Fish and sea food	432,020	143,940	14,080	24,540	0	0	614,580
Milk, cheese and eggs	285,320	0	19,200	0	0	0	304,520
Oils and fats	127,210	0	410	0	0	0	127,620
Fruit	48,080	39,870	7,350	5,670	0	0	100,970
Vegetables	265,190	9,860	16,000	5,940	0	0	296,980
Sugar, jam, honey, chocolate and confectionary	410,390	0	8,930	0	0	0	419,320
Food products N.E.C.	123,300	240	5,750	0	0	0	129,290
Coffee, tea and cocoa	70,730	0	1,420	0	0	0	72,150
Mineral water, soft drinks	116,010	19,740	1,780	0	0	0	137,540
Sub-total	4,362,110	325,500	241,650	57,150	0	0	4,986,400
Alcoholic beverages, tobacco							
Spirits	49,190	0	0	0	0	0	49,190
Wine	172,940	0	0	0	0	0	172,940
Beer	340,740	600	0	0	0	0	341,340
Tobacco	351,480	0	0	0	0	0	351,480
Narcotics	11,970	0	0	0	0	0	11,970
Sub-total	926,320	600	0	0	0	0	926,920
Clothing and footwear							
Clothing materials	28,150	0	0	0	0	0	28,150
Garments	200,600	0	2,230	0	0	0	202,830
Other articles of clothing	1,790	0	0	0	0	0	1,790
Cleaning, repair and hire of clothing	540	0	0	0	0	0	540
Shoes and other footwear	34,840	0	460	0	0	0	35,300
Sub-total	265,920	0	2,690	0	0	0	268,610
Housing, water, electricity, gas							
Actual rentals paid by tenants	579,690	0	67,110	0	0	0	646,800
Imputed rentals of owner occupiers	0	0	0	0	1,636,000	0	1,636,000
Other imputed rentals	0	0	0	0	402,160	0	402,160
Materials for the maintenance	106,160	0	38,440	0	0	0	144,590
Services for the maintenance	2,530	0	2,070	0	0	0	4,600
Water supply	34,170	0	0	0	0	0	34,170
Refuse collection	11,680	0	0	0	0	0	11,680
Sewer collection and disposal	180	0	0	0	0	0	180
Electricity	824,060	0	0	0	0	0	824,060
Gas	271,180	0	0	0	0	0	271,180
Liquid fuels	73,350	0	0	0	0	0	73,350
Solid fuels	7,220	0	0	0	0	0	7,220
Heat energy	0	0	0	0	0	0	0
Sub-total	1,910,220	0	107,620	0	2,038,160	0	4,056,000
Furnishings, HH equipment							
Furniture and furnishings	38,540	0	4,240	0	0	0	42,780
Carpets and other floor coverings	10,520	0	480	0	0	0	11,000
Repair of furniture, furnishings	3,650	0	690	0	0	0	4,340
HH textiles	19,380	0	370	0	0	0	19,750

Major HH appliances	174,910	0	2,000	0	0	0	176,910
Small electric HH appliances	8,720	0	0	0	0	0	8,720
Glassware, tableware and HH utensiles	2,030	0	0	0	0	0	2,030
Major tools and equipment	11,270	0	0	0	0	0	11,270
Small tools and miscellaneous accessories	12,970	0	230	0	0	0	13,200
Non-durable HH goods	176,150	0	140	0	0	0	176,300
Domestic services and HH services	13,990	0	0	0	0	0	13,990
Sub-total	472,130	0	8,150	0	0	0	480,290
Health							
Pharmaceutical products	4,700	0	280	0	0	0	4,970
Therapeutic appliances and equipment	10	0	0	0	0	0	10
Paramedical services	3,870	0	0	0	0	0	3,870
Hospital services	32,220	0	0	0	0	0	32,220
Sub-total	40,800	0	280	0	0	0	41,070
Transport							
Motor cars	82,260	0	0	0	0	0	82,260
Motor cycle, scooter	433,500	0	33,370	0	0	0	466,880
Bicycles	7,720	0	280	0	0	0	8,000
Spare parts and accessories for personal transport	320	0	0	0	0	0	320
Fuels and lubricants for personal transport	437,270	0	2,760	0	0	0	440,030
Maintenance and repair of personal transport	19,120	0	0	0	0	0	19,120
Other services in respect of personal transport	55,120	0	7,680	0	0	0	62,810
Passenger transport by road	16,830	0	600	0	0	0	17,430
Passenger transport by air	115,990	0	0	0	0	0	115,990
Passenger transport by sea	12,220	0	0	0	0	0	12,220
Other purchased transport services	9,600	0	3,680	0	0	0	13,280
Sub-total	1,189,950	0	48,370	0	0	0	1,238,340
Communication							
Postal services	50	0	0	0	0	0	50
Telephone and telefax equipment	31,140	0	1,500	0	0	0	32,640
Telephone and telefax services	272,340	0	0	0	0	0	272,340
Sub-total	303,530	0	1,500	0	0	0	305,030
Recreation and culture							
Equipment for sound and picture	85,740	0	1,840	0	0	0	87,590
Photographic and cinematographic equipment	4,630	0	0	0	0	0	4,630
Information processing equipment	135,900	0	7,710	0	0	0	143,610
Recording media	480	0	0	0	0	0	480
Major durables for outdoor recreation	40	0	0	0	0	0	40
Musical instruments and major durables for indoor recreation	8,750	0	0	0	0	0	8,750
Games, toys and hobbies	2,820	0	0	0	0	0	2,820
Equipment for sport, camping and open air recreation	2,530	0	0	0	0	0	2,530
Gardens, plants and flowers	150	0	0	0	0	0	150
Cultural services	55,200	0	0	0	0	0	55,200
Games of chance	18,480	0	8,100	0	0	0	26,580
Books	25,480	0	160	0	0	0	25,650
Stationery and drawing materials	7,210	0	50	0	0	0	7,250
Sub-total	347,410	0	17,860	0	0	0	365,280
Education							

Pre- primary and primary education	21,320	0	70	0	0	0	21,390
Secondary education	37,980	0	2,070	0	0	0	40,050
Post- secondary Non-Tertiary education	510	0	0	0	0	0	510
Tertiary education	31,300	0	0	0	0	0	31,300
Educational program for adults	1,050	0	0	0	0	0	1,050
Sub-total	92,160	0	2,140	0	0	0	94,300
Restaurants and hotels							
Restaurants, cafes and the like	304,000	0	5,700	540	0	0	310,240
Accommodation services	9,870	0	0	0	0	0	9,870
Sub-total	313,870	0	5,700	540	0	0	320,110
Miscellaneous goods and services							
Hairdressing salons and personal grooming	60	0	0	0	0	0	60
Other appliances, articles and products	399,120	0	6,460	0	0	0	405,580
Jewellery, clocks and watches	5,320	0	120	0	0	0	5,440
Other personal effects	12,210	0	0	0	0	0	12,210
Social protection	16,570	0	0	0	0	0	16,570
Life insurance	9,370	0	0	0	0	0	9,370
Insurance connected with the dwelling	76,200	0	0	0	0	0	76,200
Insurance connected with health	4,170	0	0	0	0	0	4,170
Insurance connected with transport	7,460	0	0	0	0	0	7,460
Other financial services N.E.C.	5,390	0	1,130	0	0	0	6,520
Other services N.E.C.	8,350	0	0	0	0	0	8,350
Income in kind from employer	0	0	0	0	0	16,570	16,570
Sub-total	544,220	0	7,710	0	0	16,570	568,500
Non-Consumption & investment expenditure							
Current transfers in cash	0	0	608,300	0	0	0	608,300
Taxes and fines	0	0	21,250	0	0	0	21,250
HH investment - land and home	63,980	0	0	0	0	0	63,980
HH investment - equipment	40,620	0	0	0	0	0	40,620
Sub-total	104,600	0	629,550	0	0	0	734,150
Total	10,873,240	326,100	1,073,220	57,690	2,038,160	16,570	14,385,010

Table 37: Tuvalu rural HH total expenditure, by COICOP division and class (AUD)

	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	Income in kind	Total
Food and non-alcoholic beverages							
Bread and cereals	801,760	0	35,260	0	0	0	837,020
Meat	761,560	261,790	54,410	75,860	0	0	1,153,620
Fish and sea food	251,940	845,180	8,950	123,390	0	0	1,229,460
Milk, cheese and eggs	214,380	720	4,600	1,980	0	0	221,670
Oils and fats	98,080	0	1,590	0	0	0	99,670
Fruit	5,940	764,370	320	140,030	0	0	910,660
Vegetables	59,170	224,350	0	39,930	0	0	323,450
Sugar, jam, honey, chocolate and confectionary	388,830	0	4,010	290	0	0	393,130
Food products N.E.C.	64,860	0	480	160	0	0	65,500
Coffee, tea and cocoa	61,550	0	200	0	0	0	61,750
Mineral water, soft drinks	45,470	206,920	190	13,880	0	0	266,460
Sub-total	2,753,540	2,303,320	110,010	395,520	0	0	5,562,400
Alcoholic beverages, tobacco							
Spirits	0	0	0	0	0	0	0
Wine	47,660	0	0	0	0	0	47,660
Beer	30,180	3,580	0	24,340	0	0	58,110
Tobacco	493,720	0	0	0	0	0	493,720
Narcotics	34,470	0	0	0	0	0	34,470
Sub-total	606,030	3,580	0	24,340	0	0	633,960
Clothing and footwear							
Clothing materials	31,580	0	1,420	0	0	0	32,990
Garments	171,860	0	1,370	0	0	0	173,230
Other articles of clothing	920	0	0	0	0	0	920
Cleaning, repair and hire of clothing	0	0	0	0	0	0	0
Shoes and other footwear	16,890	0	0	0	0	0	16,890
Sub-total	221,240	0	2,790	0	0	0	224,030
Housing, water, electricity, gas							
Actual rentals paid by tenants	38,630	0	2,200	0	0	0	40,840
Imputed rentals of owner occupiers	0	0	0	0	2,061,660	0	2,061,660
Other imputed rentals	0	0	0	0	155,360	0	155,360
Materials for the maintenance	97,140	0	0	0	0	0	97,140
Services for the maintenance	9,610	0	0	0	0	0	9,610
Water supply	7,750	0	0	0	0	0	7,750
Refuse collection	2,900	0	0	0	0	0	2,900
Sewer collection and disposal	0	0	0	0	0	0	0
Electricity	381,510	0	8,330	0	0	0	389,840
Gas	136,560	0	0	0	0	0	136,560
Liquid fuels	98,180	0	1,540	0	0	0	99,720
Solid fuels	510	0	0	0	0	0	510
Heat energy	10,820	0	160	0	0	0	10,980
Sub-total	783,610	0	12,230	0	2,217,020	0	3,012,860
Furnishings, HH equipment							
Furniture and furnishings	16,680	0	0	0	0	0	16,680
Carpets and other floor coverings	29,100	0	0	0	0	0	29,100
Repair of furniture, furnishings	2,190	0	0	0	0	0	2,190
HH textiles	37,040	0	540	0	0	0	37,580

Major HH appliances	86,470	0	0	0	0	0	86,470
Small electric HH appliances	6,300	0	0	0	0	0	6,300
Glassware, tableware and HH utensiles	340	0	0	0	0	0	340
Major tools and equipment	4,730	0	0	0	0	0	4,730
Small tools and miscellaneous accessories	6,430	0	0	0	0	0	6,430
Non-durable HH goods	162,680	0	0	0	0	0	162,680
Domestic services and HH services	5,080	0	0	0	0	0	5,080
Sub-total	357,040	0	540	0	0	0	357,580
Health							
Pharmaceutical products	18,210	0	0	0	0	0	18,210
Therapeutic appliances and equipment	0	0	0	0	0	0	0
Paramedical services	120	0	0	0	0	0	120
Hospital services	0	0	0	0	0	0	0
Sub-total	18,330	0	0	0	0	0	18,330
Transport							
Motor cars	27,490	0	0	0	0	0	27,490
Motor cycle, scooter	301,010	0	19,860	0	0	0	320,870
Bicycles	15,390	0	0	0	0	0	15,390
Spare parts and accessories for personal transport	810	0	0	0	0	0	810
Fuels and lubricants for personal transport	283,060	0	0	0	0	0	283,060
Maintenance and repair of personal transport	16,570	0	60	0	0	0	16,630
Other services in respect of personal transport	18,960	0	0	0	0	0	18,960
Passenger transport by road	1,590	0	0	0	0	0	1,590
Passenger transport by air	20,220	0	0	0	0	0	20,220
Passenger transport by sea	42,010	0	0	0	0	0	42,010
Other purchased transport services	9,990	0	20	0	0	0	10,010
Sub-total	737,100	0	19,940	0	0	0	757,040
Communication							
Telephone and telefax equipment	3,570	0	0	0	0	0	3,570
Telephone and telefax services	252,470	0	0	0	0	0	252,470
Sub-total	256,040	0	0	0	0	0	256,040
Recreation and culture							
Equipment for sound and picture	28,480	0	0	0	0	0	28,480
Information processing equipment	31,430	0	0	0	0	0	31,430
Recording media	0	0	0	0	0	0	0
Major durables for outdoor recreation	0	0	0	0	0	0	0
Musical instruments and major durables for indoor recreation	0	0	0	0	0	0	0
Maintenance and repair of durables	4,220	0	0	0	0	0	4,220
Games, toys and hobbies	200	0	0	0	0	0	200
Equipment for sport, camping and open air recreation	220	0	0	0	0	0	220
Gardens, plants and flowers	0	0	0	0	0	0	0
Pets and related products	14,180	0	0	0	0	0	14,180
Recreational and sporting services	450	0	0	0	0	0	450
Cultural services	5,390	0	0	0	0	0	5,390
Games of chance	61,770	0	11,710	0	0	0	73,470
Books	13,190	0	0	0	0	0	13,190
Stationery and drawing materials	9,560	0	20	0	0	0	9,580
Sub-total	169,100	0	11,730	0	0	0	180,800

Education							
Pre- primary and primary education	3,200	0	0	0	0	0	3,200
Secondary education	30,700	0	1,380	0	0	0	32,080
Post- secondary Non-Tertiary education	0	0	0	0	0	0	0
Tertiary education	9,300	0	21,380	0	0	0	30,680
Educational program for adults	4,810	0	0	0	0	0	4,810
Sub-total	48,010	0	22,760	0	0	0	70,770
Restaurants and hotels							
Restaurants, cafes and the like	30,490	0	800	20,790	0	0	52,070
Accommodation services	1,770	0	0	0	0	0	1,770
Sub-total	32,260	0	800	20,790	0	0	53,840
Miscellaneous goods and services							
Hairdressing salons and personal grooming	0	0	0	0	0	0	0
Other appliances, articles and products	212,240	0	2,880	0	0	0	215,130
Jewellery, clocks and watches	5,730	0	0	0	0	0	5,730
Other personal effects	6,330	0	40	0	0	0	6,370
Social protection	0	0	0	0	0	0	0
Life insurance	0	0	0	0	0	0	0
Insurance connected with the dwelling	1,220	0	0	0	0	0	1,220
Insurance connected with health	38,710	0	0	0	0	0	38,710
Insurance connected with transport	610	0	0	0	0	0	610
Other financial services N.E.C.	3,220	0	240	0	0	0	3,460
Other services N.E.C.	3,850	0	0	0	0	0	3,850
Income in kind from employer	0	0	0	0	0	4,640	4,640
Sub-total	271,910	0	3,160	0	0	4,640	279,720
Non-Consumption & investment expenditure							
Current transfers in cash	0	0	784,830	0	0	0	784,830
Taxes and fines	0	0	49,650	0	0	0	49,650
HH investment - land and home	133,900	0	0	0	0	0	133,900
HH investment - equipment	43,690	0	0	0	0	0	43,690
Sub-total	177,590	0	834,480	0	0	0	1,012,070
Total	6,431,790	2,306,910	1,018,440	440,650	2,217,020	4,640	12,419,410

SECTION 5: HOUSEHOLD INCOME

In this section, we provide a summary of the main components of HH income in Tuvalu. The first subsection highlights some of the important facts relating to HH income that might otherwise be lost in the tabulations – the second subsection. The tabulations provide a set of agreed regionally standardised income tables.

