



Cook Islands Government



Cook Islands Household Income and Expenditure Survey 2015-2016



REPORT



Pacific
Community
Communauté
du Pacifique

Household Income and Expenditure Survey 2015-2016



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The Pacific Community (SPC)



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Acronyms

BMI	Body mass index
COICOP	Classification of individual consumption according to purpose
CISO	Cook Islands Statistics Office
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
OA	Own account
OO	Owner occupied
PACCOI	Pacific classification of income
PAPI	Paper-based personal interview
CPD	Census of Population and Dwellings
PPS	Probability proportional to size
PSU	Primary sampling unit
RSE	Relative sampling error
SPC	Pacific Community
SDG	Sustainable development goals
TA	Technical assistance
NZD	New Zealand Dollar
UN	United Nations

Foreword

It gives me great pleasure to join with the Statistics for Development Division (SDD) of the Pacific Community (SPC) in the release of the final report for the 2016 Cook Islands Household Income and Expenditure Survey (HIES). The publication of this report represents a further step by the Statistics Office in its attempt to provide a wider range of statistics for use by government and the general public.

The Cook Islands adopted SPC's standardized HIES methodology and, as such, incorporated the standardized tools developed by SPC primarily addressing the issues of, questionnaire design, concepts and definitions, data processing and output production.

The key outputs of focus for the HIES was identified as covering:

1. Overview of the distribution of household income and expenditure data across the country;
2. Rebasement of weights for the Consumer Price Index;
3. Input into the household sector of the National Accounts;
4. Input into the production of the Balance of Payments;
5. Production of a detailed Poverty or Standard of Living Assessment; and
6. Production of a range of National Minimum Development Indicators (NMDIs)

The HIES is a very complex and complicated survey to conduct, requiring immense financial and human resources posing a lot of challenges particularly on small island statistics offices. In this regard, I would like to thank SPC for the technical and financial assistance provided. Funding was made possible through ADB and DFAT under the Ten Year Pacific Statistics Strategy (TYPSS) Phase 2. The work of Dr. Gerald Haberkon former Director of SDD should not go unrecognised as he was key in negotiating funding for this project. Special mention to the team at SDD, Bertrand Buffierre Statistical Advisor, Pierre Wong Data Processing Specialist, Michael Sharp Economic Advisor, Sandra Gianini Finance and Administration Officer, whom without their support and expertise we would have struggled to get the survey off the ground. To Dr. Ofa Ketuu current Director of SDD, for her continued support of the HIES project.

Lastly I would like to take this opportunity to thank the people of the Cook Islands for giving up their free time to be interviewed and participate in the survey. My appreciation also extends to the Field Officers who worked evenings and nights for months on end in order to visit and collect data during times that are convenient to the households.

Meitaki maata



Taggy Tangimetua (Mrs.)
Government Statistician

Key results and executive summary

1. Key results table

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

	Urban - Rarotonga	Rural – Outer islands	National
Sampling information			
HHs	270	421	691
Persons	917	1,556	2,473
Population estimates			
HHs	3,386	1,257	4,643
Persons	10,626	4,381	15,007
Average annual HH expenditure, by category (NZD)			
Food and non-alcoholic beverages	6,760	10,010	7,640
Alcohol, tobacco and kava	2,840	2,610	2,780
Clothing and footwear	1,010	660	910
Housing and utilities	12,530	6,760	10,970
Furniture and HH maintenance	1,480	1,260	1,420
Health	110	60	90
Transport	4,950	3,580	4,580
Communication	2,150	1,340	1,930
Education	100	20	80
Recreation and culture	700	470	640
Restaurant and hotel	1,920	970	1,660
Miscellaneous	1,470	840	1,300
Non-consumption expenditure	1,510	1,520	1,510
Investment expenditure	5,230	1,610	4,250
Total	42,760	31,720	39,770
Average annual HH expenditure, by type (NZD)			
Cash (total)	33,790	23,670	31,050
Subsistence (gross total)	590	3,350	1,340
Imputed rents	8,370	4,650	7,360
In-kind (employer)	10	50	20
Total	42,760	31,720	39,770
Average annual HH net income, by category (NZD)			
Wages and salaries	34,490	19,560	30,440
Business	2,820	1,070	2,350
Primary	1,360	1,450	1,380
Subsistence (net total)	200	2,020	690
Capital	1,860	1,390	1,740
Transfer	5,080	6,730	5,530
Casual	330	210	300
Remittances	480	440	470
Home production gifted	160	900	360
Imputed rents	8,370	4,650	7,360
Total	55,150	38,420	50,620
Average annual HH income, by type (NZD)			
Cash	46,410	30,810	42,180
In-kind (employer)	10	50	20
Subsistence (net)	200	2,020	690
Home production gifted	160	900	360
Imputed rents	8,370	4,650	7,360
Total	55,150	38,420	50,620

2. Executive summary

Cook Islands 2015/2016 HIES was implemented from November 2015 to November 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 Cook Islands.

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 two geographical areas (strata) designed in the sampling frame: Cook Islands urban (Rarotonga) and Cook Islands 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).

691 HHs provided a valid response, which amounts to 14.9 percent of all HHs in Cook Islands. The sample fraction, by strata, is provided in the table.

Table 2: Sample size and sample fraction, by strata

	Sample	HHs	Sample fraction (%)
Cook Islands - urban	270	3,386	8.0
Cook Islands - rural	421	1,257	33.5
National	691	4,643	14.9

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

Household expenditure

Total annual HH expenditure in Cook Islands is estimated to be NZD 184.6 million (average of NZD 39,770 and median of NZD 33,050 per annum). 85.5 percent of HH expenditure is consumption expenditure (expenditure-related to goods and services that are consumed by HHs), 3.8 percent is non-consumption expenditure and the remainder being investment expenditure (10.7 percent).

In terms of expenditure type, 72.8 percent is cash based (cash purchased goods and services), 5.3 percent is cash purchased gifts (goods and services purchased for the benefit of another HH), 18.5 percent imputed rents (the value of services that an owner occupier derives from residing in their dwelling), 2.5 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 Housing (32.3 percent of expenditure within this category and mainly consisting of imputed rents), followed by food and non-alcoholic beverages (22.5 percent and mainly consisting of cash) and transport (13.5 percent).

The distribution of HH expenditure is not even and there's a degree of inequality, in terms of total HH expenditure across Cook Islands and within each strata. Around 28 percent of total HH expenditure in Cook Islands is accounted by the highest spending 20 percent. On the other hand, the lowest spending 20 percent of HHs account for around 12 percent of the total HH expenditure.

Household income

Total annual HH income in Cook Islands is estimated to be NZD 235 million (average of 50,620 and median of NZD 42,050 per annum). 68.9 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 14.5 percent of total income and transfer income (pension) amount to 11 percent of total HH income (similar to income from capital). The remainder is made up of income from remittances and gifts, capital income and casual receipts (sale of assets).

In terms of income type, 83.3 percent of total HH net income is cash-based income. As mentioned above, 14.5 percent is imputed rents and 1.4 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 87 percent of income in this category. Following this is income from Non subsistence business (7 percent). The rest of the employment income are minor at the National level: agriculture activities (2.4 percent of employment income), home production 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 Cook Islands and within each strata. Almost 29 percent of total HH income in Cook Islands is accounted for by around one-quarter of HHs and the lowest earning 20 percent of HHs account for 9.8 percent of total income.

Population

From the 2015/2016 HIES, Cook Islands is estimated to have 4,643 HHs with a resident HH population of 15,007 persons. Average HH size is 3.2 persons and Cook Islands has a sex ratio of 95, meaning there are 95 males for every 100 females. The median age of the population is 35 of which 33 percent of the population is aged less than 20 years old. Cook Islands' dependency ratio is estimated to be 59 percent, meaning that for every 100 working-aged persons, there are 59 dependents.

The main activity in the past 7 days for the population aged 15 years and older, was employed in the private sector, with 37.8 percent of persons reporting this as their main activity. Following this, 16.9 percent of the population reported being employed in the public sector, 14.7 percent reported being retired / too old and 11.6 percent reported being a home maker (only population 15+ years of age).

41 percent of HHs participate in agriculture, 18 percent in fisheries, 36 percent in livestock and 7 percent in handicrafts and home processed foods. This has significant implications on HHs income, for both cash and subsistence. Of the HHs that participate in primary activities, 15 percent of HHs sell some of their agricultural produce, 3 percent sell a portion of their fisheries harvest, 7 percent sell livestock that the HH rears and 10 percent sell handicrafts and home processed foods that are manufactured.

SECTION 1: INTRODUCTION

This report is the first official output from the Cook Islands 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 Cook Islands (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 Cook Islands.

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 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 3 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 Cook Islands and in thematic research to guide policy formation.

SECTION 2: SURVEY OVERVIEW

The 2015/16 is the second HIES to be conducted in the Cook Islands; the first was in 1998. In 2004/05, a HES was conducted which excluded questions on income.

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 CISO 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 Cook Islands.

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 2006 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

Cook Islands adopted the Pacific standard HIES methodology developed by the Statistics for Development Division (SDD) of the 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 Cook Islands. 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 Cook Islands for a period of 12-months, or have intention to live in Cook Islands 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 Cook Islands, 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 Cook Islands (e.g., in Australia or New Zealand) and commercial, government or non-government organisations (NGO) in Cook Islands are outside the scope of HIES.

4. Sample design

Findings from the 2006 HIES

The 2005/2006 HIES sample was spread over 12-months rounds – one each quarter – and the specifications are summarised in Table 3.

Table 3: 2006 HIES key indicators used in deriving the 2015 sample

Domain	HHs (N)	Selected HHs	Final responding	Sample fraction (percent)	Relative sampling error (RSE)	
					Total expenditure (percent)	
Rarotonga	2,775	454	348	12.5	4.1	
Southern Group	953	281	217	22.7	4.7	
Northern Group	318	178	126	39.6	9.3	
Total	4,046	913	691	17.1	3.3	

In 2005/2006, 913 HHs were selected and 691 sufficiently responded. The 2005/2006 HIES provided solid estimates for expenditure aggregates at the national level (sampling errors for national expenditure estimate is 3.3 percent), however it can be seen from Table 3 that the accuracy of the estimates by domain are variable, especially in the Northern group where the relative sampling error for income (RSE) is greater than 5 percent. 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 2006 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 Cook Islands 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 island group).

Table 4: Distribution of HHs by island (2011 Population and Housing Census)

	2011 Census	Distribution (percent)	
		National	Island Group
RAROTONGA	3,154	72.1	100
SOUTHERN ISLANDS	939	21.5	100
Aitutaki	482	11.0	51.3
Mangaia	170	3.9	18.1
Atiu	137	3.1	14.6
Mauke	92	2.1	9.8
Mitiaro	58	1.3	6.2
NORTHERN ISLANDS	279	6.4	100
Pukapuka	101	2.3	36.2
Manihiki	78	1.8	28.0
Penrhyn	53	1.2	19.0
Rakahanga	21	0.5	7.5
Palmerston	13	0.3	4.7
Nassau	13	0.3	4.7
TOTAL	4,372	100	-

The 2011 Census of Population and Dwellings (CPD) was used to select the islands to interview, and then in each selected islands the HH listing was updated for selection. For budget and logistics reasons the islands of Mauke and Mitiaro were excluded from the Southern group and the islands of Penrhyn, Rakahanga, Palmerston and Nassau were excluded from the Northern group. In total, 6 percent of the HHs were excluded from the sample selection across the Cook Islands, and 36 percent within the Northern Group.

Table 5: 2015/2016 HIES sampling frame

	Number of HHs			
	2011 Census	Included in the selection	Excluded from the selection	Percentage of HH excluded
1. Rarotonga	3,154	3,154	0	0
2. Southern Group	939	789	150	16
3. Northern Group	279	179	100	36
Cook Islands	4,372	4,122	250	6

Sample selection and Sample size

The sample selection is based on a 2 stages process that differs in Rarotonga and the Outer Islands.

- In Rarotonga the primary sampling unit is the Enumeration Area that were selected using probability proportional to size (the more populated the EA was, the higher the chance of selection was), then in each selected EA, 15 HHs were selected (10 to interview in priority and 5 for replacement in case),
- In Southern and Northern groups, the primary sampling units were the islands, and within each island, the HHs were randomly selected.

Table 6: 2015/2016 HIES sample selection

	Total HHs	HHs to survey	HHs to select	Replacements	Number of rounds
Rarotonga	3154	320	480	160	16
Southern Group	939	320	480	160	16
Aitutaki	482	160	240	80	16
Mangaia	170	80	120	40	8
Atiu	137	80	120	40	8
Northern Group	279	130	195	65	13
Pukapuka	101	80	120	40	8
Manihiki	78	50	75	25	5
Cook Islands	4,372	770	1,155	385	16

The expected sample size has been increased by 50 percent (385 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 the 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 Cook Islands.
- **Island group level:** total HH income and expenditure, geospatially disaggregated by group level (Rarotonga, Southern Group and Northern Group).

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 level¹.

5. Field operation

The fieldwork was carried out by 7 enumeration teams, 2 in Rarotonga, 3 in the Southern Group (Aitutaki, Mangaia and Atiu) and 2 in the Northern Group (Pukapuka and Manihiki). A main training has been delivered in Rarotonga with the teams that started the field work (both Rarotonga teams, Mangaia, Aitutaki and Pukapuka) and specific trainings have been conducted in Atiu and Manihiki. Each team is made of 2 enumerators (in charge of 5 HHs each) and 1 supervisor. All teams were under the supervision of the HIES Manager from the Statistics Office in Rarotonga.

The survey period is divided in 16 rounds. A round is a 3 week period in which a team will be in charge of 10 Round 1 started in November 2015 and round 16 finished in November 2016.

¹ Unfortunately due to low response rate in the Northern Group, the breakdown at the island group level was not possible, and only urban (Rarotonga) and rural (Outer islands) breakdown is available – see Error Measurement in Section 9.

Table 7: 2015/2016 HIES survey schedule

	1. RAROTONGA GROUP		2. SOUTHERN GROUP			3. NORTHERN GROUP	
	Team11	Team12	Team21	Team22	Team23	Team31	Team32
	Rarotonga based		Aitutaki based	Mangaia based	Atiu based	Pukapuka based	Manihiki based
1 SESSION OF TRAINING IN RAROTONGA (team 1.1, 1.2, 2.1, 2.2 and 3.1)							
Round1	RARO	RARO	AITUTAKI	MANGAIA			
Christmas Break							
Round2	RARO	RARO	AITUTAKI	MANGAIA		PUKAPUKA	
Round3	RARO	RARO	AITUTAKI	MANGAIA		PUKAPUKA	
Round4	RARO	RARO	AITUTAKI	MANGAIA		PUKAPUKA	
Round5	RARO	RARO	AITUTAKI	MANGAIA		PUKAPUKA	
Easter Break							
Round6	RARO	RARO	AITUTAKI	MANGAIA		PUKAPUKA	
Round7	RARO	RARO	AITUTAKI	MANGAIA		PUKAPUKA	
Round8	RARO	RARO	AITUTAKI	MANGAIA	Training	PUKAPUKA	
Round9	RARO	RARO	AITUTAKI		ATIUI	PUKAPUKA	
Round10	RARO	RARO	AITUTAKI		ATIUI		
Round11	RARO	RARO	AITUTAKI		ATIUI		
Break							Training
Round12	RARO	RARO	AITUTAKI		ATIUI		MANIHIKI
Round13	RARO	RARO	AITUTAKI		ATIUI		MANIHIKI
Round14	RARO	RARO	AITUTAKI		ATIUI		MANIHIKI
Round15	RARO	RARO	AITUTAKI		ATIUI		MANIHIKI
Round16	RARO	RARO	AITUTAKI		ATIUI		MANIHIKI

The survey was spread over 16 rounds throughout the 12 month enumeration period (November 2015 to November 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, region

	Number of HHs			
	2011 census	2015/2016 HIES		
	Selected	Achieved sample	Response rate (percentage)	
RAROTONGA	3,154	320	270	84.4
SOUTHERN ISLANDS	939	320	314	98.1
Aitutaki	482	160	156	97.5
Mangaia	170	80	78	97.5
Atiu	137	80	80	100.0
Mauke	92	0	0	-
Mitiaro	58	0	0	-
NORTHERN ISLANDS	279	130	107	82.3
Palmerston	13	0	0	-
Pukapuka	101	80	79	98.8
Nassau	13	0	0	-
Manihiki	78	50	28	56.0
Rakahanga	21	0	0	-
Penrhyn	53	0	0	-
TOTAL	4,372	770	691	86.4

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

Relative Sampling Errors (RSE) for the aggregated per capita expenditure and income data are presented in Appendix 2, but at this stage, given the low response rate obtained in the Northern Group showing a high sampling error (16.6 percent) and for data quality reason it is preferable to combine Southern and Northern Groups together in order to generate survey outputs for the “Outer Islands”. Table 8b presents the sampling errors at the group level and urban rural level:

Table 8b: Sampling errors at group level

	Scenario 1 (percentage)		Scenario 2 (percentage)
1. Rarotonga	6.7	1. Rarotonga	6.7
2. Southern Group	6.2	2. Outer islands	7.4
3. Northern Group	16.6		
National	5.7	National	5.7

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 Cook Islands; HHs were given the opportunity to complete a Cook Islands written diary; and enumerators could mostly converse in Cook Islands 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 Cook Islands.

SECTION 3: ECONOMIC CONTEXT

Cook Islands is a Polynesian island nation located midway between French Polynesia and Niue in the Pacific region. It consists of fifteen islands and has a total land area of 2.2 million square kilometres. The main island Rarotonga is the urban area of Cook Islands and the density is 2,205 inhabitants per square kilometre (203 in outer islands). The Cook Islands is a representative democracy with a parliamentary system having an associated state relationship with New Zealand. The head of state is the Queen of England, who is represented in the Cook Islands by the Queen's Representative.



1. Population

According to the 2016 Census of Population and Dwelling (CPD), Cook Islands has a total population of 17,434 (residents and non-residents) representing a decrease in population by 2 percent from the previous 2011 CPD. Approximately 75 percent of the total population reside on Rarotonga, understandably since this is the administrative and commercial centre of the Cook Islands. Twenty seven percent of the resident population was younger than 15 years, and 15 percent were older than 59 years. The proportion of the population aged 15–59 was 58 percent.

2. Economy

The official currency used in Cook Islands is the New Zealand dollar (NZD). The country is one the most isolated states in the world and is dependent on imports, particularly of food and fuel. The Cook Islands has a severe trade imbalance with imports largely outweighing exports which results in New Zealand benefiting from this situation by supplying Cook Islands.

