Fiji Bureau of Statistics

2019-20

HOUSEHOLD INCOME AND EXPENDITURE SURVEY MAIN REPORT

AUGUST 2021

PREFACE AND ACKNOWLEDGEMENT

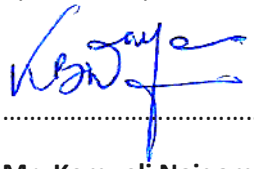
The 2019-20 Household Income and Expenditure Survey (HIES) is one of the national representative surveys that is always conducted by the Fiji Bureau of Statistics (FBoS) on a five-year interval. The main objectives of the survey are to provide household income and consumption data that will be used to update the poverty rate of the country, update the basket and weights for the Consumer Price Index (CPI), contribute to the development of the national accounts as well as providing the necessary baseline socio-economic indicators for further analysis and research purposes.

The survey was conducted in a 12-month period and was divided into 4 sub-rounds of data collection. A representative sample of 6,000 households were randomly selected from a sample of 600 Enumeration Areas [EAs] covering the whole country. The survey was conducted in the period February 2019 to February 2020 before the onset of the COVID-19 pandemic in Fiji.

The success of this survey was possible through the substantial support received from our sampled households as well as villages and community leaders who provided their logistic support during the survey operation. My appreciation also goes to the Enumerators with their great contribution towards the data collection throughout the 12-month period, particularly when conducting interviews outside the working hours and/or on weekends depending on the preference of the respondents.

I'm particularly grateful to the much-needed technical support received from the World Bank and the University of Bristol in the United Kingdom in providing their support towards the data processing, analysis and writing of certain chapters in the report due to their areas of expertise. The World Bank assistance towards the revision of poverty measurement and other household welfare analysis is crucial. The application of the revised methodology from using income method to consumption method is critical for FBoS towards measuring poverty to ensure that best practices technical measurement is applied for a meaningful debate about poverty, including the monitoring of SDG 1 of "ending poverty in all its forms everywhere". On the other hand, the University of Bristol provides their technical support towards the analysis of the multidimensional aspect of poverty and deprivation in Fiji.

I also acknowledge the contribution of the Household Survey Division, including staff from other Division who provided their support towards the completion of the survey despite the many challenges faced throughout the survey period. Lastly, the consistency of the Data Analysis Team led by their Division Head in terms of the processing and analyses of the survey data, including the write-up of the report are accordingly acknowledged.



……

Mr. Kemueli Naiqama

Chief Executive

Fiji Bureau of Statistics

Table of Contents

1.0 INTRODUCTION 1

1.1. HIES objectives 1

1.2. About Fiji HIES 2019-20 1

2.0 SURVEY METHODOLOGY 2

2.1. Survey coverage 2

2.2. Sample selection 3

2.3. Sample limitations 3

3.0 DEMOGRAPHIC CHARACTERISTICS 4

3.1. Population distribution 4

3.2. HH size distribution 4

3.3. Share of households headed by Males 5

3.4. Age groups distribution 6

4.0 POVERTY PROFILE 8

4.1. Poverty estimates in 2019-2020 8

4.2. Spatial distribution of poverty incidence 11

4.3. Poverty rates and poverty gap 11

4.4. Poverty rates and food Poverty 12

4.5. Poverty rates and food poverty by HH head characteristics 12

4.5.1. Poverty rates and food poverty by male and female headed HHs 13

4.5.2. Poverty rates and food poverty by sub-population group of HH heads 13

4.5.3. Poverty rates and food poverty by marital status of HH heads 14

4.5.4. Poverty rates and food poverty by religion of HH heads 14

4.5.5. Poverty rates and food poverty by age-group of HH heads 15

4.5.6. Poverty rates and food poverty by education attainment of HH heads 15

4.5.7. Poverty rates and food poverty of employment status of HH heads 16

4.5.8. Poverty rates and food poverty by HH size 16

4.6. Distribution of the poor population 17

4.7. Near-poor population estimates 18

5.0 POVERTY, NEAR-POOR POPULATION AND HOUSING CHARACTERISTICS 20

5.1. Housing tenure 20

5.2. Land tenure 20

5.3. Access to electricity 21

5.4. Access to water supply 22

5.5. Access to cooking fuel 23

5.6. Access to toilet facility 23
6.0 MULTIDIMENSIONAL POVERTY AND DEPRIVATION IN FIJI 25
6.1. The purpose of measuring multidimensional poverty 25
6.2. Difference between multidimensional poverty and consumption expenditure poverty 25
6.3. The necessities of life in Fiji 26
6.4. Key Multidimensional Poverty and Deprivation results 26
6.5. Adult and household essentials 27
6.6. Essentials for Children 30
6.7. Deprivation in Fiji 32
6.8. Multidimensional Poverty in Fiji 35
6.9. Household size and Multidimensional Poverty 36
6.10. Number of Children and Poverty 37
6.11. Multidimensional Poverty by Age Group 37
6.12. Multidimensional Poverty by Household Head Characteristics 38
7.0 HOUSEHOLD COPING STRATEGIES 40
8.0 INEQUALITY MEASURES 42
8.1. Gini-coefficient 42
8.2. Palma Index 42
8.3. Inequality decomposition 43
8.4. Wealth indicators 44
8.5. Non-monetary dimensions of poverty 44
9.0 HOUSEHOLD INCOME 46
9.1. Household income summary 46
9.2. Composition of HH income 46
9.3. Distribution of HH income 47
9.4. Household employment income by decile 48
9.5. Household transfer income by decile 49
10.0 HOUSEHOLD EXPENDITURE 50
10.1. Annual HH consumption expenditure 50
10.2. Composition of consumption expenditure per HH average 50
10.3. Distribution of consumption per AE 52
10.4. Breakdown of food consumption per HH average 53
10.5. Distribution of non-food consumption per HH average (top 4) 54
10.6. Non-consumption expenditure (donations) 55
11.0 EMPLOYMENT 56

11.1. Labour force participation 56
11.2. Employment rate by age group 57
11.3. Unemployment rate by age group 58
11.4. Employment by type 59
11.5. Employment by rural-urban 59
11.6. Poverty rates by employment status of population aged 15-64 60
11.7. Poverty rate by employment sector 60
12.0 ANNEXES 61
12.1. Annex A: Poverty rates and Poverty gaps 61
12.2. Annex B: Poverty rates and food poverty per AE 62
12.3. Annex C: Poverty rates and food poverty by characteristics of HH heads 63
12.4. Annex D: Poor and near poor by HH characteristics 64
12.5. Annex E: Households coping mechanisms 65
12.6. Annex F: Annual average non-food consumption per HH 67
12.7. Annex G: Percentage of deprivation in Fiji by rural-urban areas 68
12.8. Annex H: Multidimensional poverty rates 69
12.9. Annex I: Labour force participation by age-group 70
12.10. Annex J: Absolute poverty measurement methodology 71
12.11. Annex K: Multidimensional Poverty Methodology 79
12.12. Annex L: Definitions and Classifications 98

LIST OF FIGURES

Figure 1: Share of HHs headed by Males 5
Figure 2: Share of HHs headed by Males by Division 6
Figure 3: Population pyramid 6
Figure 4: Poverty rates and distribution of the poor by division 10
Figure 5: Poverty rates and distribution of the poor by age-group 10
Figure 6: Poverty map by Division 11
Figure 7: Poverty rates and Poverty gap 12
Figure 8: Poverty headcount and food poverty per AE 12
Figure 9: Poverty rates and food poverty by sex of HH heads 13
Figure 10: Poverty rates and food poverty by sub-population group of HH heads 13
Figure 11: Poverty rates and food poverty by marital status of HH heads 14
Figure 12: Poverty rates and food poverty by religion of HH heads 14
Figure 13: Poverty rates and food poverty by age-group of HH heads 15
Figure 14: Poverty rates and food poverty by education attainment of HH heads 15
Figure 15: Poverty rates and food poverty by employment status of HH heads 16
Figure 16: Poverty rates and food poverty by HH size 16
Figure 17: Poverty rates by housing tenure 20
Figure 18: Poverty rates by land tenure 21
Figure 19: Poverty rates by main electricity supply 22
Figure 20: Poverty rates by main water supply 22
Figure 21: Poverty rate by cooking fuel 23
Figure 22: Poverty rates by toilet facility 24
Figure 23: Percentage of different population groups believing adult possessions/activities are essential 29
Figure 24: Percentage of different population group believing child possessions/activities are essential 31
Figure 25: Percentage of adults deprived 33
Figure 26: Percentage of deprived adults in households 33
Figure 27: Percentage of children deprived 34
Figure 28: Multidimensional poverty rates by area and division 36
Figure 29: Multidimensional poverty by area and division 36
Figure 30: Multidimensional poverty rate by number of children in the HHs 37
Figure 31: Multidimensional poverty rate by age group 37
Figure 32: Multidimensional poverty by education attainment of HH heads 38
Figure 33: Multidimensional poverty by employment status of HH heads 38
Figure 34: Multidimensional poverty by HH head's employment sector 39
Figure 35: Top 5 coping mechanisms (National) 40
Figure 36: Top 5 coping mechanism (Rural) 41
Figure 37: Top 5 coping mechanisms (Urban) 41
Figure 38: Consumption inequality 43
Figure 39: Theil decomposition of inequality 43
Figure 40: HHs employment income by decile 48
Figure 41: HH transfer income by decile 49

Figure 42: Consumption breakdown per AE 52
Figure 43: Labour force participation by age group and sex 56
Figure 44: Labour force participation rate by geographical area and sex 57
Figure 45: Employment rate by age group and sex 57
Figure 46: Employment rate by geographical area and age groups 58
Figure 47: Unemployment rate by men and women with different age groups 58
Figure 48: Unemployment rate by geographical areas and age groups 59
Figure 49: Poverty rates by employment sector (aged 15-64) 60

BOXES

Box 1: Cost of basic needs poverty line 8
Box 2: Multidimensional Poverty Index (MPI) 35

LIST OF TABLES

Table 1: Population distribution by sex 4
Table 2: Household size distribution 5
Table 3: Population distribution by age group 7
Table 4: Poverty estimates and distribution 9
Table 5: Distribution of the poor population 17
Table 6: Distribution of the poor population (cont.) 18
Table 7: Near poor BNPL 19
Table 8: Estimated number of poor and near-poor population 19
Table 9: Percentage of respondents who view the adult and HH deprivation item as essential 28
Table 10: Percentage of respondents who view the child deprivation items as essential 30
Table 11: Average Household Sizes 37
Table 12: National and sub-national measures of inequality 42
Table 13: Per AE consumption and HH asset ownership by decile 44
Table 14: Non-monetary deprivations 45
Table 15: Annual HH Income by mean, media, and per AE 46
Table 16: Per Household Average 47
Table 17: Decile distribution of HH income 48
Table 18: Annual Household Expenditure Summary 50
Table 19: Consumption composition - per HH average 51
Table 20: Food and Nonfood shares by decile 53
Table 21: Annual average food consumption per HH 53
Table 22: Average non-food consumption per HH (top 4) 54
Table 23: Breakdown of top 4 non-food consumption - per HH average 55
Table 24: Households non-consumption expenditure 55
Table 25: Labour force statistics (population aged 15-64) 56
Table 26: Type of employment (population aged 15-64) by sex 59
Table 27: Type of employment (population aged 15-64) by rural-urban 59
Table 28: Type of employment by gender 60

ABBREVIATIONS

AE	per adult equivalent
BNPL	Basic Needs Poverty Line
CPI	Consumer Price Index
COICOP	Classification of Individual Consumption According to Purpose
EAs	Enumeration Areas
EFL	Energy Fiji Limited
EGM	Vatukoula Gold Mine
FBoS	Fiji Bureau of Statistics
FSC	Fiji Sugar Corporation
FPL	Food Poverty Line
GDP	Gross Domestic Production
HH	Household
HIES	Household Income and Expenditure Survey
LPG	Liquefied Petroleum Gas
LHS	Left-hand scale
MDAMP	Multi-Dimensional Approach to Measure Poverty
MPI	Multidimensional Poverty Index
NFPL	Non-Food Poverty Line
PPS	Probability Proportion to Size
PSMB	Pacific Statistics Methods Board
RHS	Right-hand scale
SDG	Sustainable Development Goals
TLTB	iTaukei Land Trust Board

EXECUTIVE SUMMARY

Three out of ten Fijians were living in poverty in 2019-20, with rural poverty still much higher than urban poverty. Based on the 2019-20 Household Income and Expenditure Survey (HIES), 29.9 percent of Fijians, or about 258,000 individuals in 45,724 households, lived under the Basic Needs Poverty Line (BNPL) of FJD41.91 per adult equivalent per week. Poverty was higher in rural areas (41.5%) than urban areas (20.4%), with 62.2 percent of the poor living in rural areas. The poverty gap, which is a "weighted" poverty rate that takes into account the depth of poverty, stands at 7 percent for this time period.

Aside from geographic dispersion, poverty also varied by education and labor market characteristics of the household. Households whose head had higher levels of education had lower poverty rates, although the returns to education were much lower in rural areas than in urban areas. Poverty rates were also lowest among households whose heads were employers or involved in salaried work, particularly outside of the agriculture industry.

Three distinct groups of poor emerge from the data, each with their own challenges and policy needs. The first group is the urban poor, whose primary needs are improved education and skills in order to access productive jobs. The second group is the rural poor in Eastern and Northern division, who are the most multidimensionally deprived, lacking access to basic needs such as grid electricity and piped water. This second group also suffer from lack of access to skilled jobs, which means the returns to education are much lower. The third group is the rural poor in Western and Central divisions, who are somewhat in the middle of the first two groups: having better access to public services due to being located on the main island of Viti Levu, but still predominantly agricultural, with many working in the low wage jobs such as farm laborers and cane cutters.

Food poverty in Fiji is rare in national terms, but still prevalent in some areas. The food poverty estimates based on the food poverty line of FJD 1,335.36 per AE per year (FJD 25.68 per AE per week) was 6.4 percent for 2019-20. The prevalence of food poverty was much higher in rural areas (11.1%) than in urban areas (2.6%) and was more prevalent in the Eastern division (13.7%) than elsewhere. Food poverty measures the cost of buying a balance diet that provides 2,228 Calories per AE per day.

An additional 15 percent of the population are at risk of falling into poverty when applying the BNPL + 20%. If the current BNPL per AE per week of $41.91 is increased by $8.38 (20 percent), an additional 15 percent of the population (129,313 individuals) would fall under this new poverty line. This means that they are vulnerable of falling into poverty in the future, if they are affected by shocks like lost income or an illness in the family.

An additional 34 percent of the population are at risk of falling into poverty when applying the BNPL + 50%. If the current BNPL per AE per week of $41.91 is increased by $20.96 (50 percent), an additional 34 percent of the population (291,515 individuals) would fall under this new poverty line.

Also in 2019-20, three out of every ten adults and children (30%) were multidimensionally poor – they lived on low incomes and were deprived of essential things that they needed. Over a quarter of a million people (256,000) in Fiji are multidimensionally poor. Multidimensional poverty rates in rural areas (38%) are higher than in urban areas (23%) of Fiji.

Fortunately, only 2% of children in Fiji were deprived of three meals a day in 2019-20. This means that a large majority of children in Fiji do not go hungry due to a lack of money. On the other hand, a significant number of adults were socially deprived. 16 percent cannot afford to have *"Celebrations on special occasions such as birthdays, Christmas or religious festivals"* and about one in five adults (around 20%) do not have *"enough money to meet social/traditional obligations (Church/Family Functions etc.)"* or *"visit friends and family in hospital or other institutions"* or "*get-together with friends/family for a drink/meal at least once a month".*

Moreover, the most common coping strategies when households are faced with adverse shocks in their income or consumption **include seeking help from friends and relatives, changing consumption patterns to less preferred foods, and withdrawal from savings.**

Lastly, the national Gini coefficient is estimated at 30.1 in 2019-20. Urban areas recorded a higher level of consumption inequality (29.6) than the rural areas (27.3). Northern division recorded the lowest consumption inequality of 25.0 compared to Central division (30.5), Western division (30.6), and Eastern division (28.8).

1.0 INTRODUCTION

1.1. HIES objectives

The HIES survey plays an important role in terms of collecting household information on income, expenditure and access to basic services such as housing, transport, communication, education, and health.

The survey also aims to provide an update statistical information on the following:

1. Provide updates on the national poverty lines and revised poverty estimates;
2. Provide updates on the multidimensional aspect of poverty and deprivation;
3. Contribute to the preparation of the Consumer Price Index (CPI) in terms of updating the weights of food and non-food items in the CPI basket;
4. Supplement the data available for use in the compilation of various components in the system of national accounts;
5. Contribute to the formulation of tax and social welfare policy through the income and consumption distribution information of the population and households;
6. Assist in measuring the contribution of the informal sector to the GDP; and
7. Provide information on the consumption pattern of the Fijian population.

The survey also aims to produce statistical indicators that are useful for policy formulation and planning such as: housing; education; labour force; transfers and remittances, inequality, and households coping mechanisms during distress events.

1.2. About Fiji HIES 2019-20

Previously, Fiji HIES survey results have been analyzed using the income measures. The 2019-20 HIES reflects changes in the methodology and best practices in terms of household welfare measurement in line with the latest international and regional standards on welfare analysis and poverty measurement.

In a change from previous years, the 2019-20 poverty rate measures the per adult equivalent consumption aggregates against the national BNPL. The main reasons for these changes are due to the smoother nature of the consumption distribution compared to the income distribution, especially when some households have irregular income sources and may sometimes report zero annual incomes; and to promote consistency between the methods used in Fiji and the methods used in other Pacific Island Countries, which all use consumption rather than income as the aggregate of choice.

The revision is also crucial in order to ensure that a rigor and technical soundness of poverty measurement is applied as a precondition to a meaningful debate around poverty issues, including the monitoring of SDG goal 1 of “ending poverty in all its forms everywhere”.

2.0 SURVEY METHODOLOGY

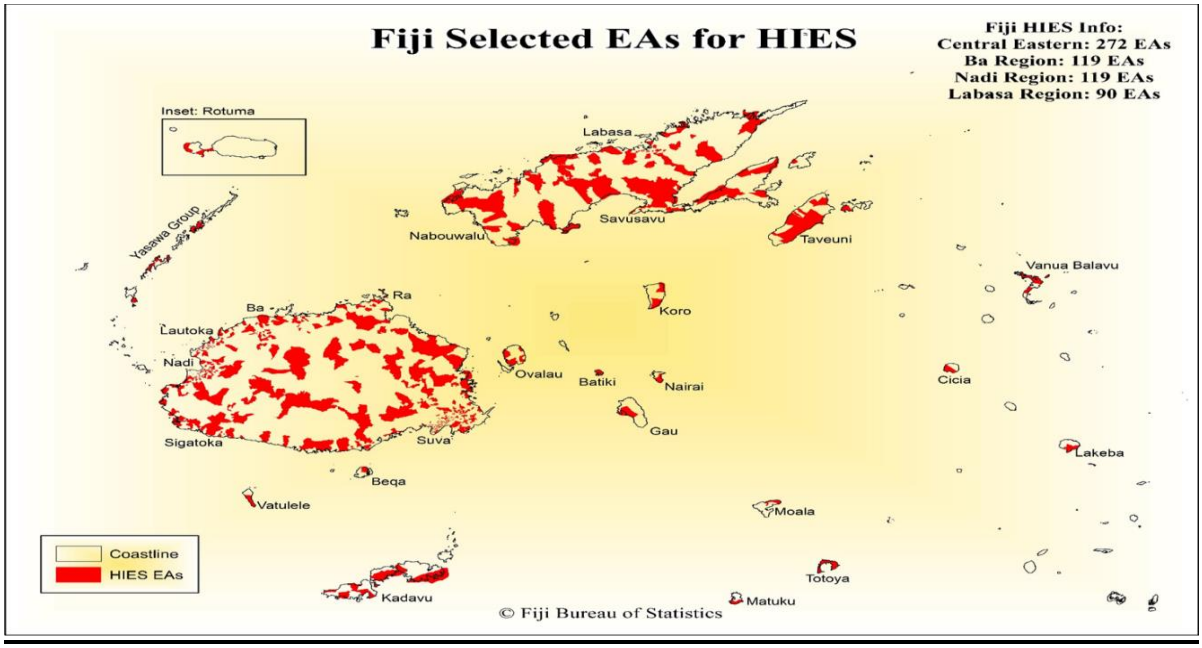
2.1. Survey coverage

The 2019-20 Household Income & Expenditure Survey [HIES] was planned and conducted by the Household Survey Division of the Fiji Bureau of Statistics.

The HIES was a national survey covering sampled areas throughout the entire nation including the maritime areas. The 2017 Population & Housing Census data was used as the survey frame. This survey was spread across a 12-month period to account for the seasonal effects on the nation. The survey was divided into 4 sub-rounds of 3 months where by a quarter of the sampled households were covered per sub-round. This created 4 different sub-samples.

A representative sample of 6,000 households were selected from a sample of 600 Enumeration Areas [EAs] covering the whole country. The sample size of 6,000 households was largely dependent on the funds allocated for the survey. The data obtained from this sample survey is used to draw inferences on the Fijian population.

The 2019-20 HIES adopted the 2 stages, Stratified, Probability Proportional to Size, Systematic Sampling. Fiji's population was divided into the divisions, namely Central, Western, Eastern and Northern and then further divided into urban and rural sectors. Thus, there were 7 stratums which had been created which are basically our reporting domains. There were 4 rural stratums and 3 urban stratums. Since the size of each stratum is not the same, the proportional allocation method has been used to determine the size of selection from each stratum that would best reflect the situation on the ground.