1. Household income summary

This summary highlights the main elements of HH income and aims to present the main findings from the HIES. There is a multitude of opportunity for more in-depth analysis, including cross tabulation for more thematic studies, however it is beyond the scope of this report. Below we present the total, average and median annual HH and per capita income; the composition of HH income, by income category and type; and we provide a more in-depth analysis of the composition of main income categories.

2. Average and median income

National average annual HH income amounts to around AUD16,080 (Table 38). This ranges from a low of around AUD12,080 per HH per year in rural Tuvalu up to 20,690 in Tuvalu urban - Funafuti. To give a better understanding of the distribution of income among HHs, the median income – the income of the 50th percentile HH – is provided. The annual national median HH income is AUD12,730 (AUD18,020 in urban and AUD10,350 in rural). Outer island groups have lower average and median income than Tuvalu urban.

Per capita annual income averages around AUD2,700 (AUD3,110 in urban and AUD2,250 in Tuvalu rural) with a median of AUD2,110.

The difference between the average and the median is indicative of a degree of income inequality among the HHs, with higher earning HHs skewing the income distribution. This is discussed in more detail in Section 7.

Table 38: Total, average and median annual HH and per capita income, by strata (AUD)

	Total	HH		Per capita	
		Average	Median	Average	Median
Urban	18,000,740	20,690	18,020	3,110	2,485
Rural	12,106,670	12,080	10,350	2,250	1,830
Total	30,107,500	16,080	12,730	2,700	2,110

Total HH income in Tuvalu amounts to around AUD30.1 million per annum. Around 60% of total HH income is incurred by HHs on Tuvalu urban - Funafuti.

3. Composition of household income

HH income is made up of different categories and types of income.

Income categories are broadly made up of: i) employment income; ii) capital income; iii) transfer income; iv) casual receipts; v) remittances and gifts; and vi) imputed rents. A detailed description of these income categories is provided in Appendix 1, however, they are briefly described below. The remittances mentioned in the HIES refer only to the cash remittances.

Employment income consists of employee related income (wages and salaries, bonuses, overtime and in-kind employee income, such as housing allowances, electricity, food and clothing), income associated with ownership of a HH managed business (e.g., profit sharing, or dividend), income from cash generating primary activities (agriculture, fisheries, livestock, handicrafts and selling home-processed foods) and income from the consumption of home produced and consumed goods (subsistence).

Capital income relates to the generation of income from assets that the HH owns, which are categorised as home rental (receiving rent from dwellings that the HH owns) or land lease (receiving payments for the use of land that the HH owns) and other general capital income (interest on deposits or loans, and dividend from non-managed businesses).

Transfer income refers to receipts through social security, pension, superannuation or provident funds, child support (alimony), grants or scholarships, insurance claims and other.

Casual receipts refers to income from the sale of assets (e.g., motor vehicle), inheritance and gambling winnings.

Remittances and gifts refer to the receipt of cash gifts from domestic or foreign HHs and the receipt of home-produced food items.

Imputed rents mirror those that are reported in expenditure and are the income from the value of the services that an owner occupied HH derives.

Income types include: i) cash; ii) in-kind; iii) subsistence; iv) home produced gift; and imputed rents.

Cash income refers to income derived through a cash-based transaction where cash is received by the HH. The cash could be in exchange for a good or service that the HH (or individuals within the HH) provides (e.g., wages and salaries), but it could be a cash receipt in exchange for no good or service (e.g., remittances). As long as the receipt is in the form of cash, the income type is cash.

In-kind income refers to income where a good or service is acquired in exchange for employee related services. Examples of this refer to when an employee is provided transportation or communication facilities under their employment arrangement, or where they receive free lunch at work.

Subsistence income is the net (as opposed to the gross, reported in expenditure) value of home produced and consumed goods. This is the value of the goods acquired (through harvest, catch, collection, etc.) and consumed by the HH less the intermediate expenses associated with their production.

Home produced gifts refer to the value of items that are home produced and gifted to another HH. This balances on the expenditure aggregates.

Imputed rents have already been defined above.

Below, we provide a breakdown of the composition of HH income by category and type.

Income category

At the National level by broad income category, employment income makes up 77 percent of total HH income (83 percent in urban and 68 percent in rural). Following this, imputed rents (14 percent), capital income (4 percent), remittances and home produced gifts (3 percent) make up the large remainder of HH income. At a lower level, HH transfer and other casual income are negligible.

By income category, wages and salaries make up the large proportion of HH employment, accounting for 80 percent of total income within this category followed by the home production (home produced goods valued at market price: 10 percent).

The “Remittances and gifts” category is 50 percent made of home produced gifts and the “Capital income” category is almost exclusively made of home rentals and land lease.

Major differences appear by comparing urban and rural income profile. Regarding the employment income, wages and salaries make up 92 percent of the category in urban and only 58 percent in rural. Rural employment income is higher in home production (26 percent) and primary HH activities (handicraft, fishing, agriculture, livestock that make up 11 percent of the rural employment income).

Remittances and gifts represent more than 4 percent of the total rural HH income and less than 1% in urban.

Table 39: Composition of HH income, by income category and strata

	Urban	Rural	Total
Employment income			
Wages & salaries	76.3%	39.8%	61.6%
Bonus overtime	1.2%	0.3%	0.8%
Housing allowance	1.3%	0.2%	0.9%
Income in kind	0.1%	0.0%	0.1%
Non subsistence business	1.4%	2.1%	1.7%
Agriculture activities	0.0%	1.5%	0.6%
Fishing activities	0.1%	2.3%	1.0%
Livestock activities	0.1%	0.6%	0.3%
Handicraft activities	1.0%	3.3%	1.9%
Home production	1.1%	18.2%	8.0%
Sub-total	82.5%	68.4%	76.8%
Capital income			
home rental	2.5%	0.8%	1.8%
Land lease	1.8%	2.8%	2.2%
Other income from capital	0.1%	0.1%	0.1%
Sub-total	4.4%	3.7%	4.1%
Transfer income			
Pension & social benefit	0.3%	1.7%	0.9%
Scholarship	0.1%	0.1%	0.1%
other transfer income	0.1%	0.0%	0.1%
Sub-total	0.5%	1.8%	1.0%
Casual receipts			
Sale of assets	0.1%	0.0%	0.1%
Other casual income	0.4%	0.8%	0.5%
Sub-total	0.5%	0.8%	0.6%
Remittances and gifts			
Remittances	0.5%	3.4%	1.7%
Home produced gifts	0.3%	3.6%	1.7%
Sub-total	0.8%	7.0%	3.3%
Imputed rents			
imputed rents	11.3%	18.3%	14.1%
Sub-total	11.3%	16.5%	13.5%
Total	100%	100%	100%

Income type

Cash income makes up 76 percent of total HH income, followed by imputed rents (14 percent) and subsistence (8 percent).

Table 40: Composition of HH income, by income type and strata

	Urban	Rural	Total
Cash	87.2%	59.8%	76.2%
In-kind	0.1%	0.0%	0.1%
Subsistence	1.1%	18.2%	8.0%
Home produced gifts	0.3%	3.6%	1.7%
Imputed rents	11.3%	18.3%	14.1%
Total	100.0%	100.0%	100.0%

As highlighted in the previous section, income profile is different between urban and rural Tuvalu. Home production is much higher in rural (consumed and gifted) and urban HH in Tuvalu are 87 percent dependant on cash income.

Income composition by category and type

The below figures present the composition of income, by the highest contributing categories to total national income categories, and income type. The results are fairly intuitive and it can be seen that wages and salaries is dominant in both Tuvalu urban and rural, but the rural HH in Tuvalu have more diverse sources of income (wages and salaries largely dominates the urban HH income). In Tuvalu urban, wages and salaries, imputed rents and home rental account for 90% of the total HH income while in rural, to reach 90% of the HH income we need to add up wages and salaries, home production, imputed rents, home produced gifts, remittances and handicraft and fishing activities.

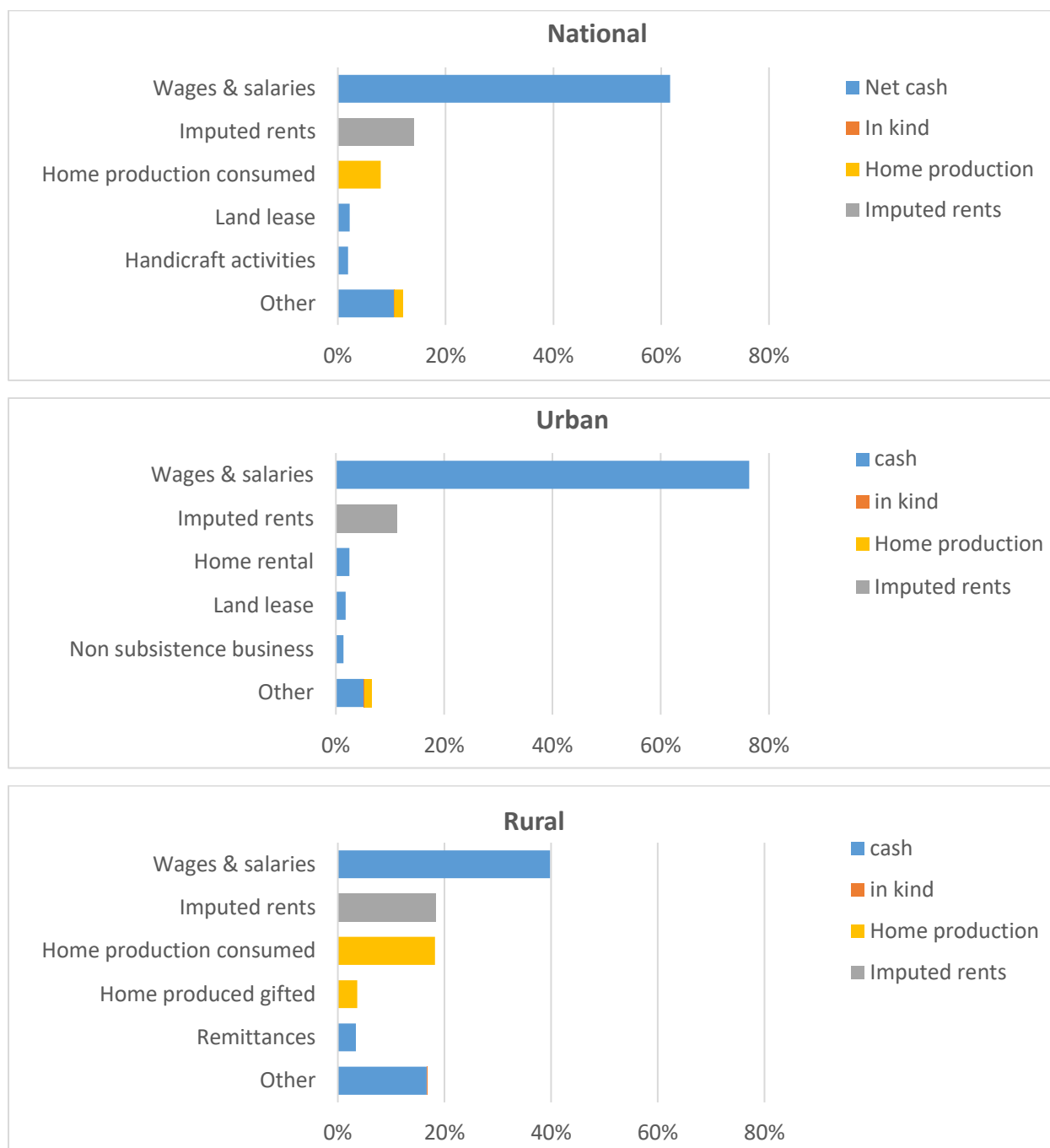


Figure 4: Composition of HH income, by income category and type

4. Income from wages and salaries

Wages and salaries (including bonuses and overtime, housing allowances and in-kind income) account for more than 63 percent of total HH income in Tuvalu (ranging from 79 percent in Tuvalu urban to 40 percent in rural).

Overall 73 percent of the HHs in Tuvalu had at least one member who were involved in wages and salaries at the time of the interview (Table 41).

Table 41: HHs involved in wages and salaries by sector and strata

	Urban			Rural			Total		
	Public	Other	Total	Public	Other	Total	Public	Other	Total
# HHs	663	299	748	577	73	626	1,240	373	1,374
% HHs	76%	34%	86%	58%	7%	62%	66%	20%	73%

The public sector is the major contributor to employment in Tuvalu, two third of the HHs in Tuvalu have at least 1 member involved in a wage job in public sector at the time of the interview (three quarter in urban).

More than one quarter of the HHs in Tuvalu have wages as unique source of cash income (mainly from public sector) and almost 70 percent have wages as main source of cash income (Table 42).

Table 42: HHs involved in wages and salaries as unique and main source of cash income by strata

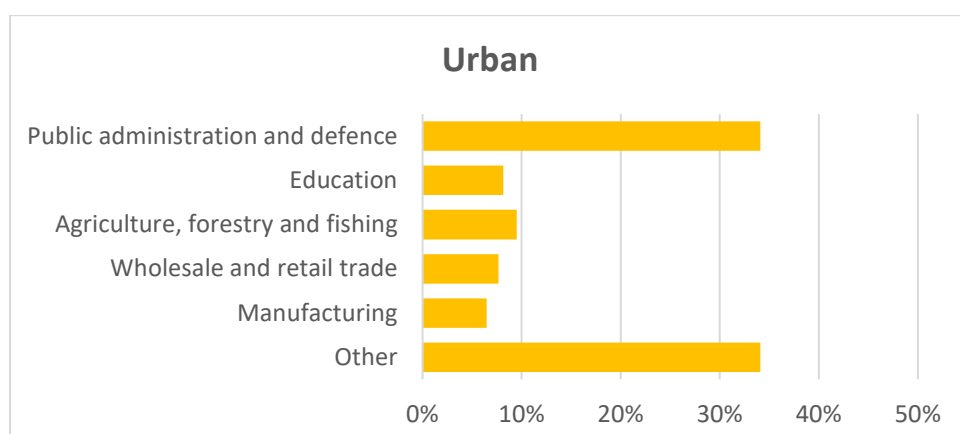
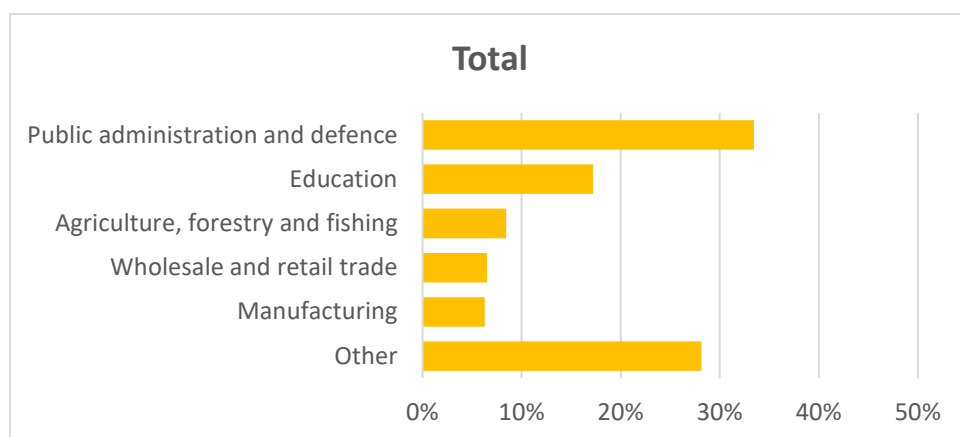
Unique source	urban	rural	total
# HHs	375	128	503
% HHs	43%	13%	27%

Main source	urban	rural	total
# HHs	707	586	1293
% HHs	81%	58%	69%

Income from wages and salaries is classified according to the International Standard Industrial Classification of All Economic Activities (ISIC. Rev.4) and the International Standard Classification of Occupations (ISCO-08). The figures below present the proportion of total income derived from wages and salaries by ISIC Section and ISCO Major Group (Figure 5).