However, being a remote country has its own positive effects, this makes Cook Islands a largely unspoiled destination for tourists. Tourism is the country's leading source of revenue accounting for around 60 percent of the GDP. It plays a vital role in correcting the balance of payments and is a long-term opportunity. The country experienced a massive development of tourism during the country's celebration of its 50th anniversary of self-government in 2015 - mostly coming from New Zealand and Australia.



SECTION 4: HOUSEHOLD EXPENDITURE

In this section a summary of the main components of HH expenditure in Cook Islands is provided. 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 NZD 39,770 (Table 9). This average is higher in urban (NZD 42,760 than rural NZD 31,720. 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 NZD 33,050 per annum (NZD 36,070 in urban and NZD 27,050 in rural).

Per capita annual expenditure is also shown in the table below.

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

	Total	HHs		Per capita	
		Average	Median	Average	Median
Urban	144,780,590	42,760	36,070	13,620	11,290
Rural	39,868,770	31,720	27,050	9,100	7,430
Total	184,649,350	39,770	33,050	12,300	10,010

Total HH expenditure in Cook Islands amounts to around NZD 185 million per annum and is not evenly distributed among urban (78 percent) and rural area (22 percent).

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 the cash purchase of a good or service for the beneficiary of another HH and, similarly, a home-produced gift refers 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 (OO) 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 86 percent (84 percent in Cook Islands urban and 90 in rural). Investment expenditure makes up the large remaining majority, accounting for 10.7 percent nationally (12.2 percent in urban), with non-consumption expenditure amounting to around 3.8 percent of total HH expenditure (3.3 urban).

At the National level, 28 percent of total expenditure is on housing, water, electricity and gas (COICOP division 4). Cook Islands urban - Rarotonga HH allocate 29.3 percent of their total expenditure to this division, with Cook Islands rural allocating the least amount of 21.3 percent.

Following COICOP division 4 is COICOP division 1. 19.2 percent of total HH expenditure is on food and non-alcoholic beverages (COICOP division 1). In Cook Islands urban, 15.8 percent of the total HH expenditure is on food and 31.6 percent in rural. Transport is the final significant consumption expenditure group and accounting for 11.5 percent of total HH expenditure. Other significant COICOP divisions include division 2 (alcohol and tobacco), making up 7.0 percent of total HH expenditure, communication and restaurants and hotels (9.0 percent together).

Nationally, expenditure on housing, food and transport make up 58.3 percent of total HH expenditure.

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

	Urban (percent)	Rural (percent)	Total (percent)
Consumption expenditure			
Food and non-alcohol beverage	15.8	31.6	19.2
Alcohol beverage and tobacco	6.6	8.2	7.0
Clothing and footwear	2.4	2.1	2.3
Housing, water, electricity, gas, etc.	29.3	21.3	27.6
Furnishings, HH equipment and maintenance	3.5	4.0	3.6
Health	0.2	0.2	0.2
Transport	11.6	11.3	11.5
Communication	5.0	4.2	4.8
Recreation and culture	1.6	1.5	1.6
Education	0.2	0.1	0.2
Restaurants and hotels	4.5	3.1	4.2
Miscellaneous goods and services	3.4	2.6	3.3
Total consumption expenditure	84.2	90.1	85.5
Non-consumption expenditure			
Donation to other HHs	1.7	1.9	1.8
Donation to Church	1.3	2.3	1.5
Other donation	0.5	0.6	0.5
Taxes and fines	0.1	0.1	0.1
Total non-consumption expenditure	3.5	4.8	3.8
Investment expenditure			
Land and house	12.1	3.8	10.3
Plant	0.2	1.3	0.4
Total investment expenditure	12.2	5.1	10.7
Total annual HH expenditure	100.0	100.0	100.0

Expenditure type

Overall 78.1 percent of HH expenditure is cash based with 72.8 percent purely cash and 5.3 percent cash-purchased gifts. Rural HHs have a lower proportion of their expenditure being cash-based (68.2 percent) and they compensate by a higher subsistence expenditure.

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

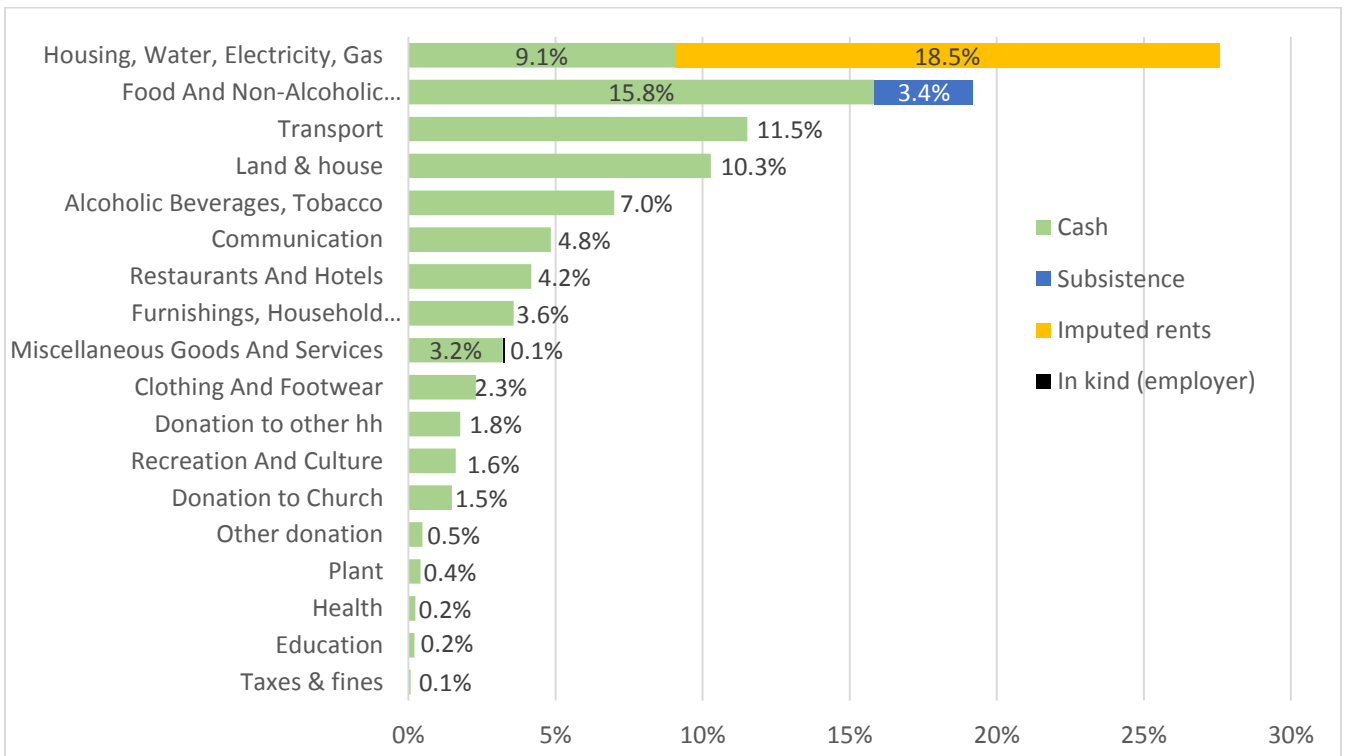
Expenditure type	Urban (percent)	Rural (percent)	Total (percent)
Cash	74.0	68.2	72.8
Subsistence	1.0	7.7	2.5
Cash - gifts	5.0	6.4	5.3
Home produced - gifts	0.4	2.8	0.9
Imputed rents	19.6	14.6	18.5
In kind (employer)	0.0	0.1	0.1
Total	100.0	100.0	100.0

Expenditure composition by category and type

Constructing HH expenditure by category and type allows us to understand the composition of each expenditure category (presented in Figure 1). In summary the majority of expenditure is cash based. The most notable category where this is not the case is COICOP division 4 (housing, etc.), where around 19.6 percent of expenditure in this division is imputed rents (non-cash).

The other notable category is division 1 (food and non-alcoholic beverages), where home production (subsistence and home-produced gifts) makes up 3.4 percent of the total national expenditure (and 18.5 percent within this category). Food and non-alcoholic beverages is one of the main expenditure divisions (second highest after housing expenditure) and it accounts for almost one third of total HH expenditure in the rural area against 15.8 percent in the urban one.

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



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

Average HH expenditure within this division amounts to NZD 7,640 per annum (median NZD 6,540), which translates into an average annual per capita expenditure on food and non-alcoholic beverages of NZD 2,360 (median NZD 2,030).

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

	Total	HHs		Per capita	
		Average	Median	Average	Median
Urban	22,879,680	6,760	5,860	2,150	1,750
Rural	12,584,010	10,010	8,526	2,870	2,390
Total	35,463,690	7,640	6,540	2,360	2,030

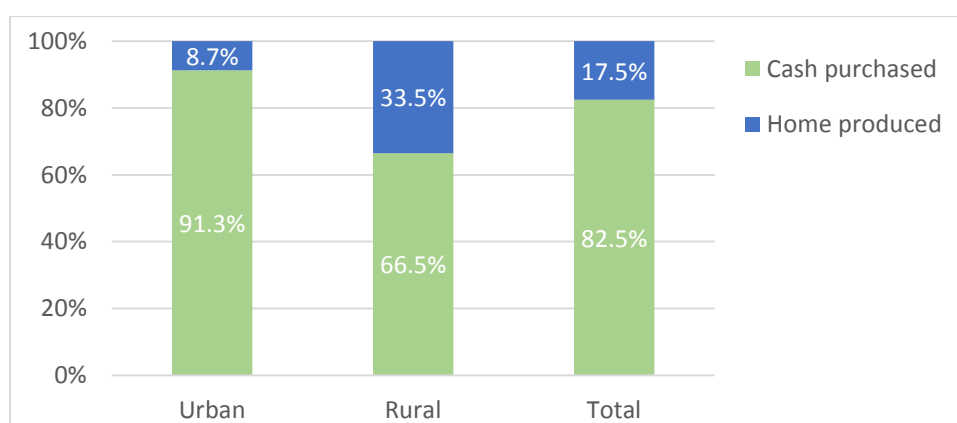
HH expenditure on food and non-alcoholic beverages (COICOP division 1) is concentrated around meat, bread and cereals, vegetables and fish and seafood, with these classes making up two thirds of total HH expenditure within this division (Table 13). This expenditure distribution is varying among urban and rural areas. In urban Cook Islands (Rarotonga), the population tend to be consuming more “Meat” and “Milk, cheese and eggs” while “Fish and sea food” and “Vegetables” are more consumed in rural Cook Islands (outer islands).

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

COICOP class	Urban (percent)	Rural (percent)	Total (percent)
Bread and Cereals	19.4	19.3	19.4
Meat	27.0	18.2	23.8
Fish and Sea Food	5.5	16.5	9.4
Milk, Cheese and Eggs	9.3	5.9	8.1
Oils and Fats	2.0	2.6	2.2
Fruit	8.2	10.8	9.1
Vegetables	12.2	15.3	13.3
Sugar, Jam, Honey, Chocolate	3.1	3.6	3.2
Food Products N.E.C.	3.5	2.4	3.1
Coffee, Tea and Cocoa	1.9	1.3	1.7
Mineral Water, Soft Drinks, Fruit juice	7.8	4.2	6.5
Total	100.0	100.0	100.0

Expenditure with COICOP division 1 is not solely cash based (See Figure 2). At the national level, 17.5 percent of the value of the food consumed by the HHs is home produced, and it amounts 33.5 percent in the outer islands (rural Cook Islands). The urban HHs are highly dependent on cash for food supply (91.3 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 Cook Islands.

By region, it is interesting to note that 37.8 percent of the “Fish and sea food” was consumed in urban areas and 62.2 percent in rural areas. Home production in urban HHs is very low and occurs for mainly fruit and vegetable consumption. About 55.0 percent of the fruit consumption is home produced against 78.8 percent in the rural region. As for the vegetable consumption, only 18.6 percent of the value consumed in urban areas is home production. On a very different profile, HHs in outer islands spend only (cash-purchased) on “Bread and cereals”, “Mineral water, soft drinks and juice”, “Sugar products” and on “Oils and fats”.

Figure 3: HH expenditure on COICOP division 1 (NZD), by expenditure type and COICOP class (National)

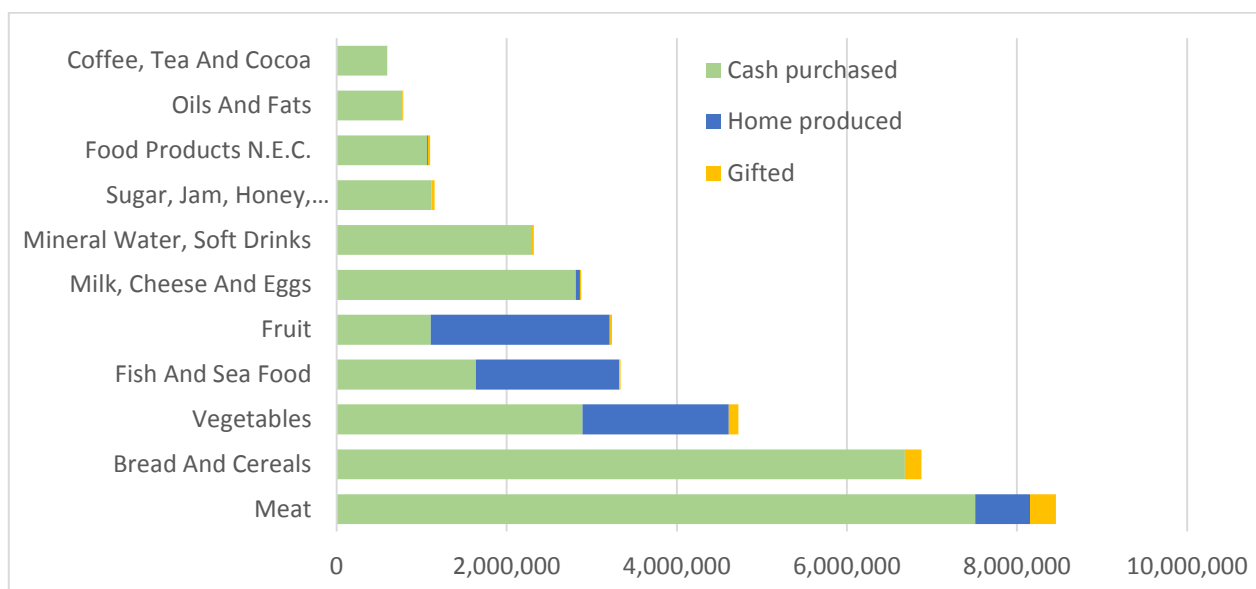


Table 14 shows the top 12 ranked items by national total expenditure on food and non-alcoholic beverages (COICOP division 1). These 12 food sub-classes make up 63.7 percent of total expenditure in this division is a fairly concentrated food basket, with 12 items making up almost three quarters of total expenditure on food and beverage.

These items are ranked by total national expenditure, 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 “Fruit” (amounting to 8.5 percent of total HH expenditure within COICOP division 1), followed by bread (7.9 percent at National level) then chicken (8.8 percent in urban while 5.8 percent in rural) (refer Table 14).

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

COICOP subclass	Urban (percent)	Rural (percent)	Total (percent)
Fruit	7.4	10.5	8.5
Bread	8.0	7.7	7.9
Chicken (fresh or frozen)	8.8	5.8	7.7
Fish (fresh or frozen)	3.2	12.9	6.7
Tuber vegetables	4.2	10.1	6.3
Vegetables	5.9	3.8	5.1
Processed meat (canned)	4.4	5.8	4.9
Soft drinks	4.8	3.0	4.1
Sheep meat (fresh or frozen)	5.4	1.2	3.9
Pasta	3.2	3.1	3.2
Sausages, bacon... (fresh or frozen)	3.3	2.0	2.8
Beef meat (fresh or frozen)	3.6	0.6	2.5
Total	62.2	66.4	63.7

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). On average, fruits, fish and tuber vegetables are home produced at least at the national level by more than 66.3 percent. This is all the more amplified in rural areas where 76.0 percent of these same products are home produced (against 39.3 percent in urban).

Major cash-based food items are: bread, chicken, canned meat, soft drinks, sheep meat, pasta, sausages and beef meat. The remainder, vegetables are a mixture of cash and subsistence with 82.0 percent and 18.0 percent respectively), 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, by strata and expenditure type

	Urban (percent)		Rural (percent)		Total (percent)	
	Cash	Home produced	Cash	Home produced	Cash	Home produced
Fruit	39	61	27	73	30	70
Bread	100	0	100	0	100	0
Chicken	100	0	89	11	97	3
Fish	83	17	22	78	34	66
Tuber vegetables	60	40	23	77	37	63
Vegetables	90	10	59	41	82	18
Processed meat (canned)	100	0	100	0	100	0
Soft drinks	100	0	100	0	100	0
Sheep meat	100	0	100	0	100	0
Pasta	100	0	100	0	100	0
Sausages, bacon...	100	0	100	0	100	0
Beef meat	100	0	100	0	100	0
Total	88	12	63	37	76	24

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

Housing, water, electricity, gas and other fuels is the most significant expenditure division and it accounts for 27.6 percent of total HH expenditure (29.3 percent in urban and 21.3 percent in rural). Average HH expenditure within this division amounts to NZD 10,970 per annum (median NZD 9,560), which translates into an average annual per capita expenditure of NZD 3,990 (median NZD 2,250). 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 (NZD)

	Total	HHs		Per capita	
		Average	Median	Average	Median
Urban	42,426,790	12,530	11,800	3,990	2,810
Rural	8,491,200	6,760	5,800	1,940	1,340
Total	50,917,990	10,970	9,560	3,390	2,250

The majority of expenditure within this division, by strata, is made up of imputed rents (56.7 in urban to 54.7 percent in rural) – 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 (64.5 percent of the HHs) and HHs who live in the house free rent (10.8 percent). Utilities (electricity, water, gas, fuel) make up between 17.3 and 23.4 percent respectively in urban and rural of expenditure within this division with electricity being the highest expenditure (14.9 percent nationally within this division).