2.2. Sample selection

The sample design follows a 2-stage process of: (i.) selecting a sample of EAs; and (ii.) selecting a cluster of households from each selected EA. In the 1st stage, the list of EAs within each stratum is sorted by size in terms of the number of households within the EAs. The Probability Proportional to Size (PPS) sampling is then adopted to select a sample of EAs. The 2nd stage involves the listing of households in each selected EAs before a fixed cluster of 10 households were selected using the systematic random sampling to determine the 6,000 sample households as tabulated below.

Stratum	Division	HHs	Proportion	EA Sample	EA Distribution by Strata
1	Central/Eastern Urban	58,477	0.30		183
2	Central Rural	20,765	0.11		65
3	Eastern Rural	7,741	0.04		24
4	Northern Urban	8,816	0.05	600	28
5	Northern Rural	19,920	0.10		62
6	Western Urban	41,423	0.22		130
7	Western Rural	34,768	0.18		109
	Total	**191,910**	**1.00**		**600**

2.3. Sample limitations

Despite the fairly representatives of the survey sample, sample limitations are always expected in any sample survey. Therefore, most of the analyses in this report are limited at the strata level to ensure that estimates are as realistic as possible. Future consideration will be given towards increasing the sample size due to the increasing demand for disaggregated information at the provincial and tikina level.

Also, some variables need to be merged together in the analyses because of representative issues whilst providing enough confidence towards the reliability of the estimates. Despite the challenges, all sample targets were completed with 100 percent response rate and as per the work plan.

3.0 DEMOGRAPHIC CHARACTERISTICS

3.1. Population distribution

More than 50 percent of the population reside in the urban areas. The population estimates based on the 2019-20 HIES shows that majority of the Fijian population reside in the urban areas (477,500) with a total estimated Fijian population of 864,132. Central and Western Division recorded the most population with 42 percent and 38 percent respectively (Table 1). By geographical area, majority of the Fijian population resided in the urban Central division (30%) followed by Western urban (20%) and rural Western (18%). Population distribution by sub population groups shows that iTaukei contribute to around 62 percent of the total population, followed by Indo-Fijian sub population (34%), and others (4%).

Table 1: Population distribution by sex

Area	Estimated total population	%	Male	%	Female	%
National	**864,132**	**100.0%**	434,914	50.3%	429,218	49.7%
Rural	386,632	44.7%	201,137	23.3%	185,495	21.5%
Urban	477,500	55.3%	233,777	27.1%	243,722	28.2%
Sub population						
iTaukei	535,554	62.0%	270,675	31.3%	264,879	30.7%
Indo-Fijian	295,326	34.2%	148,603	17.2%	146,724	17.0%
Others	33,251	3.8%	15,637	1.8%	17,615	2.0%
Geographical Division						
Central	361,459	41.8%	178,878	20.7%	182,581	21.1%
Eastern	36,274	4.2%	19,984	2.3%	16,290	1.9%
Northern	135,965	15.7%	70,078	8.1%	65,888	7.6%
Western	330,434	38.2%	165,975	19.2%	164,458	19.0%
Geographical Areas						
Rural Central	101,422	11.7%	52,462	6.1%	48,960	5.7%
Rural Eastern	32,724	3.8%	18,134	2.1%	14,591	1.7%
Rural Northern	98,550	11.4%	51,269	5.9%	47,282	5.5%
Rural Western	153,936	17.8%	79,273	9.2%	74,662	8.6%
Urban Central	260,037	30.1%	126,416	14.6%	133,621	15.5%
Urban Eastern	3,550	0.4%	1,850	0.2%	1,699	0.2%
Urban Northern	37,415	4.3%	18,809	2.2%	18,606	2.2%
Urban Western	176,498	20.4%	86,702	10.0%	89,796	10.4%

3.2. HH size distribution

National mean household size was 4.3 persons per household. Table 2 shows the HH size distribution based on the estimated 199,688 households in Fiji. The mean HH size was greater in rural areas (4.4) compared to urban areas (4.2). Central and Northern Division recorded the highest mean HH size of 4.5 and 4.6 respectively, and was mostly driven by the increasing HH size recorded in the rural Central and rural Northern division (4.7). Eastern and Western Division also recorded a similar HH size of 4.1.

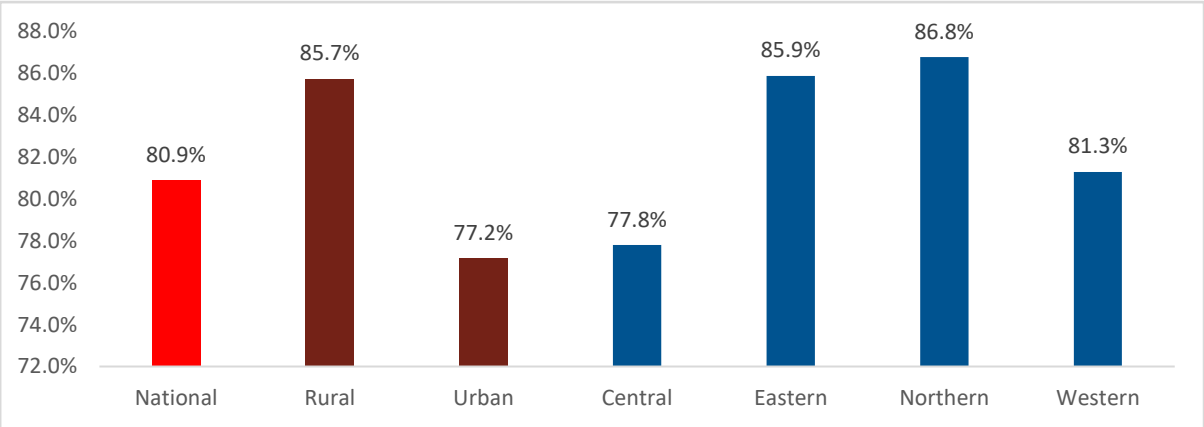
Table 2: Household size distribution

	Mean HH size	Mean AE HH size
National	**4.3**	**3.7**
Rural	4.4	3.8
Urban	4.2	3.6
Geographical Division		
Central	4.5	3.9
Eastern	4.1	3.5
Northern	4.6	3.9
Western	4.1	3.5
Geographical Areas		
Rural Central	4.7	4.0
Rural Eastern	4.2	3.5
Rural Northern	4.7	4.0
Rural Western	4.2	3.6
Urban Central	4.4	3.8
Urban Eastern	3.9	3.3
Urban Northern	4.2	3.6
Urban Western	4.0	3.4

3.3. Share of households headed by Males

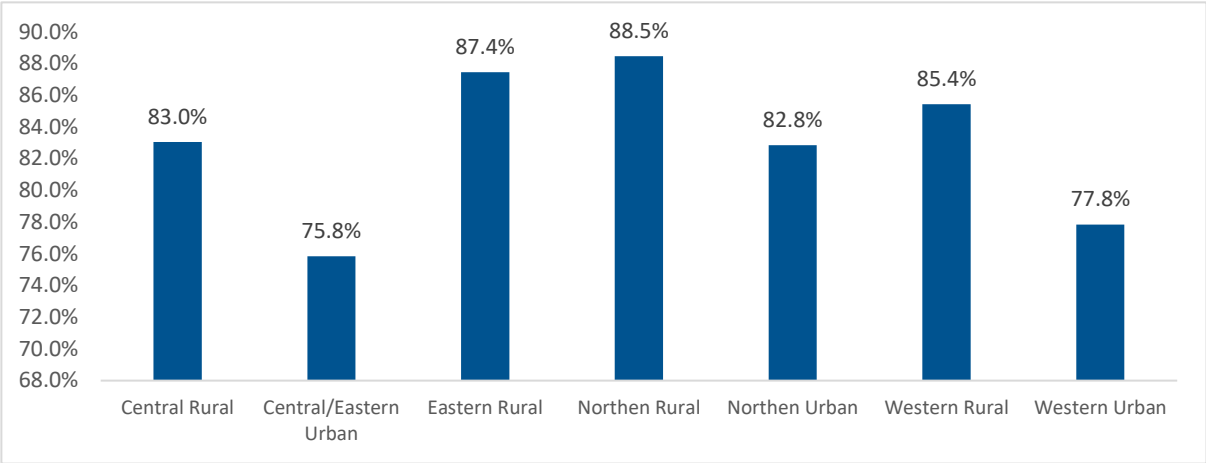
On average, 81 percent of the households were headed by males. Figure 1 shows that majority of the households in Fiji were headed by males especially in the rural areas (86%) compared to urban areas (77%). Central Division recorded the lowest number of households headed by males with 78 percent whereas the other divisions recorded more than 80 percent.

Figure 1: Share of HHs headed by Males



By strata level, Figure 2 shows that the reduction in the household headed by males in the Central and Western Division were driven by the Central/Eastern urban (76%) and Western urban (78%), respectively.

Figure 2: Share of HHs headed by Males by Division



3.4. Age groups distribution

Fiji has a very young population. Fiji's population distribution shows a pyramid-shaped, as over half of Fiji's population in 2019-20 are under the age of 30, and less than 10 percent of the population are over the age of 60 (Figure 3). Population distribution among male and female are fairly distributed across the different age-groups.

Figure 3: Population pyramid

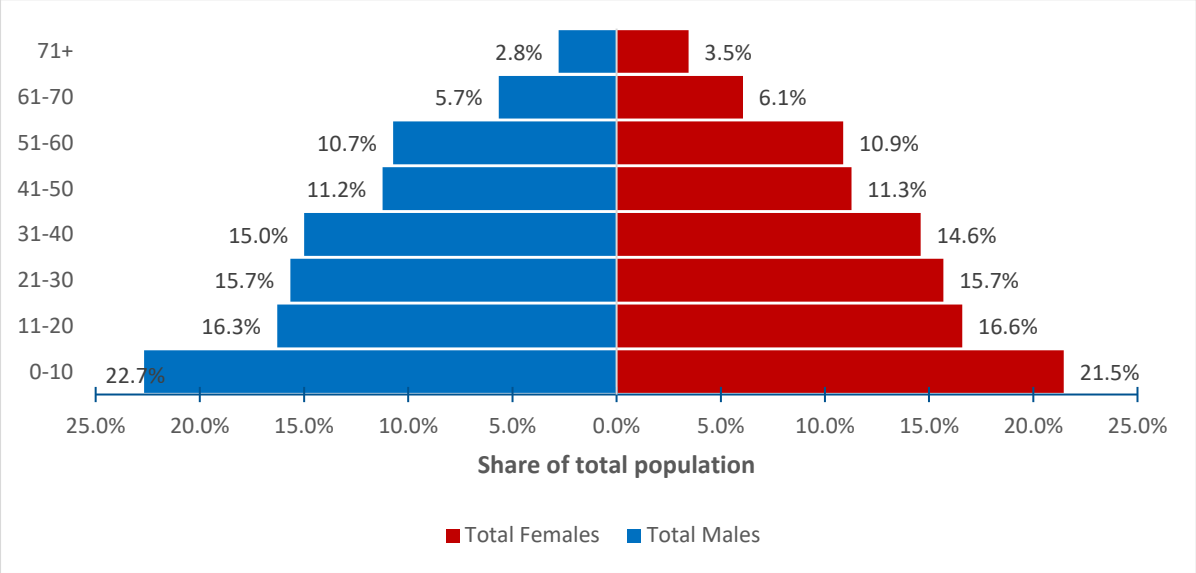


Table 3 shows the age-group distribution by different geographical areas, sex and sub-population group including the voting age-group of 18 years and above. At the national level, more than 60 percent of the population are in the age group 15-64 with similar distribution noted across the geographic division Fiji wide. More details are in the Table 3 below.

Table 3: Population distribution by age group

Area	All ages	0-14	15-64	65+	18+
	N	%	%	%	%
National	**864,132**	**29.3%**	**64.6%**	**6.1%**	**66.0%**
Rural	386,632	31.2%	62.3%	6.5%	64.0%
Urban	477,500	27.7%	66.4%	5.9%	67.7%
Sex					
Male	434,914	28.7%	64.7%	6.6%	66.4%
Female	429,218	29.9%	64.4%	5.7%	65.6%
Sub population					
iTaukei	535,554	33.8%	61.3%	4.9%	60.9%
Indo-Fijian	295,326	21.0%	70.6%	8.4%	75.4%
Others	33,251	30.2%	63.7%	6.2%	64.3%
Geographical Division					
Central	361,459	29.1%	65.1%	5.8%	66.0%
Eastern	36,274	33.4%	60.5%	6.2%	62.9%
Northern	135,965	30.8%	62.8%	6.3%	64.3%
Western	330,434	28.4%	65.2%	6.4%	67.1%
Geographical Areas					
Rural Central	101,422	32.5%	61.0%	6.5%	62.1%
Rural Eastern	32,724	33.4%	59.9%	6.6%	62.9%
Rural Northern	98,550	32.7%	61.4%	5.9%	62.5%
Rural Western	153,936	29.0%	64.3%	6.8%	66.4%
Urban Central	260,037	27.8%	66.7%	5.6%	67.5%
Urban Eastern	3,550	32.9%	65.1%	1.9%	63.2%
Urban Northern	37,415	25.9%	66.6%	7.4%	68.8%
Urban Western	176,498	28.0%	65.9%	6.1%	67.8%

4.0 POVERTY PROFILE

In order to compare the different socio-economic situations faced by the Fijian households in 2019-2020, two different poverty lines were used: (i.) **Basic needs poverty line**, defined as the line below where individuals cannot meet their food and non-food minimum needs; and (ii.) **food poverty line**, defined as the line where individuals cannot meet their basic food needs.

Poverty gap has also been used to complement the poverty headcount measures. The poverty gap index measures the intensity (depth) to which consumption of the poor individuals or households on average fall below the poverty line. This measure is also useful to determine the additional support (minimum cost) that would be needed in order to eliminate poverty and bring each poor individual or household up to the official national poverty line.

It should also be noted that the 2019-2020 poverty estimates cannot be compared directly to the previous HIES surveys due to the change in methodology to consumption measures from the traditional income measures of welfare analysis.

4.1. Poverty estimates in 2019-2020

Fiji's official poverty headcount rate based on the 2019-20 HIES was estimated at 29.9 percent, which means that around 258,000 individuals were living in poverty during this survey period.

A single national poverty line was set at $2,179.39 per adult equivalent (AE) per year, or $41.91 per AE per week. This means that a person in Fiji is considered poor if his or her per AE annual consumption expenditure is less than $2,179.39 or less than $41.91 per week.

In other words, individuals living below this national poverty line cannot afford to buy the essential food and non-food items for their living.

Box 1: Cost of basic needs poverty line

A "cost of basic needs" poverty line is a way of measuring poverty by calculating the threshold of consumption required to meet the minimum food and non-food needs. The main steps of the "cost of basic needs" method are:

1. Construct the welfare aggregates based on HIES data
2. Estimate the minimum required consumption to meet food needs ("food poverty line" / FPL)
3. Estimate the minimum required consumption to meet non-food needs ("non-food poverty line" / NFPL)
4. Add the FPL and NFPL to produce the "basic needs poverty line" (BNPL)
5. Compare the welfare aggregates to the BNPL; individuals with welfare below the BNPL are considered poor.

Detailed notes about methodological decisions in calculating the welfare aggregates and poverty lines are presented in Annex J and in the HIES preliminary release.

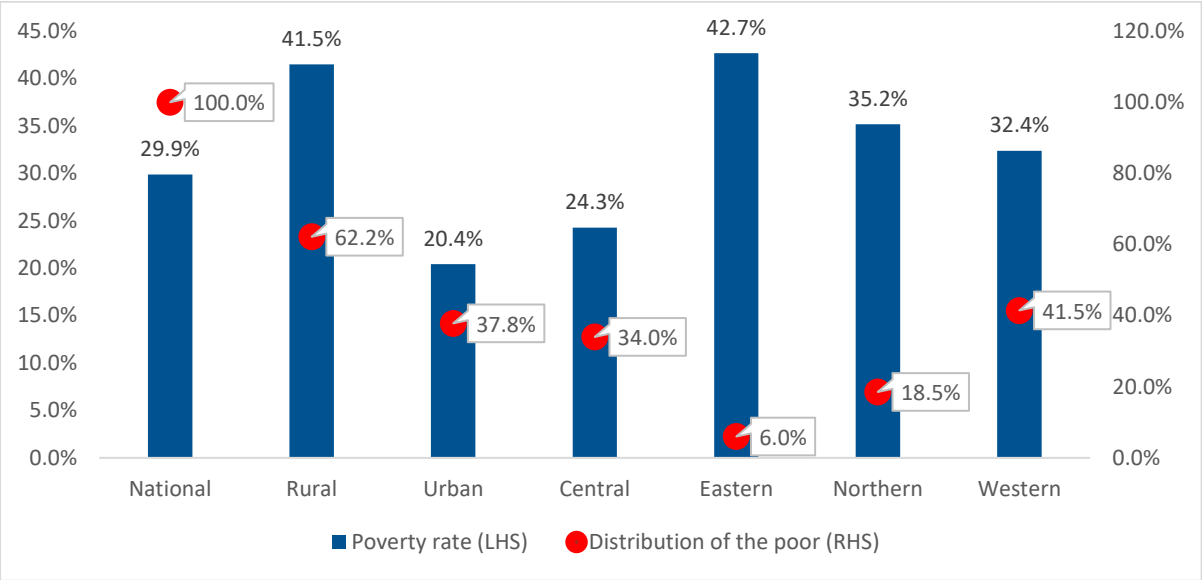
Table 4 below shows the summary of poverty estimates for the year 2019-20.

Table 4: Poverty estimates and distribution

Area	Estimated population	Absolute Poverty	Poverty rate	Distribution of the poor
National	**864,132**	**258,053**	**29.9%**	**100.0%**
Rural	386,632	160,450	41.5%	62.2%
Urban	477,500	97,602	20.4%	37.8%
Sex				
Male	434,914	134,060	30.8%	52.0%
Female	429,218	123,992	28.9%	48.0%
Sub-population group				
iTaukei	535,554	192,977	36.0%	74.8%
Indo-Fijian	295,326	58,933	20.0%	22.8%
Others	33,251	6,143	18.5%	2.4%
Geographical Division				
Central	361,459	87,766	24.3%	34.0%
Eastern	36,274	15,480	42.7%	6.0%
Northern	135,965	47,819	35.2%	18.5%
Western	330,434	106,988	32.4%	41.5%
Geographical Areas				
Rural Central	101,422	41,178	40.6%	16.0%
Rural Eastern	32,724	13,911	42.5%	5.4%
Rural Northern	98,550	39,579	40.2%	15.3%
Rural Western	153,936	65,782	42.7%	25.5%
Urban Central	260,037	46,588	17.9%	18.1%
Urban Eastern	3,550	1,569	44.2%	0.6%
Urban Northern	37,415	8,240	22.0%	3.2%
Urban Western	176,498	41,206	23.3%	16.0%
Religion				
Christian	581,216	200,871	34.6%	77.8%
Hindus	214,029	41,042	19.2%	15.9%
Muslim	51,828	11,679	22.5%	4.5%
Others	17,059	4,461	26.1%	1.7%
Marital Status				
Never married	162,418	49,955	30.8%	19.4%
Legally married	357,524	97,586	27.3%	37.8%
Defacto	10,978	3,043	27.7%	1.2%
Widowed	46,606	11,848	25.4%	4.6%
Separated	12,375	2,998	24.2%	1.2%
Divorced	7,087	1,228	17.3%	0.5%

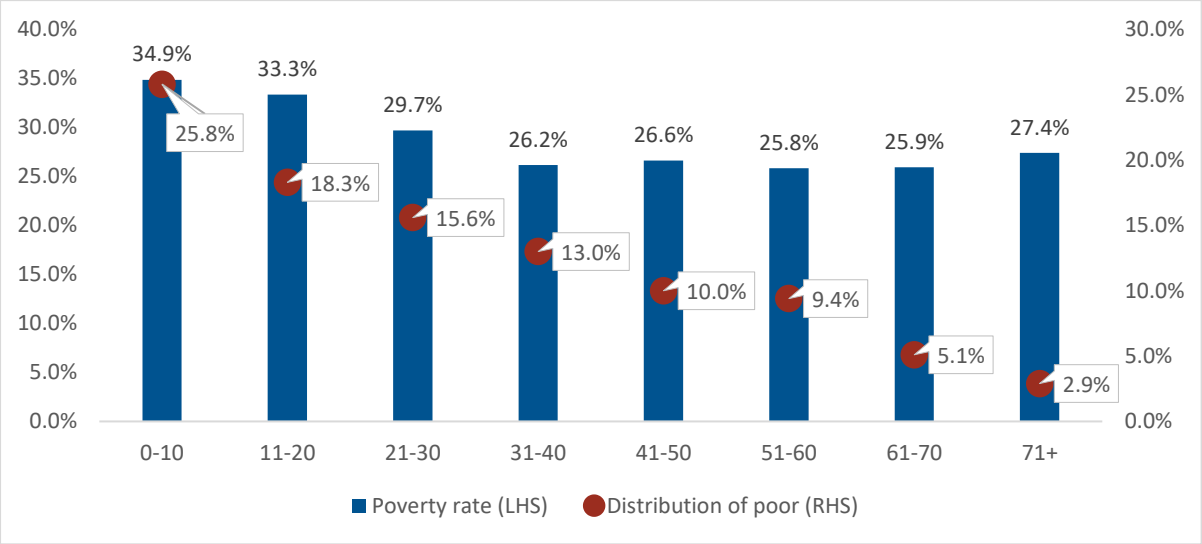
Rural areas and Eastern division recorded the poorest with more than 40 percent of poverty rate. Figure 4 shows that a high incidence of poverty was recorded in the rural areas (42%) and in the Eastern Division (43%). Central division recorded the lowest poverty rate of 24 percent. With regards to the distribution of the poor population, majority of the poor were again living in the rural areas (62%) over urban areas (38%). Western and Central division recorded the highest poverty concentration with 42% and 34%, respectively.