At a national level, the highest proportion of total income from salaries and wages – by industry – is derived from the Public administration (33 percent of wages and salaries income), followed by Education (17 percent), Agriculture forestry and fishing (8 percent), Wholesale and retail trade (6 percent) and Manufacturing (6 percent).

These trends, however, differ across strata. Education is the higher industry that generates wages and salaries in rural Tuvalu followed by the public administration and Manufacturing if the third main industry (handicraft) in the outer islands.



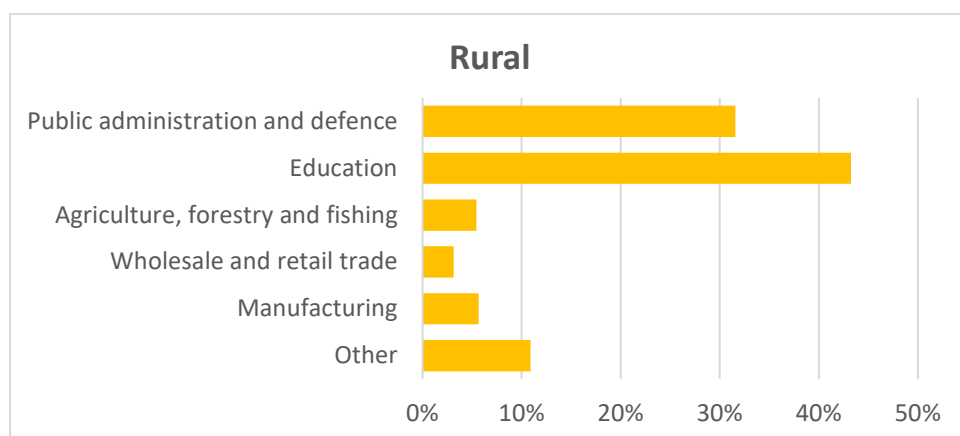


Figure 5: Proportion of total wages and salaries income, by industry and strata

5. Income from remittances

Nationally, 29 percent of the HHs received cash support (mainly from relatives) in 2016: 16 percent of HHs in urban Tuvalu and 41 percent of HHs within rural Tuvalu.

Table 43: Proportion of HHs who received cash remittances in Tuvalu and amount received

	% HHs	Amount received (AUD)	
		Annual total	Av. annual
Urban	16%	87,380	640
Rural	41%	409,950	1,010
Total	29%	497,330	910

On average the urban HHs who received remittances (16 percent of them) got AUD640 per year and the rural HHs got AUD1,010 per year.

Urban HHs received more support from overseas: 11% of the urban HHs received cash support from overseas and they got on average AUD760 per annum (and only 5% received cash from Tuvalu and they got AUD390 on average per year).

On the opposite, rural HHs received more remittance from Tuvalu (urban) than from overseas. A quarter of the rural HHs received remittances from Tuvalu (urban) and those remittances are on average higher than the one received from overseas (Table 44). Regardless of the origin of the sender, rural HHs in Tuvalu received always on average more than the urban HHs.

Table 44: Proportion of HHs who received cash remittances in Tuvalu and amount received, by origin of the sender

	% HHs who receive remittances			Amount received (AUD)					
				Annual total			Av. Annual		
	From Country	From overseas	Total	From Country	From overseas	Total	From Country	From overseas	Total
Urban	5%	11%	16%	16,030	71,350	87,380	390	760	640
Rural	25%	20%	41%	247,640	162,310	409,950	980	830	1,010
Total	16%	15%	29%	263,670	233,660	497,330	890	810	910

16 percent of the HHs in Tuvalu received remittances from Tuvalu, and 15 percent from HHs living overseas. New Zealand is the main overseas country that send remittances to Tuvalu HHs (9 percent of the HHs in Tuvalu received remittances from New Zealand), followed by other Pacific island countries (3%) and Australia (2%) (Table 45).

Table 45: Proportion of HHs who received cash remittances in Tuvalu and amount received, by country of the sender

	% HHs					Av. Annual amount (AUD)				
	Tuvalu	Other Pacific	New Zealand	Australia	Other	Tuvalu	Other Pacific	New Zealand	Australia	Other
Urban	5%	2%	6%	2%	2%	390	570	650	680	960
Rural	25%	4%	12%	2%	3%	980	390	870	740	1,150
Total	16%	3%	9%	2%	2%	890	450	810	710	1,080

In Tuvalu only 2% of the HHs live with remittances as their only source of cash income. Looking at the remittance recipient HHs at the National level, remittances represent their third source of cash income (10.3 percent).

At the National level, 6 percent of the HHs have remittances as their main source of cash income (9 percent in rural, 2 percent in urban).

6. Income from primary activities and subsistence

Primary activities consist in agriculture, fishing, livestock and handicraft. Handicraft includes the preparation of processed food items or dishes for sale.

On the overall 89 percent of the HHs are involved in subsistence activities (agriculture, fishing, livestock or handicraft) for their subsistence or for cash income generation (80 percent in urban and 98 percent in rural).

Table 46: HH participation in primary production activities (agriculture, fisheries, livestock, handicraft)

		Urban	Rural	Total
Primary activities	Cash & subsistence	79.8%	98.2%	89.6%
Agriculture	Cash & subsistence	15.6%	80.7%	50.5%
Fishing	Cash & subsistence	31.5%	75.2%	54.9%
Livestock	Cash & subsistence	69.5%	95.1%	83.2%
Handicraft	Cash & subsistence	15.9%	38.4%	27.9%
Agriculture	Cash	2.2%	7.4%	5.0%
Fishing	Cash	5.1%	14.0%	9.8%
Livestock	Cash	6.9%	12.2%	9.7%
Handicraft	Cash	15.6%	31.3%	24.0%

Livestock (including aquaculture) is the most popular primary production activity (especially in rural Tuvalu where 95 percent of the HHs are involved). Handicraft is the most popular primary activity for cash purposes (24 percent of the HHs involved in handicraft and selling handicraft items).

On the overall only 1 percent of the HHs in Tuvalu have primary production as only source of cash income and 10 percent of the HHs have primary production as their main source of income (4 percent of the HHs in urban and 15% in rural).

The following tables report the proportion of total cash income derived from the top 10 contributing agricultural, fisheries, livestock, home processed food and livelihood income. These industries collectively make up 4 percent of total HH income.

Nationally, cooking coconut oil and skipjack tuna are the most significant home produced and sold item, making up 15 and 11 percent of total cash income from primary production activities. Following this is the sale of crops (9 percent), basket (8%).

Table 47: Proportion of total cash income from top 10 agriculture, fisheries, livestock and handicraft products, by strata

	Urban	Rural	Total
1 Coconut oil (cooking)	36%	10%	15%
2 Tuna (skipjack)	5%	12%	11%
3 Other Root crops (note)	0%	11%	9%
4 Baskets	3%	9%	8%
5 Tuna (yellow fin and bigeye)	4%	8%	7%
6 Pig	6%	6%	6%
7 Soft drinks / juices	9%	5%	5%
8 Takeout food/sandwich	4%	3%	3%
9 Coconut	0%	3%	3%
10 Coconut oil (hair and body)	4%	2%	3%
Total	70%	68%	69%

Looking at the proportion of subsistence income (accounting for 10 percent of total income) the below table lists the top 10 items and ranks them by contribution to total national income from subsistence. It can be seen that there is a highly

concentrated list of items (the top make up more than 96 percent of the value of items home produced and consumed). This is indicative of the significant importance of these items for food security and nutrition in Tuvalu.

Coconut (almost 36 percent of total subsistence income) is the main item HHs home produced and consumed in Tuvalu, and especially highly prevalent in outer islands. In Funafuti (urban Tuvalu) pigs represent the most valuable items home produced and consumed by the HHs (before fishes).

Table 48: Proportion of total subsistence income from top 10 products, by strata

		Urban	Rural	Total
1	Coconut	0.8%	39.1%	35.6%
2	Reef fish (parrot fish, snapper, moonfish, etc)	24.1%	14.0%	15.0%
3	Breadfruit	2.2%	9.4%	8.7%
4	Crabs	0.5%	7.0%	6.5%
5	Toddy	6.1%	6.4%	6.3%
6	Tuna (skipjack)	16.6%	4.4%	5.5%
7	Taro	1.5%	5.6%	5.2%
8	Pig	33.5%	2.1%	5.0%
9	Wild birds (gogo, lakia)	0.0%	5.1%	4.6%
10	Banana	7.1%	3.5%	3.8%
Total		92.3%	96.7%	96.3%

7. Income tables

Annual household income

Table 49: Annual national HH income (AUD)

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents	Total
Employment income						
Wages & salaries	18,557,120	-	-	-	-	18,557,120
Bonus overtime	249,440	-	-	-	-	249,440
Housing allow	257,970	-	-	-	-	257,970
Income in kind	-	21,210	-	-	-	21,210
Non subsistence business	504,960	-	-	-	-	504,960
Agriculture activities	188,910	-	-	-	-	188,910
Fishing activities	295,460	-	-	-	-	295,460
Livestock activities	82,110	-	-	-	-	82,110
Handicraft activities	578,080	-	-	-	-	578,080
Home production	-	-	2,401,490	-	-	2,401,490
Sub-total	20,714,050	21,210	2,401,490	-	-	23,136,750
Capital income						
Home rental	544,310	-	-	-	-	544,310
Land lease	665,110	-	-	-	-	665,110
Other income from capital	25,050	-	-	-	-	25,050
Sub-total	1,234,460	-	-	-	-	1,234,460
Transfer income						
Pension & social benefit	259,920	-	-	-	-	259,920
Scholarship	17,920	-	-	-	-	17,920
Other transfer income	26,570	-	-	-	-	26,570
Sub-total	304,420	-	-	-	-	304,420
Casual receipts						
Sale of assets	23,020	-	-	-	-	23,020
Other casual income	158,030	-	-	-	-	158,030
Sub-total	181,050	-	-	-	-	181,050
Remittances and gifts						
Remittances	497,320	-	-	-	-	497,320
Home produced gifts	-	-	-	498,340	-	498,340
Sub-total	497,320	-	-	498,340	-	995,660
Imputed rents						
Imputed rents	-	-	-	-	4,255,170	4,255,170
Sub-total	-	-	-	-	4,255,170	4,255,170
Total	22,931,300	21,210	2,401,490	498,340	4,255,170	30,107,500

Table 50: Annual urban income (AUD)

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents	Total
Employment income						
Wages & salaries	13,743,230	-	-	-	-	13,743,230
Bonus overtime	209,150	-	-	-	-	209,150
Housing allow	239,640	-	-	-	-	239,640
Income in kind	-	16,570	-	-	-	16,570
Non subsistence business	253,840	-	-	-	-	253,840
Agriculture activities	3,990	-	-	-	-	3,990
Fishing activities	12,340	-	-	-	-	12,340
Livestock activities	9,860	-	-	-	-	9,860
Handicraft activities	174,430	-	-	-	-	174,430
Home production	-	-	194,370	-	-	194,370
Sub-total	14,646,480	16,570	194,370	-	-	14,857,420
Capital income						
Home rental	450,580	-	-	-	-	450,580
Land lease	321,330	-	-	-	-	321,330
Other income from capital	15,730	-	-	-	-	15,730
Sub-total	787,640	-	-	-	-	787,640
Transfer income						
Pension & social benefit	49,300	-	-	-	-	49,300
Scholarship	9,370	-	-	-	-	9,370
Other transfer income	25,960	-	-	-	-	25,960
Sub-total	84,630	-	-	-	-	84,630
Casual receipts						
Sale of assets	23,020	-	-	-	-	23,020
Other casual income	64,890	-	-	-	-	64,890
Sub-total	87,910	-	-	-	-	87,910
Remittances and gifts						
Remittances	87,380	-	-	-	-	87,380
Home produced gifts	-	-	-	57,690	-	57,690
Sub-total	87,380	-	-	57,690	-	145,070
Imputed rents						
Imputed rents	-	-	-	-	2,038,160	2,040,110
Sub-total	-	-	-	-	2,038,160	2,040,110
Total	15,694,040	16,570	194,370	57,690	2,038,160	18,002,780

Table 51: Annual rural income (AUD)

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents	Total
Employment income						
Wages & salaries	4,813,890	-	-	-	-	4,813,890
Bonus overtime	40,290	-	-	-	-	40,290
Housing allow	18,330	-	-	-	-	18,330
Income in kind	-	4,640	-	-	-	4,640
Non subsistence business	251,120	-	-	-	-	251,120
Agriculture activities	184,920	-	-	-	-	184,920
Fishing activities	283,110	-	-	-	-	283,110
Livestock activities	72,250	-	-	-	-	72,250
Handicraft activities	403,650	-	-	-	-	403,650
Home production	-	-	2,207,110	-	-	2,207,110
Sub-total	6,067,560	4,640	2,207,110	-	-	8,279,310
Capital income						
Home rental	93,720	-	-	-	-	93,720
Land lease	343,780	-	-	-	-	343,780
Other income from capital	9,320	-	-	-	-	9,320
Sub-total	446,820	-	-	-	-	446,820
Transfer income						
Pension & social benefit	210,620	-	-	-	-	210,620
Scholarship	8,550	-	-	-	-	8,550
Other transfer income	610	-	-	-	-	610
Sub-total	219,790	-	-	-	-	219,790
Casual receipts						
Sale of assets	-	-	-	-	-	-
Other casual income	93,140	-	-	-	-	93,140
Sub-total	93,140	-	-	-	-	93,140
Remittances and gifts						
Remittances	409,950	-	-	-	-	409,950
Home produced gifts	-	-	-	440,650	-	440,650
Sub-total	409,950	-	-	440,650	-	850,600
Imputed rents						
Imputed rents	-	-	-	-	2,217,010	2,217,010
Sub-total	-	-	-	-	2,217,010	2,217,010
Total	7,237,260	4,640	2,207,110	440,650	2,217,010	12,106,660

Average annual household income

Table 52: Average annual national HH income (AUD)

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents	Total
Employment income						
Wages & salaries	9,910	-	-	-	-	9,910
Bonus overtime	130	-	-	-	-	130
Housing allow	140	-	-	-	-	140
Income in kind	-	10	-	-	-	10
Non subsistence business	270	-	-	-	-	270
Agriculture activities	100	-	-	-	-	100
Fishing activities	160	-	-	-	-	160
Livestock activities	40	-	-	-	-	40
Handicraft activities	310	-	-	-	-	310
Home production	-	-	1,280	-	-	1,280
Sub-total	11,060	10	1,280	-	-	12,360
Capital income						
Home rental	290	-	-	-	-	290
Land lease	360	-	-	-	-	360
Other income from capital	10	-	-	-	-	10
Sub-total	660	-	-	-	-	660
Transfer income						
Pension & social benefit	140	-	-	-	-	140
Scholarship	10	-	-	-	-	10
Other transfer income	10	-	-	-	-	10
Sub-total	160	-	-	-	-	160
Casual receipts						
Sale of assets	10	-	-	-	-	10
Other casual income	80	-	-	-	-	80
Sub-total	100	-	-	-	-	100
Remittances and gifts						
Remittances	270	-	-	-	-	270
Home produced gifts	-	-	-	270	-	270
Sub-total	270	-	-	270	-	530
Imputed rents						
Imputed rents	-	-	-	-	2,270	2,270
Sub-total	-	-	-	-	2,270	2,270
Total	12,250	10	1,280	270	2,270	16,080