Table 17: Composition of HH expenditure on COICOP division 4

	Urban (percent)	Rural (percent)	Total (percent)
Imputed Rentals of Owner Occupiers	56.7	54.7	56.4
Electricity	14.3	18.1	14.9
Other Imputed Rentals	10.1	14.1	10.8
Actual Rentals Paid By Tenants	9.5	0.7	8.1
Materials for the Maintenance and Repair of the dwelling	4.3	6.9	4.7
Gas	2.5	4.4	2.8
Services for the Maintenance and Repair of the dwelling	1.8	0.2	1.5
Liquid Fuels	0.3	0.6	0.3
Sewer Collection and Disposal	0.2	0.0	0.2
Refuse Collection (garbage)	0.1	0.0	0.1
Water Supply	0.1	0.0	0.1
Heat Energy	0.1	0.1	0.1
Solid Fuels	0.0	0.1	0.0
Other Services Relating to the Dwelling	0.0	0.0	0.0
Total	100.0	100.0	100.0

Composition of expenditure on transport (COICOP division 7)

Transport is the third most significant expenditure division and it accounts for 11.5 percent (11.6 and 11.3 percent respectively in urban and rural) of total HH expenditure at National level. Average HH expenditure within this division amounts to NZD 4,580 per annum (median NZD 3,130), which translates into an average annual per capita expenditure of NZD 1,420 (median NZD 900). 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 (NZD)

	Total	HHs		Per capita	
		Average	Median	Average	Median
Urban	16,770,580	4,950	3,510	1,580	1,000
Rural	4,499,153	3,580	2,190	1,030	590
Total	21,269,730	4,580	3,130	1,420	900

The majority, 35.3 percent of expenditure within this division, by strata, is made up of the purchases of fuel and lubricants, followed by Air transport fare. It is to be remarked that rural HHs spend more on air fare and urban HHs more on motor cars (Table 19).

Table 19: Composition of HH expenditure on COICOP division 7

COICOP class	Urban (percent)	Rural (percent)	Total (percent)
Fuels and Lubricants for Personal Transport Equipment	36.0	32.8	35.3
Passenger Transport by Air	22.7	31.8	24.6
Motor Cars	16.5	5.4	14.1
Motor Cycles, Scooters, Mopeds	10.5	12.1	10.9
Maintenance and Repair of Personal Transport Equipment	8.6	3.6	7.6
Other Services in Respect of Personal Transport Equipment	3.6	4.0	3.7
Other Purchased Transport Services	1.0	3.7	1.6
Spare Parts and Accessories for Personal Transport Equipment	0.4	3.7	1.1
Passenger Transport By Road	0.6	1.0	0.6
Passenger Transport By Sea And Inland Waterway	0.1	1.2	0.3
Bicycles	0.1	0.6	0.2
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 (all kinds of imputed rents) are the most significant expenditure item, by COICOP sub-class, making up around 16 percent of total national HH expenditure. Following this is Mortgages (9.7 percent), Telephone fees (4.6 percent) and Electricity fees (4.1 percent). Overall, almost 68.7 percent of the total HH expenditure is allocated to 22 items (Table 20) across all domains in Cook Islands.

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

Sub class	Urban (percent)	Rural (percent)	Total (percent)
Imputed Rentals of Owner (Main House)	16.6	11.6	15.5
Mortgages	11.8	2.1	9.7
Telephone and Telefax Services	4.8	3.9	4.6
Electricity Charges	4.2	3.9	4.1
Fuels	4.2	3.7	4.1
The Sale of Cooked Dishes By Restaurants	3.8	2.5	3.5
Imputed Rentals (Reduced Rental or Housed Free)	3.0	3.0	3.0
Transport by Aeroplane and Helicopter	2.6	3.6	2.8
Rent Paid (In a Hotel or Boarding House)	2.8	0.1	2.2
Cigarettes	2.5	1.3	2.2
Local Beer	2.1	2.0	2.2
Fruit (fresh or frozen)	1.2	3.3	1.6
Purchase of Motor Cars (2- Or 4-Wheel Drives)	1.9	0.6	1.6
Bread	1.3	2.4	1.5
Meat of Chicken (fresh or frozen)	1.4	1.8	1.5
Transfer to Church	1.3	2.3	1.5
Fish (fresh or frozen)	0.5	4.1	1.3
Motor Cycles	1.2	1.4	1.3
Tuber Vegetables (fresh or frozen)	0.7	3.2	1.2
Transfer for Family Event	1.2	1.2	1.2
Spirits	0.9	2.0	1.1
Vegetables (fresh or frozen or dried)	0.9	1.2	1.0
Total	70.7	61.5	68.7

Looking at cash expenditure only (i.e., excluding subsistence and imputed rents), the main items (and their proportion of total cash expenditure) are: mortgages, telephone and electricity charges. Those 3 items account for 23.7 percent of the HH cash expenditure (Table 21). On the overall, the 22 items that HHs spend the most on account for around 64.6 percent of the HH cash budget.

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

Subclass	Urban (percent)	Rural (percent)	Total (percent)
Mortgages	15.0	2.8	12.5
Telephone and Telefax Services	6.1	5.3	5.9
Electricity Charges	5.3	5.2	5.3
Fuels	5.3	5.0	5.2
The Sale of Cooked Dishes by Restaurants	4.8	3.4	4.5
Transport by Aeroplane and Helicopter	3.3	4.8	3.6
Rent Paid (In a Hotel or Boarding House)	3.5	0.2	2.8
Cigarettes	3.1	1.7	2.8
Local Beer	2.7	3.1	2.8
Purchase of Motor Cars (2- Or 4-Wheel Drives)	2.4	0.8	2.1
Bread	1.6	3.2	1.9
Transfer To Church	1.6	3.0	1.9
Meat of Chicken (fresh or frozen)	1.8	2.2	1.8
Motor Cycles	1.5	1.8	1.6
Transfer for Family Event	1.5	1.6	1.5
Spirits	1.1	2.7	1.4
Tobacco	0.9	2.4	1.2
Canned Meat	0.9	2.5	1.2
Garments for Women and Girls	1.2	0.9	1.2
Maintenance and Repair of Transport Equipment	1.3	0.6	1.1
Cleaning and Maintenance Products	0.9	1.8	1.1
Vegetables (fresh or frozen or dried)	1.1	1.0	1.0
Total	66.8	55.9	64.6

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 the third of total home production expenditure, followed by fish (25.0 percent), seafood (22.5 percent).

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

	Urban (percent)	Rural (percent)	Total (percent)
Fruit	51.7	25.4	33.9
Fish	6.4	33.8	25
Tuber	19.3	24	22.5
Swine meat	12.2	6.5	8.3
Vegetables	6.7	4.5	5.2
Seafood	0.9	2.8	2.2
Chicken	0.4	1.8	1.4
Goat meat	0	1	0.7
Eggs	2	0.1	0.7
Culinary herbs	0.4	0	0.1
Total	99.9	99.9	99.9

5. Expenditure tables

Annual household expenditure

Table 23: Total annual HH expenditure (NZD)

COICOP Category	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Consumption expenditure							
Food and Non-Alcoholic Beverages	28,464,790	4,531,950	785,980	1,680,970			35,463,690
Alcoholic Beverages, Tobacco	12,911,470						12,911,470
Clothing and Footwear	4,056,570		178,340				4,234,920
Housing, Water, Electricity, Gas	15,960,550		783,360		34,174,070		50,917,990
Furnishings, HH Equipment	6,407,310		202,410				6,609,710
Health	428,120		12,620				440,740
Transport	21,006,220		263,510				21,269,730
Communication	8,887,190		58,180				8,945,370
Recreation and Culture	2,791,340		171,890				2,963,230
Education	296,040		86,560				382,590
Restaurants and Hotels	7,535,610		176,090				7,711,700
Miscellaneous Goods and Services	5,876,230		55,860			99,310	6,031,400
Total consumption expenditure	114,621,430	4,531,950	2,774,800	1,680,970	34,174,070	99,310	157,882,530
Non-consumption expenditure							
Donation to other HH			3,260,410				3,260,410
Donation to Church			2,733,640				2,733,640
Other donation			888,770				888,770
Taxes and fines			140,730				140,730
Total non-consumption expenditure			7,023,550				7,023,550
Investment expenditure							
Land and house	18,981,440						18,981,440
Plant	761,840						761,840
Total investment expenditure	19,743,280						19,743,280
Total expenditure	134,364,710	4,531,950	9,798,340	1,680,970	34,174,070	99,310	184,649,350

Table 24: Total annual urban HH expenditure (NZD)

COICOP Category	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Consumption expenditure							
Food and Non-Alcoholic Beverages	20,323,550	1,451,860	557,200	547,070			22,879,680
Alcoholic Beverages, Tobacco	9,624,550						9,624,550
Clothing and Footwear	3,280,700		126,960				3,407,660
Housing, Water, Electricity, Gas	13,373,040		720,070		28,333,670		42,426,790
Furnishings, HH Equipment	4,881,190		142,500				5,023,690
Health	351,190		10,070				361,260
Transport	16,604,700		165,880				16,770,580
Communication	7,217,690		45,670				7,263,360
Recreation and Culture	2,211,350		155,650				2,367,000
Education	269,620		84,310				353,930
Restaurants and Hotels	6,399,070		92,750				6,491,820
Miscellaneous Goods and Services	4,918,610		19,650			41,380	4,979,640
Total consumption expenditure	89,455,270	1,451,860	2,120,690	547,070	28,333,670	41,380	121,949,950
Non-consumption expenditure							
Donation to other HH			2,515,060				2,515,060
Donation to Church			1,833,820				1,833,820
Other donation			667,780				667,780
Taxes and fines			90,530				90,530
Total non-consumption expenditure			5,107,190				5,107,190
Investment expenditure							
Land and house	17,474,030						17,474,030
Plant	249,430						249,430
Total investment expenditure	17,723,450						17,723,450
Total expenditure	107,178,720	1,451,860	7,227,880	547,070	28,333,670	41,380	144,780,590

Table 25: Total annual rural HH expenditure (NZD)

COICOP Category	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Consumption expenditure							
Food and Non-Alcoholic Beverages	8,141,240	3,080,090	228,780	1,133,900			12,584,010
Alcoholic Beverages, Tobacco	3,286,930						3,286,930
Clothing and Footwear	775,870		51,390				827,260
Housing, Water, Electricity, Gas	2,587,510		63,290		5,840,400		8,491,200
Furnishings, HH Equipment	1,526,120		59,910				1,586,020
Health	76,930		2,550				79,480
Transport	4,401,520		97,630				4,499,150
Communication	1,669,500		12,510				1,682,010
Recreation and Culture	579,990		16,250				596,240
Education	26,420		2,250				28,660
Restaurants and Hotels	1,136,540		83,340				1,219,880
Miscellaneous Goods and Services	957,620		36,220			57,930	1,051,760
Total consumption expenditure	25,166,170	3,080,090	654,100	1,133,900	5,840,400	57,930	35,932,580
Non-consumption expenditure							
Donation to other HH			745,350				745,350
Donation to Church			899,820				899,820
Other donation			220,990				220,990
Taxes and fines			50,200				50,200
Total non-consumption expenditure			1,916,360				1,916,360
Investment expenditure							
Land and house	1,507,420						1,507,420
Plant	512,410						512,410
Total investment expenditure	2,019,820						2,019,820
Total expenditure	27,185,990	3,080,090	2,570,460	1,133,900	5,840,400	57,930	39,868,770

Table 26: Average annual HH expenditure (NZD)

COICOP Category	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Consumption expenditure							
Food and Non-Alcoholic Beverages	6,130	980	170	360			7,640
Alcoholic Beverages, Tobacco	2,780						2,780
Clothing and Footwear	870		40				910
Housing, Water, Electricity, Gas	3,440		170		7,360		10,970
Furnishings, HH Equipment	1,380		40				1,420
Health	90		0				90
Transport	4,520		60				4,580
Communication	1,910		10				1,930
Recreation and Culture	600		40				640
Education	60		20				80
Restaurants and Hotels	1,620		40				1,660
Miscellaneous Goods and Services	1,270		10			20	1,300
Total consumption expenditure	24,690	980	600	360	7,360	20	34,000
Non-consumption expenditure							
Donation to other HH			700				700
Donation to Church			590				590
Other donation			190				190
Taxes and fines			30				30
Total non-consumption expenditure			1,510				1,510
Investment expenditure							
Land and house	4,090						4,090
Plant	160						160
Total investment expenditure	4,250						4,250
Total expenditure	28,940	980	2,110	360	7,360	20	39,770

Table 27: Average annual urban HH expenditure (NZD)

COICOP Category	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Consumption expenditure							
Food and Non-Alcoholic Beverages	6,000	430	160	160			6,760
Alcoholic Beverages, Tobacco	2,840						2,840
Clothing and Footwear	970		40				1,010
Housing, Water, Electricity, Gas	3,950		210		8,370		12,530
Furnishings, HH Equipment	1,440		40				1,480
Health	100		0				110
Transport	4,900		50				4,950
Communication	2,130		10				2,150
Recreation and Culture	650		50				700
Education	80		20				100
Restaurants and Hotels	1,890		30				1,920
Miscellaneous Goods and Services	1,450		10			10	1,470
Total consumption expenditure	26,420	430	630	160	8,370	10	36,020
Non-consumption expenditure							
Donation to other HH			740				740
Donation to Church			540				540
Other donation			200				200
Taxes and fines			30				30
Total non-consumption expenditure			1,510				1,510
Investment expenditure							
Land and house	5,160						5,160
Plant	70						70
Total investment expenditure	5,230						5,230
Total expenditure	31,650	430	2,130	160	8,370	10	42,760

Table 28: Average annual rural HH expenditure (NZD)

COICOP Category	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Consumption expenditure							
Food and Non-Alcoholic Beverages	6,480	2,450	180	900			10,010
Alcoholic Beverages, Tobacco	2,610						2,610
Clothing and Footwear	620		40				660
Housing, Water, Electricity, Gas	2,060		50		4,650		6,760
Furnishings, HH Equipment	1,210		50				1,260
Health	60		0				60
Transport	3,500		80				3,580
Communication	1,330		10				1,340
Recreation and Culture	460		10				470
Education	20		0				20
Restaurants and Hotels	900		70				970
Miscellaneous Goods and Services	760		30			50	840
Total consumption expenditure	20,020	2,450	520	900	4,650	50	28,590
Non-consumption expenditure							
Donation to other HH			590				590
Donation to Church			720				720
Other donation			180				180
Taxes and fines			40				40
Total non-consumption expenditure			1,520				1,520
Investment expenditure							
Land and house	1,200						1,200
Plant	410						410
Total investment expenditure	1,610						1,610
Total expenditure	21,630	2,450	2,040	900	4,650	50	31,720

Table 29: Average annual per capita expenditure (NZD)

COICOP Category	Cash	Subsistence	Cash-gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Consumption expenditure							
Food and Non-Alcoholic Beverages	1,900	300	50	110			2,360
Alcoholic Beverages, Tobacco	860						860
Clothing and Footwear	270		10				280
Housing, Water, Electricity, Gas	1,060		50		2,280		3,390
Furnishings, HH Equipment	430		10				440
Health	30		0				30
Transport	1,400		20				1,420
Communication	590		0				600
Recreation and Culture	190		10				200
Education	20		10				30
Restaurants and Hotels	500		10				510
Miscellaneous Goods and Services	390		0			10	400
Total consumption expenditure	7,640	300	180	110	2,280	10	10,520
Non-consumption expenditure							
Donation to other HH			220				220
Donation to Church			180				180
Other donation			60				60
Taxes and fines			10				10
Total non-consumption expenditure			470				470
Investment expenditure							
Land and house	1,260						1,260
Plant	50						50
Total investment expenditure	1,320						1,320
Total expenditure	8,950	300	650	110	2,280	10	12,300

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

COICOP Category	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Consumption expenditure							
Food and Non-Alcoholic Beverages	1,910	140	50	50			2,150
Alcoholic Beverages, Tobacco	910						910
Clothing and Footwear	310		10				320
Housing, Water, Electricity, Gas	1,260		70		2,670		3,990
Furnishings, HH Equipment	460		10				470
Health	30		0				30
Transport	1,560		20				1,580
Communication	680		0				680
Recreation and Culture	210		10				220
Education	30		10				30
Restaurants and Hotels	600		10				610
Miscellaneous Goods and Services	460		0				470
Total consumption expenditure	8,420	140	200	50	2,670		11,480
Non-consumption expenditure							
Donation to other HH			240				240
Donation to Church			170				170
Other donation			60				60
Taxes and fines			10				10
Total non-consumption expenditure			480				480
Investment expenditure							
Land and house	1,640						1,640
Plant	20						20
Total investment expenditure	1,670						1,670
Total expenditure	10,090	140	680	50	2,670		13,620

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

COICOP Category	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Consumption expenditure							
Food and Non-Alcoholic Beverages	1,860	700	50	260			2,870
Alcoholic Beverages, Tobacco	750						750
Clothing and Footwear	180		10				190
Housing, Water, Electricity, Gas	590		10		1,330		1,940
Furnishings, HH Equipment	350		10				360
Health	20		0				20
Transport	1,000		20				1,030
Communication	380		0				380
Recreation and Culture	130		0				140
Education	10		0				10
Restaurants and Hotels	260		20				280
Miscellaneous Goods and Services	220		10			10	240
Total consumption expenditure	5,740	700	150	260	1,330	10	8,200
Non-consumption expenditure							
Donation to other HH			170				170
Donation to Church			210				210
Other donation			50				50
Taxes and fines			10				10
Total non-consumption expenditure			440				440
Investment expenditure							
Land and house	340						340
Plant	120						120
Total investment expenditure	460						460
Total expenditure	6,210	700	590	260	1,330	10	9,100

Proportion of households incurring expenditure, by expenditure category and type

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

COICOP division code	Cash	Subsistence	Cash – gifts	Home produced – gifts	Imputed rents	In kind employer	percent
Consumption expenditure							
Food and Non-Alcoholic Beverages	99.1	42.1	15.5	16.3			
Alcoholic Beverages, Tobacco	53.5						
Clothing and Footwear	70.7		6.2				
Housing, Water, Electricity, Gas	99.9		3.4		89.5		
Furnishings, HH Equipment	85.3		4.9				
Health	40.9		0.5				
Transport	97.0		3.7				
Communication	95.9		1.4				
Recreation and Culture	64.6		5.9				
Education	27.5		4.0				
Restaurants and Hotels	72.9		4.0				
Miscellaneous Goods and Services	88.5		3.7				0.0
Non consumption expenditure							
Donation to other HH			81.8				
Donation to Church			54.2				
Other donation			44.0				
Taxes and fines			3.9				
HH investment expenditure							
Land and house	18.9						
Plant	3.6						

Table 33: Proportion of Cook Islands urban Rarotonga HHs incurring expenditure by expenditure category and type