Figure 4: Poverty rates and distribution of the poor by division



Most of Fiji's poor are in the age group 30 years and below. Poverty rates are higher for the younger segments of the population than the older groups (Figure 5). This means that the young population are over-represented in the poor population compared to the overall population (people under 30 make up 54 percent of the population but 60 percent of the poor), and that most of Fiji's poor are young. The poverty rate is highest among children aged 0-10 (35%), and children aged 0-10 make up a quarter of the poor population.

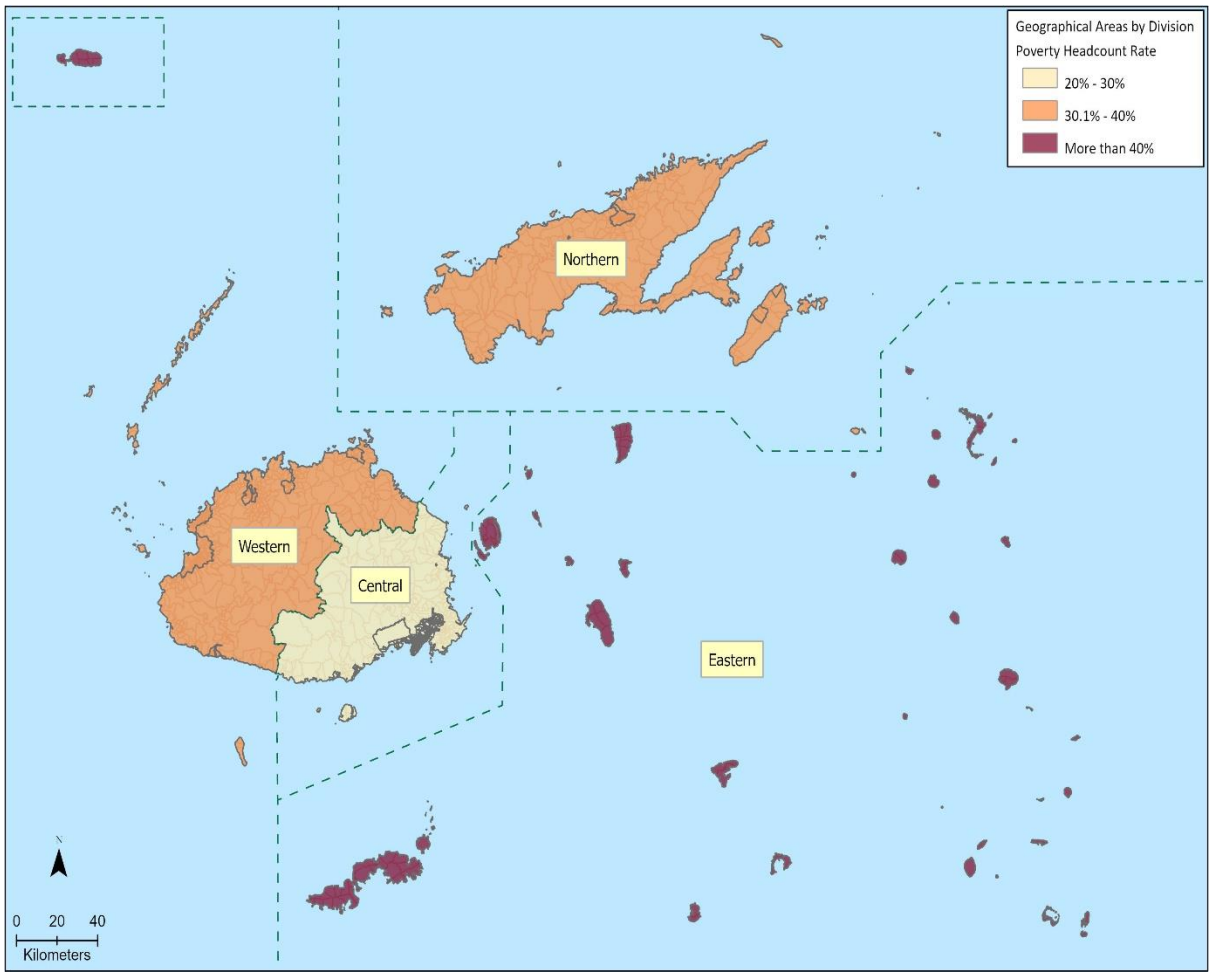
Figure 5: Poverty rates and distribution of the poor by age-group



4.2. Spatial distribution of poverty incidence

Provided below is another way of presenting the spatial distribution of poverty incidence. It clearly shows that more than 40 percent of the poverty headcount are spreading across the Eastern Division and are mostly maritime areas with less economic opportunities and difficulties in terms of accessing basic needs and infrastructure.

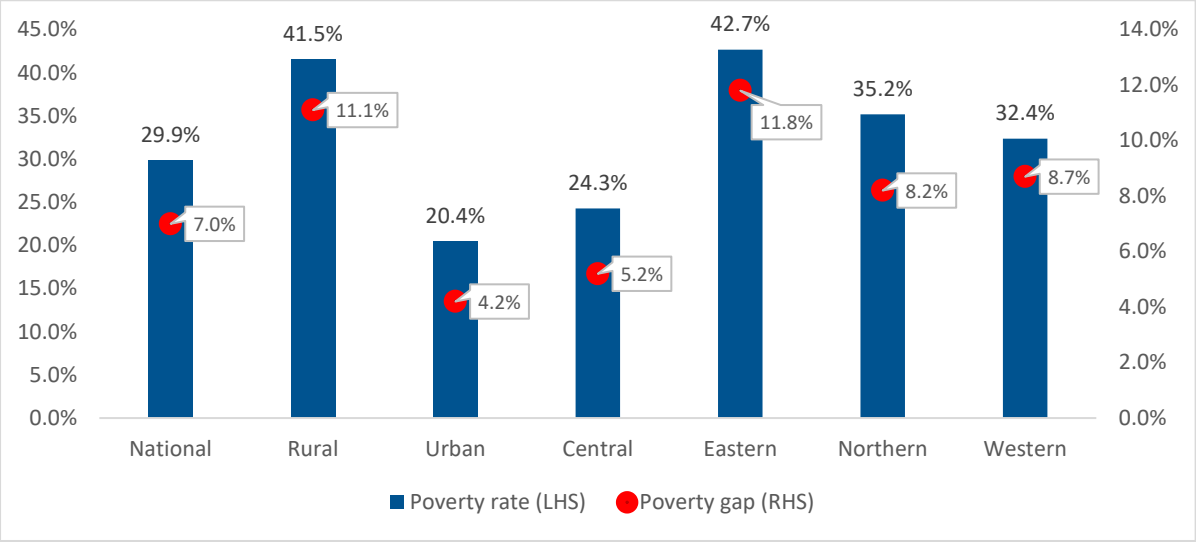
Figure 6: Poverty map by Division



4.3. Poverty rates and poverty gap

Fiji's poverty gap stands at 7.0 percent. In addition to the poverty headcount rate, Figure 7 also reveals the poverty gap index. Poverty gap (depth of poverty) is a "weighted" measure of poverty, where the poverty rate is calibrated against the distance of consumption below the poverty line (with the non-poor having a distance of zero). This allows a more nuanced comparison between areas that have similar poverty headcount rates, as it shows the extent to which poor people are poor. The data for 2019-20 shows a poverty gap of 7 percent at the national level. One useful comparison using the poverty gap can be made between the Northern and Western divisions: although the poverty headcount rate was slightly lower in Western than Northern (32.4 percent vs. 35.2 percent), the poverty gap was slightly higher in Western Division, which means that the poor living in Western division were more worse off than those living in Northern division. *Refer to Annex A for more details.*

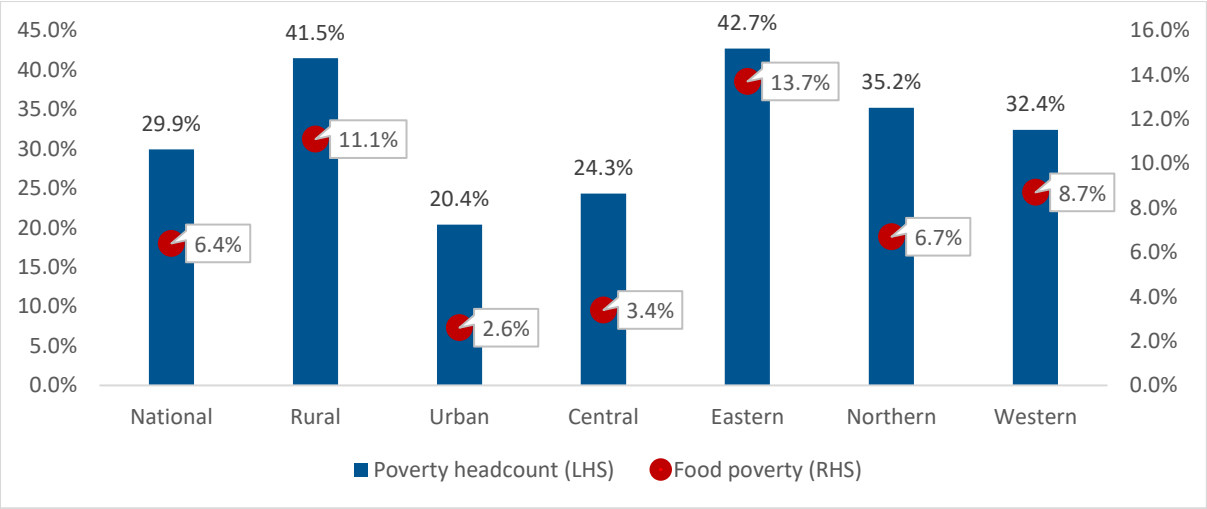
Figure 7: Poverty rates and Poverty gap



4.4. Poverty rates and food Poverty

Food poverty in Fiji is rare in national terms, but still prevalent in some areas. Figure 8 shows the food poverty and its relationship with the incidence of poverty. It shows that the food poverty, which is estimated based on the food poverty line of FJD 1,335.36 per AE per year (FJD 25.68 per AE per week) was 6.4 percent in 2019-20. Similar to the incidence of poverty, the prevalence of food poverty was much higher in rural areas (11%) than in urban areas (3%) and was more prevalent in the Eastern division (14%) than elsewhere. Food poverty measures the cost of buying a balance diet that provides 2,228 Calories per AE per day. Refer to Annex B for more details on food poverty per AE.

Figure 8: Poverty headcount and food poverty per AE



4.5. Poverty rates and food poverty by HH head characteristics

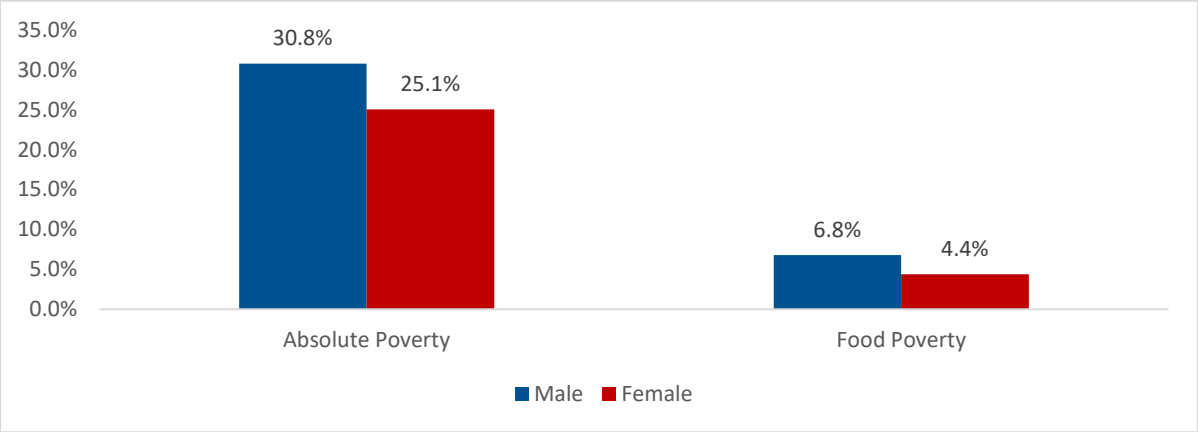
Characteristics of the household head provides an important determination of poverty in terms of sex, population group, marital status, age, household size, education attainment, and employment status

of household heads. These determinants of poverty are summarized below together with food poverty. Refer to Annex C for more details on poverty rates and food poverty by characteristic of household heads.

4.5.1. Poverty rates and food poverty by male and female headed HHs

Poverty was slightly higher for people living in male-headed households compared to female-headed households. Figure 9 indicates that the poverty rate for people living in male-headed households (31%) was higher than the poverty rate for people living in female-headed households (25%). However, less difference was noted at the food poverty level.

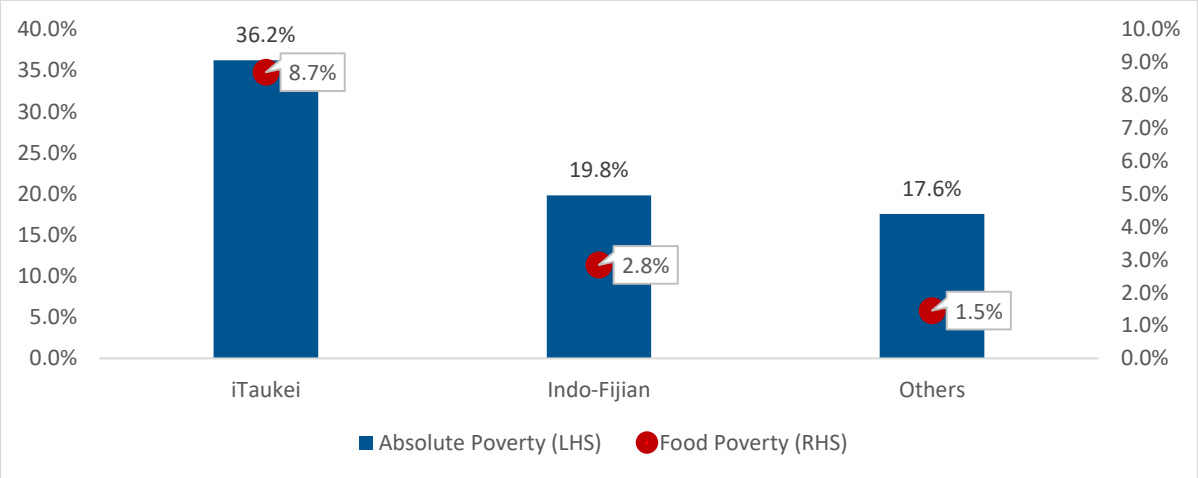
Figure 9: Poverty rates and food poverty by sex of HH heads



4.5.2. Poverty rates and food poverty by sub-population group of HH heads

Poverty rates and food poverty was more predominant for people living with households headed by iTaukei. On average, 36 percent of people living with iTaukei HH heads were living in poverty in 2019-20 compared to 20 percent Indo-Fijian headed households and 18 percent for other HH heads (Figure 10). Similar pattern was noted in food poverty with iTaukei headed households recorded with (9%), Indo-Fijian headed HHs (3%) and others (2%).

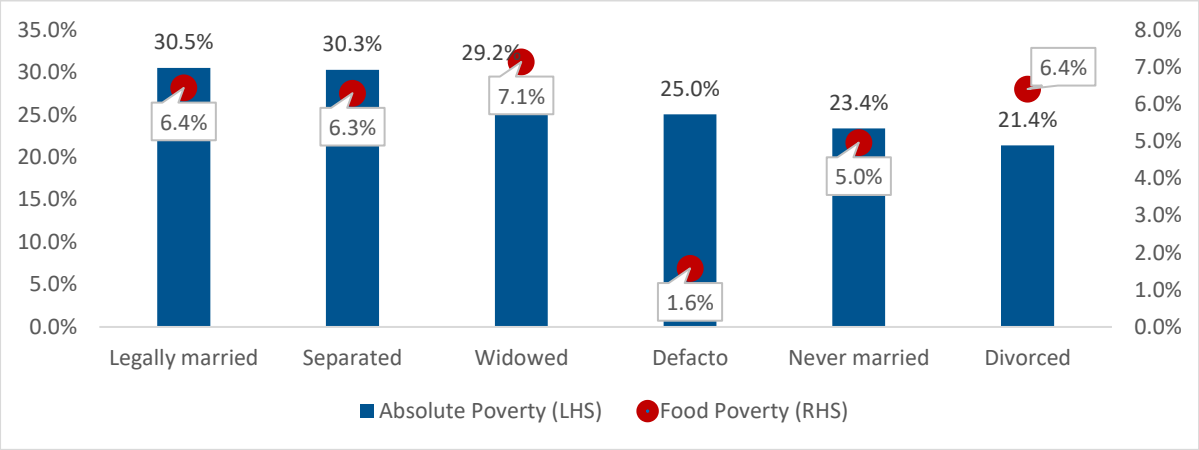
Figure 10: Poverty rates and food poverty by sub-population group of HH heads



4.5.3. Poverty rates and food poverty by marital status of HH heads

Poverty rates and food poverty were high among people living with HH heads that were legally married, separated, and widowed. Nationally, an estimated 77 percent of total HH heads were legally married, followed by widowed (14%), and never married (4%), respectively. HHs headed by separated, defacto, and divorced contains less than 3 percent of the total HH heads. Figure 11 shows that poverty was higher among people living with legally married, separated and widowed HH heads. Those people living with defacto HH heads recorded less food poverty (1.6%) than the rest of HH heads marital status.

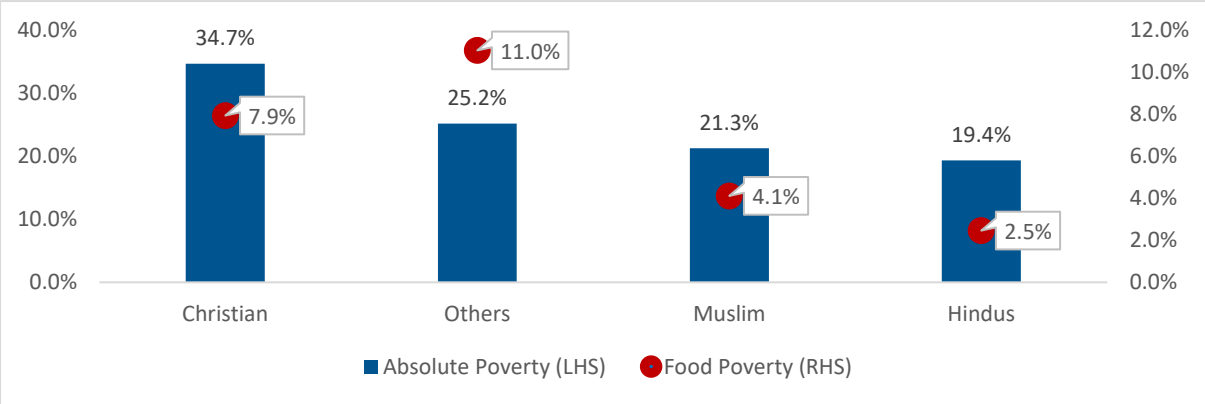
Figure 11: Poverty rates and food poverty by marital status of HH heads



4.5.4. Poverty rates and food poverty by religion of HH heads

Poverty rates were also high among people living with HH heads that were Christians. An estimated 67 percent of HHs in Fiji were headed by Christian denominations followed by Hindus (25%), Muslim (6%), and Others (2%), respectively. The survey data shows that on average 35 percent of people who live with HH heads of Christian denomination were living below the poverty line, followed by other denomination (25%), Muslim (21%), and Hindus (19%). However, HHs headed by other denominations top the food poverty rate with 11 percent, followed by Christian (8%), Muslim (4%), and Hindus (3%).

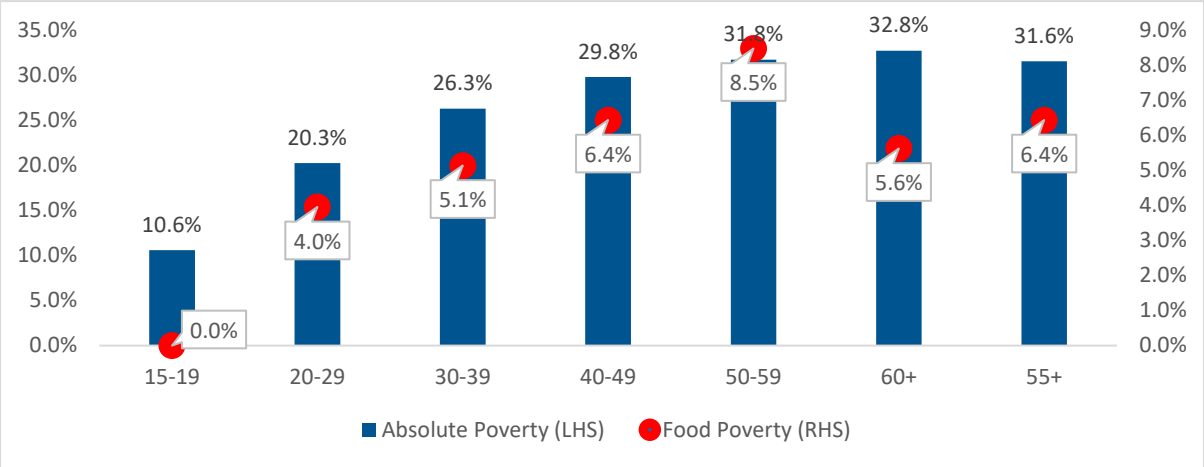
Figure 12: Poverty rates and food poverty by religion of HH heads



4.5.5. Poverty rates and food poverty by age-group of HH heads

Poverty rates and food poverty trending upwards as the age of HH heads increase (Figure 13). The survey data also reveals an increasing poverty rates with age-group of HH heads. Higher poverty was recorded among people living with HH heads above 40 years compared to younger HH heads. Similar pattern was noted on food poverty except those living with elderly HH heads in the age-group 60+ years.