Table 53: Average annual urban HH income (AUD)

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents	Total
Employment income						
Wages & salaries	15,800	-	-	-	-	15,800
Bonus overtime	240	-	-	-	-	240
Housing allow	280	-	-	-	-	280
Income in kind	-	20	-	-	-	20
Non subsistence business	290	-	-	-	-	290
Agriculture activities	-	-	-	-	-	0
Fishing activities	10	-	-	-	-	10
Livestock activities	10	-	-	-	-	10
Handicraft activities	200	-	-	-	-	200
Home production	-	-	250	-	-	220
Sub-total	16,840	20	250	-	-	17,080
Capital income						
Home rental	520	-	-	-	-	520
Land lease	370	-	-	-	-	370
Other income from capital	20	-	-	-	-	20
Sub-total	910	-	-	-	-	910
Transfer income						
Pension & social benefit	60	-	-	-	-	60
Scholarship	10	-	-	-	-	10
Other transfer income	30	-	-	-	-	30
Sub-total	100	-	-	-	-	100
Casual receipts						
Sale of assets	30	-	-	-	-	30
Other casual income	70	-	-	-	-	70
Sub-total	100	-	-	-	-	100
Remittances and gifts						
Remittances	100	-	-	-	-	100
Home produced gifts	-	-	-	70	-	70
Sub-total	100	-	-	70	-	170
Imputed rents						
Imputed rents	-	-	-	-	2,340	2,340
Sub-total	-	-	-	-	2,340	2,340
Total	18,050	20	250	70	2,340	20,700

Table 54: Average annual rural HH income (AUD)

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents	Total
Employment income						
Wages & salaries	4,800	-	-	-	-	4,800
Bonus overtime	40	-	-	-	-	40
Housing allow	20	-	-	-	-	20
Income in kind	-	-	-	-	-	-
Non subsistence business	250	-	-	-	-	250
Agriculture activities	180	-	-	-	-	180
Fishing activities	280	-	-	-	-	280
Livestock activities	70	-	-	-	-	70
Handicraft activities	400	-	-	-	-	400
Home production	-	-	2,200	-	-	2,200
Sub-total	6,050	-	2,200	-	-	8,260
Capital income						
Home rental	90	-	-	-	-	90
Land lease	340	-	-	-	-	340
Other income from capital	10	-	-	-	-	10
Sub-total	450	-	-	-	-	450
Transfer income						
Pension & social benefit	210	-	-	-	-	210
Scholarship	10	-	-	-	-	10
Other transfer income	-	-	-	-	-	-
Sub-total	220	-	-	-	-	220
Casual receipts						
Sale of assets	0	-	-	-	-	0
Other casual income	90	-	-	-	-	90
Sub-total	90	-	-	-	-	90
Remittances and gifts						
Remittances	410	-	-	-	-	410
Home produced gifts	-	-	-	440	-	440
Sub-total	410	-	-	440	-	850
Imputed rents						
Imputed rents	-	-	-	-	2,210	2,210
Sub-total	-	-	-	-	2,210	2,210
Total	7,220	-	2,200	440	2,210	12,080

Average annual per capita income

Table 55: Average annual national per capita income (AUD)

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents	Total
Employment income						
Wages & salaries	1,660	-	-	-	-	1,660
Bonus overtime	20	-	-	-	-	20
Housing allow	20	-	-	-	-	20
Income in kind	-	0	-	-	-	0
Non subsistence business	50	-	-	-	-	50
Agriculture activities	20	-	-	-	-	20
Fishing activities	30	-	-	-	-	30
Livestock activities	10	-	-	-	-	10
Handicraft activities	50	-	-	-	-	50
Home production	-	-	230	-	-	230
Sub-total	1,860	0	230	-	-	2,100
Capital income						
Home rental	50	-	-	-	-	50
Land lease	60	-	-	-	-	60
Other income from capital	0	-	-	-	-	0
Sub-total	110	-	-	-	-	110
Transfer income						
Pension & social benefit	20	-	-	-	-	20
Scholarship	0	-	-	-	-	0
Other transfer income	0	-	-	-	-	0
Sub-total	30	-	-	-	-	30
Casual receipts						
Sale of assets	0	-	-	-	-	0
Other casual income	10	-	-	-	-	10
Sub-total	20	-	-	-	-	20
Remittances and gifts						
Remittances	40	-	-	-	-	40
Home produced gifts	-	-	-	40	-	40
Sub-total	40	-	-	40	-	80
Imputed rents						
Imputed rents	-	-	-	-	380	380
Sub-total	-	-	-	-	380	380
Total	2,050	0	230	40	380	2,700

Table 56: Average annual urban per capita income (AUD)

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents	Total
Employment income						
Wages & salaries	2,370	-	-	-	-	2,370
Bonus overtime	40	-	-	-	-	40
Housing allow	40	-	-	-	-	40
Income in kind	-	-	-	-	-	-
Non subsistence business	40	-	-	-	-	40
Agriculture activities	-	-	-	-	-	-
Fishing activities	-	-	-	-	-	-
Livestock activities	-	-	-	-	-	-
Handicraft activities	30	-	-	-	-	30
Home production	-	-	30	-	-	30
Sub-total	2,520	-	30	-	-	2,550
Capital income						
Home rental	80	-	-	-	-	80
Land lease	60	-	-	-	-	60
Other income from capital	-	-	-	-	-	-
Sub-total	140	-	-	-	-	140
Transfer income						
Pension & social benefit	10	-	-	-	-	10
Scholarship	-	-	-	-	-	-
Other transfer income	-	-	-	-	-	-
Sub-total	10	-	-	-	-	10
Casual receipts						
Sale of assets	-	-	-	-	-	-
Other casual income	10	-	-	-	-	10
Sub-total	10	-	-	-	-	10
Remittances and gifts						
Remittances	20	-	-	-	-	20
Home produced gifts	-	-	-	10	-	10
Sub-total	20	-	-	10	-	30
Imputed rents						
Imputed rents	-	-	-	-	350	350
Sub-total	-	-	-	-	350	350
Total	2,710	-	30	10	350	3,110

Table 57: Average annual rural per capita income (AUD)

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents	Total
Employment income						
Wages & salaries	890	-	-	-	-	890
Bonus overtime	10	-	-	-	-	10
Housing allow	0	-	-	-	-	0
Income in kind	-	0	-	-	-	0
Non subsistence business	50	-	-	-	-	50
Agriculture activities	30	-	-	-	-	30
Fishing activities	50	-	-	-	-	50
Livestock activities	10	-	-	-	-	10
Handicraft activities	80	-	-	-	-	80
Home production	-	-	410	-	-	410
Sub-total	1,130	0	410	-	-	1,540
Capital income						
Home rental	20	-	-	-	-	20
Land lease	60	-	-	-	-	60
Other income from capital	0	-	-	-	-	0
Sub-total	80	-	-	-	-	80
Transfer income						
Pension & social benefit	40	-	-	-	-	40
Scholarship	0	-	-	-	-	0
Other transfer income	0	-	-	-	-	0
Sub-total	40	-	-	-	-	40
Casual receipts						
Sale of assets	-	-	-	-	-	-
Other casual income	20	-	-	-	-	20
Sub-total	20	-	-	-	-	20
Remittances and gifts						
Remittances	80	-	-	-	-	80
Home produced gifts	-	-	-	80	-	80
Sub-total	80	-	-	80	-	160
Imputed rents						
Imputed rents	-	-	-	-	410	410
Sub-total	-	-	-	-	410	410
Total	1,350	0	410	80	410	2,250

Proportion of households receiving income, by income category and type

Table 58: Proportion of all HHs receiving income, by category and type

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents
Employment income					
Wages & salaries	82.4%	-	-	-	-
Bonus overtime	10.4%	-	-	-	-
Housing allow	5.7%	-	-	-	-
Income in kind	-	3.7%	-	-	-
Non subsistence business	11.6%	-	-	-	-
Agriculture activities	4.9%	-	-	-	-
Fishing activities	9.8%	-	-	-	-
Livestock activities	9.7%	-	-	-	-
Handicraft activities	24.1%	-	-	-	-
Home production	-	-	84.1%	-	-
Capital income					
Home rental	5.3%	-	-	-	-
Land lease	32.1%	-	-	-	-
Other income from capital	1.8%	-	-	-	-
Transfer income					
Pension & social benefit	12.4%	-	-	-	-
Scholarship	0.5%	-	-	-	-
Other transfer income	0.8%	-	-	-	-
Casual receipts					
Sale of assets	0.2%	-	-	-	-
Other casual income	11.4%	-	-	-	-
Remittances and gifts					
Remittances	29.1%	-	-	-	-
Home produced gifts	-	-	-	23.5%	-
Imputed rents					
Imputed rents	-	-	-	-	82.2%

Table 59: Proportion of urban HHs receiving income, by category and type

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents
Employment income					
Wages & salaries	87.8%	-	-	-	-
Bonus overtime	14.3%	-	-	-	-
Housing allow	11.9%	-	-	-	-
Income in kind	-	6.6%	-	-	-
Non subsistence business	9.5%	-	-	-	-
Agriculture activities	2.1%	-	-	-	-
Fishing activities	5.0%	-	-	-	-
Livestock activities	6.9%	-	-	-	-
Handicraft activities	15.6%	-	-	-	-
Home production	-	-	68.5%	-	-
Capital income					
Home rental	9.0%	-	-	-	-
Land lease	15.1%	-	-	-	-
Other income from capital	2.4%	-	-	-	-
Transfer income					
Pension & social benefit	4.2%	-	-	-	-
Scholarship	0.8%	-	-	-	-
Other transfer income	1.3%	-	-	-	-
Casual receipts					
Sale of assets	0.5%	-	-	-	-
Other casual income	8.5%	-	-	-	-
Remittances and gifts					
Remittances	15.6%	-	-	-	-
Home produced gifts	-	-	-	5.3%	-
Imputed rents					
Imputed rents	-	-	-	-	65.9%

Table 60: Proportion of rural HHs receiving income, by category and type

	Cash	In Kind	Subsistence	Home produced - gifts	Imputed rents
Employment income					
Wages & salaries	77.7%	-	-	-	-
Bonus overtime	7.0%	-	-	-	-
Housing allow	0.3%	-	-	-	-
Income in kind	-	1.2%	-	-	-
Non subsistence business	13.4%	-	-	-	-
Agriculture activities	7.3%	-	-	-	-
Fishing activities	14.0%	-	-	-	-
Livestock activities	12.2%	-	-	-	-
Handicraft activities	31.4%	-	-	-	-
Home production	-	-	97.6%	-	-
Capital income					
Home rental	2.1%	-	-	-	-
Land lease	47.0%	-	-	-	-
Other income from capital	1.2%	-	-	-	-
Transfer income					
Pension & social benefit	19.5%	-	-	-	-
Scholarship	0.3%	-	-	-	-
Other transfer income	0.3%	-	-	-	-
Casual receipts					
Sale of assets	-	-	-	-	-
Other casual income	14.0%	-	-	-	-
Remittances and gifts					
Remittances	40.9%	-	-	-	-
Home produced gifts	-	-	-	39.3%	-
Imputed rents					
Imputed rents	-	-	-	-	96.3%

SECTION 6: POPULATION PROFILE AND DWELLING CHARACTERISTICS

All basic demographic and dwelling information are part of the 2016 Tuvalu census. This section presents some activity, population information that are not collected in the census.

1. Activity profile (person aged 15+)

The main activity in the past 7 days for the population aged 15 years and older, was home maker, with almost 36 percent of persons reporting this as their main activity (Table 61). Following this, 22.4 percent of the population reported being employed in the public sector and , more than 12 percent reported producing goods for own consumption as main activity (only population 15+ years of age).

By strata, similar results were generated, with home maker being the most common main activity, but in Tuvalu rural, the proportion of population aged 15+ employed in the public sector is much lower (16 percent) and population involved in the production of good for own consumption is the second activity (24 percent). In urban Tuvalu, subsistence activity as main activity is not common (less than 1 percent) and population employed in private sector is more represented..

Table 61: Main activity in the last 7-days (persons aged 15+), by strata

	Tuvalu urban - Funafuti	Tuvalu rural - outer islands	Total
Employer	0.3%	0.4%	0.3%
Self Employed	1.9%	1.8%	1.8%
Employed in the public sector	28.6%	16.0%	22.4%
Employed in the private sector	11.6%	6.8%	9.3%
Producing good for own consumption	0.9%	24.0%	12.1%
Unpaid family worker in a business	1.7%	1.5%	1.6%
Unpaid family help with basic HH	0.1%	0.0%	0.1%
Volunteer worker	1.2%	2.0%	1.5%
Student	9.5%	9.5%	9.5%
Home maker	38.8%	32.6%	35.8%
Retired / Too old	3.4%	3.8%	3.6%
None / Did not work	1.9%	0.7%	1.3%
Physically / Mentally disabled	0.2%	0.9%	0.6%
Total	100.0%	100.0%	100.0%

By gender, half of the females are home maker and only 21 percent of the males and production of good for own consumption is dominated by males (21 percent of them and only 3 percent of the females). Employee status (public and private) are more often filled by males (39 percent for males and 24 percent of the females).

2. Body mass index (BMI) (persons aged 15+ years) and age problems

Although BMI is not directly related to income and expenditure, HIES is a fairly unique survey that collects the height and weight of all respondents, so it's worth reporting. There were a number of height (n=43) and weight (n=46) outliers detected, which were identified as being higher or lower than two standard deviations from the median for each age. Where outliers were detected, the median of that age was imputed. The imputation methodology has the potential to have excluded some extreme, but real, heights or weight, however given that sampling weights are applied, it is deemed appropriate to eliminate extreme cases and it is not expected to significantly affect the overall aggregated. Figure 6 shows the implication of the imputation methodology.