COICOP division code	Cash	Subsistence	Cash – gifts	Home produced – gifts	Imputed rents	In kind employer	percent	
Consumption expenditure								
Food and Non-Alcoholic Beverages	99.7	32.0	15.4	9.1				
Alcoholic Beverages, Tobacco	54.6							
Clothing and Footwear	71.3		6.6					
Housing, Water, Electricity, Gas	100.0		2.7		86.2			
Furnishings, HH Equipment	83.9		4.7					
Health	52.3		0.6					
Transport	97.2		2.8					
Communication	96.4		1.4					
Recreation and Culture	70.9		7.0					
Education	30.7		5.0					
Restaurants and Hotels	78.5		3.2					
Miscellaneous Goods and Services	87.8		3.6					1.7
Non consumption expenditure								
Donation to other HH			78.9					
Donation to Church			47.7					
Other donation			39.3					
Taxes and fines			4.5					
HH investment expenditure								
Land and house	20.2							
Plant	3.3							

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

COICOP division code	Cash	Subsistence	Cash – gifts	Home produced – gifts	Imputed rents	In kind employer	percent	
Consumption expenditure								
Food and Non-Alcoholic Beverages	97.5	69.3	15.9	35.8				
Alcoholic Beverages, Tobacco	50.7							
Clothing and Footwear	69.3		5.0					
Housing, Water, Electricity, Gas	99.5		5.2		98.4			
Furnishings, HH Equipment	89.0		5.2					
Health	10.4		0.3					
Transport	96.3		6.0					
Communication	94.3		1.2					
Recreation and Culture	47.6		3.2					
Education	18.9		1.3					
Restaurants and Hotels	57.6		6.1					
Miscellaneous Goods and Services	90.3		4.0					2.6
Non consumption expenditure								
Donation to other HH			89.4					
Donation to Church			71.7					
Other donation			56.7					
Taxes and fines			2.4					
HH investment expenditure								
Land and house	15.2							
Plant	4.4							

Household expenditure by COICOP division and class

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

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Food And Non-Alcoholic Beverages							
Bread and Cereals	6,679,760		197,940				6,877,690
Meat	7,507,390	415,810	303,100	229,750			8,456,060
Fish and Sea Food	1,637,470	1,206,650	17,600	478,970			3,340,670
Milk, Cheese and Eggs	2,813,130	35,510	15,910	12,100			2,876,650
Oils and Fats	770,830		14,110				784,940
Fruit	1,107,690	1,575,770	26,170	529,240			3,238,870
Vegetables	2,892,630	1,289,570	111,590	429,310			4,723,100
Sugar, Jam, Honey, Chocolate	1,113,690		37,740				1,151,430
Food Products N.E.C.	1,061,350	8,640	29,640	1,610			1,101,240
Coffee, Tea and Cocoa	595,180						595,180
Mineral Water, Soft Drinks	2,285,690		32,190				2,317,870
Sub-total	28,464,790	4,531,950	785,990	1,680,970			35,463,700
Alcoholic Beverages, Tobacco							
Spirits	2,075,090						2,075,090
Wine	639,470						639,470
Beer	4,341,710						4,341,710
Tobacco	5,854,800						5,854,800
Sub-total	12,911,470						12,911,470
Clothing And Footwear							
Clothing Materials	284,690		25,180				309,860
Garments	3,027,010		132,980				3,159,990
Other Articles of Clothing	133,290		10,370				143,660
Cleaning, Repair, Hire of Clothing	219,090						219,090
Shoes and Other Footwear	392,500		9,820				402,320
Sub-total	4,056,570		178,350				4,234,920
Housing, Water, Electricity, Gas							
Actual Rentals Paid By Tenants	3,588,900		514,900				4,103,800
Imputed Rentals of Owner Occupiers					28,694,630		28,694,630
Other Imputed Rentals					5,479,440		5,479,440
Materials for the Maintenance	2,321,390		89,470				2,410,860
Services for the Maintenance	634,240		127,640				761,880
Water Supply	48,080		200				48,280
Refuse Collection	60,250						60,250
Sewer Collection and Disposal	96,960						96,960
Other Dwelling Services	1,790						1,790
Electricity	7,552,650		44,410				7,597,060
Gas	1,436,580		5,320				1,441,900
Liquid Fuels	161,940						161,940
Solid Fuels	13,340						13,340
Heat Energy	44,430		1,430				45,860
Sub-total	15,960,550		783,360		34,174,080		50,917,990
Furnishings, HH equipment							
Furniture and Furnishings	675,750		24,360				700,110
Carpets and Other Floor Coverings	54,250						54,250
Repair of Furniture, Furnishings...	280						280
HH Textiles	239,360		130				239,490
Major HH Appliances	1,112,620		2,810				1,115,430
Small Electric HH Appliances	28,020		540				28,560
Repair of HH Appliances	2,040						2,040
Glassware, Tableware, HH Utensils	33,960		1,400				35,360
Major Tools and Equipment	925,780						925,780
Small Tools, Miscellaneous Accessories	201,120		610				201,740
Non-Durable HH Goods	1,830,390		63,440				1,893,830
Domestic Services and HH Services	1,303,730		109,120				1,412,860
Sub-total	6,407,310		202,400				6,609,710
Health							
Pharmaceutical Products	170,290						170,290
Other Medical Products	23,270						23,270

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Therapeutic Appliances and Equipment	33,160						33,160
Medical Services	83,630		9,260				92,880
Dental Services	82,910		2,550				85,450
Paramedical Services	3,470						3,470
Hospital Services	31,400		810				32,210
Sub-total	428,120		12,620				440,740
Transport							
Motor Cars	3,001,140						3,001,140
Motor Cycles, Scooters, Mopeds	2,263,610		49,320				2,312,930
Bicycles	49,410						49,410
Accessories for Transport Equipment	225,620						225,620
Fuels And Lubricants for Transport	7,506,640		8,470				7,515,100
Maintenance, Repair of Transport	1,607,210		140				1,607,340
Other Services of Transport Equipment	779,640		5,190				784,830
Passenger Transport by Road	132,830		3,580				136,410
Passenger Transport by Air	5,037,240		196,820				5,234,060
Transport by Sea and Inland Waterway	71,240						71,240
Other Purchased Transport Services	331,640						331,640
Sub-total	21,006,220		263,510				21,269,730
Communication							
Postal Services	67,270		620				67,890
Telephone and Telefax Equipment	372,160		1,610				373,760
Telephone and Telefax Services	8,447,760		55,950				8,503,720
Sub-total	8,887,190		58,180				8,945,370
Recreation And Culture							
Equipment For Sound and Pictures	367,970						367,970
Photographic, Cinema Equipment	7,220						7,220
Information Processing Equipment	377,880		5,570				383,450
Recording Media	14,880						14,880
Repair of Audio-Visual Equipment	4,270						4,270
Musical Instruments, Major Durables	1,120						1,120
Games, Toys and Hobbies	77,230		33,770				111,000
Equipment for Sport, Camping	44,080						44,080
Gardens, Plants and Flowers	57,420						57,420
Pets An and d Related Products	397,420						397,420
Veterinary Services	7,590						7,590
Recreational and Sporting Services	153,470		4,300				157,760
Cultural Services	538,440		6,260				544,700
Games of Chance	185,550		87,600				273,150
Books	46,370		13,240				59,600
Newspapers and Periodicals	413,770		12,310				426,080
Miscellaneous Printed Matter	6,730		1,480				8,210
Stationery and Drawing Materials	89,950		7,370				97,320
Sub-total	2,791,340		171,890				2,963,240
Education							
Pre-Primary and Primary Education	40,980		6,200				47,180
Secondary Education	132,020		30,480				162,490
Post- Secondary Non-Tertiary Education	7,370		49,280				56,650
Tertiary Education	114,020						114,020
Educational program for adults	1,640		600				2,240
Sub-total	296,030		86,560				382,590
Restaurants And Hotels							
Restaurants, Cafes and The Like	7,128,420		145,700				7,274,120
Canteens	9,340						9,340
Accommodation Services	397,850		30,390				428,240
Sub-total	7,535,610		176,090				7,711,700
Miscellaneous Goods And Services							
Hairdressing Salons	223,660		410				224,060

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Electric Appliances for Personal Care	610						610
Other Articles for Personal Care	2,680,750		17,140				2,697,890
Jewellery, Clocks and Watches	203,030		3,330				206,360
Other Personal Effects	118,770		19,100				137,870
Life Insurance	723,930						723,930
Dwelling Insurance	904,920						904,920
Insurance Connected with Health	42,300						42,300
Insurance Connected with Transport	507,140		790				507,920
Other Insurance	32,230						32,230
Other Financial Services N.E.C.	135,700		12,990				148,690
Other Services N.E.C.	303,220		2,110				305,330
Income in kind from employer						99,310	99,310
Sub-total	5,876,230		55,860			99,310	6,031,400
Non-Consumption HH Expenditure							
Current Transfers In Cash			6,882,820				6,882,820
Taxes and fines			48,500				48,500
Other taxes			92,230				92,230
Sub-total			7023550				7,023,550
HH investment							
HH investment - land and home	17,949,270						17,949,270
HH investment - house	1,032,180						1,032,180
HH investment - plant	761,840						761,840
Sub-total	19,743,280						19,743,280
Total	134,364,710	4,531,950	9,798,350	1,680,970	34,174,070	99,310	184,649,360

Table 36: Cook Islands urban HH total expenditure, by COICOP division and class (NZD)

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Food And Non-Alcoholic Beverages							
Bread and Cereals	4,335,080		113,390				4,448,470
Meat	5,678,220	146,550	238,220	105,130			6,168,120
Fish and Sea Food	1,113,110	125,100	5,420	20,590			1,264,210
Milk, Cheese and Eggs	2,082,610	29,400	8,870	10,840			2,131,720
Oils and Fats	458,370		3,290				461,660
Fruit	827,930	721,000	17,950	312,400			1,879,280
Vegetables	2,175,270	421,170	101,040	98,110			2,795,590
Sugar, Jam, Honey, Chocolate	670,860		27,190				698,050
Food Products N.E.C.	769,750	8,640	24,860				803,250
Coffee, Tea and Cocoa	435,000						435,000
Mineral Water, Soft Drinks, Fruit Juice	1,777,350		16,990				1,794,340
Sub-total	20,323,550	1,451,860	557,200	547,070			22,879,680
Alcoholic Beverages, Tobacco...							
Spirits	1,263,880						1,263,880
Wine	513,200						513,200
Beer	3,210,730						3,210,730
Tobacco	4,636,740						4,636,740
Sub-total	9,624,550						9,624,550
Clothing And Footwear							
Clothing Materials	165,510		21,340				186,850
Garments	2,489,350		92,900				2,582,250
Other Articles of Clothing	119,040		6,650				125,690
Cleaning, Repair and Hire of Clothing	215,570						215,570
Shoes And Other Footwear	291,230		6,060				297,300
Sub-total	3,280,700		126,960				3,407,660
Housing, Water, Electricity, Gas							
Actual Rentals Paid By Tenants	3,544,740		501,560				4,046,300

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Imputed Rentals of Owner Occupiers					24,051,900		24,051,900
Other Imputed Rentals					4,281,770		4,281,770
Materials for the Maintenance	1,747,630		76,100				1,823,730
Services for the Maintenance	618,480		126,830				745,300
Water Supply	45,980						45,980
Refuse Collection	59,790						59,790
Sewer Collection and Disposal	93,970						93,970
Electricity	6,043,710		12,340				6,056,050
Gas	1,070,470		1,820				1,072,290
Liquid Fuels	111,040						111,040
Solid Fuels	1,470						1,470
Heat Energy	35,770		1,430				37,200
Sub-total	13,373,050		720,070		28,333,670		42,426,790
Furnishings, HH Equipment							
Furniture and Furnishings	569,900		12,360				582,260
Carpets and Other Floor Coverings	24,960						24,960
HH Textiles	170,180						170,180
Major HH Appliances	767,980						767,980
Small Electric HH Appliances	20,250						20,250
Repair of HH Appliances	1,340						1,340
Glassware, Tableware and HH Utensils	15,310		1,320				16,630
Major Tools and Equipment	727,850						727,850
Small Tools and Miscellaneous Accessories	146,410						146,410
Non-Durable HH Goods	1,194,420		57,040				1,251,460
Domestic Services and HH Services	1,242,590		71,790				1,314,370
Sub-total	4,881,190		142,500				5,023,690
Health							
Pharmaceutical Products	157,940						157,940
Other Medical Products	23,270						23,270
Therapeutic Appliances and Equipment	3,700						3,700
Medical Services	61,630		9,260				70,890
Dental Services	73,330						73,330
Hospital Services	31,320		810				32,130
Sub-total	351,190		10,070				361,260
Transport							
Motor Cars	2,759,110						2,759,110
Motor Cycles, Scooters, Mopeds	1,726,130		40,980				1,767,110
Bicycles	21,090						21,090
Accessories for Personal Transport	60,790						60,790
Fuels, Lubricants for Transport Equipment	6,037,950						6,037,950
Maintenance of Transport Equipment	1,443,430						1,443,430
Other Services of Transport Equipment	598,050		4,840				602,890
Passenger Transport by Road	93,050						93,050
Transport by Air	3,684,900		120,060				3,804,970
Transport by Sea and Inland Waterway	15,980						15,980
Other Purchased Transport Services	164,210						164,210
Sub-total	16,604,700		165,880				16,770,580
Communication							
Postal Services	62,190		620				62,800
Telephone and Telefax Equipment	269,760		1,610				271,360
Telephone and Telefax Services	6,885,750		43,450				6,929,200
Sub-total	7,217,690		45,670				7,263,360
Recreation And Culture							

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Equipment for Sound and Pictures	259,910						259,910
Photographic and Cinema Equipment	5,070						5,070
Information Processing Equipment	338,310						338,310
Recording Media	14,880						14,880
Repair of Audio-Visual, Photo Equipment	4,270						4,270
Games, Toys And Hobbies	45,780		29,560				75,340
Equipment for Sport, Camping	23,390						23,390
Gardens, Plants and Flowers	57,420						57,420
Pets and Related Products	382,780						382,780
Veterinary Services	7,590						7,590
Recreational and Sporting Services	115,290		4,220				119,510
Cultural Services	442,790		2,870				445,660
Games of Chance	23,010		85,530				108,530
Books	44,530		13,240				57,760
Newspapers and Periodicals	363,450		12,310				375,760
Miscellaneous Printed Matter	6,730		1,480				8,210
Stationery and Drawing Materials	76,160		6,450				82,610
Sub-total	2,211,350		155,650				2,367,000
Education							
Pre-Primary and Primary Education	37,260		6,120				43,370
Secondary Education	116,540		28,910				145,450
Post-Secondary Non-Tertiary Education	6,180		49,280				55,460
Tertiary Education	109,440						109,440
Educational program for adults	210						210
Sub-total	269,620		84,310				353,930
Restaurants And Hotels							
Restaurants, Cafes and The Like	6,033,440		78,680				6,112,130
Accommodation Services	365,630		14,070				379,700
Sub-total	6,399,070		92,750				6,491,820
Miscellaneous Goods And Services							
Hairdressing Salons and Personal Grooming	211,330		410				211,740
Electric Appliances for Personal Care	510						510
Other Appliances, Articles and Products	1,995,320		2,810				1,998,130
Jewellery, Clocks and Watches	169,500		3,330				172,830
Other Personal Effects	96,700						96,700
Life Insurance	684,720						684,720
Insurance Connected with the Dwelling	872,070						872,070
Insurance Connected with Health	39,810						39,810
Insurance Connected with Transport	492,450		790				493,240
Other Insurance	9,270						9,270
Other Financial Services N.E.C.	84,960		12,320				97,280
Other Services N.E.C.	261,960						261,960
Income in kind from employer						41,380	41,380
Sub-total	4,918,610		19,650			41,380	4,979,640
Non-Consumption HH Expenditure							
Current Transfers In Cash			5,016,660				5,016,660
Taxes and fines			26,450				26,450
Other taxes			64,080				64,080
Sub-total			5,107,190				5,107,190
HH investment							
HH investment - land and home	17,121,140						17,121,140
HH investment - house	352,890						352,890
HH investment - plant	249,430						249,430

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Sub-total	17,723,450						17,723,450
Total	107,178,720	1,451,860	7,227,890	547,070	28,333,670	41,380	144,780,590

Table 37: Cook Islands rural HH total expenditure, by COICOP division and class (NZD)

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Food And Non-Alcoholic Beverages							
Bread and Cereals	2,344,680		84,540				2,429,220
Meat	1,829,170	269,270	64,880	124,620			2,287,940
Fish and Sea Food	524,360	1,081,550	12,180	458,380			2,076,460
Milk, Cheese and Eggs	730,520	6,100	7,050	1,260			744,930
Oils and Fats	312,460		10,820				323,280
Fruit	279,760	854,770	8,220	216,840			1,359,590
Vegetables	717,360	868,400	10,550	331,190			1,927,510
Sugar, Jam, Honey, Chocolate	442,830		10,550				453,380
Food Products N.E.C.	291,600		4,780	1,610			297,990
Coffee, Tea and Cocoa	160,180						160,180
Mineral Water, Soft Drinks, Fruit Juice	508,330		15,200				523,530
Sub-total	8,141,240	3,080,090	228,780	1,133,900			12,584,010
Alcoholic Beverages, Tobacco...							
Spirits	811,610						811,610
Wine	126,270						126,270
Beer	1,130,980						1,130,980
Tobacco	1,218,060						1,218,060
Sub-total	3,286,930						3,286,930
Clothing And Footwear							
Clothing Materials	119,170		3,840				123,010
Garments	537,660		40,080				577,740
Other Articles of Clothing	14,260		3,710				17,970
Cleaning, Repair and Hire of Clothing	3,520						3,520
Shoes and Other Footwear	101,260		3,760				105,020
Sub-total	775,870		51,390				827,260
Housing, Water, Electricity, Gas							
Actual Rentals Paid by Tenants	44,160		13,340				57,500
Imputed Rentals of Owner Occupiers					4,642,730		4,642,730
Other Imputed Rentals					1,197,670		1,197,670
Materials for the Maintenance	573,760		13,370				587,130
Services for the Maintenance	15,760		820				16,580
Water Supply	2,110		200				2,310
Refuse Collection	460						460
Sewer Collection and Disposal	2,990						2,990
Other Services Relating To The Dwelling	1,790						1,790
Electricity	1,508,940		32,060				1,541,000
Gas	366,110		3,500				369,610
Liquid Fuels	50,900						50,900
Solid Fuels	11,870						11,870
Heat Energy	8,660						8,660
Sub-total	2,587,510		63,290		5,840,400		8,491,200
Furnishings, HH Equipment							
Furniture and Furnishings	105,850		12,000				117,850
Carpets and Other Floor Coverings	29,290						29,290
Repair of Furniture, Furnishings	280						280
HH Textiles	69,180		130				69,300
Major HH Appliances	344,640		2,810				347,450
Small Electric HH Appliances	7,770		540				8,310
Repair Of HH Appliances	700						700
Glassware, Tableware And HH Utensils	18,650		80				18,730