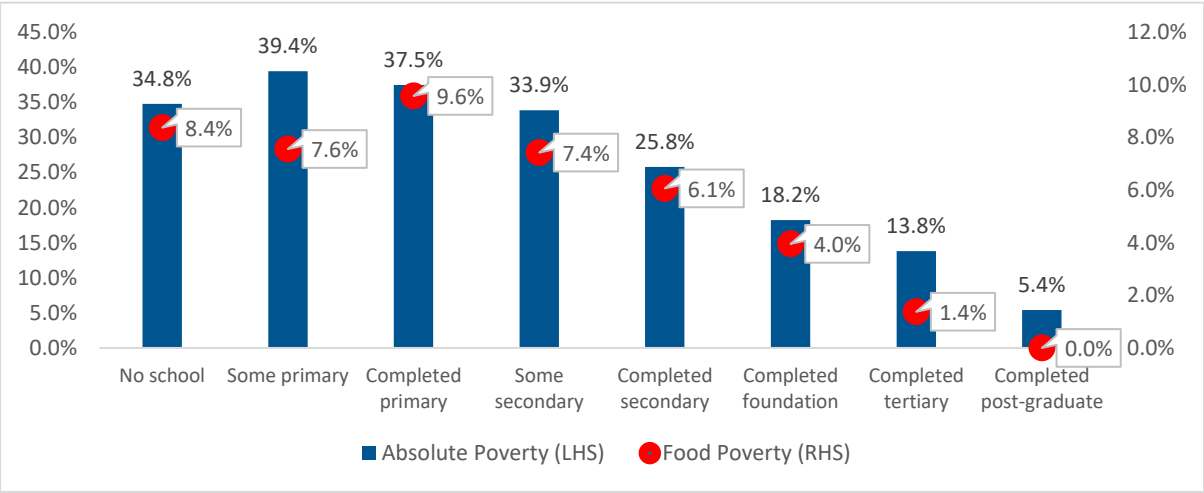
Figure 13: Poverty rates and food poverty by age-group of HH heads



4.5.6. Poverty rates and food poverty by education attainment of HH heads

People living with HH heads with no education attainment up till some secondary school education recorded more than 30 percent of poverty rates. The result in Figure 14 shows a positive relationship between high education attainment and low incidence of poverty. People living with HH heads that completed post-graduate education recorded the least poverty rates of 5 percent compared to HH heads with no school attainment of 35 percent. Food poverty also follow similar pattern except a mild drop in the food poverty recorded for some primary education.

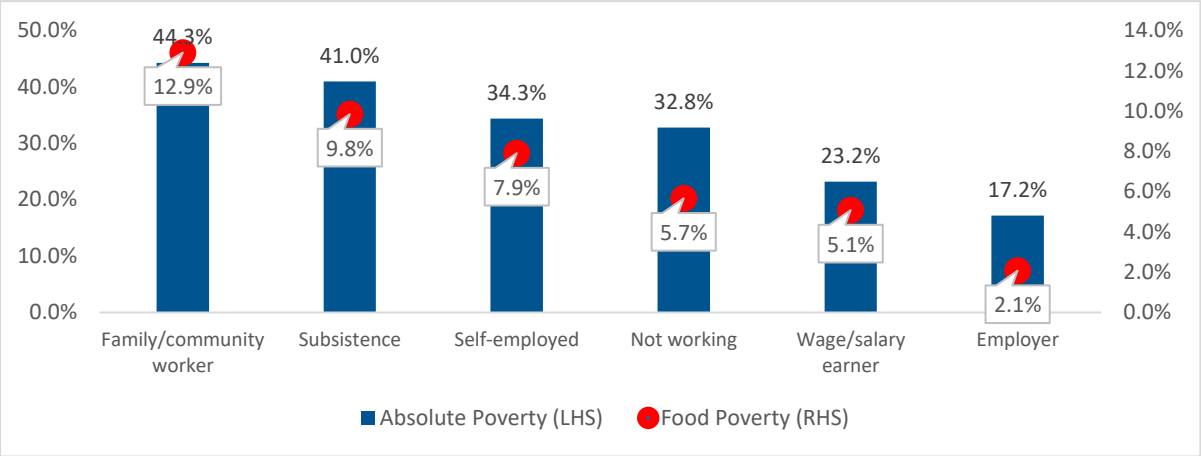
Figure 14: Poverty rates and food poverty by education attainment of HH heads



4.5.7. Poverty rates and food poverty of employment status of HH heads

People living with HH heads that engaged as family/community workers and subsistence farming recorded more than 40 percent of poverty rates (Figure 15). Those engaged as wages/salary workers and employers recorded the least poverty rates of 23 percent and 17 percent, respectively. Food poverty also follow similar pattern with highest food poverty recorded under those living with HH heads with family/community workers (13%) and subsistence farming (10%).

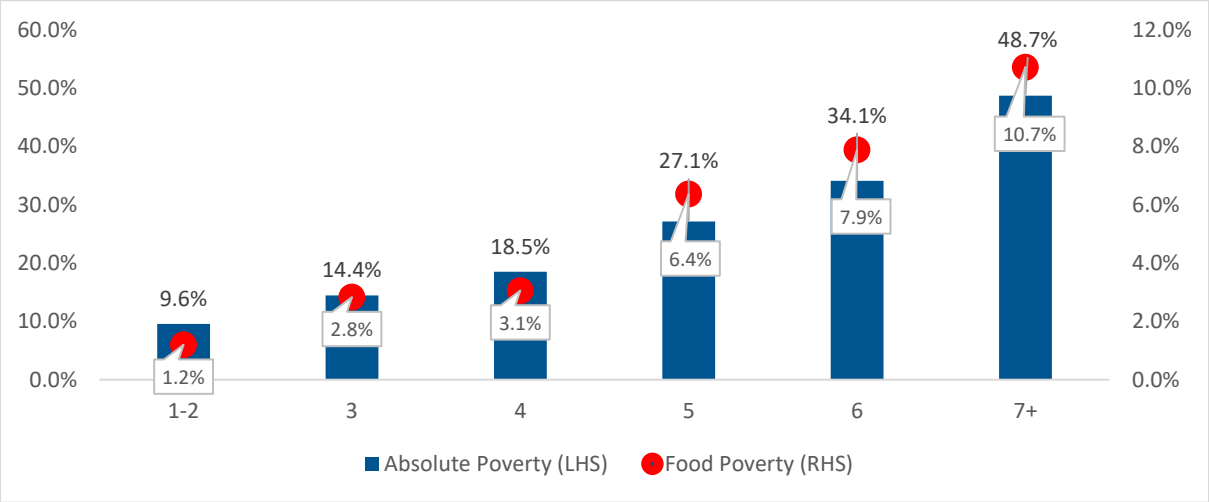
Figure 15: Poverty rates and food poverty by employment status of HH heads



4.5.8. Poverty rates and food poverty by HH size

People living in households' size of more than seven recorded more than 40 percent of poverty rates (Figure 16). On the other hand, people living with smaller household sizes recorded the least poverty rates of 10 percent. Food poverty also follow a similar pattern with more food poverty recorded on people living in households with large HH size compared to smaller HH size.

Figure 16: Poverty rates and food poverty by HH size



4.6. Distribution of the poor population

Poverty rates is consistent with the distribution of the poor where majority of them were living in rural areas in 2019-20. Table 5 shows a high rural poverty rates of 42 percent, which also contains around 62 percent of the total poor population. The iTaukei population group dominates both the poverty rates and distribution of the poor with 36 percent and 75 percent, respectively. By religious group, Christian denomination recorded the highest poverty rates (35%) and the largest proportion (78%) in terms of the distribution of the poor. Similarly, male population reported a slightly higher poverty rate of 31 percent and with more poverty concentration of 52 percent over female counterpart.

Table 5: Distribution of the poor population

Area	Poverty rate	Distribution of the poor
National	**29.9%**	**100.0%**
Rural	41.5%	62.2%
Urban	20.4%	37.8%
Sex		
Male	30.8%	52.0%
Female	28.9%	48.0%
Sub-population group		
iTaukei	36.0%	74.8%
Indo-Fijian	20.0%	22.8%
Others	18.5%	2.4%
Geographical Division		
Central	24.3%	34.0%
Eastern	42.7%	6.0%
Northern	35.2%	18.5%
Western	32.4%	41.5%
Geographical Areas		
Rural Central	40.6%	16.0%
Rural Eastern	42.5%	5.4%
Rural Northern	40.2%	15.3%
Rural Western	42.7%	25.5%
Urban Central	17.9%	18.1%
Urban Eastern	44.2%	0.6%
Urban Northern	22.0%	3.2%
Urban Western	23.3%	16.0%
Religion		
Christian	34.6%	77.8%
Hindus	19.2%	15.9%
Muslim	22.5%	4.5%
Others	26.1%	1.7%

Table 6 shows that around 59 percent of poor population were legally married in 2019-20, followed by the never married category with 30 percent. In the labour market, an estimated 49 percent of the poor population were not working, followed by wage/salary earner and self-employed with 24 percent and 15 percent, respectively. In the employment by sector, the not working category again recorded the highest (49%) in terms of the distribution of the poor population, followed by those working in the private sector (27%), non-subsistence agriculture (13%), subsistence agriculture (9%) and public sector (2%).

Table 6: Distribution of the poor population (cont.)

Area	Poverty rate	Distribution of the poor
Marital Status		
Never married	30.8%	30.0%
Legally married	27.3%	58.6%
Defacto	27.7%	1.8%
Widowed	25.4%	7.1%
Separated	24.2%	1.8%
Divorced	17.3%	0.7%
Employment status		
Not working	31.9%	49.4%
Wage/salary earner	20.2%	24.0%
Employer	9.5%	0.2%
Self-employed	32.6%	15.3%
Family/community worker	34.0%	1.8%
Subsistence	33.5%	9.3%
Employment by sector		
Not working	31.9%	49.4%
Non-agriculture (private sector)	21.1%	26.9%
Public sector	10.1%	1.5%
Agriculture (subsistence)	33.5%	9.3%
Agriculture (non-subsistence)	41.9%	12.9%

4.7. Near-poor population estimates

In many countries, the term "vulnerable" is used to describe certain groups that they think would need extra support, such as children, women, the elderly, and people with disabilities. However, sometimes the term can also be used to describe those people who are at risk of falling into poverty.

In order to remove this ambiguity, the term "near-poor" has been used to describe people who are not currently poor (living above the poverty line) but may be at significant risk of becoming poor in the future. In other words, the near-poor population is defined as those people whose consumption is above but still close to the poverty line. Normally, the way to quantify that risk is by using panel data to track the same households over multiple years to see the fluctuation of consumption for different types of households. But due to the limitation of the survey, the following arbitrary measures of BNPL + 20% (FJD50.29 per AE per week) and BNPL + 50% (FJD62.87 per AE per week), are being used to estimate those population who are at risk to fall into poverty in the future (Table 7).

Table 7: Near poor BNPL				
	per AE per year	diff	per AE per week	diff
BNPL	$2,179.39		$41.91	
BNPL+20%	$2,615.27	$435.88	$50.29	$8.38
BNPL+50%	$3,269.09	$1,089.70	$62.87	$20.96

An additional 15 percent of the population are at risk of falling into poverty when applying the BNPL + 20% (Table 8). If the current BNPL per AE per week of $41.91 is increased by $8.38 (20 percent), it is estimated that an additional 15 percent of the population (129,313 individuals) are living closure to the poverty line and are more vulnerable of falling into poverty in the future.

An additional 34 percent of the population are at risk of falling into poverty when applying the BNPL + 50%. If the current BNPL per AE per week of $41.91 is increased by $20.96 (50 percent), an additional 34 percent of the population (291,515 individuals) are living closure to the poverty line and are more vulnerable of falling into poverty in the future (Table 8).

Table 8: Estimated number of poor and near-poor population

Area	Estimated population	Poor population	%	Near-poor population (BNPL+20%)	%	Near-poor population (BNPL+50%)	%
National	**864,132**	**258,053**	**29.9%**	**129,313**	**15.0%**	**291,515**	**33.7%**
Rural	386,632	160,450	41.5%	65,313	16.9%	137,991	35.7%
Urban	477,500	97,602	20.4%	64,000	13.4%	153,524	32.2%
Geographical Division							
Central	361,459	87,766	24.3%	50,791	14.1%	119,758	33.1%
Eastern	36,274	15,480	42.7%	5,528	15.2%	11,461	31.6%
Northern	135,965	47,819	35.2%	23,344	17.2%	51,343	37.8%
Western	330,434	106,988	32.4%	49,650	15.0%	108,952	33.0%
Geographical Areas							
Rural Central	101,422	41,178	40.6%	16,162	15.9%	36,646	36.1%
Rural Eastern	32,724	13,911	42.5%	5,009	15.3%	10,251	31.3%
Rural Northern	98,550	39,579	40.2%	17,089	17.3%	36,589	37.1%
Rural Western	153,936	65,782	42.7%	27,054	17.6%	54,504	35.4%
Urban Central	260,037	46,588	17.9%	34,630	13.3%	83,112	32.0%
Urban Eastern	3,550	1,569	44.2%	519	14.6%	1,210	34.1%
Urban Northern	37,415	8,240	22.0%	6,255	16.7%	14,754	39.4%
Urban Western	176,498	41,206	23.3%	22,597	12.8%	54,448	30.8%

5.0 POVERTY, NEAR-POOR POPULATION AND HOUSING CHARACTERISTICS

This section focuses on the housing characteristics of the near-poor population and those people living below the poverty line. Key housing characteristics such as housing and land tenure, and access to electricity, access to water, cooking fuel and toilet facility are summarized below.

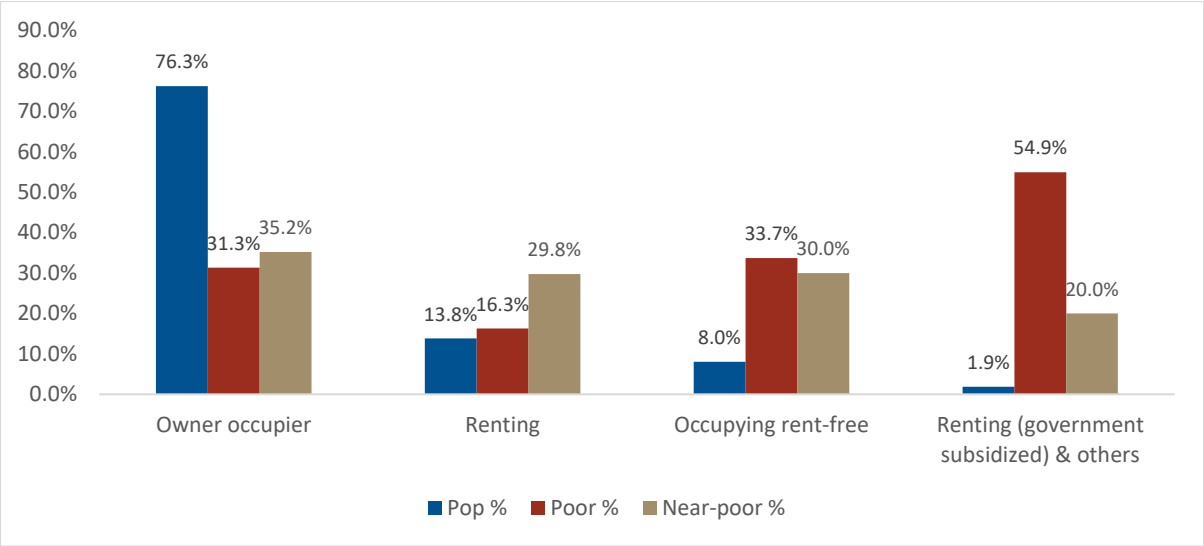
5.1. Housing tenure

Poverty rates were high among people renting in the government subsidized housing. Nationwide (include poor and non-poor), majority of the people live in their owner occupier dwellings (76%), followed by those renting from private landlord (14%), occupying rent-free (8%), and renting from subsidized housing (2%).

Figure 17 shows that on average, those people living in government subsidized housing recorded the highest poverty rates of 55 percent, followed by occupying rent-free (34%), owner occupier (31%), and renting from private landlord (16%).

Using the BNPL+50% benchmark, the most near-poor population are those living in their own house with an additional 35 percent of the people are more likely to fall into poverty in the future, followed by occupying rent-free and renting from private landlord with 30 percent, and those living in government subsidized housing (20%) *(refer to Annex D for details)*.

Figure 17: Poor and near-poor by housing tenure



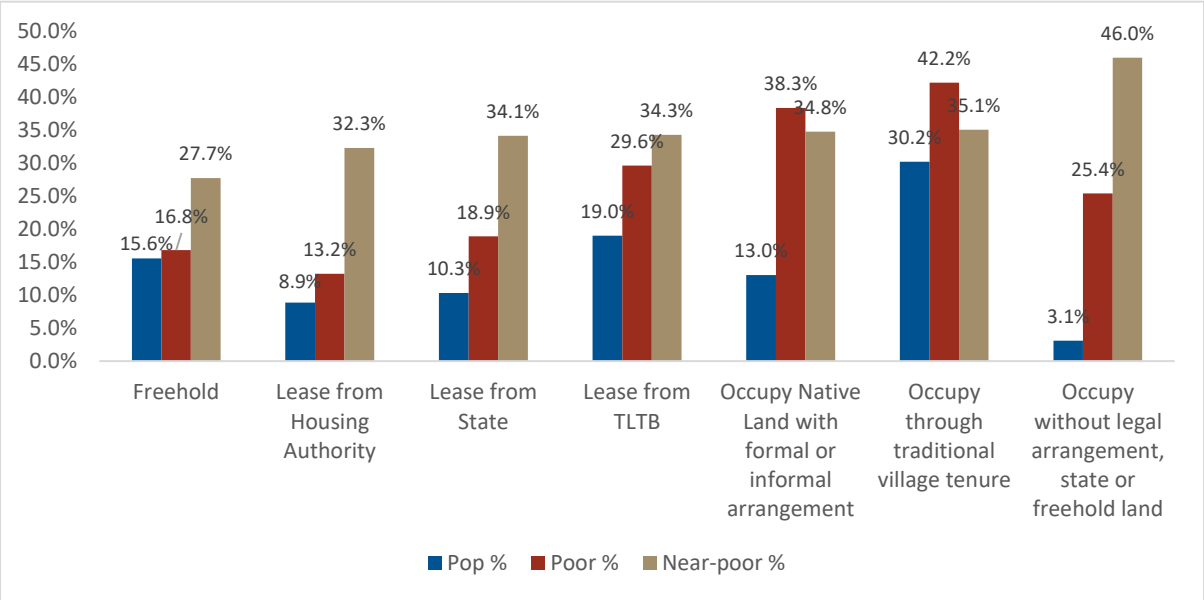
5.2. Land tenure

Poverty rates were high among people living in traditional village tenure. At the national level (include poor and non-poor), 30 percent of people living in traditional village tenure, followed by lease from TLTB (19%), freehold (16%), occupy native land with formal or informal arrangement (13%), and lease from state (10%). Those leasing from Housing Authority and occupy state/freehold land without legal arrangement recorded less than 10 percent of the population.

On average, those people living through traditional village tenure recorded the highest poverty rates of 42 percent, followed by those people living through native land with formal and informal arrangement (38%), those living under TLTB (native land) lease (30%), and those occupying state/freehold land without legal arrangement (25%). People living on freehold land, Housing Authority, and State lease recorded a lower poverty rates of less than 20 percent (Figure 18).

However, using the BNPL+50% benchmark, the most near-poor population are those living in state/freehold land without legal arrangement with an additional 46 percent are more likely to fall into poverty in the future with the least near-poor population reported for those living in freehold land tenure *(refer to Annex D for details)*.

Figure 18: Poor and near-poor by land tenure



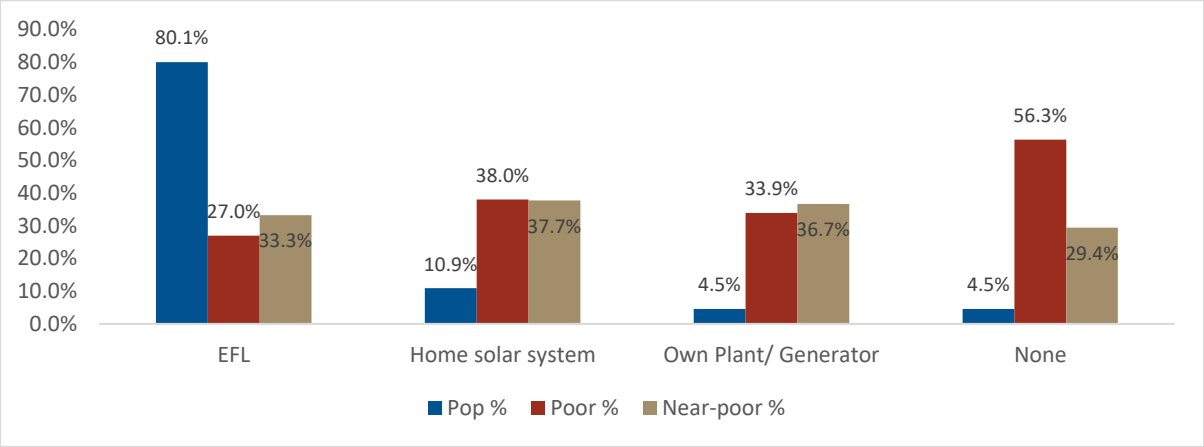
5.3. Access to electricity

Poverty rates were high among people with no electricity. At the national level (include poor and non-poor), around 80 percent of the people already accessible to the EFL grid, followed by home solar system (11%), diesel generator and no electricity with 5 percent, respectively.