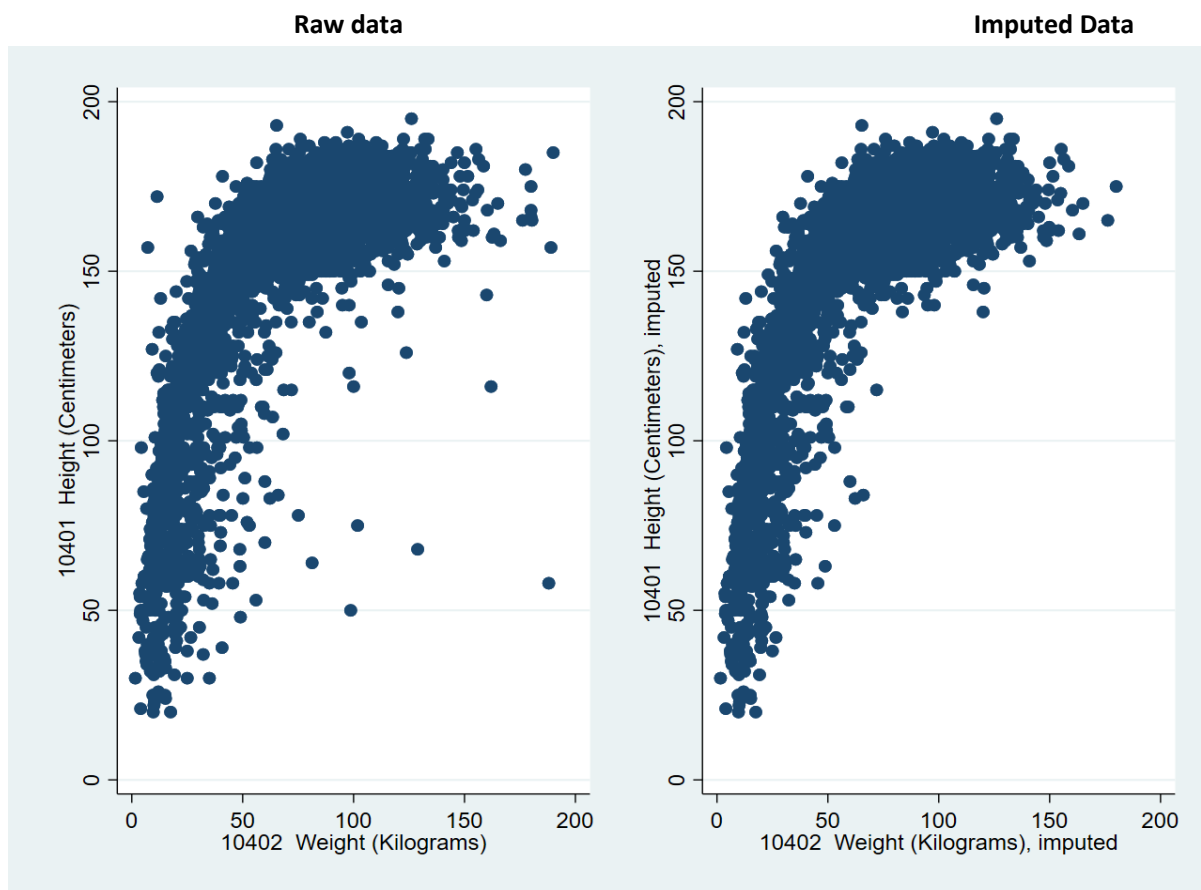


Figure 6: Scatter plot showing the pre and post imputation distributions

Nationally, 49 percent of the population aged 15 years and over reported a height and weight that computes to a BMI lower than 30 (normal or overweight). The obese population (BMI between 30 and 40) represents 41 percent of the population and the severe obesity (BMI higher than 40) affects 10 percent of the same adult population. By gender obesity is more common in the female population: 42 percent are obese and 13 percent severe obese and respectively 39 and 8 percent for the males.

By strata, the results differ as the proportion of obese and severe obese is higher in rural Tuvalu (Figure 7).

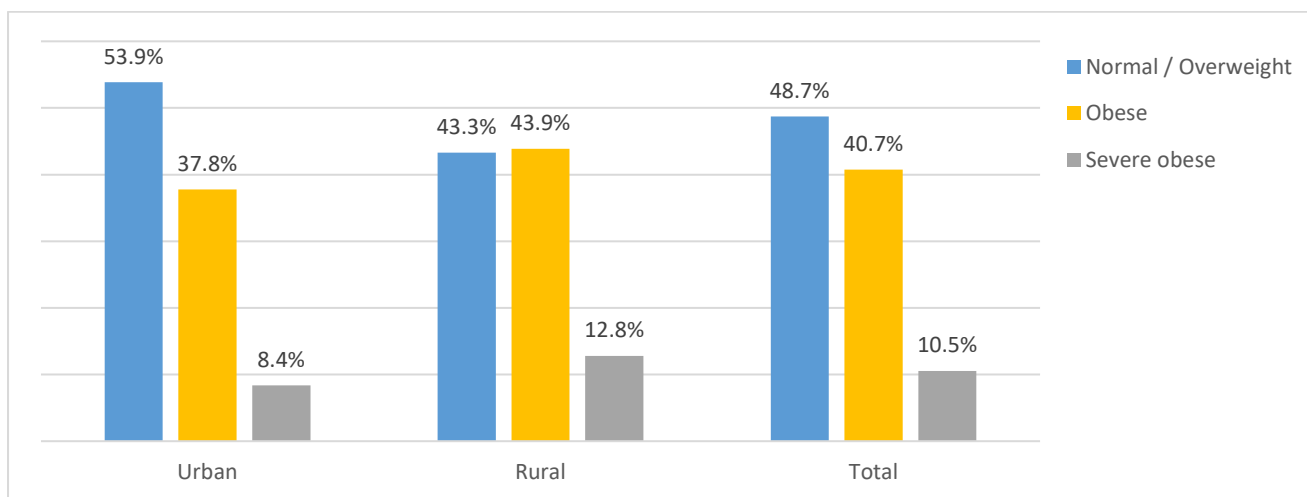


Figure 7: Distribution of the population aged 15+, by BMI category and strata

By age group, obesity is more important between 25 and 64 years old. Within those age groups on average more than 60 percent of the population is obese with a peak between 45 and 49 years old (76 percent of obesity included 18 percent of severe obesity).

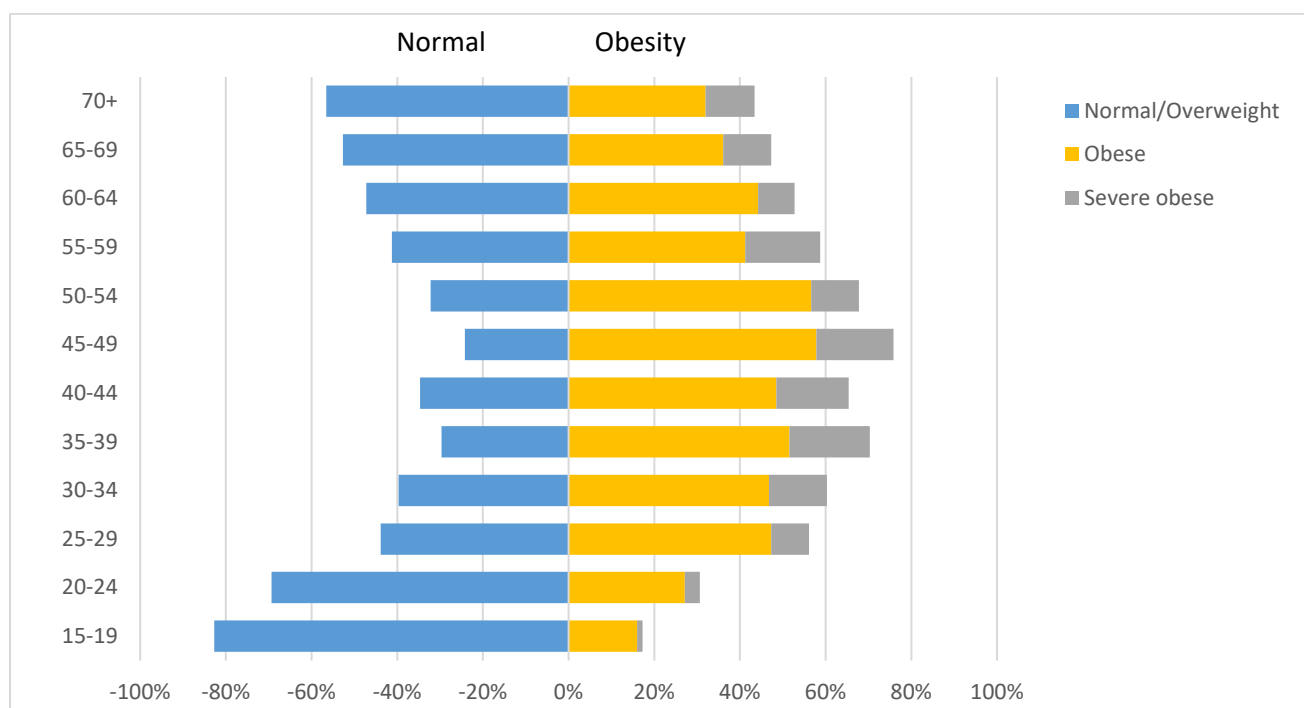


Figure 8: Distribution of the population aged 15+, by BMI category and age group

12 percent of the population self-reported having an ongoing health problem. This ranged from 6 percent in Funafuti to 18 percent in rural Tuvalu. Of the population that reported having an ongoing health problem, 89 percent regularly consult a health professional and 91 percent have medical treatment. Hypertension and diabetes are the main on going illness reported, respectively affecting 6 and 5 percent of the entire population.

3. Alcohol, tobacco use (persons aged 15+) and communication

Approximately 11 percent of the population aged 15 years and over drank alcohol in the last seven days (9 percent in urban and 13 percent in rural). Alcohol consumption is more frequent in the male population as 21 percent of them consume it and less than 1 percent of the females declared consuming it. By age group, alcohol consumption is more frequent between 20 and 35 years old (between 15 and 20 percent of the population of those age groups).

Nationally, 27 percent of the population aged 15 and over years old smoke tobacco. This ranges from 21 percent in Funafuti to 33 percent in rural Tuvalu. Again the proportion of smokers is higher in the male population (39 percent) compared to females (14 percent). The highest proportion of smokers are aged 45 to 54, with 35 percent of this population using tobacco.

31 percent of the population aged 10+ years reported having used the internet in the last month. This ranged from 48 percent in urban Tuvalu to 15 percent in rural. By age group, more than half of the population aged 20 to 39 years old used the internet, and around 20 percent of the population aged 10 to 19 years old. From 40 years old and above, the slowly proportion decreases (3 percent of the population aged 60 and above).

Work is the main location where people use the internet (34 percent of the users connect from their working place) followed by the internet café (mentioned by 27 percent of the users). The connection from own device occurs for 21 percent of the users.

Communication through email and social networking are respectively the two main reasons for connecting internet (67 percent of the users declared emails as the main reason and social network as second main reason).

SECTION 7: ADDITIONAL ANALYSES

In this section, we compare the results of the 2015/2016 HIES with those from the 2010 HIES. Following this, we have a section that discussed intermediate expenditure that HHs incur and, finally, we look at the distribution of income and expenditure in Tuvalu.

1. Comparison with previous HIES

Below we compare the results of the 2010 (most previous) HIES with those from the 2015/2016 HIES. Where nominal is reported, this is the actual amount that was reported in 2010. Where real is reported, this is the consumer price indices (CPI) inflated 2010 nominal amount, which gives a better comparative representation between 2010 and 2015 as the prices are inflated to 2015 levels. The 2010 aggregates were inflated by the national CPI index, with no disaggregation, however in the aggregated expenditure tables presented below, the prices were inflated by COICOP class. For example, food was inflated by the food CPI. As such, the 2010 real expenditure aggregates presented below do not exactly match those presented in the tables where expenditure is reported by category.

The different methodology used in 2015/16 Tuvalu HIES might explained some big differences obtained in the comparison. The 2015/16 HIES questionnaire was different from the one used in the 2010 HIES, and the field operation was spread over a 12 month period in 2015/16 and last for only 6 month in 2010.

Expenditure

At a national level, the real per capita expenditure decreased by 2.1 percent per annum between 2005 and 2016, meaning that the population in Tuvalu spent less in 2016 compared to 2005 (their power of purchase has been affected during the period - see Table 62). The breakdown by main expenditure category shows a decline on food expenditure (cash and total) and a big jump on alcohol and tobacco expenditure (almost tripled between 2010 and 2016) which is not correct. This gap is explained by the fact that alcohol and tobacco expenditure were collected through a 1 week recall questionnaire in 2015/16 HIES and from the diary in 2010 (and the diary used to largely under report this type of items). The expenditure on transport has increased by almost 10% during the period, which is mainly due to the purchase of scooters and related fuel. In 2010 HHs in Tuvalu bought 78 scooters, in 2015 they bought 350 scooters. The proportion of HHs who own at least one scooter jumped from 62 percent in 2010 to 85 percent in 2015 and the number of scooters owned by HHs increased by 61 percent within the period.

The expenditure on clothing decreased by 20 percent (which is partially due to a decrease of the price of clothing during the period). Expenditure on Housing and other goods and services are affected as well, but at this aggregated level, it's difficult to understand the reason for this decline. It could be survey methodological and data aggregation processes that are responsible for this drop, or it could very well be that HH expenditure – in real terms – has declined.

Table 62: Comparison of 2005, 2010 and 2016 expenditure and income aggregates (2016 adjusted prices)

	AUD Adjusted 2016 prices			Annual gross rate (%)		
	2005	2010	2016	2005–2010	2010–2016	2005–2016
Average cash food per capita expenditure	889	762	640	-3.0%	-2.9%	-2.9%
Average cash total per capita expenditure	2,365	1,803	1,550	-5.3%	-2.5%	-3.8%
Average total food per capita expenditure	1,581	1,134	940	-6.4%	-3.1%	-4.6%
Average total per capita expenditure	3,034	2,181	2,400	-6.4%	1.6%	-2.1%
Average per capita cash income	3,121	2,482	2,050	-4.5%	-3.1%	-3.7%

Over the period 2005 to 2010, the per capita cash income decreased by 4.5 percent per annum and the per capita cash expenditure by 5.3 percent per annum. This downward trend became less important over the period 2010 to 2016 with a respective decrease of 3.1 percent and 2.5 percent per annum (see Figure 9).

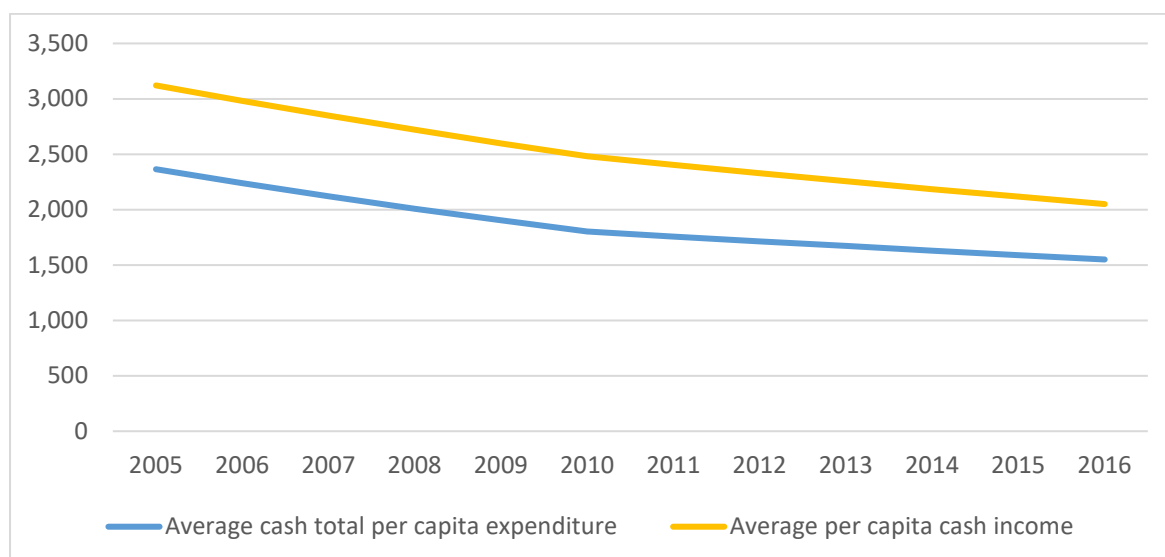


Figure 9: Per capita cash expenditure and income over the period 2005 to 2016

2. Intermediate expenditure

The income aggregates reported herein are all net of intermediate expenditure, however intermediate expenditure is collected in HIES and it is, as such, worth reporting. The table below reports the gross, intermediate and net income, by income category. Wages and salaries do not have intermediate expenditure, whereas business, agriculture, fisheries, livestock, handicrafts and subsistence do.