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Major Tools and Equipment	197,930						197,930
Small Tools and Miscellaneous Accessories	54,720		610				55,330
Non-Durable HH Goods	635,970		6,400				642,370
Domestic Services and HH Services	61,150		37,340				98,480
Sub-total	1,526,120		59,910				1,586,020
Health							
Pharmaceutical Products	12,350						12,350
Therapeutic Appliances and Equipment	29,460						29,460
Medical Services	21,990						21,990
Dental Services	9,580		2,550				12,120
Paramedical Services	3,470						3,470
Hospital Services	80						80
Sub-total	76,930		2,550				79,480
Transport							
Motor Cars	242,020						242,020
Motor Cycles, Scooters, Mopeds	537,480		8,340				545,820
Bicycles	28,320						28,320
Accessories for Transport Equipment	164,830						164,830
Fuels, Lubricants for Transport Equipment	1,468,690		8,470				1,477,160
Maintenance of Transport Equipment	163,770		140				163,910
Other Services of Transport Equipment	181,580		350				181,930
Passenger Transport by Road	39,780		3,580				43,360
Passenger Transport by Air	1,352,340		76,760				1,429,100
Transport by Sea and Inland Waterway	55,260						55,260
Other Purchased Transport Services	167,430						167,430
Sub-total	4,401,520		97,630				4,499,150
Communication							
Postal Services	5,090						5,090
Telephone and Telefax Equipment	102,400						102,400
Telephone and Telefax Services	1,562,010		12,510				1,574,520
Sub-total	1,669,500		12,510				1,682,010
Recreation And Culture							
Equipment for Sound and Pictures	108,060						108,060
Photographic and Cinema Equipment	2,160						2,160
Information Processing Equipment	39,570		5,570				45,140
Musical Instruments and Major Durables	1,120						1,120
Games, Toys and Hobbies	31,450		4,210				35,660
Equipment for Sport, Camping	20,690						20,690
Pets and Related Products	14,630						14,630
Recreational and Sporting Services	38,180		80				38,260
Cultural Services	95,640		3,390				99,040
Games of Chance	162,540		2,080				164,610
Books	1,840						1,840
Newspapers and Periodicals	50,320						50,320
Stationery and Drawing Materials	13,800		920				14,710
Sub-total	579,990		16,250				596,240
Education							
Pre-Primary and Primary Education	3,730		80				3,810
Secondary Education	15,470		1,570				17,050
Post-Secondary Non-Tertiary Education	1,190						1,190
Tertiary Education	4,590						4,590
Educational program for adults	1,430		600				2,030
Sub-total	26,420		2,250				28,660
Restaurants And Hotels							
Restaurants, Cafes and The Like	1,094,980		67,020				1,161,990
Canteens	9,340						9,340
Accommodation Services	32,220		16,320				48,540
Sub-total	1,136,540		83,340				1,219,880

COICOP class code	Cash	Subsistence	Cash - gifts	Home produced - gifts	Imputed rents	In kind employer	Total
Miscellaneous Goods And Services							
Hairdressing Salons and Personal Grooming	12,320						12,320
Electric Appliances For Personal Care	90						90
Other Appliances, Articles and Products	685,430		14,340				699,760
Jewellery, Clocks and Watches	33,530						33,530
Other Personal Effects	22,070		19,100				41,170
Life Insurance	39,210						39,210
Insurance Connected with the Dwelling	32,850						32,850
Insurance Connected with Health	2,480						2,480
Insurance Connected with Transport	14,680						14,680
Other Insurance	22,960						22,960
Other Financial Services N.E.C.	50,740		670				51,410
Other Services N.E.C.	41,260		2,110				43,370
Income in kind from employer						57930	57930
Sub-total	957,620		36,220			57,930	1,051,770
Non-Consumption HH Expenditure							
Current Transfers In Cash			1,866,160				1,866,160
Taxes and fines			22,050				22,050
Other taxes			28,150				28,150
Sub-total			1,916,360				1,916,360
HH investment							
HH investment - land and home	828,130						828,130
HH investment - house	679,290						679,290
HH investment - plant	512,410						512,410
Sub-total	2,019,820						2,019,820
Total	27,185,990	3,080,090	2,570,460	1,133,900	5,840,400	57,930	39,868,770

SECTION 5: HOUSEHOLD INCOME

In this section, we provide a summary of the main components of HH income in Cook Islands. 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 NZD 50,620 (Table 38). This ranges from a low of around NZD 38,420 per HH per year in rural Cook Islands to NZD 55,150 in Cook Islands urban - Rarotonga. 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 NZD 42,050 (NZD 33,000 in rural and NZD 46,700 in urban). Outer island groups have lower average and median income than Cook Islands urban.

Per capita annual income averages around NZD 15,660 (NZD 17,570 in urban and NZD 11,020 in Cook Islands rural) with a median of NZD 12,540.

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 (NZD)

	Total	HHs		Per capita	
		Average	Median	Average	Median
Urban	186,741,740	55,150	46,700	17,570	14,120
Rural	48,294,470	38,420	33,000	11,020	8,050
Total	235,036,200	50,620	42,050	15,660	12,540

Total HH income in Cook Islands amounts to around NZD 235 million per annum. Around 79 percent of total HH income is incurred by HHs on Cook Islands urban - Rarotonga.

3. Composition of household income

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

- (i) 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).
- (ii) 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).

- (iii) Transfer income refers to receipts through social security, pension, superannuation or provident funds, child support (alimony), grants or scholarships, insurance claims and other.
- (iv) Casual receipts refers to income from the sale of assets (e.g., motor vehicle), inheritance and gambling winnings.
- (v) Remittances and gifts refer to the receipt of cash gifts from domestic or foreign HHs and the receipt of home-produced food items.
- (vi) 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 v) imputed rents.

- (i) 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.
- (ii) 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.
- (iii) 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.
- (iv) Home produced gifts refer to the value of items that are home produced and gifted to another HH. This balances on the expenditure aggregates.
- (v) Imputed rents have already been defined above.

Income category

At the National level by broad income category, employment income makes up 68.9 percent of total HH income (70.5 percent in urban and 62.7 percent in rural). Following this, imputed rents (14.5 percent), transfer income (10.9 percent), capital income (3.4 percent) make up the large remainder of HH income. At a lower level, remittances and gifts and other casual receipts are negligible (1.6 percent combined).

Wages and salaries make up the large proportion of HH employment income, accounting for 86.9 percent of total income within this category followed by HH managed business income at 6.7 percent.

The "Transfer income" category is almost exclusively made of pension and social benefit (96.5 percent) while in the "Capital income" category 93.5 percent of the total income is composed of home rentals.

Many differences appear by comparing urban and rural income profile. Regarding the employment income, wages and salaries make up 88.3 percent of the category in urban and 80.8 in rural. Rural employment income is higher in home production (8.4 percent against 0.5 in urban) and primary HH activities (handicraft, fishing, agriculture, livestock that make up 6.0 percent of the rural employment income against 3.5 in urban).

Remittances and gifts represent almost 3.5 percent of the total rural HH income and 1.2 percent in urban.

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

Category of income	Urban (percent)	Rural (percent)	Total (percent)
Employment income			
Wages and salaries	62.3	50.7	59.9
Bonus overtime	0.2	0.0	0.2
Housing allowance	0.0	0.0	0.0
Income in kind	0.0	0.1	0.0
HH managed business	5.1	2.8	4.6
Agriculture activities	1.6	1.5	1.6
Fishing activities	0.0	1.1	0.2
Livestock activities	0.0	0.1	0.0
Handicraft activities	0.8	1.1	0.9
Home production	0.4	5.3	1.4
Sub-total	70.5	62.7	68.9
Capital income			
Home rental	3.2	3.3	3.2
Land lease	0.2	0.1	0.2
Other income from capital	0.0	0.2	0.1
Sub-total	3.4	3.6	3.4
Transfer income			
Pension and social benefit	8.9	16.8	10.5
Scholarship	0.2	0.0	0.1
Other transfer income	0.1	0.7	0.2
Sub-total	9.2	17.5	10.9
Casual receipts			
Sale of assets	0.1	0.1	0.1
Other casual sales of assets	0.5	0.5	0.5
Sub-total	0.6	0.5	0.6
Remittances and gifts			
Remittances	0.9	1.2	0.9
Home produced gifts	0.3	2.3	0.7
Sub-total	1.2	3.5	1.6
Imputed rents			
Imputed rents	15.2	12.1	14.5
Sub-total	15.2	12.1	14.5
Total	100.0	100.0	100.0

Income type

Cash income makes up 84.8 percent of total HH income, followed by imputed rents at 12.9 percent and home production at 1.7 percent.

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

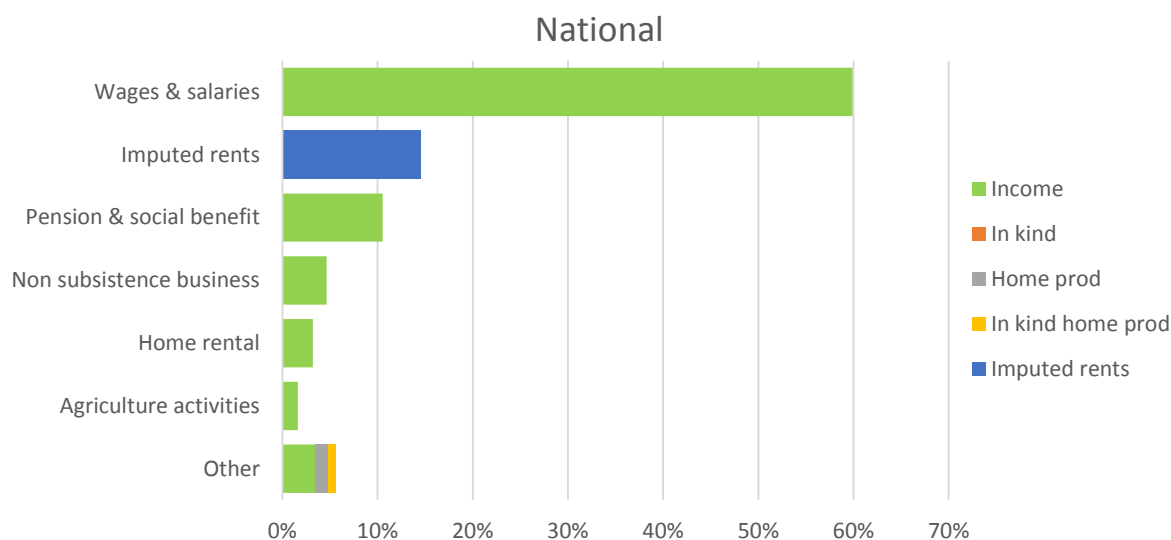
Type of income	Urban (percent)	Rural (percent)	Total (percent)
Cash income	85.8	80.5	84.8
Income in kind	0.0	0.1	0.0
Home production	0.7	5.9	1.7
In kind home production	0.3	2.2	0.6
Imputed rents	13.3	11.3	12.9
Total	100.0	100.0	100.0

As highlighted in the previous section, income profile is different between urban and rural Cook Islands. Home production is much higher in rural (consumed and gifted) while urban HHs in Cook Islands receive a higher proportion of cash income with 85.8 percent against 80.5 percent in rural.

Income composition by category and type

Figure 4 presents the composition of income by the highest contributing categories and sub categories. It can be seen that wages and salaries is dominant in the Cook Islands.

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 nearly 60.1 percent of total HH income in Cook Islands (ranging from 62.5 percent in Cook Islands urban to 50.8 percent in rural).

Overall, 77.0 percent of the HHs in Cook Islands 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
Number of HHs	1,179	2,064	2,607	621	506	952	1,800	2,570	3,559
Percentage of HHs	34.8	61.0	77.0	49.4	40.3	75.7	38.8	55.4	76.7

Unlike other Pacific Island Countries, the public sector is not the major contributor to employment in Cook Islands, 39 percent of the HHs in Cook Islands have at least 1 member involved in a wage job in public sector at the time of the interview (34.8 percent in urban against more than 49.4 percent in rural).

More than one fifth of the HHs in Cook Islands have wages as unique source of cash income (21.9 percent) 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

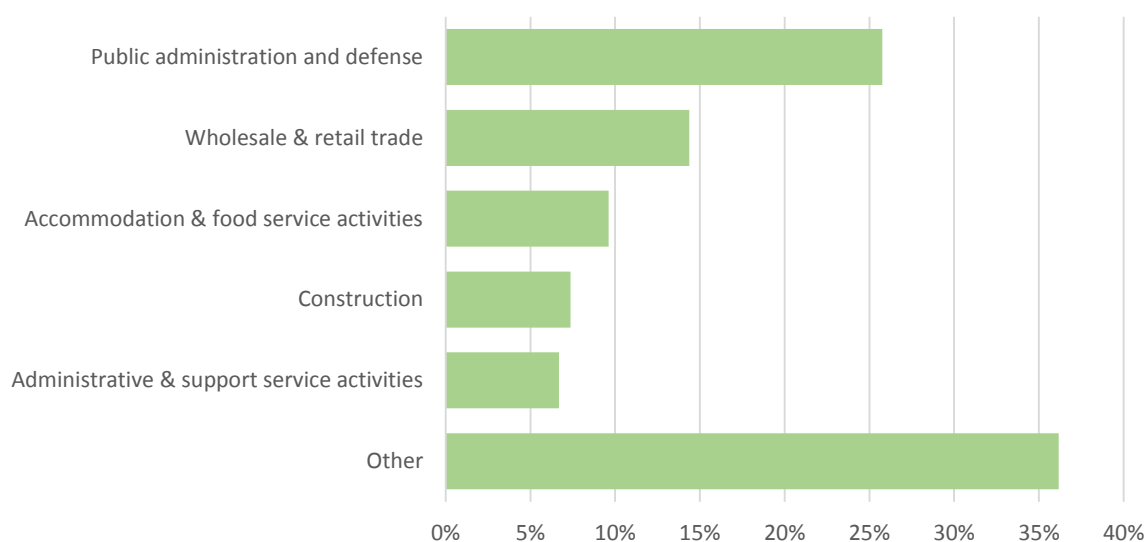
	Unique source			Main source		
	Urban	Rural	Total	Urban	Rural	Total
Number of HHs	881	134	1,015	2,433	769	3,203
Percentage of HHs	26	10.7	21.9	71.9	61.2	69

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 figure below presents the proportion of total income derived from wages and salaries by ISIC Section (Figure 5) 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 and defence (25.8 percent of wages and salaries income), followed by Wholesale and retail trade (14.4 percent), Accommodation and food service activities (9.6 percent), Construction (7.4 percent) and Administrative and support service activities (6.7 percent).

These patterns, however, slightly differ across strata. Wholesale and retail activities in the rural region are much less significant than in its urban counterpart (respectively 6.2 percent and 16.1 percent). Similarly in construction activities: 1.6 percent in rural and 8.6 percent in urban. In contrast, the income derived from accommodation and food service activities are much more important in rural (19.1 percent) than in urban (7.6 percent).

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



5. Income from remittances

Nationally, 18 percent of the HHs received cash support (mainly from relatives) in 2016: 15.2 percent of HHs in urban Cook Islands and 27.2 percent of HHs within rural Cook Islands.

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

	Percentage of HHs	Ann. amount	Av. Amount
Urban	15.2	1,611,660	3,140
Rural	27.2	557,430	1,630
Total	18.4	2,169,080	2,540

On average the urban HHs who received remittances (15.2 percent) received NZD 3,140 per year and the rural HHs got NZD 1,630 per year.

Urban HHs received more support from overseas: 11.9 percent of the urban HHs received cash support from overseas and they got on average NZD 2,880 per annum (and 3.3 percent received cash from within Cook Islands amounting on average to NZD 4,090 per year).

In contrast, rural HHs received more remittances with 6.4 percent from within Cook Islands and 22.7 percent from overseas.

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

	Percentage of HHs who receive remittances			Amount received					
	From country	From overseas	Total	Annual Total			Average Annual		
				From country	From overseas	Total	From country	From overseas	Total
Urban	3.3	11.9	15.2	453,810	1,157,840	1,611,660	4,090	2,880	3,140
Rural	6.4	22.7	27.2	53,650	503,780	557,430	670	1,770	1,630
Total	4.1	14.8	18.4	507,460	1,661,630	2,169,080	2,660	2,420	2,540

About 4.1 percent of the HHs in Cook Islands received remittances from within the Cook Islands, and 14.8 percent from HHs overseas. Australia is the main country that remits money to Cook Islands HHs, 8.6 percent of the HHs received remittances from this country, followed by New Zealand with 7.0 percent and other countries accounting for 1.0 percent (Table 45).

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

	Percentage of HHs				Average annual amount (NZD)			
	Australia	New Zealand	Cook Islands	Other	Australia	New Zealand	Cook Islands	Other
Urban	6.5	6.0	3.3	1.1	3,760	1,190	4,090	2,410
Rural	14.2	9.9	6.4	0.7	1,890	1,230	670	1,460
Total	8.6	7.0	4.1	1.0	2,920	1,200	2,660	2,170

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

Home production of goods includes livestock, crop growing, fishing and handicraft. Handicraft includes the preparation of processed food items, clothing, pareu, tivaevae (patchwork), ukuleles, carving, etc. for sale.

Across Cook Islands 58.0 percent of HHs are involved in the home production of goods (agriculture, fishing, livestock or handicraft) for their subsistence or for cash income generation (50.1 percent in urban and 79.5 percent in rural).

Table 46: HH participation in home production of goods (agriculture, fisheries, livestock, handicraft)

Activities		Urban (percentage)	Rural (percentage)	Total (percentage)
		Cash and subsistence	Cash and subsistence	Cash and subsistence
Agriculture	Cash and subsistence	50.1	79.5	58.0
Agriculture	Cash	39.0	66.1	46.3
Fishing	Cash and subsistence	4.5	42.4	14.7
Fishing	Cash	1.2	6.8	2.7
Livestock	Cash and subsistence	19.8	29.0	22.3
Livestock	Cash	5.0	13.3	7.2
Handicraft	Cash and subsistence	8.5	16.3	10.6
Handicraft	Cash	8.5	13.4	9.9

Agriculture is the most common home production activity particularly in rural Cook Islands where 66.1 percent of the HHs are involved. There is a significant difference between urban and rural HHs involved in primary activities, especially in fishing activities where respectively 4.5 percent and 42.4 percent of HHs are involved.

Tables 47 and 48 reports the proportion of total cash income derived from the top 10 goods produced. These industries collectively make up 3 percent of total HH income.