However, a high poverty rate of 56 percent was recorded for those people who access to no electricity compared to those connected to the EFL grid (27%). Around 38 percent of the people using home solar system were poor in 2019-20 and 34 percent for those accessing diesel plant (Figure 19).

Using the BNPL+50% benchmark, the most near-poor population are those people using home solar and generator as their main source of electricity with an additional 38 percent and 37 percent are more likely to fall into poverty in the future, followed by EFL (33%), and no electricity access (29%) *(refer to Annex D for details)*.

Figure 19: Poor and near-poor by main electricity supply



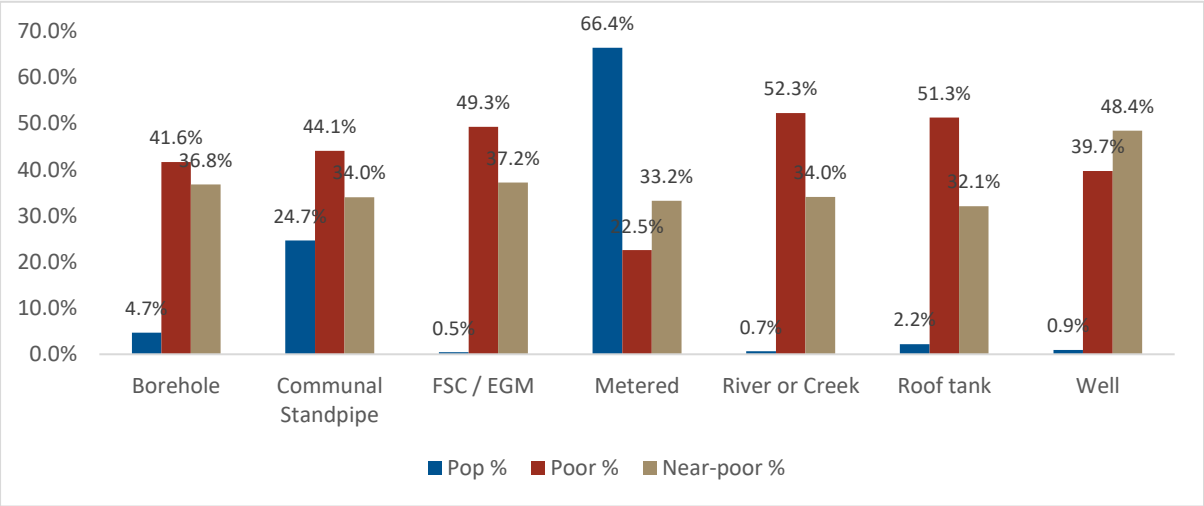
5.4. Access to water supply

More than half of the population who access river/creek and roof tank as their main source of water supply were living below the poverty line in 2019-20. At the national level, around 66 percent of the people already connected to metered water, followed by communal standpipe (25%), and borehole (5%). Those accessing roof tank, well, river/creek as their main source of water supply recorded less than 3 percent of the population.

Figure 20 shows that poverty rates were high for those people accessing river/creek and roof tank as their main source of water supply with more than 50 percent. The least poor was recorded for those people accessing metered water with 23 percent. The rest of the population that access to other sources of water supply recorded poverty rates that ranges from 30% to 49%.

Using the BNPL+50% benchmark, the most near-poor population are those accessing well as their water source with an additional 48 percent are more likely to fall into poverty in the future, followed by FSC/EGM, borehole with 37 percent, and metered water, communal standpipe, and roof tank with around 33 percent *(refer to Annex D for details)*.

Figure 20: Poor and near-poor by main water supply



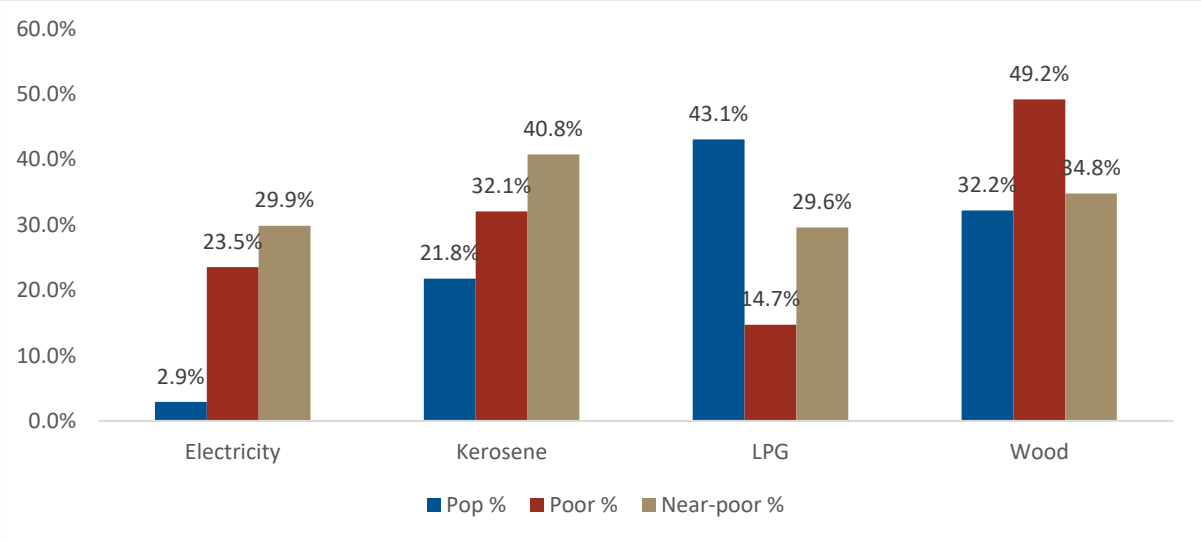
5.5. Access to cooking fuel

High poverty rate was recorded for people using wood as their main source of cooking fuel. At the national level, majority of the population used LPG as their main source of cooking fuel (43%), followed by wood (32%), Kerosene (22%), and electricity (3%).

Figure 21 shows that poverty rates were high for those people using wood as their main source of cooking fuel with 49 percent, followed by kerosene (32%), electricity (24%), and LPG (15%).

Using the BNPL+50% benchmark, the most near-poor population are those using kerosene as their main source of cooking fuel with an additional 41 percent are more likely to fall into poverty in the future, followed by wood (35%), LPG and electricity with 30%, respectively *(refer to Annex D for details)*.

Figure 21: Poor and near-poor by cooking fuel



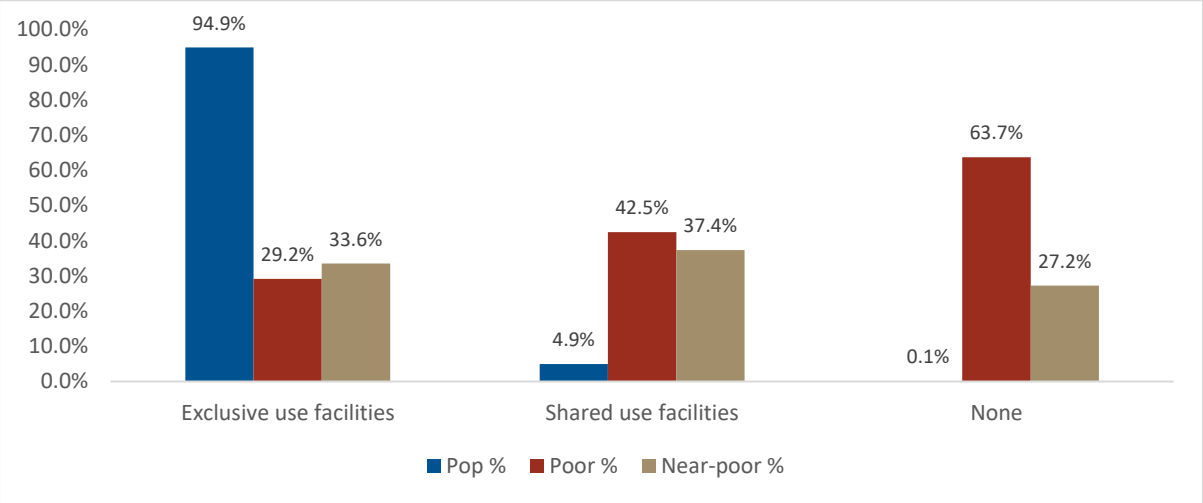
5.6. Access to toilet facility

High poverty rate was recorded for people with no toilet facilities. At the national level, an estimated 95 percent of the population have their own exclusive toilet facilities, with only 5 percent using shared toilet facilities, and less than 1 percent with no toilet facilities.

Figure 22 shows that poverty rates were high for those people with no toilet facilities (64%) compared to exclusive own toilet facilities of 30 percent. Also, 43 percent of the people using shared facilities were living in poverty in 2019-20.

Using the BNPL+50% benchmark, an additional 27 percent of the people with no toilet facilities are more likely to fall into poverty in the future, shared use facilities (37%), and exclusive use facilities (34%) *(refer to Annex D for details)*.

Figure 22: Poor and near-poor by toilet facility



6.0 MULTIDIMENSIONAL POVERTY AND DEPRIVATION IN FIJI

The Bureau for the first time has been able to provide an analysis of the multidimensional poverty for Fiji. This was made possible through the technical support of the University of Bristol in the United Kingdom.

The analysis of this section was based on the focus groups discussion that were conducted to discover what possessions and activities are socially perceived necessities that Fijians should be able to afford and not have to go without. This minimum standard of living identified not only the essentials for survival (such as food or clothing) but also items and activities, such as meeting social obligations with family and friends, that allow people to be participating members of society.

The Multi-Dimensional Approach to Measure Poverty (MDAMP) study methods have been used as endorsed as best practice by the Pacific Statistics Methods Board (PSMB). The MDAMP study provides new insights into what it is like to experience poverty and social exclusion in Fiji by:

i. Improving the measurement of poverty and social exclusion in Fiji;
ii. Measuring change in the nature and extent of poverty and social exclusion in Fiji; and
iii. Advancing understanding of the causes and outcomes of poverty and social exclusion, and how best to address these problems.

6.1. The purpose of measuring multidimensional poverty

The main purpose of measuring Fiji's multidimensional poverty is to measure the other aspect of deprivations that were not captured by the consumption-based poverty. Therefore, measuring the multidimensional aspect of poverty is crucial in order to complement the one-dimension consumption poverty and provide a holistic approach in terms of identifying the poor people in all its dimensions.

Also, measuring multidimensional poverty index (MPI) directly contributes to the monitoring of the SDG indicator 1.2.2 of measuring the *"Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions"*, and in line with the government and global target of leaving no one behind. The MPI can also be used by policymakers to coordinate policy across government and to understand and monitor the impact of their policies on the Fijian poor population.

6.2. Difference between multidimensional poverty and consumption expenditure poverty

The consensual multidimensional poverty results are based upon the 25 material and social deprivation questions in the 2019-20 HIES questionnaire and on the household income questions.

All poverty measures try to identify adults and children who have an unacceptably low standard of living. The consumption expenditure (basic needs) method measures households which have levels of expenditure which are unacceptably low by Fijian standards. The consensual multidimensional poverty method measures adults and children who suffer from both low household incomes and also

from deprivations, that is, *they cannot afford to buy the things that the majority of Fijians believe are essential and which everybody should be able to afford.*

The consensual approach to multidimensional poverty measurement was developed by Joanna Mack and Stewart Lansley and builds upon Peter Townsend's scientific theory of poverty as relative deprivation. Townsend argued that "*Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the types of diet, participate in the activities and have the living conditions and amenities which are customary, or at least widely encouraged or approved, in the society to which they belong.*"

The method allows a representative sample of the public to identify the necessities of life which all adults and children should be able to afford and no one should have to do without due to a lack of money. Only deprivation items are selected which the majority (i.e., more than 50%) of respondents agree are necessities/essentials. This is sometimes called a 'democratic' method as it incorporates the views of the public into the measurement of poverty. The advantage of this method is that it produces socially realistic, culturally and age-appropriate poverty measures which have the support of the majority of the population and allows the public to participate in decision making about poverty measurement in a fair and non-discriminatory manner, i.e., the survey sample is representative and every respondent has an equal vote in determining the necessities of life in our country.

6.3. The necessities of life in Fiji

It is important to ensure that poverty measures are socially realistic. The consensual deprivation methodology achieves this by incorporating the views of the Fijian public into the poverty measure. The multidimensional poverty survey question module asked respondents if a range of child, adult and household items are necessary for life in Fiji today. For each item, respondents were asked whether the item was:

1) Essential - i.e., an item that no one should have to do without;
2) Desirable - an item that might be nice to have but is not necessary; or
3) Neither.

Individuals were also asked if they had each relevant item and, if not, why not. This section focuses on the first set of questions to identify the necessities of life in Fiji and gauge the degree of consensus about them.

6.4. Key Multidimensional Poverty and Deprivation results

As would be expected the multidimensional poverty is similar but slightly lower than basic needs expenditure poverty, as people/households do not immediately become deprived once their expenditures drop below the poverty line. Consumption expenditure needs to remain low for a period of time before people/households begin to suffer from material and socially deprivations. Consumption expenditure poverty measure in a cross-sectional survey will include some of the multidimensional poor and also some of those vulnerable to becoming multidimensionally poor.

Provided below is a summary of the multidimensional poverty and deprivation in Fiji in 2019-20. These results are based on the information reported by a representative sample of 6,000 households included in the 2019-20 Household Income and Expenditure Survey (HIES).

Key Multidimensional Poverty and Deprivation Results

Multidimensional Poverty

- In 2019-20, three out of every ten adults and children (30%) were multidimensionally poor – they lived on low incomes and were deprived of essential things that they needed.
- Over a quarter of a million people (256,000) in Fiji are multidimensionally poor.
- Multidimensional poverty rates in rural areas (38%) are higher than in urban areas (23%) of Fiji.

Deprivation results

There is a broad consensus among the general public in Fiji on the necessities of life for a minimum decent standard of living.

- Almost one in four adults (23%) were deprive from the essential clothes they needed.
- Over two in five adults (43%) suffer from financial deprivations.
- Half of the adults (50%) suffer from social deprivations – they cannot fulfil their social obligations and fully participate in Fijian society due to a lack of money.
- One in five children (20%) do not have the essential food they need – their diet is inadequate by Fijian standards.
- More than one in five children (22%) of school age suffer from educational deprivation.
- Nearly one third of children (28%) do not have the new clothes they need.
- Almost four in ten children (38%) suffer from material deprivation – their parents cannot afford to buy them the essential things they need.

6.5. Adult and household essentials

88% consider two meals a day to be a necessity for adults. Table 9 shows the percentage of respondents who have identified each item or activity as an essential in Fiji today. The food and health and savings related items have the greatest amount of support. Of the total respondents, 88% consider two meals a day to be a necessity for adults, while 84% do the same for "*All medicines prescribed by your doctor when you are sick*" and 82% consider "*regular savings for emergencies*" as essential. There is also a wide consensus about the importance of access to land for residential purposes, which three in four respondents (74%) categorize it as a necessity. Just over 60% of respondents believe that all adults in Fiji should be able to afford to have "*Two pairs of properly fitting shoes*".

More than 60% of respondents consider as essential the items related to the fulfilment of social obligations, such as "*enough money to meet Social/Traditional obligations (Church/Family Functions etc.)*", to hold "*celebrations on special occasions such as birthdays or religious festivities*" and "*to visit*

friends or family in the hospital or other institutions". Similarly, 58% consider having a small amount of money for oneself as a necessity. Two additional socially related items, *"appropriate clothes for special occasions"* and being able to *"get together with family or friends for a drink or meal once a month"*, are viewed as a necessity by half of the survey respondents.

Finally, there are four adult items that did not get majority support (50% threshold) as essentials: *"replace worn-out clothes", "presents for friends or family once a year",* and the two items that refer to upkeep and repair of household durables: *"repair of broken electrical goods (e.g. a refrigerator, a washing machine)"* and *"replacement of worn-out furniture".*

Table 9: Percentage of respondents who view the adult and HH deprivation item as essential

	Adult deprivation items	Essential (%)
1	Two meals a day	88
2	All medicines prescribed by your doctor when you are sick	84
3	Access to land for residential purposes	74
4	Enough money to meet Social/Traditional obligations (Church/Family Functions etc.)	64
5	Enough money to be able to visit friends and family in hospital or other institutions	62
6	Two pairs of properly fitting shoes, including a pair of all-weather shoes.	61
7	Celebrations on special occasions, such as birthdays, Christmas or religious festivals.	60
8	Clothes to wear for social or family occasions such as parties or special lunch occasions	52
9	Get-together with friends/family (relatives) for a drink/meal at least once a month	50
10	Replace worn out clothes with new (not second hand) ones	42
11	Enough money to repair broken goods such as a refrigerator or washing machine	41
12	Presents for friends or family once a year	41
13	Enough money to replace worn out furniture	36
	Household deprivation items	**Essential (%)**
1	Regular savings for emergencies.	82
2	A small amount of money to spend each week on yourself, not your family.	58
3	Have your own means of transportation (e.g. car, bike, motorcycle, boat)	51

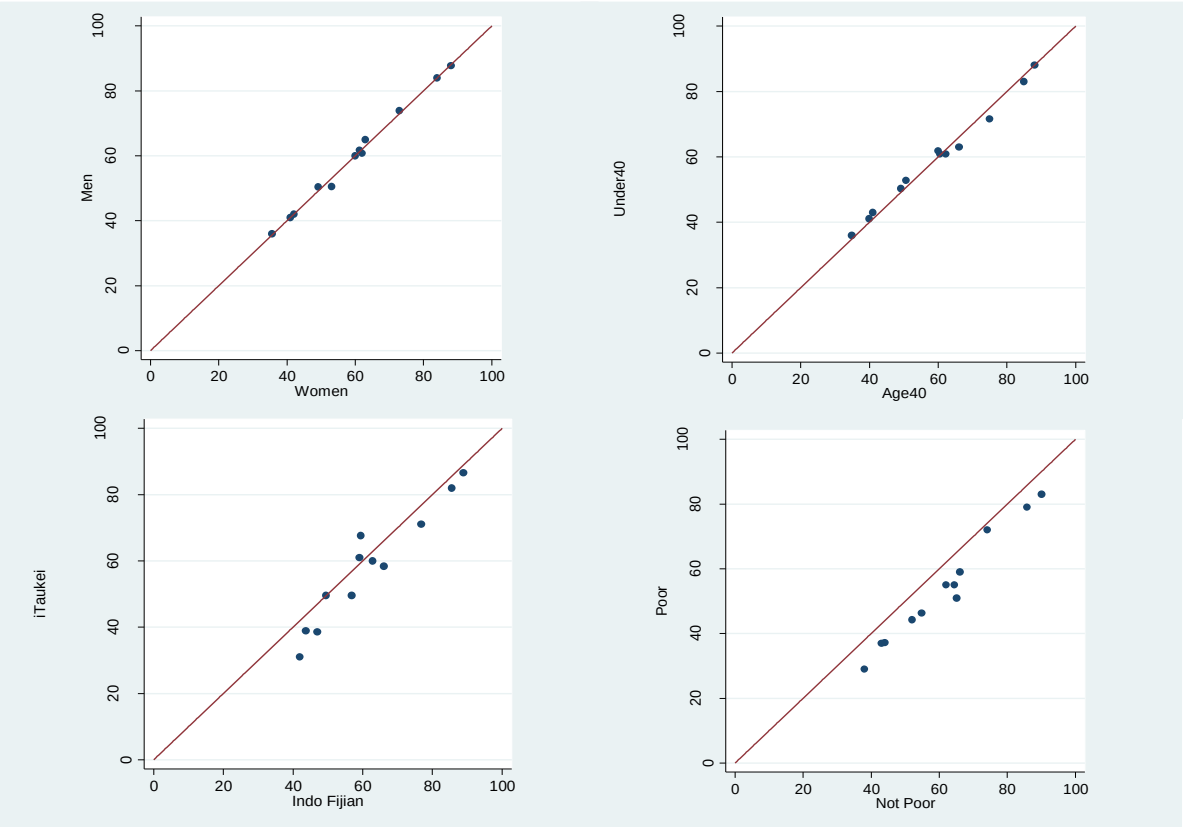
Source: *Fiji Household Income and Expenditure Survey 2019-20 (N= 17,366 respondents)*

It is important to know if the views of the majority about the possessions and activities identified to be essentials are shared across different groups in Fijian society or if they are just the views of one group but not another, i.e., there is a consensus across Fijian society about what are the essentials of life. Figure 23 compares the views of eight important population groups: men and women, younger and older adults (aged 40 or over), iTaukei and Indo Fijians and the poor and the non-poor (defined by the official Basic Needs poverty line).

As an aid to interpretation, the results are shown as scatter plots. Each dot represents a possession or social activity and the location of each dot reflects the percentage of people in each group who identified the item as an essential. If the views of each population group were identical then all the dots would fall on the 45-degree line (from bottom left to top right).

Thus, the graphs show the extent of agreement between men and women, old and young and so on, about the necessities of life. Values close to the diagonal line show close agreement and values far from the line indicate that one group is more likely to identify an item as a necessity than the other group.