Table 63: Gross, intermediate and net annual HH income from employment activities (AUD)

	Cash (Gross)	In-kind (Gross)	Subsistence (Gross)	Int exp (Subsistence)	Int exp (Primary)	Int exp (Business)	Net income
Wages & salaries	18,551,430						18,551,430
Bonus overtime	249,440						249,440
Housing allowance	257,970						257,970
Income in kind		21,210					21,210
Non subsistence business	906,660					-401,700	504,960
Agriculture activities	189,060				-160		188,900
Fishing activities	415,340				-119,870		295,470
Livestock activities	96,280				-14,180		82,100
Handicraft activities	681,340				-103,260		578,080
Home production			3,580,430	-231,530			3,348,900
Total	21,347,520	21,210	3,580,430	-231,530	-237,470	-401,700	24,078,460

Net profit margins in business are estimated to be 55 percent (i.e., a bit more than half of revenue is net profit). Looking at the primary production activities, margins are much higher, especially in agriculture (more than 99 percent). Fishing activity is the one that generates more operating costs (only 70 percent margin) and livestock and handicraft generate similar margin (85 percent) and finally, primary activities undertook for subsistence purposes generate a high margin too (93 percent).

The main intermediate expenditure items in business are the goods for resale (for the retail shops) followed by the salary to staff (respectively 51 and 13 percent). In agriculture, intermediate expenditure mainly consists of transport of goods (freight), while in fisheries the fuel makes up around 80 percent of the operating costs and in livestock, the animal feed accounts for 97 percent of the intermediate expenditure (97 percent). Looking at the handicraft, the expenditure is mainly based on the food processed from home (see Table 68).

Table 64: Intermediate expenditure details by type of activity (AUD)

		Urban	Rural	Total
Business	Goods for resale	-46,720	-159,180	-205,910
	Salaries to staff	-51,720	0	-51,720
	Raw materials	-50,600	-980	-51,580
	Fuel	-43,450	-3,660	-47,120
	Electricity	-5,690	-3,620	-9,310
	Communication	-4,630	-1,750	-6,380
	Registration / licenses	-3,190	-2,970	-6,160
	Other / Unlisted	-5,480	-80	-5,560
	Purchase of equipment	-5,360	0	-5,360
	Equipment rental	-1,770	-2,990	-4,770
	Undifferentiated	0	-3,170	-3,170
	Building rental	-2,900	-120	-3,020
	Repair and maintenance of assets	-1,060	-370	-1,430
	Water	-230	0	-230
Total business		-222,800	-178,900	-401,700
Agriculture	Transportation of goods	-1,840	-3,520	-5,360
	Labour	-2,030	0	-2,030
	Seedling, seeds and fertilizer	0	-240	-240
	Other / Unlisted	0	-90	-90
	Fencing and enclosure	-40	0	-40
Total agriculture		-3,900	-3,860	-7,760
Fishing activities	Fuel	-42,750	-99,420	-142,170
	Other / Unlisted	-230	-12,830	-13,060
	Purchase of fishing equipment	-2,060	-5,670	-7,730
	Transportation of catch	-440	-5,620	-6,060
	Labour	-5,160	-370	-5,520
	Boat maintenance	0	-4,220	-4,220
	Ice	-2,910	-370	-3,280
Total fisheries		-53,550	-128,490	-182,040
Livestock	Animal feed	-100,710	-62,390	-163,100
	Fencing and enclosure	-2,140	-1,500	-3,640
	Purchase of animals	-460	-670	-1,130
	Transpiration of animals and goods	-160	0	-160
Total livestock		-103,470	-64,560	-168,030
Handicraft	Ingredient for making food	-38,220	-55,460	-93,680
	Materials for making handicrafts	-8,820	-1,760	-10,580
	Other / Unlisted	0	-6,730	-6,730
	Transportation of goods	-90	-90	-180
Total handicraft		-47,130	-64,040	-111,170
Total intermediate expenditure		-430,850	-439,850	-870,700

3. Income and expenditure distribution

In looking at the distribution of income and expenditure among HHs, we have already presented average and median income and expenditure by strata. To add to this analysis, we have categorised HHs according to their total income quintile. That is, we've ranked HHs by their level of per capita total annual income and created five groups. The 20 percent of HHs with the lowest annual income are grouped into quintile 1, while the 20 percent of HHs with the highest income are put into quintile 5.

As this is a national income quintile, we can look at the proportion of HHs, by income quintile and strata (Figure 10). The national distribution of HHs is, naturally, an even distribution as the quintiles were derived on a national basis. Looking at the poorest HHs (quintile 1) it can be seen that they are evenly distributed in urban and rural (20 percent of each strata),

but looking at the highest quintiles (4 and 5) there are higher proportion of high income HHs in urban. Almost 50 percent of the HHs in urban belong to quintiles 4 or 5.

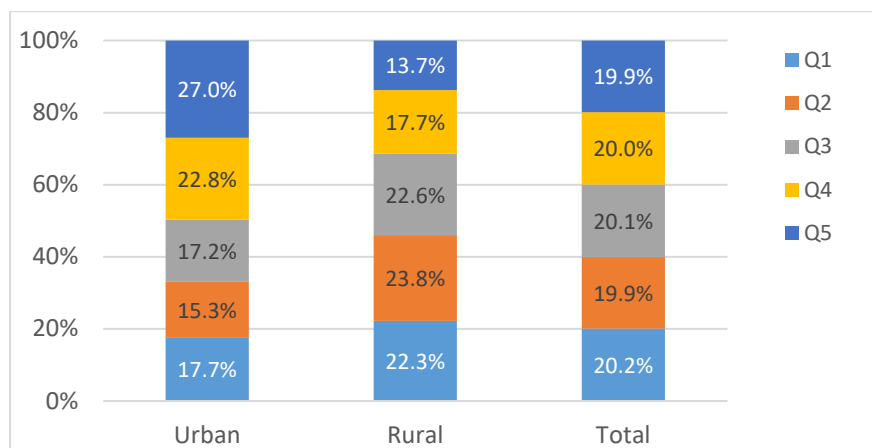


Figure 10: Proportion of HHs in each strata, by national income quintile

When we look at the average income and expenditure by quintile (Figure 11), it shows a large degree of inequality among the groups, especially when looking at the highest and lowest quintiles. The highest quintile has a per capita average income of AUD6,985 per annum, while the lowest quintile amounts AUD770 per capita per annum. There appears to be more equal distribution of expenditure.

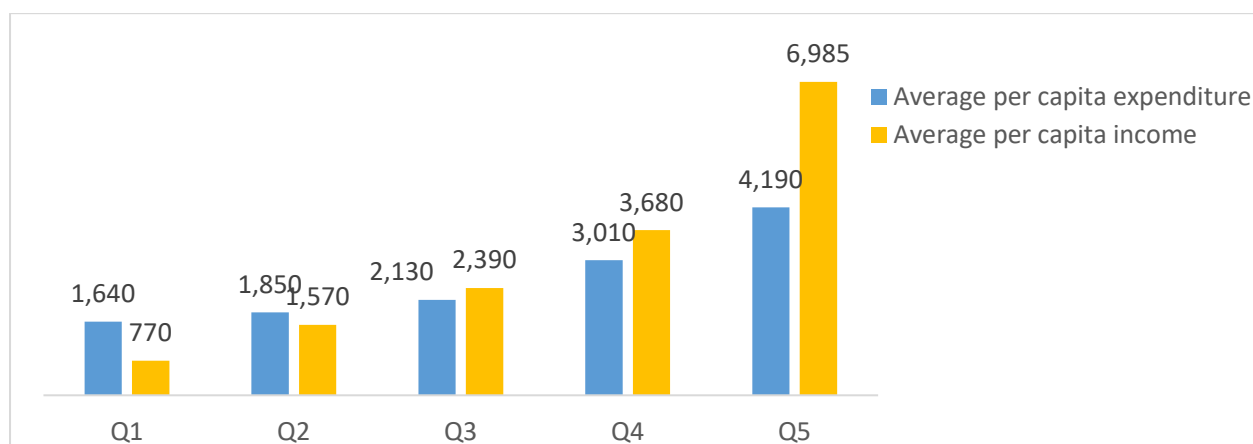


Figure 11: Average annual per capita income and expenditure (AUD), by income quintile

When we look at the composition of HH income, by income category, we can see that wages and salaries become an increasingly significant contributor to total HH income as income quintile increases. The composition of HH income is far more diverse in lower quintiles as a higher proportion of income is derived from other sources, such as remittances and subsistence. The proportion of HH income derived from home production and remittances is more significant than it is in higher income HHs, which demonstrates the importance of this income source in Tuvalu.

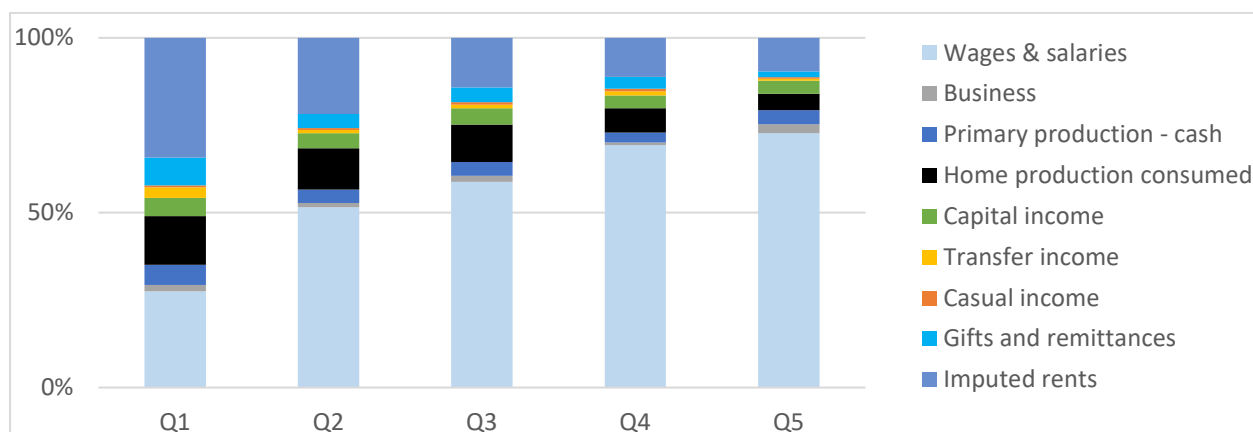


Figure 12: Composition of HH income, by income category and quintile

Looking at proportion of total HH income, by quintile, we can see that income from cash accounts for the majority of income across all quintiles. However, income from subsistence consumption is more significant in lower quintiles. Imputed rents income has a higher proportion of HH income in lower quintiles.

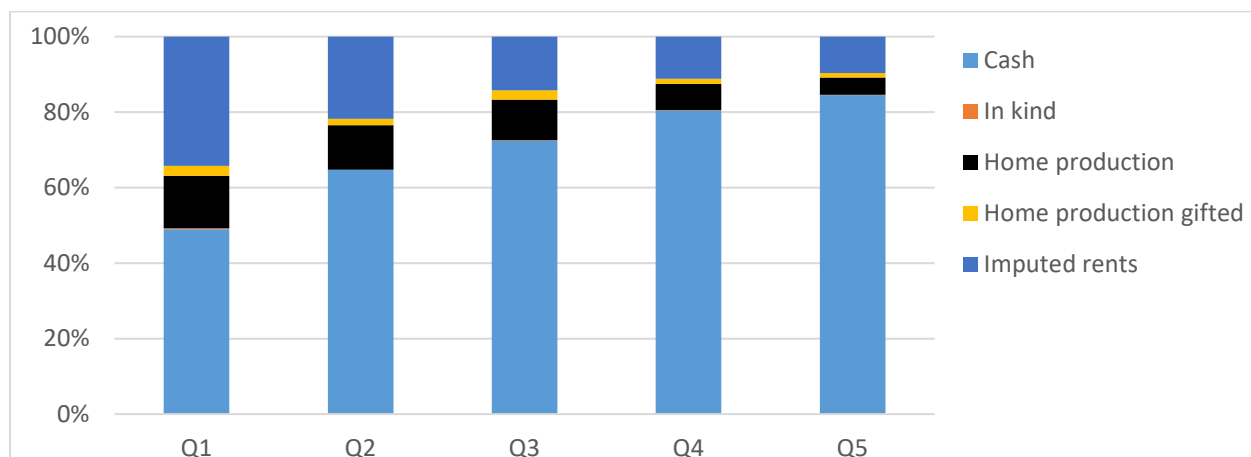


Figure 13: Composition of income, by income type and quintile

When we look at the composition of HH expenditure, by expenditure category, we do not see a significant difference between lower and upper quintiles (Table 65).

Table 65: Composition of HH expenditure, by income quintile

	Q1	Q2	Q3	Q4	Q5	Total
Food and Non-Alcoholic Beverages	36.5%	39.2%	42.8%	41.7%	36.1%	39.4%
Alcoholic Beverages, Tobacco and Narcotic	6.7%	5.5%	5.9%	5.5%	5.7%	5.8%
Clothing and Footwear	1.6%	2.0%	2.0%	1.8%	1.7%	1.8%
Housing, Water, Electricity, Gas and Other	25.8%	28.0%	25.2%	25.1%	27.9%	26.4%
Furnishings, HH Equipment	3.7%	2.8%	2.8%	3.0%	3.3%	3.1%
Health	0.4%	0.3%	0.4%	0.0%	0.1%	0.2%
Transport	8.1%	7.5%	7.1%	7.7%	6.9%	7.4%
Communication	1.7%	2.1%	1.9%	2.2%	2.4%	2.1%
Recreation and Culture	2.4%	1.6%	1.6%	1.9%	2.7%	2.0%
Education	0.5%	0.8%	0.5%	0.5%	0.7%	0.6%
Restaurants and Hotels	3.5%	0.9%	0.8%	1.0%	1.3%	1.4%
Miscellaneous Goods and Services	2.9%	2.8%	2.8%	3.3%	3.8%	3.2%
Non-Consumption HH Expenditure	4.9%	6.3%	5.1%	5.7%	5.2%	5.5%
Household investment	1.2%	0.3%	0.8%	0.6%	2.2%	1.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

In the below figure, we present the cumulative distribution of income nationally (left) and by strata (right). The red diagonal line represents perfect distribution of income whereby each HHs has a perfectly equal share of income, so as the population increases by, say 20 percent, the cumulative income also increases by 20 percent. This, however is not the case in Tuvalu where an unequal distribution of income is present. Looking at the national figure (left), we can see that around 50 percent of the lowest income HHs account for 20 percent of national income. To put this another way, half of the highest income earning HHs account for 80 percent of national income. The AUD20 percent income HHs (income quintile 5) account for around 45 percent of total HH income. This trend is similar across each strata.

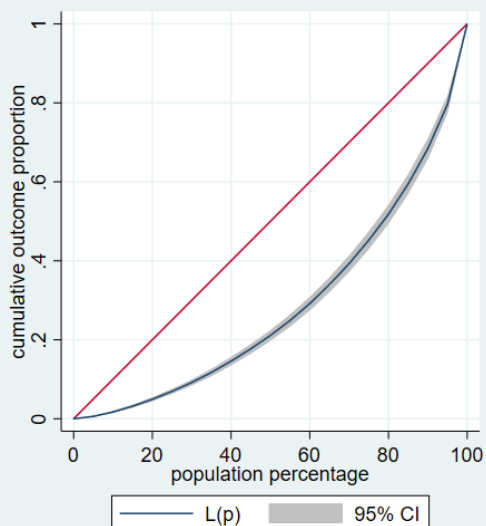


Figure 14: Lorenz curve (income)

We can present this unequal distribution of income by using the Gini coefficient (Table 66). A perfectly equal distribution of income would result in a Gini coefficient of 0. A national Gini coefficient of 0.4 is not extreme income inequality, it is a moderate degree of income inequality. The lower the Gini index, the more equal income is distributed across the population, so Funafuti is thought to have a larger degree of income equality than outer atolls.