Nationally, taro and melon are the most significant home produced and sold items, making up 10.9 and 9.6 percent of total cash income from primary production activities. Following this is the sale of yellow fin and bigeye tuna with 7.8 percent, tomatoes with 6.1 percent.

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

	Urban (percentage)	Rural (percentage)	Total (percentage)
Taro	13.3	5.3	10.9
Melon	10.0	8.7	9.6
Tuna (yellow fin and bigeye)	2.5	20.7	7.8
Tomatoes	7.2	3.4	6.1
Other	7.6	2.4	6.0
Banana	5.7	2.3	4.7
Other local recipes (e.g., poke, mayonnaise, etc.)	5.4	2.4	4.5
Clothing / Patchworks	4.5	4.3	4.4
Takeout food/sandwich	5.3	0.4	3.8
Lettuces	2.7	3.9	3.1
Total	64.0	53.8	61.0

Subsistence income accounts for 1.4 percent of total income. Table 48 lists the top 10 items, ranking them by contribution to total national income from subsistence. It can be seen that there is a highly concentrated list of items (the top 10 make up 86.5 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 Cook Islands.

Taro makes up 17.7 percent of total subsistence income and is considered the main item HHs home produced and consumed in Cook Islands more particularly in outer islands. In Rarotonga (urban Cook Islands), bananas and fruits represent the most valuable items home produced and consumed by the HHs while outer islands tend to consume more reef fish.

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

	Urban (percentage)	Rural (percentage)	Total (percentage)
Taro	13.2	19.8	17.7
Reef fish (parrot fish, snapper, moonfish, etc.)	1.3	23.1	16.1
Banana	23.3	6.2	11.7
Pig	9.5	5.8	7.0
Coconut green	3.3	8.4	6.7
Other fruits	15.9	2.4	6.7
Coconut dry	0.4	9.2	6.4
Tuna (yellow fin and bigeye)	6.0	6.2	6.2
Cassava / Maniota	6.5	3.3	4.3
Spinach	5.0	3.3	3.8
Total	84.4	87.5	86.5

7. Income tables

Annual household income

Table 49: Annual national HH income (NZD)

Category of income	Net cash	Net in kind	Net Home production	Net in-kind Home prod	Net imputed rents	Total
Employment income						
Wages and salaries	140,750,340					140,750,340
Bonus overtime	436,060					436,060
Housing allowance	86,390					86,390
Income in kind		99,310				99,310
Non subsistence business	10,903,170					10,903,170
Agriculture activities	3,811,540					3,811,540
Fishing activities	544,990					544,990
Livestock activities	46,510					46,510
Handicraft activities	2,007,170					2,007,170
Home production			3,226,700			3,226,700
Sub-total	158,586,160	99,310	3,226,700			161,912,160
Capital income						
Home rental	7,535,280					7,535,280
Land lease	356,030					356,030
Other income from capital	165,980					165,980
Sub-total	8,057,300					8,057,300
Transfer income						
Pension and social benefit	24,759,780					24,759,780
Scholarship	317,350					317,350
Other transfer income	580,310					580,310
Sub-total	25,657,440					25,657,440
Casual receipts						
Sale of assets	298,730					298,730
Other casual sales of assets	1,086,460					1,086,460
Sub-total	1,385,180					1,385,180
Remittances and gifts						
Remittances	2,169,080					2,169,080
Home produced gifts				1,680,970		1,680,970
Sub-total	2,169,080			1,680,970		3,850,050
Imputed rents						
Imputed rents					34,174,070	34,174,070
Sub-total					34,174,070	34,174,070
Total	195,855,160	99,310	3,226,700	1,680,970	34,174,070	235,036,200

Table 50: Annual urban income (NZD)

Category of income	Net cash	Net in kind	Net home production	Net in-kind Home prod	Net imputed rents	Total
Employment income						
Wages and salaries	116,282,250					116,282,250
Bonus overtime	412,100					412,100
Housing allowance	65,950					65,950
Income in kind		41,380				41,380
Non subsistence business	9,557,980					9,557,980
Agriculture activities	3,064,580					3,064,580
Fishing activities	25,770					25,770

Category of income	Net cash	Net in kind	Net home production	Net in-kind Home prod	Net imputed rents	Total
Livestock activities	7,140					7,140
Handicraft activities	1,475,510					1,475,510
Home production			688,000			688,000
Sub-total	130,891,270	41,380	688,000			131,620,650
Capital income						
Home rental	5,941,360					5,941,360
Land lease	302,380					302,380
Other income from capital	60,710					60,710
Sub-total	6,304,450					6,304,450
Transfer income						
Pension and social benefit	16,636,310					16,636,310
Scholarship	317,350					317,350
Other transfer income	243,260					243,260
Sub-total	17,196,920					17,196,920
Casual receipts						
Sale of assets	271,690					271,690
Other casual sales of assets	855,610					855,610
Sub-total	1,127,310					1,127,310
Remittances and gifts						
Remittances	1,611,660					1,611,660
Home produced gifts				547,070		547,070
Sub-total	1,611,660			547,070		2,158,730
Imputed rents						
Imputed rents					28,333,670	28,333,670
Sub-total					28,333,670	28,333,670
Total	157,131,610	41,380	688,000	547,070	28,333,670	186,741,740

Table 51: Annual rural income (NZD)

Category of income	Net cash	Net in kind	Net Home production	Net in-kind Home prod	Net imputed rents	Total
Employment income						
Wages and salaries	24,468,090					24,468,090
Bonus overtime	23,960					23,960
Housing allowance	20,440					20,440
Income in kind		57,930				57,930
Non subsistence business	1,345,190					1,345,190
Agriculture activities	746,960					746,960
Fishing activities	519,220					519,220
Livestock activities	39,380					39,380
Handicraft activities	531,660					531,660
Home production			2,538,690			2,538,690
Sub-total	27,694,900	57,930	2,538,690			30,291,510
Capital income						
Home rental	1,593,920					1,593,920
Land lease	53,650					53,650
Other income from capital	105,270					105,270
Sub-total	1,752,840					1,752,840
Transfer income						
Pension and social benefit	8,123,470					8,123,470
Other transfer income	337,050					337,050
Sub-total	8,460,520					8,460,520
Casual receipts						
Sale of assets	27,030					27,030
Other casual sales of assets	230,840					230,840
Sub-total	257,870					257,870
Remittances and gifts						
Remittances	557,430					557,430
Home produced gifts				1,133,900		1,133,900
Sub-total	557,430			1,133,900		1,691,320
Imputed rents						
Imputed rents					5,840,400	5,840,400
Sub-total					5,840,400	5,840,400
Total	38,723,560	57,930	2,538,690	1,133,900	5,840,400	48,294,470

Average annual household income

Table 52: Average annual national HH income (NZD)

Category of income	Net cash	Net in kind	Net Home production	Net in-kind Home prod	Net imputed rents	Total
Employment income						
Wages and salaries	30,310					30,310
Bonus overtime	90					90
Housing allowance	20					20
Income in kind		20				20
Non subsistence business	2,350					2,350
Agriculture activities	820					820
Fishing activities	120					120
Livestock activities	10					10
Handicraft activities	430					430
Home production			690			690
Sub-total	34,160	20	690			34,870
Capital income						
Home rental	1,620					1,620
Land lease	80					80
Other income from capital	40					40
Sub-total	1,740					1,740
Transfer income						
Pension and social benefit	5,330					5,330
Scholarship	70					70
Other transfer income	120					120
Sub-total	5,530					5,530
Casual receipts						
Sale of assets	60					60
Other casual sales of assets	230					230
Sub-total	300					300
Remittances and gifts						
Remittances	470					470
Home produced gifts				360		360
Sub-total	470			360		830
Imputed rents						
Imputed rents					7,360	7,360
Sub-total					7,360	7,360
Total	42,180	20	690	360	7,360	50,620

Table 53: Average annual urban HH income (NZD)

Category of income	Net cash	Net in kind	Net Home production	Net in-kind Home prod	Net imputed rents	Total
Employment income						
Wages and salaries	34,340					34,340
Bonus overtime	120					120
Housing allowance	20					20
Income in kind		10				10
Non subsistence business	2,820					2,820
Agriculture activities	910					910
Fishing activities	10					10
Livestock activities	0					0
Handicraft activities	440					440
Home production			200			200
Sub-total	38,660	10	200			38,870
Capital income						
Home rental	1,750					1,750
Land lease	90					90
Other income from capital	20					20
Sub-total	1,860					1,860
Transfer income						
Pension and social benefit	4,910					4,910
Scholarship	90					90
Other transfer income	70					70
Sub-total	5,080					5,080

Casual receipts						
Sale of assets	80					80
Other casual sales of assets	250					250
Sub-total	330					330
Remittances and gifts						
Remittances	480					480
Home produced gifts				160		160
Sub-total	480			160		640
Imputed rents						
Imputed rents					8,370	8,370
Sub-total					8,370	8,370
Total	46,410	10	200	160	8,370	55,150

Table 54: Average annual rural HH income (NZD)

Category of income	Net cash	Net in kind	Net Home production	Net in-kind Home prod	Net imputed rents	Total
Employment income						
Wages and salaries	19,470					19,470
Bonus overtime	20					20
Housing allowance	20					20
Income in kind	0	50				50
Non subsistence business	1,070					1,070
Agriculture activities	590					590
Fishing activities	410					410
Livestock activities	30					30
Handicraft activities	420					420
Home production			2,020			2,020
Sub-total	22,030	50	2,020			24,100
Capital income						
Home rental	1,270					1,270
Land lease	40					40
Other income from capital	80					80
Sub-total	1,390					1,390
Transfer income						
Pension and social benefit	6,460					6,460
Other transfer income	270					270
Sub-total	6,730					6,730
Casual receipts						
Sale of assets	20					20
Other casual sales of assets	180					180
Sub-total	210					210
Remittances and gifts						
Remittances	440					440
Home produced gifts				900		900
Sub-total	440			900		1,350
Imputed rents						
Imputed rents					4,650	4,650
Sub-total					4,650	4,650
Total	30,810	50	2,020	900	4,650	38,420

Average annual per capita income

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

Category of income	Net cash	Net in kind	Net home production	Net in-kind Home prod	Net imputed rents	Total
Employment income						
Wages and salaries	9,380					9,380
Bonus overtime	30					30
Housing allowance	10					10
Income in kind		10				10
Non subsistence business	730					730
Agriculture activities	250					250
Fishing activities	40					40
Livestock activities	0					0
Handicraft activities	130					130
Home production			220			220
Sub-total	10,570	10	220			10,790
Capital income						
Home rental	500					500
Land lease	20					20
Other income from capital	10					10
Sub-total	540					540
Transfer income						
Pension and social benefit	1,650					1,650
Scholarship	20					20
Other transfer income	40					40
Sub-total	1,710					1,710
Casual receipts						
Sale of assets	20					20
Other casual sales of assets	70					70
Sub-total	90					90
Remittances and gifts						
Remittances	140					140
Home produced gifts				110		110
Sub-total	140			110		260
Imputed rents						
Imputed rents					2,280	2,280
Sub-total					2,280	2,280
Total	13,050	10	220	110	2,280	15,660

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

Category of income	Net cash	Net in kind	Net Home production	Net in-kind Home prod	Net imputed rents	Total
Employment income						
Wages and salaries	10,940					10,940
Bonus overtime	40					40
Housing allowance	10					10
Income in kind						0
Non subsistence business	900					900
Agriculture activities	290					290
Fishing activities						0
Livestock activities						0
Handicraft activities	140					140
Home production			60			60
Sub-total	12,320		60			12,390
Capital income						
Home rental	560					560
Land lease	30					30
Other income from capital	10					10
Sub-total	590					590
Transfer income						
Pension and social benefit	1,570					1,570
Scholarship	30					30
Other transfer income	20					20
Sub-total	1,620					1,620
Casual receipts						
Sale of assets	30					30
Other casual sales of assets	80					80
Sub-total	110					110
Remittances and gifts						
Remittances	150					150
Home produced gifts				50		50
Sub-total	150			50		200
Imputed rents						
Imputed rents					2,670	2,670
Sub-total					2,670	2,670
Total	14,790	0	60	50	2,670	17,570

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

Category of income	Net cash	Net in kind	Net Home production	Net in-kind Home prod	Net imputed rents	Total
Employment income						
Wages and salaries	5,590					5,590
Bonus overtime	10					10
Housing allowance						0
Income in kind		10				10
Non subsistence business	310					310
Agriculture activities	170					170
Fishing activities	120					120
Livestock activities	10					10
Handicraft activities	120					120
Home production			580			580
Sub-total	6,320	10	580			6,910
Capital income						
Home rental	360					360
Land lease	10					10
Other income from capital	20					20
Sub-total	400					400
Transfer income						
Pension and social benefit	1,850					1,850
Other transfer income	80					80
Sub-total	1,930					1,930
Casual receipts						
Sale of assets	10					10
Other casual sales of assets	50					50
Sub-total	60					60
Remittances and gifts						
Remittances	130					130
Home produced gifts				260		260
Sub-total	130			260		390
Imputed rents						
Imputed rents					1,330	1,330
Sub-total					1,330	1,330
Total	8,840	10	580	260	1,330	11,020

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	Home production percent	In kind Home production	Imputed rents
Employment income					
Wages and salaries	76.7				
Bonus overtime	8.1				
Housing allowance	0.4				
Income in kind		1.9			
Non subsistence business	10.5				
Agriculture activities	15.5				
Fishing activities	2.7				
Livestock activities	7.2				
Handicraft activities	9.9				
Home production			42.1		
Capital income					
Home rental	5.8				
Land lease	2.6				
Other income from capital	3.8				
Transfer income					
Pension and social benefit	56.3				
Scholarship	0.8				
Other transfer income	5.0				
Casual receipts					
Sale of assets	2.8				
Other casual sales of assets	7.6				
Remittances and gifts					
Remittances	18.4				
Home produced gifts				16.3	
Imputed rents					
Imputed rents					89.5

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

	Cash	In kind	Home production percent	In kind Home production	Imputed rents
Employment income					
Wages and salaries	77.0				
Bonus overtime	10.2				
Housing allowance	0.4				
Income in kind		1.7			
Non subsistence business	11.4				
Agriculture activities	15.3				
Fishing activities	1.2				
Livestock activities	5.0				
Handicraft activities	8.5				
Home production			32.0		
Capital income					
Home rental	7.1				
Land lease	3.2				
Other income from capital	1.6				
Transfer income					
Pension and social benefit	51.4				
Scholarship	1.1				
Other transfer income	3.1				
Casual receipts					
Sale of assets	3.5				
Other casual sales of assets	7.5				
Remittances and gifts					
Remittances	15.2				
Home produced gifts				9.1	
Imputed rents					
Imputed rents					86.2

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

	Cash	In kind	Home production percent	In kind Home production	Imputed rents
Employment income					
Wages and salaries	75.8				
Bonus overtime	2.6				
Housing allowance	0.5				
Income in kind		2.6			
Non subsistence business	7.9				
Agriculture activities	16.1				
Fishing activities	6.8				
Livestock activities	13.3				
Handicraft activities	13.4				
Home production	0.0		69.3		
Capital income					
Home rental	2.4				
Land lease	0.9				
Other income from capital	9.7				
Transfer income					
Pension and social benefit	69.5				
Other transfer income	10.1				
Casual receipts					
Sale of assets	0.9				
Other casual sales of assets	8.0				
Remittances and gifts					
Remittances	27.2				
Home produced gifts				35.8	
Imputed rents					
Imputed rents					98.4

SECTION 6: POPULATION PROFILE AND DWELLING CHARACTERISTICS

All basic demographic and dwelling information are part of the 2016 Cook Islands 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 employed in the private sector, with almost 37.8 percent of persons reporting this as their main activity (Table 61). Following this, 16.9 percent of the population reported being employed in the public sector and 14.7 percent reported being retired or too old to work as main activity (only population 15+ years of age).

By strata, similar results were generated, with employed in the private sector being the most common main activity though the proportion in rural (24.3 percent) is much less important than in urban (42.5 percent). Also, the second activity in Cook Islands urban is “retired / too old” (16.9 percent), exceeding the number of people reported as employed in public sector (15.1 percent). Without any surprise, the population involved with subsistence activity is higher in rural (9.6 percent) than in urban (1.1 percent).