Figure 23: Percentage of different population groups believing adult possessions/activities are essential



Overall, there is clearly a strong consensus with regards to the necessities of life across population groups in Fiji. There are almost no differences in the views of men compared with women or younger adults compared with older adults about what are the essentials of life that every Fijian should be able to afford.

The non-poor are slightly more likely to identify all adult possessions and activities as essential compared with the Basic Needs poor group, although the differences are relatively small and are not statistically significant (except for *"two pairs of shoes"*). Similarly, Indo Fijians are slightly more likely than iTaukei to consider many items to be essential but, again, these differences are small and not statistically significant[1] – except for having *"enough money to meet social/traditional obligations (church/family functions etc.)"*, which the iTaukei population is more likely to consider to be essential than the Indo Fijian population (68% and 59%, respectively).

[1] The Bland-Altman method was used to assess statistically significant differences between population groups.

6.6. Essentials for Children

92% of the Fijians considered having "*three meals a day*" to be a necessity for children. Table 10 shows the percent of adults that considered each child possession and social activity to be essential. More than nine in ten Fijians (92%) consider having "*three meals a day*" to be a necessity for children. There is also a wide support regarding the necessity of "*beds and bedding for every child in the household*" (78%), "*a suitable place at home to study or do homework*" (76%) and "*participate in school trips and events and cost money*" (71%), with the last two items referring specifically to school-aged children.

By contrast, only 15% of respondents consider a "*bicycle*" to be a necessity. This is the only item that does not reach the 50% threshold and most respondents classify a bicycle for children as desirable rather than essential. The remaining items are in the 50-70% range. Two thirds of Fijians (67%) identify "*One meal with meat, chicken or fish or vegetarian equivalent daily*" as a necessity. For 64% of Fijians, "*celebrations on special occasions such as birthdays or religious festivals*" are considered as necessary. The items related to clothing, attract fewer consensuses but are still above the 50% threshold: 63% in the case of "*new, properly fitting shoes*" and 51% for "*Some new, not second-hand clothes*".

Interestingly, some new clothes were not considered by a majority to be an essential for adults but they are an essential for children. However, there was an equal level of agreement that properly fitting shoes are essential for both adults and children.

Table 10: Percentage of respondents who view the child deprivation items as essential

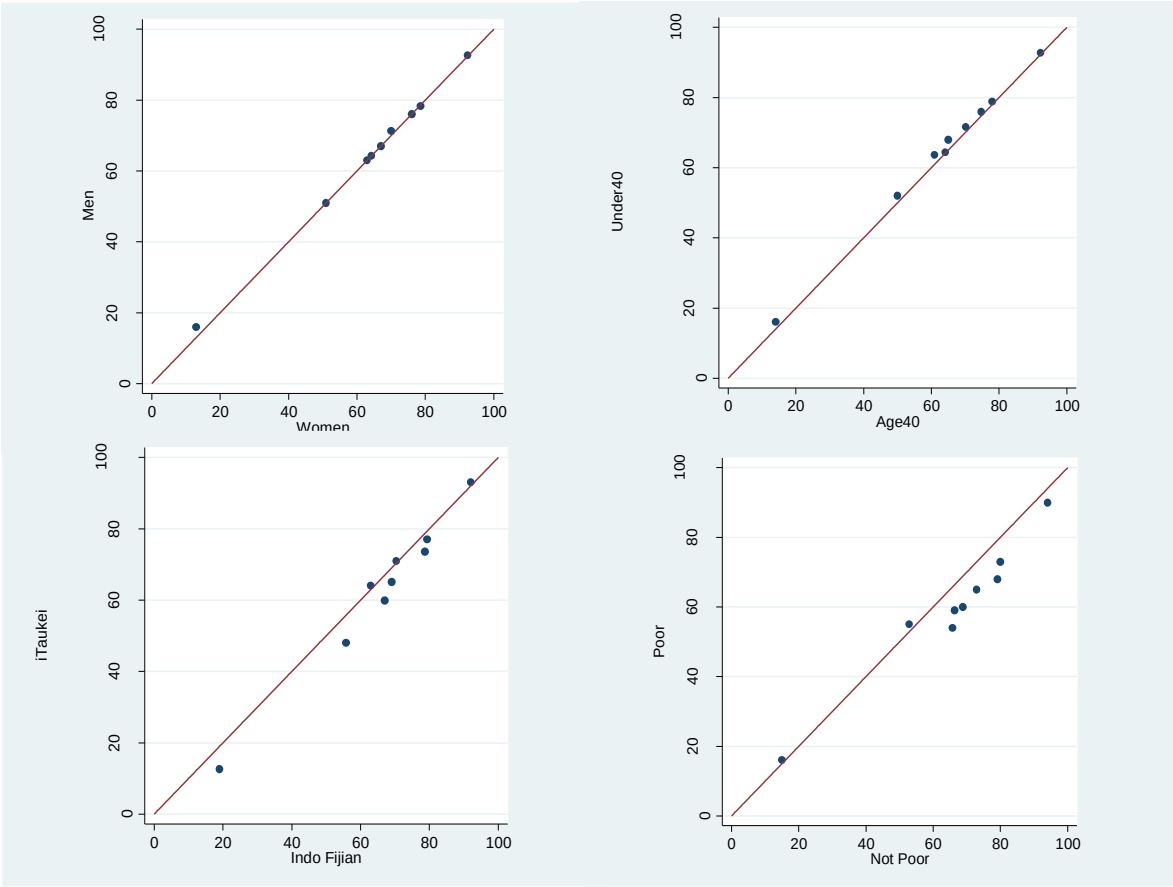
	Child deprivation items	Essential (%)
1	Three meals a day	92
2	Enough beds and bedding for every child in the household	78
3	A suitable place at home to study or do homework	76
4	Participate in school trips and school events that cost money	71
5	One meal with meat, chicken or fish or vegetarian equivalent daily	67
6	Celebrations on special occasions such as birthdays, Christmas or religious festivals.	64
7	New, properly fitting shoes	63
8	Some new, not second-hand clothes	51
9	Bicycle	15

Source: Fiji Household Income and Expenditure Survey 2019-20 (N= 17,366 respondents)

Note: cases were weighted by the population weight.

Figure 24 shows the percentage in each population group that considers each child possession and activity to be an essential. Values in or close to the 45-degree diagonal line indicate a strong degree of consensus.

Figure 24: Percentage of different population group believing child possessions/activities are essential



There is clearly a consensus across social groups with regards to the necessities of life for children in Fiji. The percentage of the population that considers each item as essential is practically identical regardless of whether a person is a man or a woman, young or old, iTaukei or Indo Fijians. The non-poor are somewhat more likely than the Basic Needs poor to identify most child items as necessities, although differences are small.

6.7. Deprivation in Fiji

The consensual deprivation method defines an adult or child as deprived if they do not have a socially perceived necessity due to insufficient income – this means that they are deprive if:

They do not have a possession or activity that the majority of Fijians believe is essential; and

They lack this item/activity as they cannot afford it rather than because they do not want it.

In this way, the views of the public are included in the measurement of deprivation and unacceptably low living standards and Fijians' choices about how they wish to live are separated from the constraints on their lives resulting from too little income, i.e., if someone chooses not to have an 'essential' they are not counted as deprived.

Only 2% of adults could not afford to eat two meals a day. Figure 25 shows the percentage of adults in Fiji which are deprived of a range of 13 possessions and social activities – nine of which (coloured in blue) were considered to be essential by a majority of respondents. However, almost one in ten adults in Fiji cannot afford to buy all the medicines prescribed by their doctor when they are sick. In order for universal health coverage to become a reality, rather than just an aspiration, the one in ten Fijian adults who cannot afford the prescribed medicines they need, will require some additional medical or financial support.

Also, a significant number of adults are socially deprived. 16% cannot afford to have *"Celebrations on special occasions such as birthdays, Christmas or religious festivals"* and about one in five adults (around 20%) do not have *"enough money to meet social/traditional obligations (Church/Family Functions etc.)"* or *"visit friends and family in hospital or other institutions"* or "*get-together with friends/family for a drink/meal at least once a month".*

Clothing deprivation is also a problem for 16% of adults who cannot afford *"clothes to wear for social or family occasions"* and 19% of adults who cannot afford *"two pairs of properly fitting shoes, including a pair of all-weather shoes".* Almost one in five adults (18%) is deprived of *"access to land for residential purposes".*

About one in four adults cannot afford to replace their clothes when they wear out or to buy presents for their family and friends once a year. Over one in three adults in Fiji cannot afford to repair or replace their electrical goods when they break (such as a refrigerator or washing machine) or to replace worn out furniture.

Figure 25 also shows the four items that the majority of respondents in Fiji did not consider to be 'essential' (shaded in red) and most people did not have it due to lack of money and thus are not

considered to be necessities by the majority of the population in Fiji. This result is consistent with Townsend's theory of poverty as relative deprivation. *Refer to Annex G for more details.*

Figure 25: Percentage of adults deprived

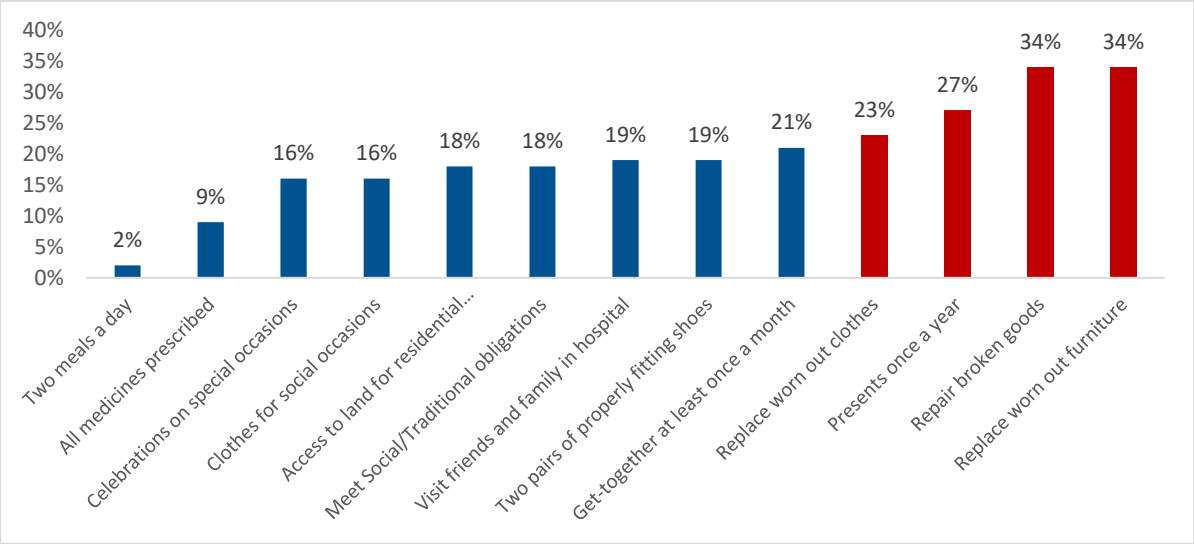


Figure 26 below shows that more than two in five adults (43%) in Fiji suffer from financial deprivations – they do not have regular savings for emergencies and a small amount of money to spend on themselves each week. Over one in five adults (23%) cannot afford a small amount of money to spend each week on themselves alone, and 20 percent cannot afford regular savings for emergencies. Over half of adults (53%) cannot afford their own means of transport – such as a car, bike, motorcycle, boat. *Refer to Annex G for more details.*

Figure 26: Percentage of deprived adults in households

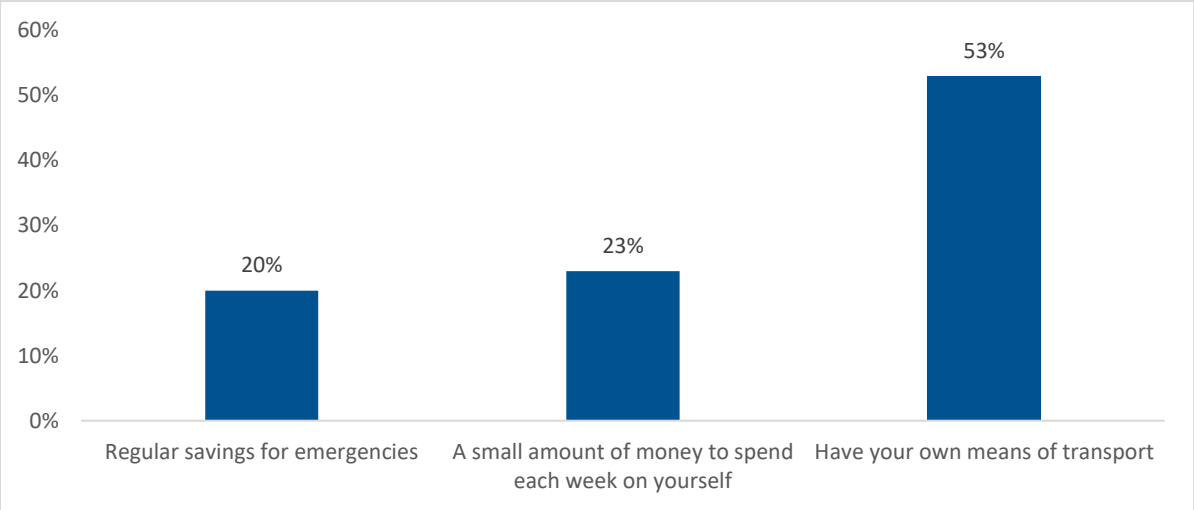


Figure 27 shows the percentage of children deprived of a range of items. **Fortunately, only 2% of children in Fiji are deprived of three meals a day – the large majority of children in Fiji do not go**

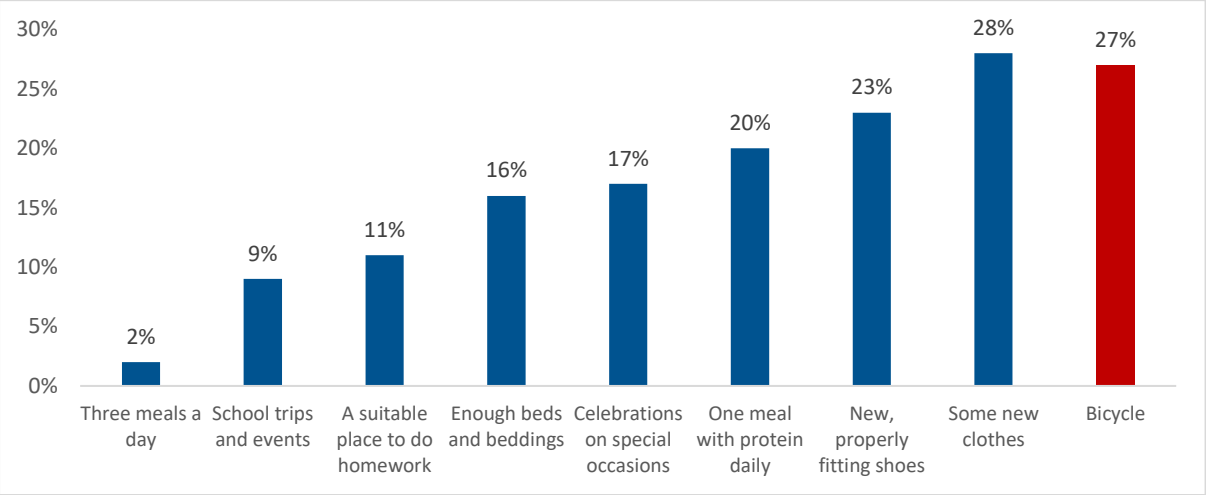
hungry due to a lack of money. However, this does not mean that all children have an adequate diet as one child in five (20%) does not have one meal with meat, chicken or fish or vegetarian equivalent daily, i.e., their diet may be deficient in protein which is important for healthy growth and development in childhood.

Almost one in five school aged children in Fiji are educationally deprived – their parents cannot afford for them to *"participate in school trips and school events that cost money"* or their children do not have *"a suitable place at home to study or do their homework".* These children are disadvantaged compared with richer children.

About three in ten children do not have their own *"beds and bedding at home"* and their parents cannot afford for them to have *"celebrations on special occasions such as birthdays, Christmas or religious festivals".* Many children in Fiji are deprived with new clothing and their parents cannot afford to buy them *"new, properly fitting shoes"* (23%) or *"some new, not second-hand clothes"* (28%).

Similarly, the parents of more than one in four children cannot afford to buy them a bicycle. Figure 27 also shows that majority of the respondents in Fiji did not consider "bicycle" as essential due to affordability and thus is not considered to be necessities by the majority of the population in Fiji. *Refer to Annex G for details.*

Figure 27: Percentage of children deprived



6.8. Multidimensional Poverty in Fiji

29.6% of people in Fiji were multidimensionally poor in 2019-20 (Figure 28). A person or household is poor if they have command over insufficient resources over time, i.e., they do not have enough money (in cash and in kind). If their income remains low, they will eventually become deprived, i.e., they will not be able to buy the things they need or meet their social obligations which cost money to fulfil. Thus, poverty is a lack of resources and the outcome of poverty is deprivation.

It is difficult, using a single survey, to measure household resources over time in a comprehensive manner. Incomes may change over time and cross-sectional (i.e., one point in time) surveys have difficulty in accurately measuring these changes.

The most reliable way to estimate multidimensional poverty is to identify people and households which suffer from both a low income and from multiple deprivations, i.e., they are highly likely to be both poor and deprived.

Box 2: Multidimensional Poverty Index (MPI)

The MPI was based on the 25 material and social deprivation questions in the 2019-20 HIES questionnaire.

The main steps of the consensual multidimensional poverty method are provided below:

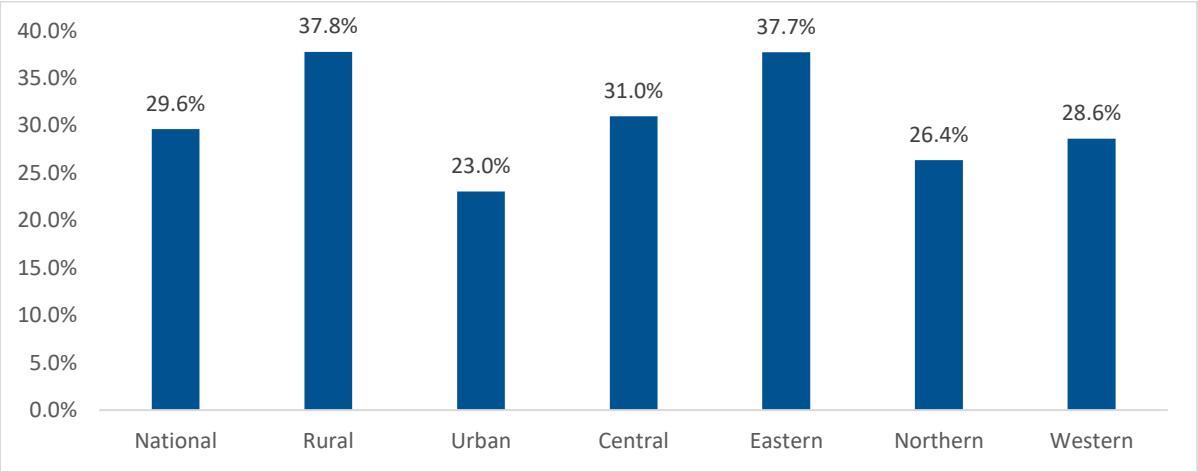
1. Select the possessions and social activities which the majority of respondents agree are essentials/necessities.
2. Identify which adults and children do not have these essential possessions and activities because they cannot afford to have them, rather than because they do not want them. This step identifies deprivations that are due to a lack of money rather than a result of consumer choices.
3. Run statistical tests to ensure that each selected deprivation item is a valid and reliable measure of poverty.
4. Sum the items that pass all the tests to create a suitable, valid and reliable deprivation index.
5. Run statistical tests to identify the optimum low household income and deprivation poverty thresholds.

The technical details about the methodology can be found in Annex K.

Statistical tests were used to identify an optimal subset of household, adult and child deprivation indicators and 18 indicators could be combined to form a suitable, valid and reliable deprivation index. Based on the analyses, it shows that 29.6% of people in Fiji were multidimensionally poor – they had suffered from both a low income and multiple deprivation in 2019-20.

About 146,000 of the multidimensionally poor population (38%) live in the rural areas compared with 110,000 (23%) in the urban areas. Figure 28 shows the poverty rates by area type and division. On average, the Eastern Division (mainly rural Eastern) recorded the highest multidimensional poverty headcount rate of 38%. The least poor division is the Northern Division with around 26%. The Central (include Eastern Urban) and Western Division poverty rates are estimated at 31% and 29%, respectively. *Refer to Annex H for more details.*

Figure 28: Multidimensional poverty rates by area and division

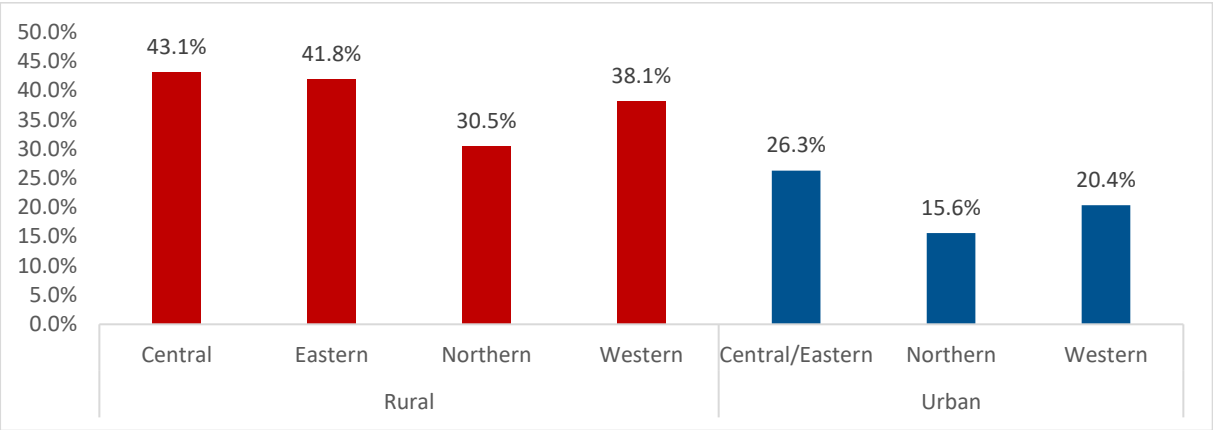


Note: Multidimensional poverty by Eastern Urban has been merged with Central Urban due to low sample size.