Table 66: Gini coefficient, by strata

Tuvalu urban - Funafuti - urban	Tuvalu urban - Funafuti - rural	National
0.44	0.38	0.43

APPENDIX 1: DEFINITIONS AND CLASSIFICATIONS

1. Expenditure

This section provides information on the formation of the expenditure categories and their hierarchal structure, including the adoption of the classification of individual consumption by purpose (COICOP) for classifying HH consumption expenditure, and definitions of expenditure types.

Formation of the expenditure categories

In order to best classify the expenditure data to provide the most meaningful and easily interpretable results to readers, the format of the expenditure categories was based on Resolution 1 from the Seventeenth International Conference of Labor Statisticians. This resolution proposes the following breakdown for classifying expenditures, which is how the HH expenditure aggregates are presented in the report:

1. Consumption expenditure:
 - a. HH consumption expenditure: the value of consumer goods and services acquired, used or paid for by a HH through direct monetary purchases, own-account production, barter or as income in-kind for the satisfaction of the needs and wants of its members.
 - b. other consumption expenditure: the value of consumer goods and services acquired or used by the HH through transfers from the government, non-profit institutions or other HHs.
2. Non-consumption expenditure: expenditures incurred by a HH as transfers made to the government, non-profit institutions and other HHs, without acquiring any goods or services in return for the satisfaction of the needs of its members.
3. Investment: covers expense items incurred by HH members for financial security or accumulation of significant assets, such as a house (including improvements of the house) and machinery.

A description of each of the above expenditure categories is provided below.

Consumption expenditure

For tabulation purposes, the report separates consumption expenditure into 12 divisions conforming to COICOP guidelines. This results in the formation of, and categorisation of all expenditure items into, the following 12 divisions (and their hierarchal sub-sets):

1. Food and non-alcoholic beverages
2. Alcoholic beverages, tobacco and narcotics
3. Clothing and footwear
4. Housing, water, electricity, gas and other fuels
5. Furnishings, HH equipment and routine HH maintenance
6. Health
7. Transport
8. Communication
9. Recreation and culture
10. Education
11. Restaurants and hotels
12. Miscellaneous goods and services

Following the COICOP hierarchy, all consumption expenditures are categorised following the below structure:

1. Category (1 to 12 above)
 - 1.1. Group
 - 1.1.1. Class
 - 1.1.1.1. Sub-class
 - 1.1.1.1.1. Commodity

Non-consumption expenditure

The non-consumption expenditure category is divided into sub-categories of importance to the Pacific region. The five main subcategories include:

1. Cash donations to ceremonies and special events (e.g., weddings, funerals, birthdays)
2. Cash donations to HHs
3. Cash donations to church
4. Cash donation to other (e.g., school, association, community)
5. Taxes and fines

The above sub-categories within the non-consumption expenditure category, as mentioned above, are HH expenditures that are not associated with the acquisition of a good or a service. With exception of taxes and fines, non-consumption expenditure is mostly associated with charity or support provided to other HHs, religious or community organisations.

Investment expenditure

The investment expenditure category is divided into sub-categories of irregular, asset accumulation associated expenditure, including:

1. Land purchase
2. House purchase and/or major alteration of dwelling
3. Purchase of plant or equipment (incl. boats)
4. Amortisation of a mortgage (loan repayments)

These expenditure sub-categories are irregular and are treated differently to consumption expenditure in the system of NA, even though the expenditure was incurred in exchange for a good or service.

Formation of the expenditure types

To add further value to the data set and expenditure analysis, HH expenditure is also categorised by expenditure type. Five expenditure types have been used, which include:

1. Cash purchases – goods and services that were paid for with cash (or equivalent, such as EFTPOS) and consumed by the HH being interviewed
2. Home production (subsistence) – the gross value of goods that were home produced and consumed by the HH being interviewed (this is the opportunity cost of consuming the home produced and consumed goods), otherwise known as subsistence value
3. Cash gifts – goods and services that were cash-purchased (or equivalent) and gifted to another HH
4. Home produced gifts – goods that were home produced and gifted to another HH
5. Imputed rents - the estimated value of the services that an owner-occupied dwelling delivers the HH (as reported by the HH, but with some adjustments where deemed necessary)
6. In-kind – the value of in-kind income that is provided by the employer (and therefore, consumed by the HH and, as such, also reported as expenditure to balance this income and expenditure type)

2. Income

This section provides information on the formation of the income categories and their hierarchical structure, including the adoption of the Pacific classification of income (PACCOI) for classifying HH income, and definitions of income types.

Formation of the income categories

As with expenditure, the main consideration to the categorisation of different HH income sources was to present the data in a logical and easily interpretable structure. As such, six income categories have been used, which are set out below.

Employment income

Includes monetary or in-kind receipts in return for participation in economic activities in an employment-related capacity. This income category consists of three general components, as follows:

1. Employee benefits – mainly comprises of cash-based wages and salaries for time worked plus any bonuses, gratuities, commissions, tips or directors fees, and it also includes in-kind (non-cash) income, such as goods and services provided as employee benefits.

2. Self-employment – is income as a result of self-employment activities, such as dividends paid to HHs for their ownership in a business (but excluding shareholder dividends from enterprises for which they are not responsible for day-to-day management of), net income from the sale of primary produce (agriculture, fisheries, livestock, handicrafts), and the estimated net value of own-account subsistence production that is consumed by the HH.
3. Subsistence – note that the net estimated value of home produced and consumed goods are classified as employment income, despite no cash being exchanged.

Property (capital) income

Is defined as receipts that arise from the ownership of assets that are provided to others to use. These are returns, usually monetary, from financial assets (interests and dividends not included in 1b), from non-financial assets (e.g., housing rents) and from royalties (return for services of patented or copyright material). Interest receipts are payments received from accounts with banks, building societies, credit unions and other financial institutions, certificates of deposit, government bonds or loans, securities, debentures and loans to non-HH members. Dividends are receipts from investment in an enterprise in which the investor does not work. Pensions and annuities in the form of dividends from voluntary private insurance schemes are also included. Rents are payments received for the use of both unproduced assets (i.e., natural resources), such as land, and for produced assets, such as houses. Rents should be recorded net of expenses (i.e., they should be recorded and collected separately from other consumption expenditures, so they can be treated as both income and expenditure). Royalties are receipts from writings and rights to make use of inventions (i.e. patented or copyrighted materials).

Transfer income

Are receipts for which the recipient does not give anything to the donor directly in return. Transfers can consist of cash, goods or services. The components of transfer income, and their description, are:

1. Social security – allowances generated from government-sponsored social insurance schemes, such as unemployment and disability benefits.
2. Superannuation / pension – employer-sponsored social insurance schemes, including retirement benefits, education allowances and medical benefits.
3. Child support – allowances generated from government-sponsored child support schemes, including one-off payments (e.g., baby bonus) and ongoing government (or other) child support assistance, including child-care support. It also included payments from a previous spouse to assist with living expenses of children.
4. Alimony – support paid to a previous spouse (spousal maintenance) during marriage separation or upon divorce.
5. Grants, scholarships and other grants – cash paid to the HH to support, for example, HH living, investment, health, travel or education. This is only reported if the cash is paid to the HH, not directly to the institution (e.g., government pays directly to the school).
6. Other transfer income – refers to transfer income not elsewhere classified (NEC).

Casual receipts

HH income covers all receipts received by the HH (or individual HH members) at annual, or more frequent, intervals. It can include income from the sale of property or major assets (e.g., vehicles), inheritance, gambling winnings, or any receipts NEC.

Gifts and remittances

In the Pacific, many gifts (cash, cash purchased goods or home-produced goods) are received by HHs, whether from another HHs (inside or outside of Tuvalu) or from community groups. This is an important income source and, as such, has its own income category. Cash remittances are classified as being for: church gift; traditional ceremony; funeral; birthday or wedding; living support; undifferentiated or other. Cash purchased gifts are categorised by COICOP division, while home-produced gifts are classified by industry and specific-product. All the remittances refer to cash remittances received.

Imputed rents

Is the income derived from the consumption services that an owner-occupied (or live for free) dwelling delivers to the HH. These services consists of the net estimated value of housing services and the value of services from access to HH durables. In other words, imputed rents are the estimated net rental amount that an OO HH estimates that it would receive if the dwelling was rented on the commercial market (with some adjustment for improbably estimates, where possible). These services fall under the general production boundary of the system of NA.

Formation of the income types

To add further value to the analysis, the questionnaire was structured in such a way that allows differentiation between income types, or how the income was realised by the HH. The income types that we differentiate by, include:

1. Cash income
2. Subsistence income
3. Home produced gifts
4. Imputed rents
5. In-kind income

Further explanations for each are provided below.

Cash income

Cash income accounts for most of the income that HHs receive because the majority of HH income is sourced from wages and salaries. All receipts from wages and salaries, business, agriculture, fisheries, livestock, handicrafts, property, transfer and casual income are cash-type income sources.

Subsistence income

Subsistence income only covers the net value of home produced and consumed goods. If the HH sells the home produce it is categorized as a cash income because cash was generated from the sale.

Home produced gifts

Any home produced (e.g., agricultural, fisheries and livestock harvests) and gifted items are reported as both income and expenditure. On the income and expenditure side, both are reported as gross values as the income derived from home produced goods received for free is valued at the market equivalent (i.e., if the goods were purchased), while the expenditure is valued as the opportunity cost of selling (e.g., the expense of gifting is the income lost from not selling that good at market prices).

It should be noted that cash-purchased gifts are not reported in the income aggregates, only the expenditure categories. This is to avoid double counting of income. The value of cash-purchased gifts is collected and included in the HIES data set, however the methodology for understanding the income category from which the cash purchase was made is too complex (e.g., to avoid double counting, we would need to deduct each cash income category by the value of the cash purchased gifts from the cash income category that financed the purchase of that gift – the current collection methodology does not allow this and this is not considered to be a significant issue).

Imputed rents

Imputed rents, treated as both income (e.g., the gross value of the services delivered to the OO HH) and expenditure (e.g., the opportunity cost of not selling those services, or the cost of consuming those services) are non-cash income and expenditure items, but they're important to include to ensure that the value of these services are reported (and used in national account estimates) and to ensure that the income and expenditure of OO HHs is comparable to that of renting HHs.

In-kind income

In-kind income is the estimated value of non-monetary employee benefits, such as, food, transport, communication, health and education. In-kind income is reported as both income and expenditure. The income is the value of the goods and services that are provided by the employer and the expenditure is associated with the consumption of these goods and services.

3. Standard classifications

The Pacific regional standardised HIES methodology adopts the following standardised classifications.

Consumption expenditure

Consumption expenditure is classified using the Pacific classification of individual consumption according to purpose (Pac-COICOP), which is based on the international COICOP classification system that was developed by the United Nations Statistics Division. The Pac-COICOP hierarchical structure is the same, but at lower levels (sub-class and commodity), it includes goods and services that are commonly consumed (and in some cases, uniquely) in the Pacific region.

Income classification

Income is classified using the regionally standardised Pacific classification of income (PACCOI), which was designed by SPC in consideration of Pacific income sources. The income categories follow the main PACCOI divisions, which are further disaggregated following the following structure:

1. Category (6 in total)
 - 1.1. Group
 - 1.1.1. Class
 - 1.1.1.1. Sub-class

Industry classification

All productive activities are classified according to the international standard industrial classification (ISIC). It is important to note that the level of disaggregation is limited given: HIES is a survey; limited opportunity and need to build field worker capacity to collect detailed industry information; and HH participation in industries in the Pacific – particularly, those related to primary production – are often informal and mixed. Due to the sample size and limited capacity of the enumerators and, despite numerous efforts to recode the data set, disaggregation beyond ISIC group (3-digits) is not recommended.

Occupation classification

The international standard classification of occupations (ISCO) that was developed at the Seventeenth International Conference of Labour Statistical (ICLS) at International Labour Office (ILO) is applied to classify occupations in HIES. Similar disaggregation issues exist with those of ISIC and it is on this bases that HIES data only be disaggregated by sub-major groups (2-digits).

CSPro HIES database

The data entry system, the dictionary and HIES database were designed using CSPro. Although there are some coding differences between countries, the database structure is regionally standardised, which allows for cross-country comparisons.

4. Definitions

This section provides information on the definitions and terms used within the report to assist with interpretation.

HH head

The HH head is nominated by the HH members and, with exception of the HH head having to be an adult, there are no criteria for selection of the HH head. That is, the HH head is not necessarily the main income earner or the person responsible for management of HH finances. In the Pacific, the oldest person or the man who own the HH if often, due to cultural reasons, selected as being the HH head. Considering this, the use of HH head as a variable to determine differences in income or expenditure by, for example, age or gender of HH head, doesn't make a lot of sense due to the loose criteria of nominating the HH head.

Despite this, some tabulations are provided that look at variation in income and expenditure by characteristics of the HH head. HH composition is often a more useful classification to use when comparing income and expenditure of different HH structures.

Gross and net income

All employment income figures are reported as net. Property, transfer, casual, gifts and remittances, and imputed rents are reported as gross, although it is assumed that there are few transaction costs associated with these income sources (perhaps with exception of property and imputer rents income), so the gross figures are assumed to closely resemble the net figures.

Subsistence

Subsistence income and expenditure refers to the value of home-produced goods that are consumed by the HH. Subsistence income is reported as net, as the income realised by consuming these goods is net of their cost of production, while the expenditure is reported as gross because of the opportunity cost of consuming the good rather than selling it.

Average HH and per capita

Unless otherwise specified, averages are calculated as the numerator divided by the total number of HHs or persons respectively.

Attempts have been made to report the total number of HHs or persons reporting an item.

Quintile

A quintile represents one-fifth of the population (HHs) grouped by their total expenditure. Quintile 1 represents 20% of the HHs with the lowest expenditure, while quintile 5 represents 20% of the HHs with the highest expenditure.

APPENDIX 2: HIES BALANCING & DATA CLEANING

Background

Data processing for the HIES involves four normally distinct phases.

1. Development of the entry application
2. Balancing and manual cleaning of collected data
3. Coding
4. Outlier detection and imputation

Each phase is equally important in ensuring that the final dataset is of the highest quality and complete as possible. This technical assistance mission was to assist Tuvalu's Central Statistics Division in the balancing and manual cleaning of collected HIES data. The process of balancing and manually cleaning the HIES dataset is a tedious activity because it requires that each questionnaire is accounted for.

Manual data cleaning and questionnaire balancing is essential to properly correct data collected from the HIES because this process involves the tedious (but necessary) process to compare data that was transcribed in the computer to what was actually recorded in the paper version of the questionnaires. The sub processes of manual cleaning involves the identification of inconsistencies and manually checking these problems with its parallel paper version. The error checking and balancing process is highlighted below:

- 1) Data auditing ensuring that every reference of the selected sample is recorded in the database.
- 2) Identifying the completeness of a questionnaire and evoke the necessary steps to reenter missing data.
- 3) Identify major inconsistencies in the following data items:
 - a) Sex
 - b) Age
 - c) Relationship
 - d) Tenure
 - e) Annualized Income
 - f) Annualized Expenditure
 - g) Major outliers in income and expenditure
 - h) Verify missing/outlying quantities and amounts
- 4) Special data items that are known to contain errors:
 - a) Utility expenditures
 - b) Income refusals
 - c) Low diary items
 - d) Zero income
 - e) High expenditure per capita
 - f) Low expenditure per capita
 - g) Labour and non-reported income
 - h) One week diary data only
 - i) Zero reported intermediates in reported subsistence and/or businesses activities.

Data Auditing and Balancing

The target sample size for the HIES is 720 HHs, an additional 384 HHs were selected to cover non-response (set B). As a result of the balancing showed that 596 HHs were successfully interviewed from set A or about an 82 percent response rate from the primary cohort.