Table 61: Main activity in the last 7-days of persons aged 15+, by gender and strata

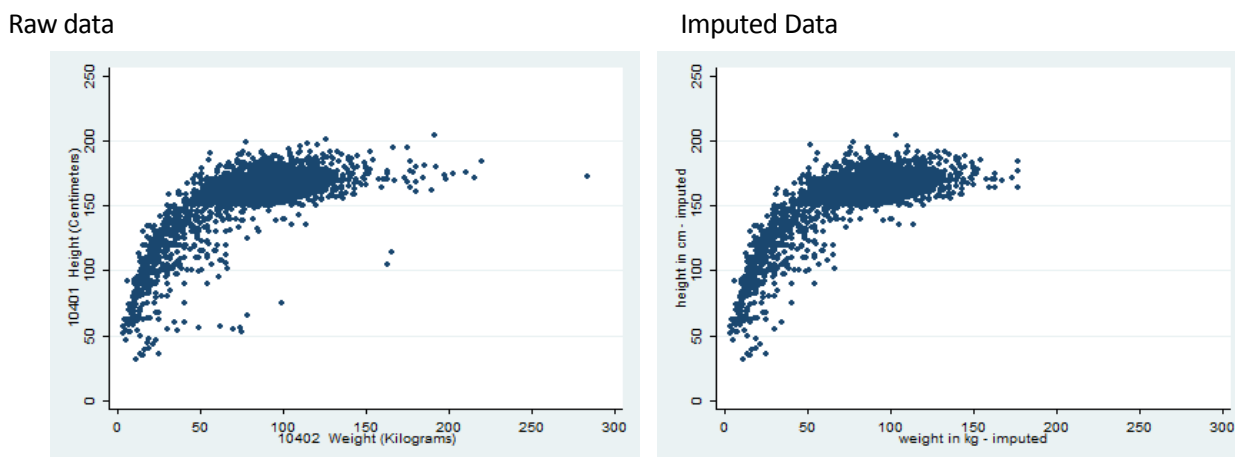
Main Activity	Urban	Rural	Total	Male	Female
	percent			percent	
Employer	1.7	1.6	1.6	2.4	0.9
Self Employed	3.9	2.9	3.7	4.0	3.4
Employed in the public sector	15.1	22.3	16.9	16.3	17.5
Employed in the private sector	42.5	24.3	37.8	42.6	33.5
Producing good for own consumption	1.1	9.6	3.2	5.9	0.8
Unpaid family worker in a business	0.3	1.2	0.5	0.9	0.2
Volunteer worker	1.0	0.6	0.9	0.6	1.2
Student	6.5	6.2	6.4	6.6	6.2
Home maker	8.3	20.9	11.6	4.7	17.9
Retired / Too old	17.0	8.2	14.7	14.1	15.3
None Did not work	1.8	0.9	1.5	0.9	2.1
Physically / Mentally disabled	1.0	1.3	1.0	1.1	1.0
Total	100	100	100	100	100

By gender, 17.9 percent of females are home maker against 4.7 percent for males. In addition, production of good for own consumption is dominated by males (5.9 percent of them and only 0.8 percent of the females). And finally, private employee status is more often filled by males (42.6 percent for males and 33.5 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 is worth reporting. There were a number of height (8.4 percent) and weight (9 percent) 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

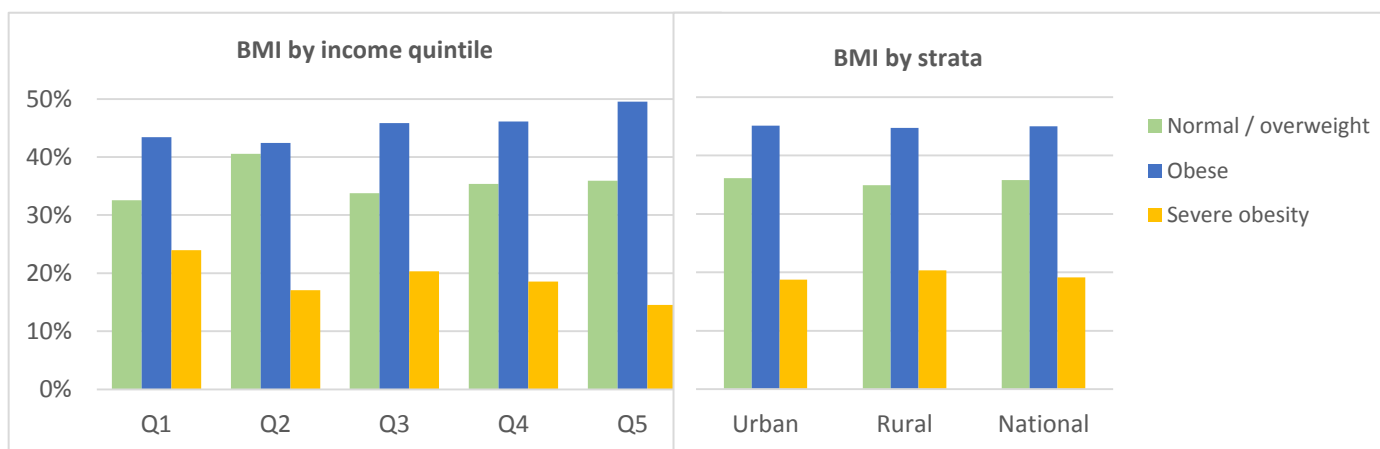


Nationally, 36 percent of the population aged 15 years and over reported a height and weight that computes to a BMI lower than 30 (normal or overweight). The obese population (BMI between 30 and 40) represents 45 percent of the population and the severe obesity (BMI higher than 40) affects 19 percent of the same adult population. By gender, severe obesity is more common in the female population: 24.4 percent against 13.5 percent for males.

By income quintile, the lowest quintile is more suffering from severe obesity (24.0 percent) than higher quintiles (14.6 percent for Q5).

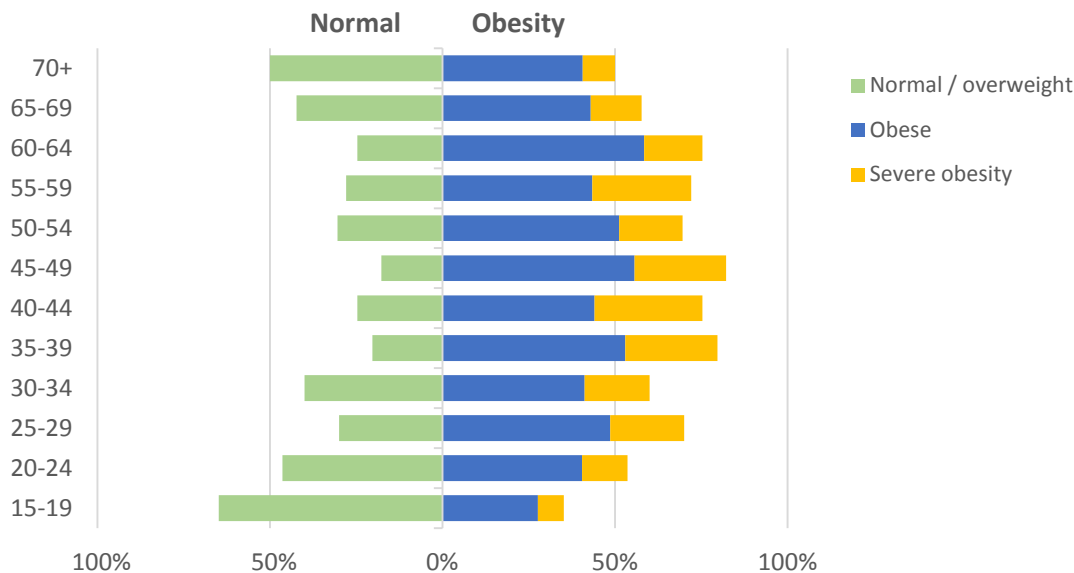
By strata, the results differ as the proportion of severe obese is higher in rural Cook Islands (see Figure 7) while that of normal/overweight and obese is higher in urban - Rarotonga.

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



By age group, obesity is more prevalent between 35 and 64 years old. Within these age groups on average three people out of four are obese (75.9 percent) with a peak between 45 and 49 years old (82 percent of obesity including 27 percent of severe obesity). The 40-44 age group is where severe obesity is at its highest with 31 percent.

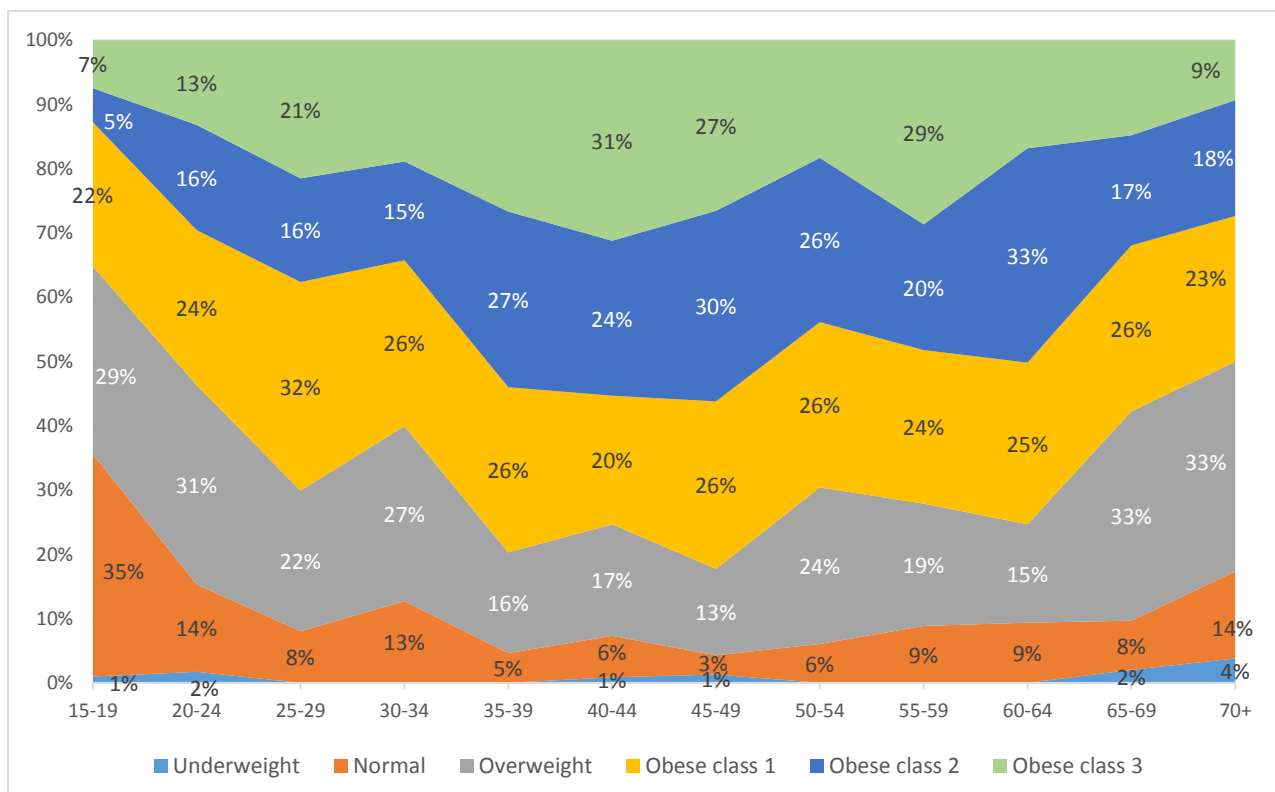
Figure 8: Distribution of the population (aged 15+), by BMI category and age group



29 percent of the population self-reported having an ongoing health problem. This ranged from 30.6 percent in Rarotonga to 26 percent in rural Cook Islands. Of the population that reported having an ongoing health problem, 80 percent of them regularly consult a health professional and 79 percent have medical treatment. Hypertension and diabetes are the main ongoing illness reported, respectively affecting 11 and 7 percent of the entire population.

In Figure 9 we can see the BMI by age group by 6 BMI categories: underweight, normal, overweight, obese class 1, 2 (“Obese”) and class 3 (“Severe obesity”). This graph confirms that the highest proportion of the population suffering from severe obesity are those aged 35-64 as stated in earlier paragraph.

Figure 9: Distribution of the population aged 15+ by BMI category (6 categories) and age group



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

Approximately 30.9 percent of the population aged 15 years and over consumed alcohol in the last seven days (32.5 percent in urban and 26.4 percent in rural). Alcohol consumption is more frequent in the male population at 41.0

percent and 21.6 percent of the females. By age group, alcohol consumption is more frequent between 25 and 39 years old (between 48 and 50 percent of the population of those age groups).

Nationally, 21.6 percent of the population aged 15 and over years old smoke tobacco. This ranges from 22.2 percent in Rarotonga to 20.0 percent in rural Cook Islands. Again the proportion of smokers is higher in the male population (23.9 percent) compared to that of female (19.5 percent). The highest proportion of smokers are aged 30 to 44, with 36.3 percent of this population using tobacco.

Table 61b: Proportion of the population consuming alcohol and smoking tobacco by gender and strata

Consumption of:		Male	Female	Urban	Rural	Total
		Percent		Percent		
Alcohol	yes	19.6	11.3	23.8	7.1	30.9
	no	28.1	41.0	49.3	19.9	69.1
Homebrew	yes	3.2	0.7	1.5	2.4	3.9
	no	44.5	51.7	71.6	24.6	96.1
Smoking	yes	11.4	10.2	16.2	5.4	21.6
	no	36.3	42.1	56.8	21.6	78.4

4. Communication

53 percent of the population aged 10+ years reported having used the internet in the last month. This ranged from 59 percent in urban Cook Islands to 37 percent in rural. By age group, 72 percent of the population aged 15 to 34 years old used the internet, and nearly 50 percent of the population aged 10 to 19 years old. From 45 years old and above, the proportion slowly decreases (24 percent being the minimum for the population aged 65 and above).

Home is the main location where people use the internet (45 percent of the users connect from their HH) followed by the use of mobile devices (cell phones, iPads... mentioned by 28 percent of the users). The connection from work occurs for 20 percent of the users.

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 Cook Islands.

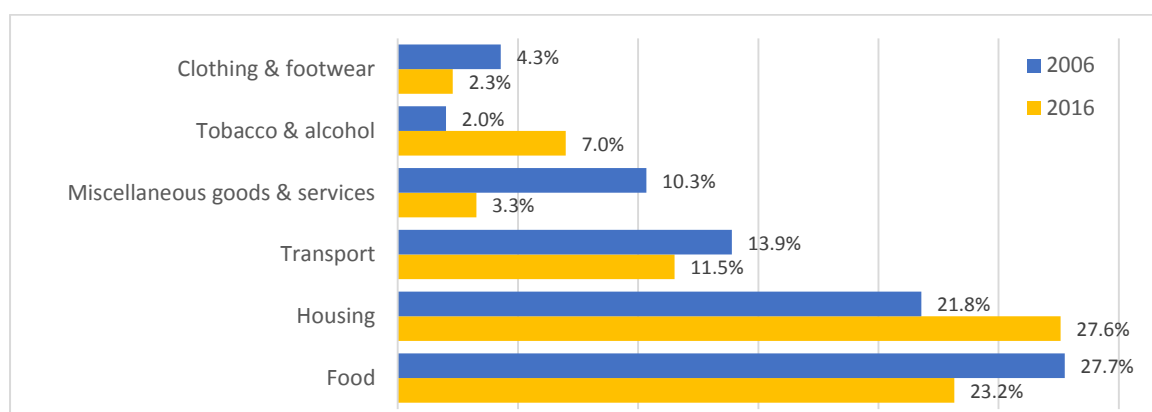
1. Comparison with previous HIES

Below we compare the results of the 2005/2006 (most previous) HIES with those from the 2015/2016 HIES. The 2005/2006 HIES methodology was slightly different from the 2015/2016 HIES (field operation schedule, questionnaire, classifications), however the expenditure profile can be compared.

Expenditure

The proportion of the total budget dedicated to “Food”, “Transport” and “Clothing and footwear” has decreased over the period for the benefit of “Housing” and “Tobacco and alcohol”. In 2006 HHs in the Cook Islands allocated 2.0 percent of their total budget to “Alcohol and tobacco” compared to 6.9 percent in 2016 (Figure 10).

Figure 10: Distribution of HH expenditure on major COICOP categories over the period 2006 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 62: Gross, intermediate and net annual HH income from employment activities (NZD)

	Cash (gross)	In-kind (gross)	Home production (gross)	Int exp (HP)	Int exp (primary)	Int exp (business)	Net income
Wages & salaries	140,750,335						140,750,335
Bonus overtime	436,055						436,055
Housing allowance	86,393						86,393
Income in kind		99,308					99,308
Non subsis. business	38,140,461					27,237,293	10,903,168
Agriculture activities	4,415,690				604,152		3,811,538
Fishing activities	1,280,982				735,994		544,988
Livestock activities	164,525				118,013		46,512
Handicraft activities	2,628,760				621,590		2,007,170
Home production			4,531,951	1,305,255			3,226,696
Total	187,903,201	99,308	4,531,951	1,305,255	2,079,749	27,237,293	161,912,163

Net profit margins in business and livestock are estimated to be the lowest with 28.6 and 28.3 percent respectively that is less than a third of revenue is net profit. Looking at other primary production activities, margins are much higher, especially in agriculture (86.3 percent) and handicraft (76.4 percent) while fishing activity generates a little bit more operating costs (only 42.5 percent margin). Finally, primary activities undertaken for subsistence purposes generated a high margin of 71.2 percent (Table 62).

The main intermediate expenditure items (Table 63) in business are the goods for resale followed by the salary to staff (respectively 31.7 and 20.3 percent). In agriculture, intermediate expenditure mainly consists of fertilizer of 65.7 percent while in fisheries the fuel makes up 32.9 percent of the operating costs and 92.2 percent in animal feed. Looking at the handicraft, the expenditure is mainly based on the ingredients for making food 79.3 percent.

Table 63: Intermediate expenditure details by type of activity (NZD)

		Urban	Rural	Total
Business	Salaries to staff	4,767,230	754,080	5,521,320
	Goods for resale	8,208,210	412,960	8,621,170
	Electricity	2,613,820	123,200	2,737,020
	Water	0	11,620	11,620
	Communication	1,693,530	84,510	1,778,030
	Fuel	690,760	344,880	1,035,640
	Raw materials	3,775,160	65,270	3,840,430
	Repair and maintenance of assets	28,620	280,000	308,620
	Building rental	815,880	12,130	828,010
	Equipment rental	26,750	0	26,750
	Registration / Licenses	39,580	9,890	49,470
	Equipment	348,590	22,820	371,420
	Tax	1,646,590	22,600	1,669,200
	Other	224,810	213,790	438,600
Total Business		24,879,540	2,357,750	27,237,290
Agriculture	Transportation of goods	0	3,180	3,180
	Labour	101,730	50,780	152,510
	Fencing and enclosure	13,240	1,390	14,630
	Fertilizer	254,160	142,820	396,980
	Motorised cultivator / Tiller	27,430	3,710	31,140
	Other / Unlisted	0	5,710	5,710
Total Agriculture		396,560	207,590	604,150
Fisheries	Purchase of fishing equipment	6,000	46,540	52,550
	Transportation of catch	0	72,830	72,830
	Labour	153,440	770	154,210
	Ice	22,960	13,120	36,080
	Fuel	60,570	181,520	242,080
	Boat maintenance	19,030	10,030	29,060
	Other / Unlisted	149,180	0	149,180
Total Fisheries		411,170	324,820	735,990
Livestock	Animal feed	80,340	28,520	108,860
	Fencing and enclosure	2,660	0	2,660
	Labour	0	5,590	5,590
	Veterinary	210	320	530
	Other	0	370	370
Total Livestock		83,220	34,800	118,010
Handicraft	Ingredients for making food	429,840	62,880	492,710
	Materials for making handicraft	94,620	30,420	125,040
	Transport	3,170	0	3,170
	Labour	0	670	670
Total Handicraft		527,620	93,970	621,590

3. Income and expenditure distribution

The distribution of income and expenditure among HHs, have already been presented in each strata by average and median income and expenditure. 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.

Figure 11 looks at the proportion of HHs by income quintile and strata. The national distribution of HHs is evenly distributed however, when looking at the poorest HHs (quintile 1) it can be seen that they are not evenly distributed in urban and rural: 12.7 percent in rural and 39.7 percent in rural. This means that there are more people from the lowest quintile in the rural region than in the urban one. A similar scenario can be observed at the highest quintiles (4 and 5) where a higher proportion of high income HHs is in urban, 45.8 percent against 23.8 percent in rural.