Figure 29 shows the multidimensional poverty headcount rates by division and rural and urban areas. In the rural areas, the poverty rates range from 43 percent in the Central division to 31 percent in the Northern division. This divisional distribution of multidimensional poverty differs significantly from the distribution of Basic Needs expenditure poverty.

In the urban areas, Northern urban recorded the lowest multidimensional poverty headcount rate of 16 percent with the highest recorded in the Central/Eastern urban with 26 percent. Western urban poverty rate is estimated at 20 percent.

Figure 29: Multidimensional poverty by area and division



Note: Multidimensional poverty by Eastern Urban has been merged with Central Urban due to low sample size.

6.9. Household size and Multidimensional Poverty

Overall multidimensionally poor households tend to have more members than non-poor households. Table 11 shows the average household size (number of people in the household) by multidimensional poverty and area type. The national average household size of Fiji's multidimensional poor households is 5.0 compared with non-poor households of 4.1.

Table 11: Average Household Sizes

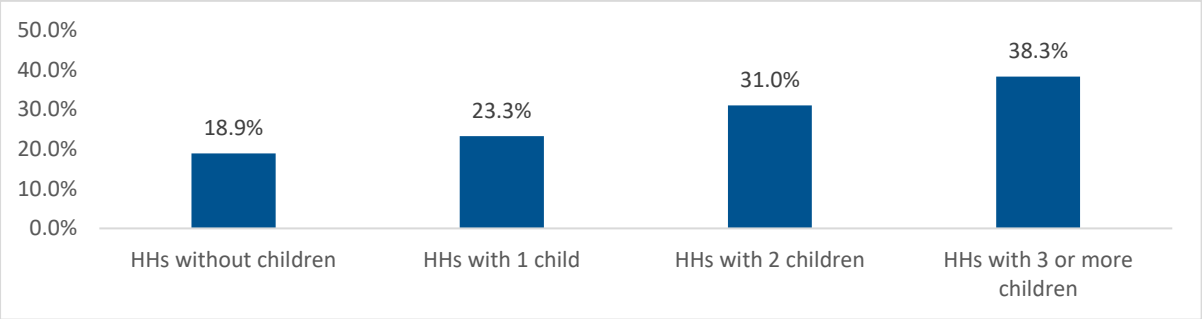
Group	National	Urban	Rural
Poor	5.0	4.9	5.1
Non-poor	4.1	4.2	4.5

In the urban areas, poor household size is around 4.9 compared with non-poor household size of 4.2. Similarly, rural poor household size is estimated at 5.1 compared with rural non-poor of 4.5.

6.10. Number of Children and Poverty

The multidimensional poverty rate was high among households with 3 or more children. Figure 30 shows the multidimensional poverty rates by number of children in the household. It shows that the multidimensional poverty level increases consistently with the number of children in the household. The multidimensional poverty rate for households with three or more children is estimated at 38 percent compared with households with one child (23%). Households with no children had the lowest multidimensional poverty rate of 19 percent.

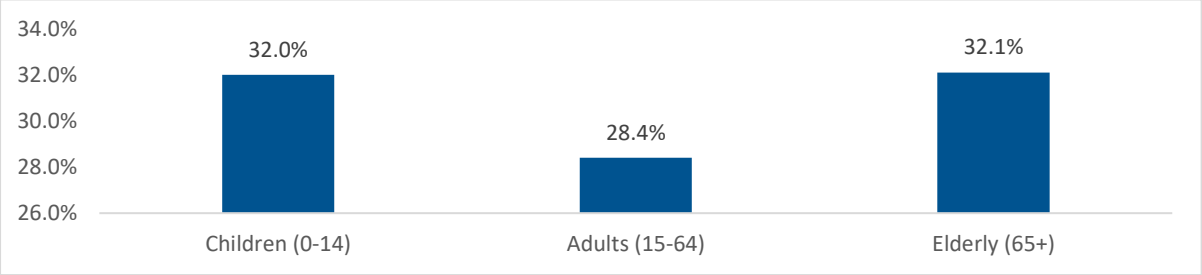
Figure 30: Multidimensional poverty rate by number of children in the HHs



6.11. Multidimensional Poverty by Age Group

Both children and older people are slightly more likely to be multidimensionally poor. Figure 31 shows the multidimensional poverty headcount rates of the three major age categories. It shows that children (aged 0-14) and older people (aged 65 and over) are more likely to be poor than the 15-64 age group. However, the differences in multidimensional poverty rates are not particularly large across these three age groups.

Figure 31: Multidimensional poverty rate by age group



6.12. Multidimensional Poverty by Household Head Characteristics

Multidimensional poverty was high among people living with household heads that had not completed their primary education. Figure 32 shows the multidimensional poverty rates of adults and children by the educational attainment of their head of household. The result shows that the multidimensional poverty prevalence was high among people living with household heads that had not completed their primary education. On average, more than 40 percent - more than two in five - people who live with a household head that has not completed primary education were living in multidimensional poverty. By contrast, of all the people who live with a household head that has completed a post-graduate education (including the household head themselves), only 4 percent are multidimensionally poor.

Figure 32: Multidimensional poverty by education attainment of HH heads

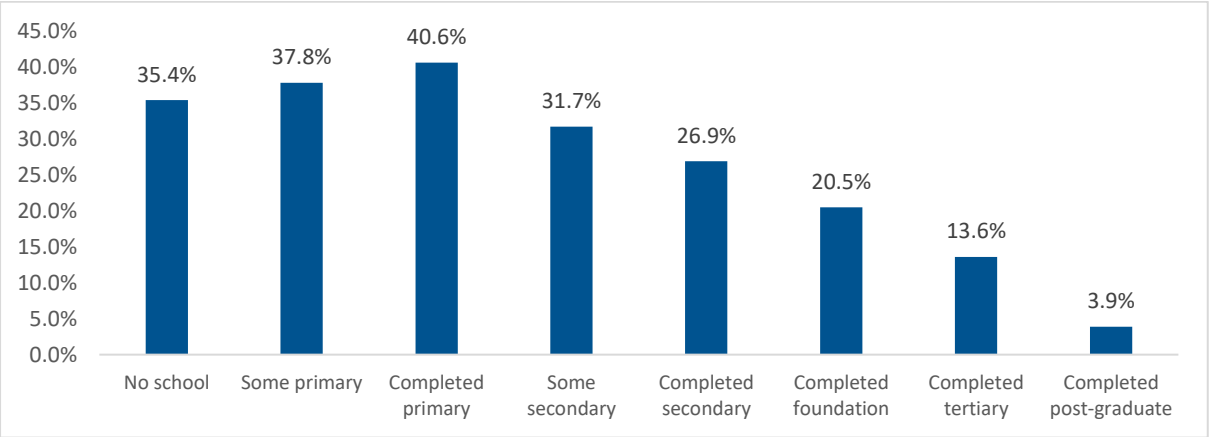


Figure 33 shows that multidimensional poverty rates were high for those who live with household heads that were family/community workers (49%), followed by subsistence (38%), self-employed (32%), not working (32%) and wage/salary earner (25%). Also, it was noted from the survey that only 11 percent of the people living with a household head who is an employer were living in multidimensional poverty in 2019-20.

Figure 33: Multidimensional poverty by employment status of HH heads

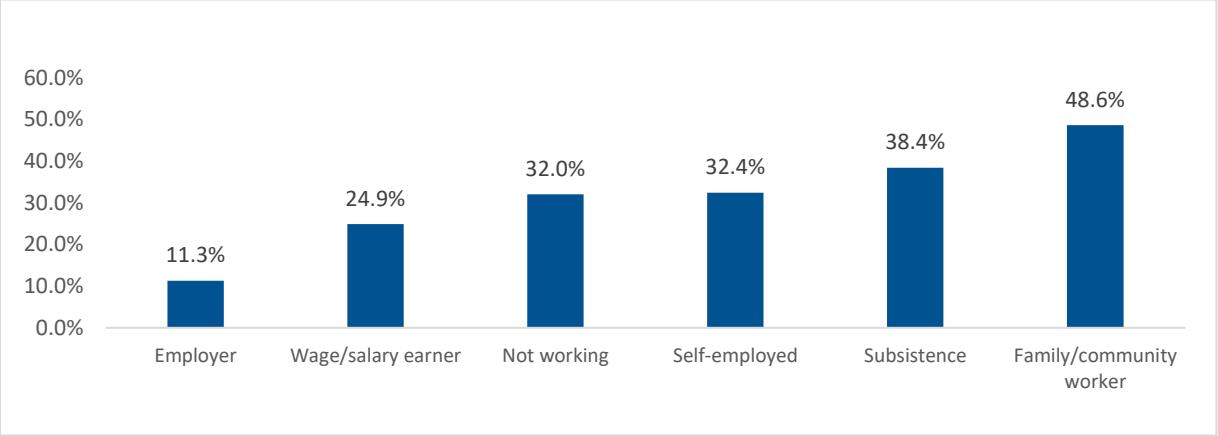
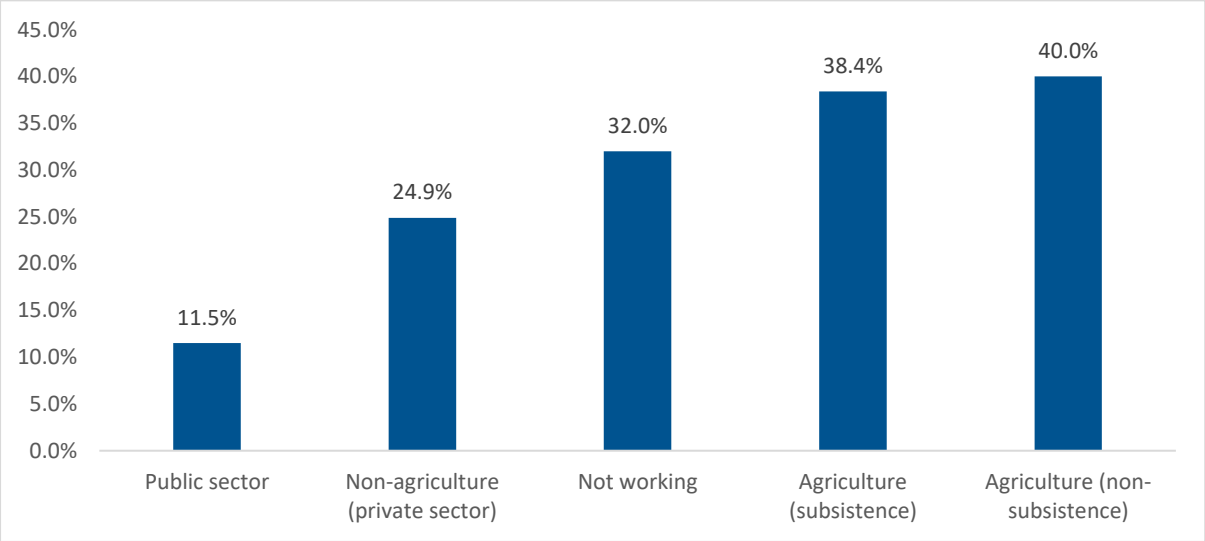


Figure 34 shows that, on average, 40 percent of people who live with a household head that is employed in the non-subsistence agriculture sector are multidimensionally poor compared with 38 percent in subsistence agriculture. The graph also shows that people who live with a household head who is employed in the private sector had a multidimensional poverty rate of 25 percent compared with 12 percent in the public sector.

Figure 34: Multidimensional poverty by HH head's employment sector

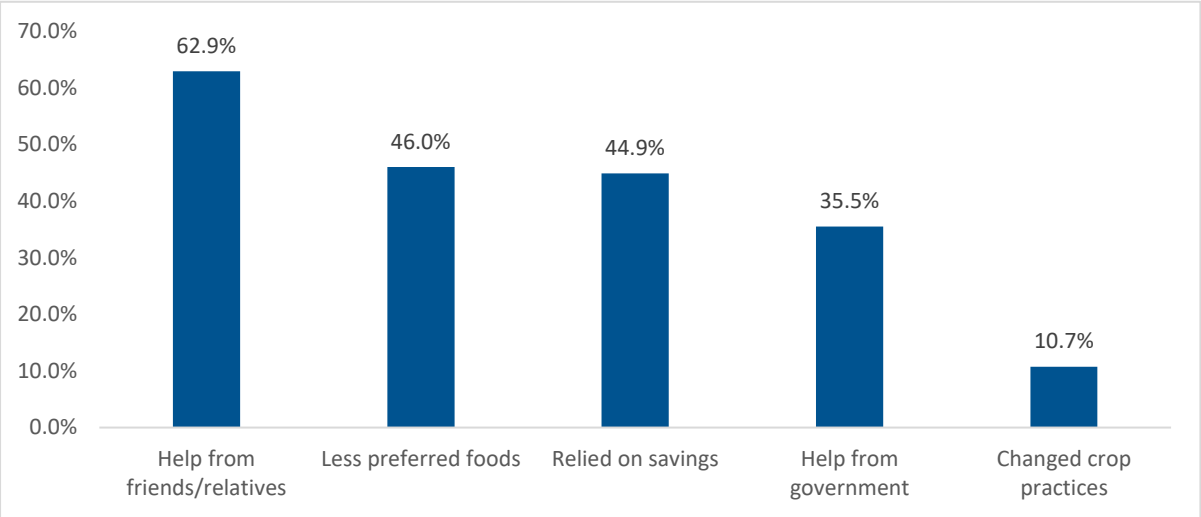


7.0 HOUSEHOLD COPING STRATEGIES

Households in Fiji do face with various risks such as natural disasters, macroeconomic shocks, and individual-specific shocks such as illness, death, and job losses that forcing households to develop some types of coping strategies in order to smooth out their consumption and/or income. Therefore, examining the existing mechanisms that households use to cope with adverse shocks in addition to their exposure to risks is crucial for policy analysis moving forward.

Out of the total households surveyed in 2019-20 HIES, the most common coping strategies include external assistance, changing consumption patterns, and depletion of assets (Figure 35). Nationally, the most common coping mechanism used was external assistance: 63 percent of the households received assistance from family and friends, and 36 percent of households received assistance from government. Changing consumption patterns was also commonplace: 46 percent of the households switched consumption to less preferred foods, with 10 percent also choosing to reduce the size and number of meals. Depletion of assets was also common, but mainly using savings (45 percent), whereas sales of assets like livestock or land were rare *(Refer to Annex E for more details).*

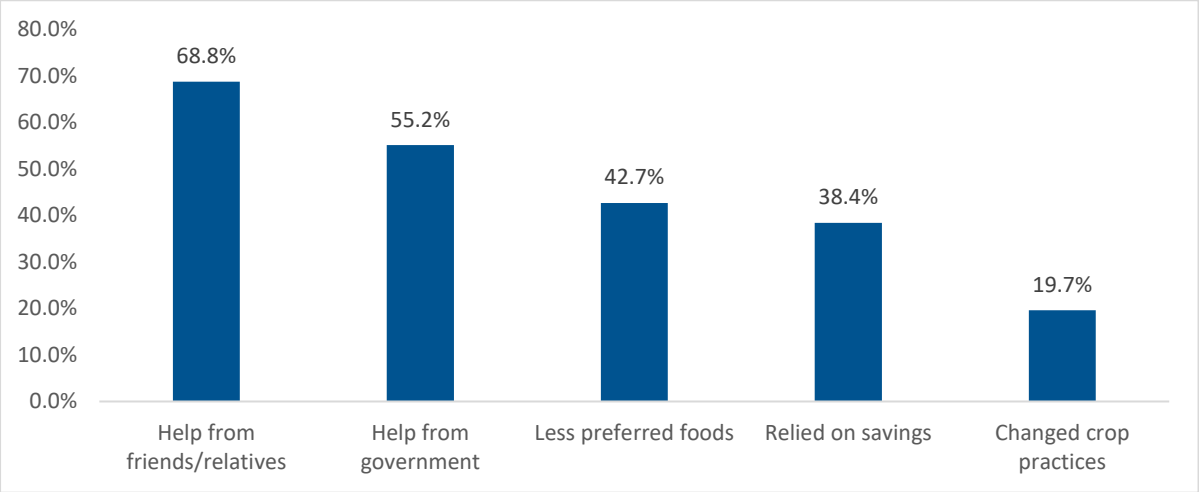
Figure 35: Top 5 coping mechanisms (National)



Rural patterns are largely consistent with the national patterns, with government support and "changing crop practices" more prevalent (Figure 36). The prevalence of government support in response to shocks was much higher in rural areas, with over half (55 percent) of shock-affected households receiving some amount of help from government. Also, almost 70 percent of shock-affected households (higher than the national average) seek help from friends and relatives in the rural areas.

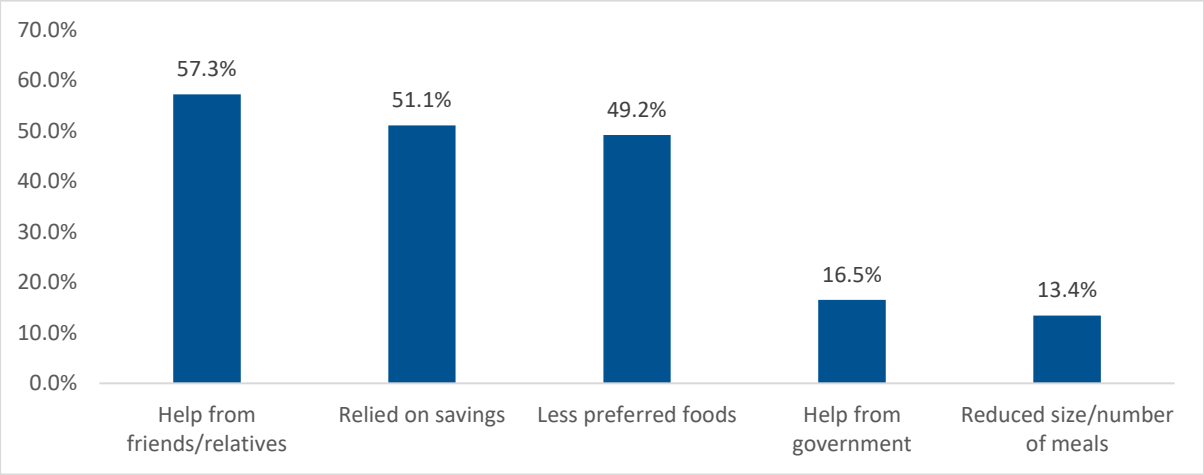
In terms of coping mechanisms involving adjustments to employment, the only common practice was to change the decisions on which crops to plant. Other employment adjustments, such as taking on more jobs (farm and non-farm) were relatively rare.

Figure 36: Top 5 coping mechanism (Rural)



Shock-affected households in urban areas were much more reliant on savings and adjustments in consumption patterns (Figure 37). Although help from friends and relatives still featured heavily in urban areas (57%), help from government was much lower than the national average (17%). Reliance on the use of savings was high (51%), as well as consumption changes by switching to less preferred foods (49%) and reducing the size/number of meals (13%). Due to the low prevalence of agriculture in urban areas, not many households changed their crop practices as a way to cope with shocks.

Figure 37: Top 5 coping mechanisms (Urban)



Finally, around half of households used a combination of coping mechanisms to deal with the impacts of shocks. The data shows that households did not just rely on single coping mechanisms when affected by shocks: 52 percent of people nationally (with 58 percent in rural areas and 47 percent in urban areas) used multiple coping mechanisms. This may be due to the severity of the shock requiring a larger temporary boost in income, or due to the inadequacy of some of the mechanisms in providing that boost.

8.0 INEQUALITY MEASURES

The two most commonly used measures of inequality are used in this chapter, that is through sorting of population percentage of consumption expenditure from the poorest to the richest using the Gini-coefficient index and Palma index.

8.1. Gini-coefficient

The Gini Coefficient measures the level of inequality in the distribution of income or expenditure of households or individuals. The coefficient is on a scale from 0 in a situation of perfect equality where everyone has the same level of income or expenditure, to 100 representing perfect inequality, where one person holds all of the wealth.

The national Gini coefficient is estimated at 30.1 in 2019-20. As expected, urban areas recorded a higher levels of consumption inequality (29.6) than the rural areas (27.3). Northern division recorded the lowest consumption inequality of 25.0 compared to Central division (30.5), Western division (30.6), and Eastern division (28.8) (Table 12).