Table 67: Final count of interviewed HHs

Island	Selected Set		Interviewed Set		
	A	B	A	B	
Funafuti	384	192	325	59	15.4%
Nanumea	63	36	48	15	23.8%
Nanumeaga	63	36	57	6	9.5%
Niutao	84	48	67	17	20.2%
Vaitupu	126	72	99	27	21.4%
Grand Total	720	384	596	124	17.2%

The first pass of balancing revealed that two HHs had zero expenditures and zero income. Occasions such as these will normally lead to dropping these HHs from the survey. But under further investigation these HH were verified to receiving in-kind support from families and neighbours.

HHID 7001 was verified to be a single elderly man that relies on his neighbours to provide him with basic supplies and foods. It is my suggestion that this HH should be kept in the final sample to have some occurrences of HH comprised of elderly members.

HHID 7132 was verified to be a HH of church volunteers that relies on support from the church members. This HH has some cash expenditures and the amount of diaries seems a bit low to support a HH of three person. Further investigation should be incorporated to determine if this HH should be included in the final dataset.

Table 68: HHs that have no reported expenditures and income

HHID	Block Name	Count of EXP in mod 2	Count of EXP in mod 3	Sum of cash income	Sum of paid diary items	Sum of free diary items	Count of persons in the HH
7001	Funafuti T1 R1	0	0	0	0	18.3	1
7132	Funafuti T2 R4	0	0	0	58.4	36	3

A total of 13 HHs reported only one diary. These HHs were manually verified and found to be accurately reported. A record of these HHs should be maintained so that diary multipliers can be changed accordingly.

Some HHs reported very few items. The number of items each HH reported was compared to the average number of items per capita. These HHs that were identified having less than half of the average items per capita, were manually verified. As a result of this verification process of the diaries, it was evident that majority of questionnaires had fewer items transcribed into the computer than what was actually recorded. So further comparisons and verifications on the diaries were put on hold until all items recorded are properly transcribed into the computer. Details of this event will be explained in more detail in the "Mission Obstacles" section below.

Table 69: HHs with one diary

HHID	Block Name	Count of items in week1	Count of items in week2	Total count of items	Count of persons in HH
2082	Nanumeaga T1 R16	-	3	3	6
3048	Niutao T1 R11	2	-	2	4
5076	Vaitupu T1 R3	-	5	5	9
5082	Vaitupu T1 R3	-	17	17	4
5092	Vaitupu T1 R3	-	2	2	2
5125	Vaitupu T1 R4	22	-	22	7
5158	Vaitupu T1 R5	20	-	20	2
7355	Funafuti T2 R10	17	-	17	9
7439	Funafuti T1 R13	17	-	17	4
7452	Funafuti T2 R13	9	-	9	4
7454	Funafuti T2 R13	9	-	9	3
7490	Funafuti T2 R14	7	-	7	2
7543	Funafuti T1 R16	5	-	5	6

Data Inconsistencies

Errors in the data set were identified for manual correction in three ways. The first is to determine if the data contained missing or out of scope information. The second, is to determine if the in-scope information is consistent to other linked questions such as skip patterns, qualifiers, and related data items. The third is to determine if ordered amounts and values reported are reasonable. There are complicated ways to demine these outliers such as using interquartile ranges and medians of logs but we found that is easier as a first step to rank the items by section code and “eye-balling” out-of-range or suspicious values. Complex methods of outlier detections are still used but in later stages of data cleaning.

When a data item is identified as erroneous – that data item is verified on the paper version of the questionnaire and appropriately corrected in the computer. If an item is correctly transcribed in the computer and still considered erroneous additional actions were taken to correct items on the spot such as making contact to the original respondent or enumerator. Any data items that still contains any error was left as-is and marked for in-depth cleaning at a later stage.

The current dataset contains a total of 4,351 persons. All sexes have been reported and there are no missing occurrences. The sex ratio is about 1.13 males to females which is much larger than what was reported in the 2012 census of 97.8 males to females. Normally, sampled surveys’ unweighted sex ratios are comparable to the census. But because this is a sample survey the actual ratio will change and hopefully mimic the census’ reported figure.

The reported ages in the HIES dataset seems relatively smooth and there does not seem to be any evidences of age heaping. All missing ages have been verified and corrected. The dataset contains no occurrence of missing ages.

The relationship contained a large number of relation code [6] “Uncle/Aunt”. This was identified to be erroneous because reported ages were lower than the head of the HH and most cases the age of the uncle/aunt is normally older than the head. After further investigation it was evident that questionnaire lack a proper response for nephew/niece and because of this error, enumerators were placing a wrong relationship code. The relationship data items showing this characteristics was changed to code [9] and a note was placed.

The tenure data item was checked to ensure that every tenure option had an associated value. All tenure values were appropriately filled and there were no missing values in this data item. Outliers were verified and corrected. The data still contains extremely low values and this was left untouched. Other methods of detection and imputation will be used at a later stage of data cleaning.

Table 70: Tenure of interviewed HHs

Tenure	n (720)	Smallest amount reported	Largest amount reported	Average of reported rent
Living rent free by employer	17	\$50	\$2,222	\$437
Living rent free by others	64	\$1	\$1,000	\$222
Own the house with a mortgage	2	\$450	\$550	\$500
Own the house w/o a mortgage	495	\$5	\$1,500	\$247
Renting the house	142	\$10	\$1,300	\$492

Other verifications and data checks on expenditure items were not completed because the dataset was incomplete and additional steps were taken to ensure that the full dataset will be ready

The income section was checked for consistencies between linked questions. Below is a list of income consistency checks.

1. If the main activity is “01” – Employer, then
 - a. there should be a business activity in module 4 section 6 – “Income as owner of non-subsistence business”
 - b. There should be at least 1 hired employee in Q40610
 - i. If there are no employees then change Q10201 to “02”
2. If the main activity is “02” – Self-employed, then
 - a. There should be an activity in module 4 section 5 – “Handicraft / Home processed” OR Module 4 section 6 with no hired help.
3. If the main activity is “03” or “04” – Employed, then
 - a. There should be wage activities in module 4 section 1 – “Wages”
4. If the main activity is “05” – Producing goods for home consumption or offset cash.
 - a. There should be at least one activity mentioned in Module 4 section 2, 3 or 4 – Agriculture, fishing, and livestock.

- b. CROSS VERIFY – if there is at least one subsistence activity listed in module 4 then there should be at least one HH Member that is coded “05”
5. If Q20223 is equal to code “1”, “2” or “3” then Q40703 line “11” OR “12” should contain a code “1” and there should be some amounts reported. If this is not the case – change Q40703 to code “1” and put a “0” in Q40704 and a “0” in Q40705”.
6. If Q20217 has a value then multiply this amount by 12 and it should match at least one value shown in Q40108.

Mission obstacles

During data auditing it was evident that one of the two Data Quality Control officer (DQC) was not completely transcribing all information collected in the questionnaire. This discrepancy emerged after the negative income control checks were performed. After further investigation of the paper version to transcribed data, patterns of missing data started to show that this DQC officer was transcribing fewer items than what was captured in the field. To support this finding a table of entered sectional data items was produced for each of the DQC officers.

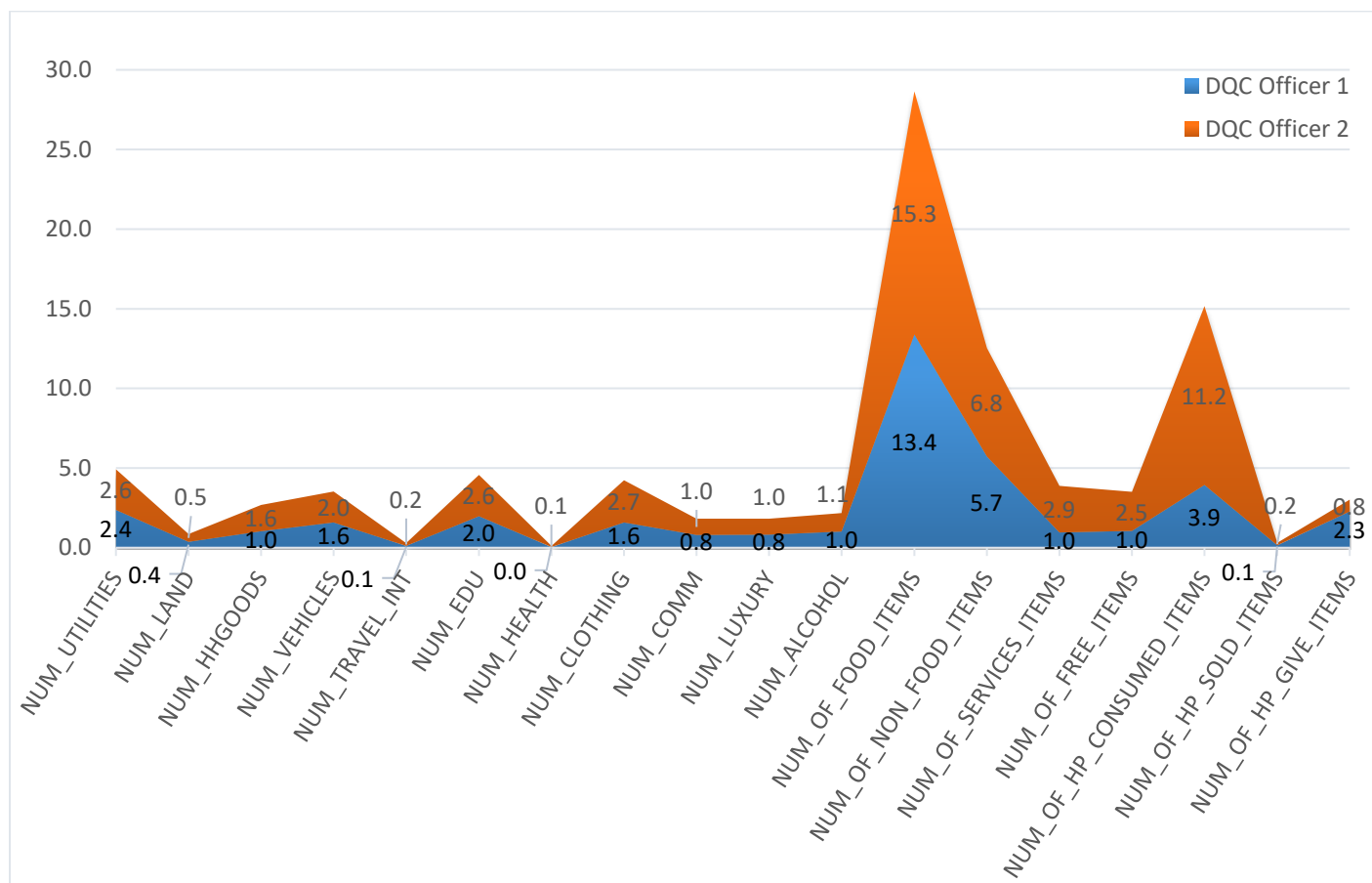


Figure 15: DQC comparison – average number of items entered by sections

The average number of data items transcribed into the computer by DQC officer 1 was consistently less in 17 of the 18 expenditure sections when compared to DQC officer 2. Spot checks were completed to compare transcribed data and collected data on purchased food items and home produced food items. Again, the result showed that DQC officer 1 was not completely transcribing all collected data and sometimes falsifying information.

As a result of this finding it was recommended that all 328 questionnaires entered by DQC officer 1 should be verified. At the current rate, it takes one full working day to verify ten questionnaires. It will take approximately 33 working days to complete the verification process. In order to speed the verification process, two extra (for a total of three) DQC officers were hired. We are estimating that the verification process will take two full weeks to complete.

Because of this delay, additional and in-depth quality checks have been postponed until the verification task has been completed. I am estimating that there will be a one month delay to produce a manually corrected version of the dataset.

APPENDIX 3: SAMPLING ERROR

The tables in this section present the RSEs for the income and expenditure aggregates. It is beyond the scope of this report to present sampling errors at a finer level of disaggregation, however it should be noted that, as specified in Section 6, there is an increased degree of error with finer levels of disaggregation, especially where income and expenditure categories have few transactions and the sample is relatively small (e.g., Ongo Niua).

As a general guide, the below thresholds can be used to help with interpretation of the RSEs and to guide the robustness of each aggregated income and expenditure estimate.

Table 71: Data quality thresholds

RSE	Classification
< 5%	Very good
5% to < 10%	Good
10% to < 20%	Usable
20% to <30%	Use with caution
30% +	Potential for high degree of error

1. Relative sampling errors for expenditure aggregates

Table 72 presents the standard error and the RSE for the per capita expenditure aggregates, by strata. In accordance to the data quality thresholds presented above, it can be seen that total RSE of 2.0 percent (i.e., national expenditure estimates) are very good. As this is disaggregated by strata, the RSE tends to increase but remain in an acceptable range. Only the subsistence expenditure estimates for the urban area shows a high RSE (14.7 percent), due to the fact that few HHs undertook this type of activity in the urban part of Tuvalu.

Table 72: Relative sampling error – per capita expenditure

Per capita	Total	Standard error	95% interval		RSE
Total expenditure	2,401.2	47.0	2,309.0	2,493.4	2.0%
Urban	2,486.1	68.7	2,351.2	2,621.0	2.8%
Rural	2,309.9	63.5	2,185.3	2,434.5	2.7%
Consumption expenditure	2,244.8	43.4	2,159.5	2,330.1	1.9%
Urban	2,359.2	64.5	2,232.5	2,485.9	2.7%
Rural	2,121.7	57.5	2,008.9	2,234.5	2.7%
Non consumption expenditure	165.3	8.9	147.9	182.7	5.4%
Urban	136.0	11.3	113.8	158.3	8.3%
Rural	195.9	13.7	169.0	222.9	7.0%
Cash expenditure	1,738.5	37.6	1,664.6	1,812.4	2.2%
Urban	2,065.5	60.1	1,947.5	2,183.5	2.9%
Rural	1,386.5	44.2	1,299.6	1,473.3	3.2%
Subsistence expenditure	459.0	23.3	413.1	504.9	5.1%
Urban	255.4	37.6	181.5	329.2	14.7%
Rural	516.6	28.2	461.1	572.1	5.5%
Food expenditure	945.2	26.5	893.3	997.1	2.8%
Urban	862.1	35.6	792.2	932.0	4.1%
Rural	1,034.6	39.6	956.9	1,112.2	3.8%

2. Relative sampling errors for income aggregates

Table 73 presents the standard error and the RSE for the per capita total income aggregates, by strata. In accordance to the data quality thresholds presented above, it can be seen that total RSE of 2.2 percent (i.e., national income estimates) are good. As this is disaggregated by strata, the total annual HH income estimates, by strata, have a range of 3 to 3.2 percent, making the strata disaggregated total annual HH expenditure estimates within being good. Primary production income estimates show high degree of error in urban area (27.8 percent).

Table 73 : Relative sampling error – per capita income

Per capita	Total	Standard error	95% interval		RSE
Total income	2,697.1	60.0	2,579.2	2,815.0	2.23%
Urban	3,111.0	93.2	2,927.9	3,294.1	3.00%
Rural	2,251.7	73.1	2,108.2	2,395.3	3.25%
Cash income	2,075.3	55.4	1,966.5	2,184.2	2.67%
Urban	2,751.7	91.1	2,572.9	2,930.5	3.31%
Rural	1,353.8	60.4	1,235.2	1,472.3	4.46%
Wages and salaries	1,876.4	54.8	1,768.8	1,984.0	2.92%
Urban	2,580.5	89.1	2,405.5	2,755.5	3.45%
Rural	1,054.8	57.2	942.4	1,167.1	5.43%
Primary production	301.2	33.5	235.1	367.3	11.14%
Urban	143.1	39.8	64.7	221.6	27.82%
Rural	393.6	48.2	298.7	488.6	12.24%

APPENDIX 4: RESOURCES

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