Figure 11: Proportion of HHs in each strata, by income quintile

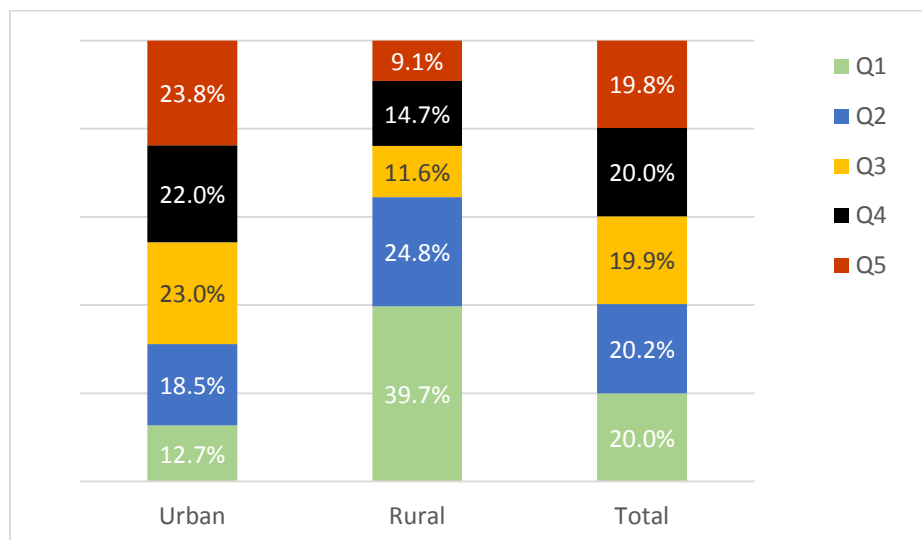


Figure 12, average income and expenditure by quintile, shows a large degree of inequality amongst the groups, especially at the highest and lowest quintiles. The highest quintile has a HH average income of NZD 73,710 per annum, while the lowest quintile amounts NZD 24,810 per annum. However, there appears to be less obvious inequalities in the distribution of expenditure per HH: NZD 23,760 for the lowest quintile and NZD 55,670 for the highest one.

Figure 12: Average annual HH income and expenditure, by national income and expenditure quintile (NZD)

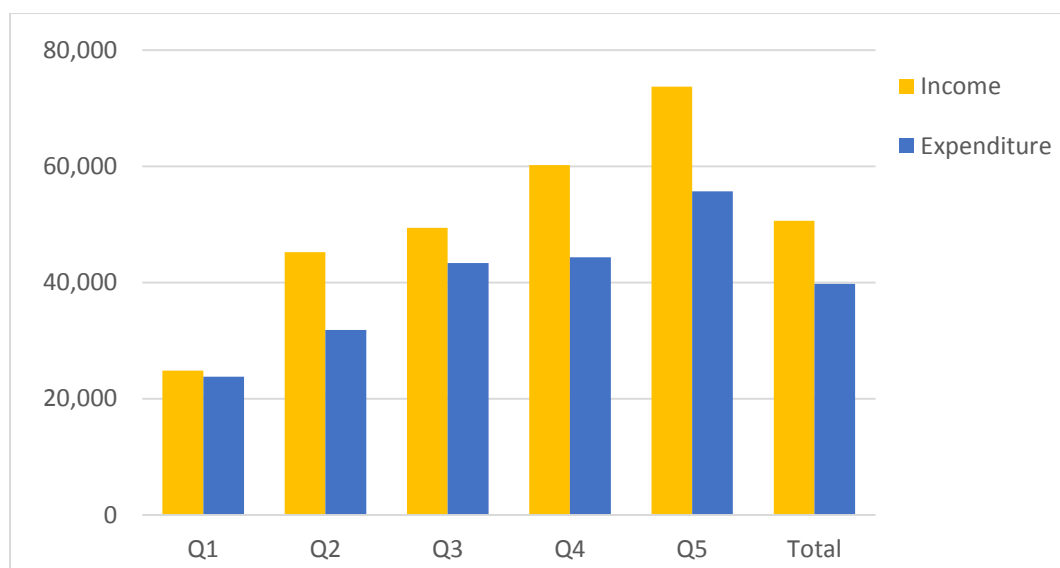
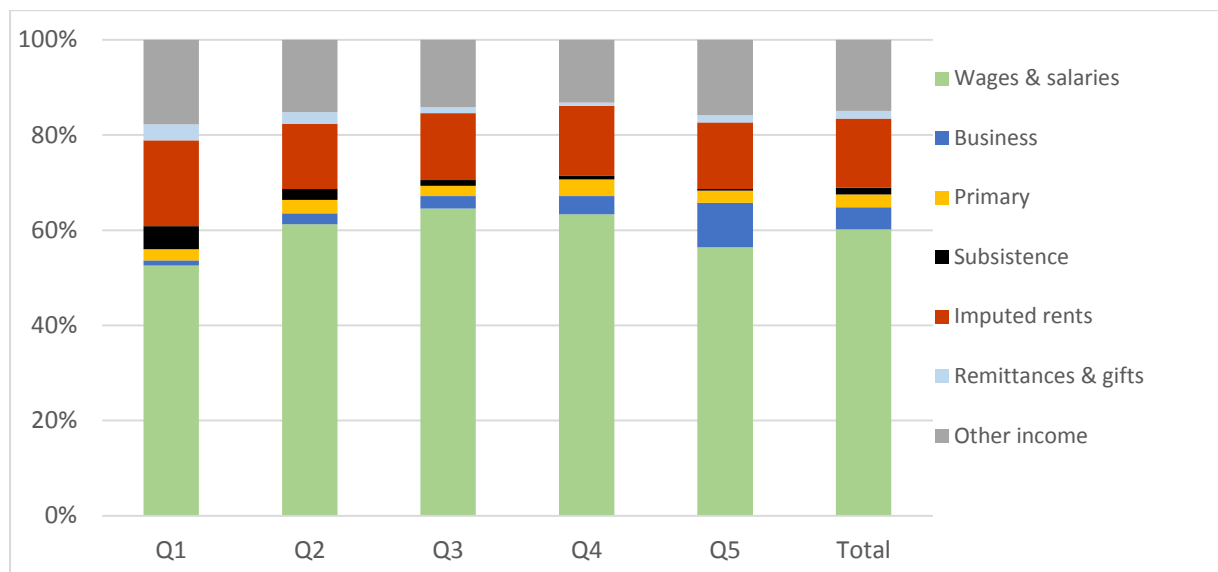


Figure 13 looks at the composition of HH income by income category. Wages and salaries is a significant contributor to total HH income. The composition of HH income is a bit more diverse in lower quintiles as a higher proportion of income is derived from other sources, such as remittances and subsistence. The proportion of HH income derived

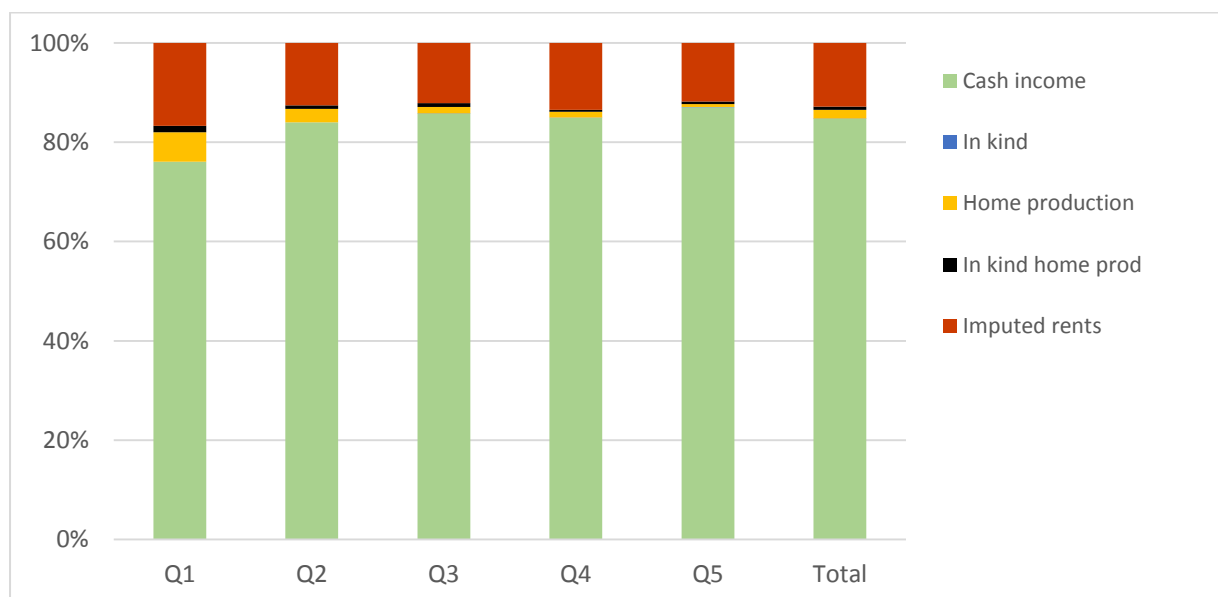
from home production and remittances is more significant than it is in higher income HHs, which demonstrates the importance of this income source in Cook Islands. On the contrary, we can notice a higher proportion of business income in higher quintiles and especially in the fifth quintile (9.3 percent against 1.0 percent in the first quintile).

Figure 13: Composition of HH income, by income category and quintile



Cash income accounts for the large majority of income across all quintiles. Imputed rents income has also a higher proportion of HH income in all quintiles. Income from home production subsistence consumption is more important in lower quintiles.

Figure 14: Composition of income, by income type and quintile



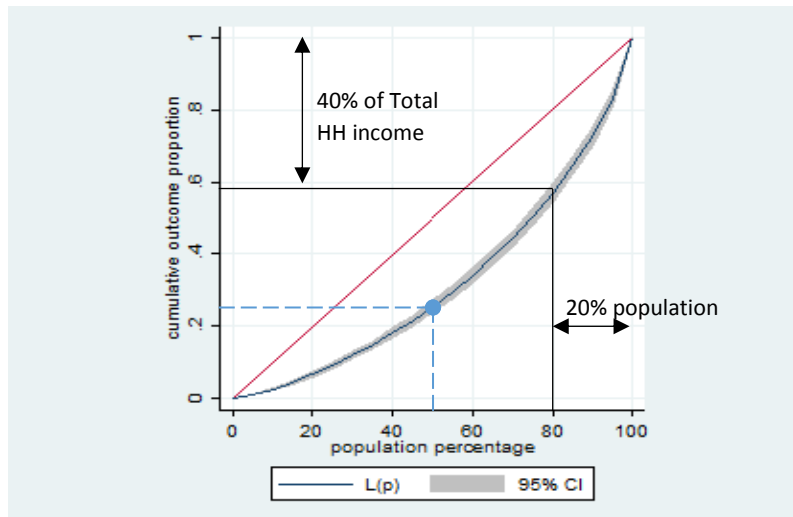
There is no significant difference in HH expenditure by category between the lower and upper quintiles (Table 64) except in the food and non-alcoholic beverages category.

Table 64: Composition of HH expenditure, by income quintile

COICOP division code	Q1 (percent)	Q2 (percent)	Q3 (percent)	Q4 (percent)	Q5 (percent)	Total (percent)
Food and Non-Alcoholic Beverages	28.9	23.2	18.4	15.4	14.6	19.2
Alcoholic Beverages, Tobacco	8.0	9.6	6.2	5.7	6.3	7.0
Clothing and Footwear	1.9	2.0	2.9	2.6	1.8	2.3
Housing, Water, Electricity, Gas	25.4	26.7	26.4	26.8	31.5	27.6
Furnishings, HH Equipment	4.4	3.9	2.5	4.0	3.3	3.6
Health	0.2	0.2	0.2	0.2	0.4	0.2
Transport	12.0	10.6	14.5	10.8	10.0	11.5
Communication	5.0	4.9	4.8	4.4	5.3	4.8
Recreation and Culture	0.9	1.9	1.9	1.8	1.3	1.6
Education	0.1	0.2	0.3	0.2	0.2	0.2
Restaurants and Hotels	2.6	2.9	5.0	4.4	5.3	4.2
Miscellaneous Goods and Services	3.5	3.3	3.6	3.0	3.1	3.3
Non-Consumption HH Expenditure	3.1	2.6	4.5	4.1	4.3	3.8
HH investment	4.0	8.1	8.8	16.6	12.6	10.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

The national cumulative distribution of income is shown in Figure 15. 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 Cook Islands where an unequal distribution of income is moderately present. It can be seen that around 50 percent of the lowest income HHs account for slightly less than 30 percent of national income. To put this another way, half of the highest income earning HHs account for around 70 percent of national income. The top 20 percent income HHs (income quintile 5) account for around 40 percent of total HH income.

Figure 15: Lorenz curve (income)



Distribution of income can also be presented by using the Gini coefficient (Table 65). A perfectly equal distribution of income would result in a Gini coefficient of 0. A national Gini coefficient of 0.36 is not extreme income inequality but can be said to be a moderate degree of income inequality. The lower the Gini index, the more equal income is distributed across the population. Rarotonga is seen to have a larger degree of income equality than that in the outer islands.

Table 65: Gini coefficient, by strata

Urban	Rural	Total
0.329	0.386	0.360

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 Labour 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 and tobacco
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 feed, 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 Cook Islands) 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 hierarchal 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 imputed 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 percent of the HHs with the lowest expenditure, while quintile 5 represents 20 percent of the HHs with the highest expenditure.

APPENDIX 2: 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 (outer islands).

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 66: 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 67 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 3.7 percent (i.e., total expenditure estimates) are very good. As this is disaggregated by strata, the RSE tends to increase but remain in an acceptable range. Only the health and education expenditure show a high RSE, due to the fact that few HHs incurred this type of expenditure in the Cook Islands.

Table 67: Total HH expenditure, by strata

	Total	Standard error	95% interval		RSE (percent)
Total expenditure					
Urban Rarotonga	13,625	629	12,348	14,901	4.6
Rural outer islands	9,101	748	7,583	10,619	8.2
National	12,304	454	11,384	13,225	3.7
Food expenditure					
Urban Rarotonga	2,153	104	1,942	2,365	4.8
Rural outer islands	2,879	140	2,595	3,163	4.9
National	2,365	94	2,173	2,556	4.0
Alcohol and tobacco expenditure					
Urban Rarotonga	1,473	116	1,237	1,709	7.9
Rural outer islands	1,383	134	1,112	1,654	9.7
National	1,449	91	1,265	1,634	6.3
Clothing expenditure					
Urban Rarotonga	404	38	327	480	9.3
Rural outer islands	240	45	149	332	18.7
National	356	29	298	415	8.1
Housing expenditure					
Urban Rarotonga	3,993	213	3,560	4,426	5.3
Rural outer islands	1,938	188	1,556	2,321	9.7
National	3,393	162	3,064	3,722	4.8
HH equipment expenditure					
Urban Rarotonga	559	58	442	676	10.3
Rural outer islands	394	38	316	473	9.7
National	508	40	427	589	7.9

	Total	Standard error	95% interval		RSE (percent)
Health expenditure					
Urban Rarotonga	63	12	39	87	18.5
Rural outer islands	167	70	26	309	41.7
National	71	11	48	94	15.8
Transport expenditure					
Urban Rarotonga	1,596	102	1,389	1,803	6.4
Rural outer islands	1,049	122	801	1,297	11.7
National	1,437	77	1,281	1,593	5.3
Communication expenditure					
Urban Rarotonga	694	46	601	787	6.6
Rural outer islands	397	29	338	456	7.3
National	609	36	535	682	6.0
Recreation and culture expenditure					
Urban Rarotonga	296	25	245	346	8.4
Rural outer islands	277	37	202	352	13.4
National	292	21	250	334	7.1
Education expenditure					
Urban Rarotonga	69	18	32	106	26.6
Rural outer islands	26	5	16	37	20.2
National	62	16	29	94	26.0
Food away from home expenditure					
Urban Rarotonga	791	83	622	960	10.5
Rural outer islands	485	41	402	568	8.4
National	719	65	587	852	9.1
Miscellaneous expenditure					
Urban Rarotonga	510	39	431	589	7.6
Rural outer islands	260	35	190	330	13.3
National	437	29	379	495	6.5
Non consumption expenditure					
Urban Rarotonga	558	56	444	672	10.1
Rural outer islands	452	56	339	566	12.3
National	525	40	443	606	7.6
Investment expenditure					
Urban Rarotonga	6,014	823	4,331	7,698	13.7
Rural outer islands	2,231	506	1,196	3,266	22.7
National	5,125	662	3,771	6,480	12.9

2. Relative sampling errors for income aggregates

Table 68 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 3.8 percent (i.e., national income estimates) is good. As this is disaggregated by strata, the total annual HH income estimates, by strata, have a range of 5 to 10 percent, making the strata disaggregated total annual HH expenditure estimates within being good. Own business and capital income estimates show a very high degree of error and have to be interpreted with cautious.

Table 68 : Relative sampling error - per capita total income

Total income	Total	Standard error	95% interval		RSE (percent)
Urban Rarotonga	17,571	800	15,946	19,196	4.6
Rural outer islands	11,024	1,046	8,901	13,148	9.5
National	15,660	589	14,464	16,856	3.8
Wages and salaries					
Urban Rarotonga	12,679	638	11,382	13,975	5.0
Rural outer islands	6,666	804	5,034	8,298	12.1
National	10,960	507	9,930	11,990	4.6
Own business					
Urban Rarotonga	6,259	2,426	1,253	11,266	38.8
Rural outer islands	3,652	1,464	630	6,673	40.1
National	5,752	1,948	1,731	9,774	33.9
Primary production activity					
Urban Rarotonga	1,446	321	792	2,100	22.2
Rural outer islands	1,091	249	583	1,600	22.9
National	1,323	219	877	1,768	16.6
Capital income					
Urban Rarotonga	4,486	2,073	176	8,797	46.2
Rural outer islands	3,319	1,663	0	6,778	50.1
National	4,168	1,615	808	7,527	38.8
Transfer income					
Urban Rarotonga	2,756	297	2,152	3,360	10.8
Rural outer islands	2,415	227	1,954	2,876	9.4
National	2,634	207	2,213	3,054	7.9
Casual receipts					
Urban Rarotonga	330	94	126	533	28.4
Rural outer islands	740	234	231	1,249	31.5
National	450	89	257	643	19.7
Remittances and gifts					
Urban Rarotonga	277	93	75	479	33.4
Rural outer islands	626	115	377	876	18.3
National	380	81	204	555	21.3
Imputed rents					
Urban Rarotonga	2,218	548	1,025	3,412	24.7
Rural outer islands	1,451	256	894	2,008	17.6
National	1,993	389	1,146	2,840	19.5
Cash income					
Urban Rarotonga	17,262	1,332	14,558	19,966	7.7
Rural outer islands	9,529	1,237	7,018	12,039	13.0
National	15,005	962	13,052	16,957	6.4

APPENDIX 3: RESOURCES

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