Table 12: National and sub-national measures of inequality

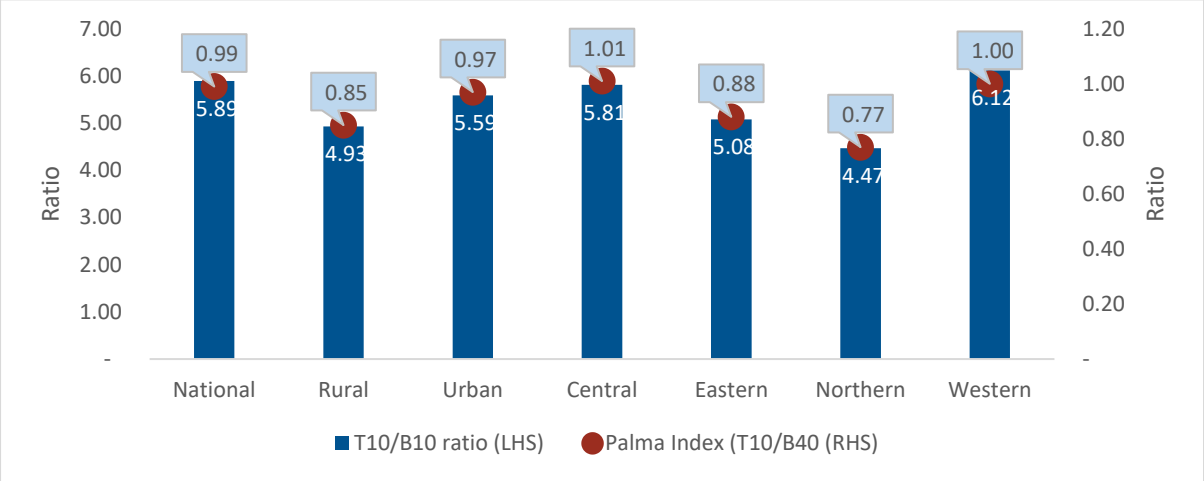
Area	Gini	Top 10 share	Bottom 10 share	T10/B10 ratio	Bottom 40 share	Palma Index (T10/B40
National	**30.1**	**22.5%**	**3.8%**	**5.89**	**22.8%**	**0.99**
Rural	27.3	20.5%	4.1%	4.93	24.1%	0.85
Urban	29.6	22.2%	4.0%	5.59	23.0%	0.97
Central	30.5	23.0%	4.0%	5.81	22.8%	1.01
Eastern	28.8	20.4%	4.0%	5.08	23.2%	0.88
Northern	25.0	19.3%	4.3%	4.47	25.0%	0.77
Western	30.6	22.5%	3.7%	6.12	22.4%	1.00

Using the Top10/B10 ratio, on average the consumption of the richest 10% of individuals was 5.9 times the share of consumption of the poorest 10%. Rural areas recorded the lowest share of consumption inequality of 4.9 compared to 5.6 in urban areas. By geographic division, Northern Division recorded a lower level of consumption inequality with a ratio of 4.5 with minor differences recorded across other division, except for Western Divivsion which reported a higher than national average of 6.12.

8.2. Palma Index

Using the alternative Palma Index, the consumption of the richest 10% was roughly equal to the consumption of the poorest 40%. Central and Western Divisions shows a slightly higher level of consumption inequality than the Eastern and Northern Division (Figure 38 & Table 12).

Figure 38: Consumption inequality

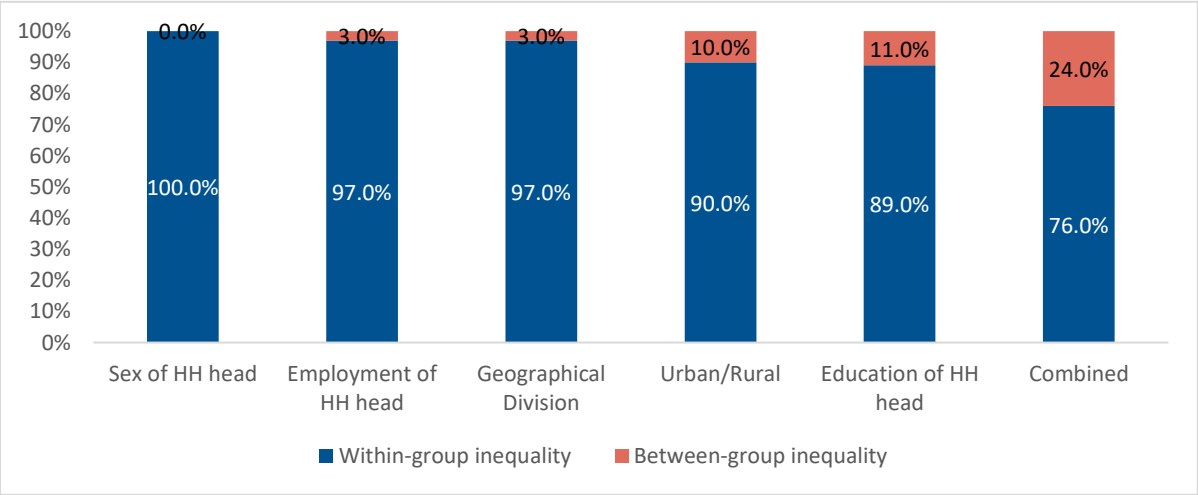


8.3. Inequality decomposition

Using the Theil Index measure, around one quarter (24 percent) of inequality in Fiji is caused by differences in location, employment status and education attainment of HH head (Figure 39). In addition to the headline numbers such as the Gini coefficient, it is also important to examine the decompositions of inequality in order to investigate the household characteristics that contribute to unequal outcomes in Fiji. The Theil index can be used to quantify how much of income or consumption inequality is due to differences across individuals within and between sub-groups in order to identify the major sources of inequality.

When calculating the decompositions separately, we can conclude that the gaps between urban and rural households, as well as the gaps between households with educated and uneducated heads, are the gaps that matter most for inequality. Conversely, the Theil decomposition shows that there is no difference in wealth between households headed by men or women, and that differences in HH head employment don't account for much of inequality.

Figure 39: Theil decomposition of inequality



8.4. Wealth indicators

There is a positive correlation between reported consumption and reported ownership of assets. The survey analysis noted some limitations in the dataset, in terms of the consumption aggregates do not account for the ownership and use of durable assets within the household *(Refer to Annex J for details)*.

However, based on the available data, Table 13 shows that those individuals in the bottom consumption decile live in households that reported ownership of 3.26 major assets on average, whereas individuals in the top consumption decile live in households reported ownership of 7.42 major assets on average. As such, it is likely that the true level of consumption inequality is higher than what is estimated.

Table 13: Per AE consumption and HH asset ownership by decile

Decile	Annual per AE consumption	Owned assets in HH*	Owned vehicles in HH	Major HH goods	Other owned goods in HH
1	1,222.10	3.26	0.09	1.68	1.48
2	1,697.57	4.08	0.19	2.14	1.75
3	2,034.42	4.40	0.18	2.27	1.94
4	2,324.25	4.65	0.23	2.42	2.00
5	2,626.65	4.80	0.27	2.52	2.00
6	2,952.85	5.15	0.34	2.72	2.09
7	3,339.39	5.50	0.37	2.92	2.21
8	3,890.93	5.87	0.43	3.11	2.32
9	4,685.69	6.48	0.52	3.47	2.49
10	7,200.41	7.42	0.70	4.01	2.71

* Assets include: Vehicles (cars, trucks, outboard motors), major HH goods (generators, lawn mowers / brush cutters, home solar systems, water pumps, refrigerators, washing machines, clothes driers, cookstoves, hot water systems, air conditioners) and other goods (radios/stereos, TVs, Video/DVD players, and landline telephones)

8.5. Non-monetary dimensions of poverty

Analysis on non-monetary deprivations is important to complement the monetary dimensions of poverty and present the full breadth of challenges faced by households. Though household consumption is an important welfare metric, it does not provide a complete picture of household well-being. There are several ways to present non-monetary deprivations, and several dimensions to choose from. This section presents the indicators that are included in the World Bank's Multidimensional Poverty Measure, which comprises the monitoring of deprivations in infrastructure (consisting of drinking water, sanitation, and electricity) and education (consisting of educational enrollment and educational attainment).

Fiji performs well on indicators of non-monetary deprivation, but there are gaps between the poor and wealthy. At the national level, Fiji has a low incidence of non-monetary deprivation in infrastructure and education, with all five indicators well under 10 percent of the population. However, when the indicators are disaggregated to the poorest 40 percent of the population (i.e., the "Bottom 40") and the rest of the population (the "Top 60"), it becomes evident that there are some disparities between the poor and the rest of the population.

Table 14: Non-monetary deprivations

Type of deprivation	National (%)	Bottom 40 (%)	Top 60 (%)
% of population deprived of safely managed water	2.3	3.2	1.7
% of population deprived of safely managed sanitation	5.1	7.7	3.3
% of population without access to electricity	4.9	8.6	2.4
% of population in HHs where at least one child aged 7-14 is out of school	1.7	2.6	1.1
% of population in HHs where no adults (aged 15+) completed primary education	5.2	4.9	5.4

Note: definitions of "safely managed water" and "safely managed sanitation" follow SDG indicators 6.1.1. and 6.2.1. respectively.

Despite nearly the entire population having access to safely managed water, the stability of water access remains a problem. Although 98 percent of Fijians can access safely managed water, only 38 percent of Fijians live in households where the water supply was reported to never dry out, with 57 percent reporting that water "sometimes" dries out, and 5 percent reporting that water "often" dries out. The stability of water supply was much higher for unprotected water sources (61 percent with a source that never dries out) than for safely managed sources (37 percent); this shows the need to improve the quality of water services, as the instability of safe water provision may lead households to resort to unprotected sources that appear more stable.

9.0 HOUSEHOLD INCOME

This section provides an analysis on the income distribution and income sources of the Fijian households. Household income consists of all receipts in cash, in kind or in services that are received by the household or by individual members of the household at annual or more frequent intervals, but excludes windfall gains and other such irregular and typically one - time receipts.

9.1. Household income summary

National average annual HH income was around $26,249 in 2019-20. The national average annual household income is estimated at $26,249 per household, whereas the median annual household income is $20,727 (Table 15). The mean annual per adult equivalent income at national level is $8,073. Generally, median household income is a better indicator than the mean (average) household income, as the latter is always affected by those extreme or unusually high or low income values.

Table 15: Annual HH Income by mean, media, and per AE

	Spatially and temporally deflated		
	Mean HH income	Median HH income	Mean per AE income
National	**$26,248.6**	**$20,726.7**	**$8,072.7**
Rural	$20,738.1	$17,256.3	$6,213.3
Urban	$30,500.7	$24,502.5	$9,507.5
Urban			
Central	$33,391.0	$26,582.2	$10,038.9
Eastern	$26,913.6	$20,039.1	$9,770.4
Western	$28,107.7	$22,901.0	$9,268.4
Northern	$23,779.7	$20,394.8	$7,186.2
Rural			
Central	$22,301.0	$18,488.7	$6,473.3
Eastern	$19,791.1	$17,165.5	$6,684.2
Western	$20,318.0	$17,254.0	$6,259.0
Northern	$20,229.2	$16,656.6	$5,683.9

9.2. Composition of HH income

Employment income accounts for 74% of the total household income across Fiji in 2019-20. Table 16 shows the major broad category of income composition. At the national level, employment income makes up 74 percent of the total household income composition, followed by capital income (14%) and transfer income (13%), respectively. Wages and salaries contributed the largest proportion of HH income, accounting for 49 percent of total income composition, followed by agriculture activities (10%), whereas property income with the least contribution of 1 percent.

By area, urban wages and salaries contributed around 58 percent, imputed rental income recorded the second highest with 9 percent and subsistence income the lowest with less than 1 percent. On the contrary, rural wages and salaries contributed around 31 percent, agriculture activities recorded the second highest with 24 percent, and property income the lowest with less than 1 percent.

Table 16: Per Household Average

Spatially and temporally deflated						
Composition of income	**National**	**%**	**Urban**	**%**	**Rural**	**%**
Employment Income						
Wages & Salaries	$12,842.0	48.9%	$17,780.7	58.3%	$6,441.8	31.1%
Agriculture activities	$2,509.6	9.6%	$600.4	2.0%	$4,983.8	24.0%
Casual work	$1,749.1	6.7%	$1,969.1	6.5%	$1,464.0	7.1%
Non-agriculture activities	$1,366.8	5.2%	$1,583.9	5.2%	$1,085.6	5.2%
Subsistence	$812.3	3.1%	$198.7	0.7%	$1,607.6	7.8%
Sub-total	**$19,279.9**	**73.5%**	**$22,132.8**	**72.6%**	**$15,582.8**	**75.1%**
Capital Income						
Property income	$341.8	1.3%	$573.7	1.9%	$41.3	0.2%
Imputed rents	$2,290.1	8.7%	$2,701.9	8.9%	$1,756.5	8.5%
Other income	$955.1	3.6%	$1,391.7	4.6%	$389.3	1.9%
Sub-total	**$3,587.0**	**13.7%**	**$4,667.3**	**15.3%**	**$2,187.1**	**10.5%**
Transfer income						
Gifts & Remittances	$1,651.2	6.3%	$1,866.1	6.1%	$1,372.8	6.6%
Pension & social benefits	$1,730.4	6.6%	$1,834.6	6.0%	$1,595.5	7.7%
Sub-total	**$3,381.7**	**12.9%**	**$3,700.7**	**12.1%**	**$2,968.3**	**14.3%**
Estimated average household income	**$26,248.6**	**100.0%**	**$30,500.7**	**100.0%**	**$20,738.1**	**100.0%**

9.3. Distribution of HH income

The Bottom 10% received less than 5 percent of total HH income across Fiji. Table 17 shows the decile distribution of household income at the national, urban and rural areas. The share of HH income increases as the decile increases. At the national level, the result indicates that the households top earning 10% received more than 20 percent of the total HH income compared to the households poorest 10% which received less than 5 percent of the total HH income. Rural income distribution is slightly better than urban income distribution at both end of the distribution. The poorest 10% of urban HHs accounts for 4 percent of total urban HH income compared to 5 percent in rural areas. On the other extreme, the top 10% of urban HHs accounts for 21 percent of total urban HH income compared to 19 percent in rural areas.

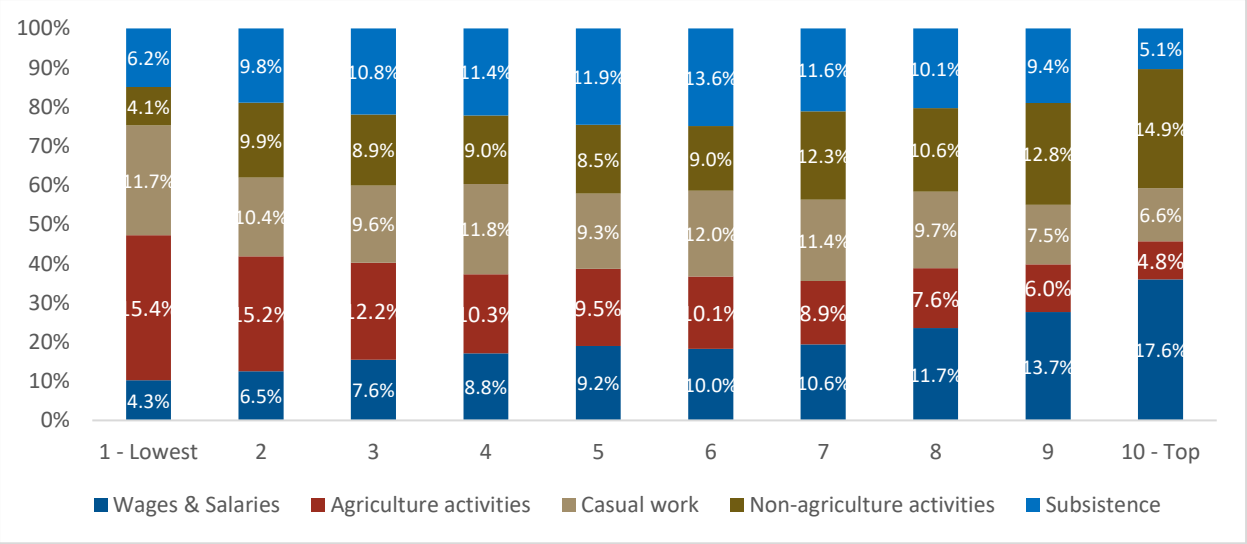
Table 17: Decile distribution of HH income

Spatially and temporally deflated			
DECILE	National	Urban	Rural
1 - Lowest	4.0%	3.9%	4.8%
2	5.3%	5.6%	6.3%
3	6.4%	6.4%	7.0%
4	7.4%	7.8%	7.4%
5	8.5%	8.7%	9.0%
6	9.4%	9.6%	9.8%
7	10.8%	10.6%	10.6%
8	11.8%	11.6%	11.8%
9	14.7%	14.7%	14.0%
10 - Top	21.8%	21.2%	19.3%
Total	100.0%	100.0%	100.0%

9.4. Household employment income by decile

Income share from agriculture activities decline as household welfare rises. Figure 40 indicates that the percentage share of HH income from agriculture activities at the bottom 10% of the distribution was around 15 percent before gradually decline as welfare increases. On the other hand, income from wages and salaries, and from non-agriculture activities consistently increases as decile rises. Income from casual work and agriculture activities are an important component of the bottom 10% compared to wages & salaries, and non-agriculture activities for the top 10% of the distribution.

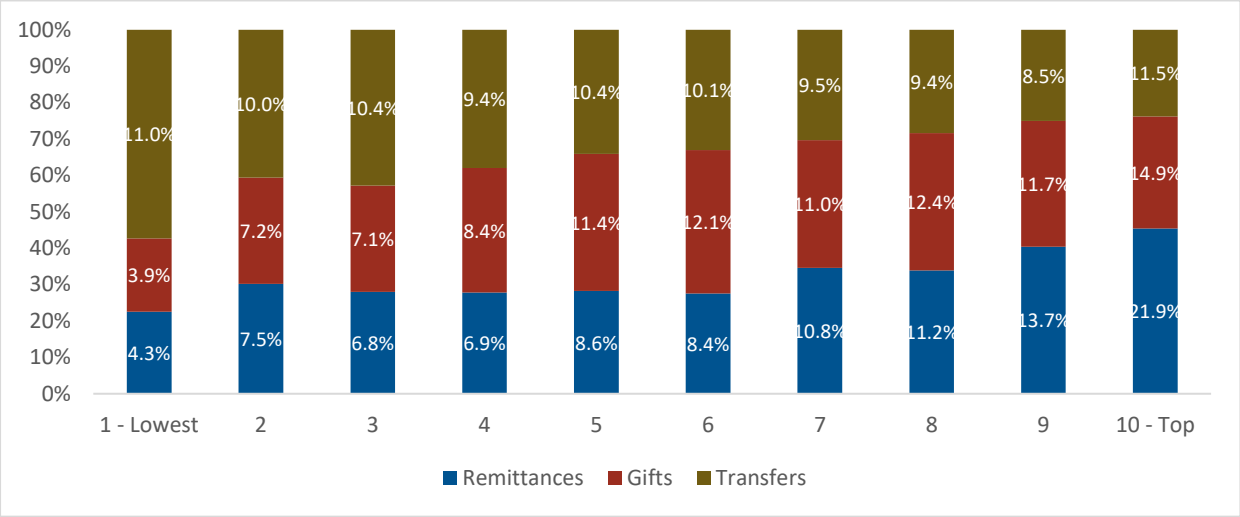
Figure 40: HHs employment income by decile



9.5. Household transfer income by decile

Transfer income is an important component of income sources for Fijian households at the lowest decile. Figure 41 also indicates the importance of transfers and remittances for the bottom 10%. The share of transfers however began to decline as decile increases. The share of remittances and gifts also increases along the welfare distribution.

Figure 41: HH transfer income by decile



10.0 HOUSEHOLD EXPENDITURE

This section provides an analysis on the household expenditure of the Fijian households. Household expenditure includes consumption and non-consumption expenditures as follows:

Consumption expenditure - value of consumer goods and services acquired (used or paid) 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.

Other consumption expenditure - the value of consumer goods and services acquired (used) by the HH through transfers from the government, non-profit institutions or other HHs.

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.

10.1. Annual HH consumption expenditure

The national average annual HH consumption expenditure is estimated at $11,961 in 2019-20. Table 18 provides information on the annual mean and median expenditure per household and on per adult equivalent basis. The national average annual HHs consumption expenditure, after adjusting for inflation was $11,961 in 2019-20, of which urban annual average HH consumption expenditure is estimated at $13,521 compared to rural $9,941. As expected, the average HH consumption for Central Division recorded the highest with $13,722 followed by the Western Division ($10,924), Northern Division ($10,837), and Eastern Division ($9,318). It was also noted that the median annual expenditure per HH is lower than the mean across all different categories.

Table 18: Annual Household Expenditure Summary

Spatially and temporally deflated				
	Per HH		Per AE	
	Average	Median	Average	Median
National	**$11,961.4**	**$10,768.4**	**$3,677.5**	**$3,124.8**
Rural	$9,941.1	$9,232.6	$2,946.1	$2,666.5
Urban	$13,520.5	$12,117.5	$4,241.9	$3,616.6
Central	$13,721.9	$12,306.0	$4,083.1	$3,444.7
Eastern	$9,317.6	$8,921.5	$3,072.0	$2,771.3
Northern	$10,836.5	$10,069.2	$3,071.9	$2,865.6
Western	$10,923.8	$9,949.5	$3,564.6	$3,039.8

10.2. Composition of consumption expenditure per HH average

The per HH average annual food consumption is estimated around 39% of the total consumption in 2019-20. Table 19 shows the per HH average annual consumption breakdown for 2019-20. The food

and non-food breakdown items are categorised based on the UN Classification of Individual Consumption Expenditure according to Purpose (COICOP).

At the national level, per HH average food consumption account for 39 percent of the total consumption compared to non-food (61%). Of the total food consumption, the top 4 commodities were vegetables (22%), cereals (18%), meats (17%), and seafood (12%). Food expenditures were high in rural areas (47%) than in the urban areas (35%). Also, consumption of vegetables were high in rural areas (29%) compared to 17 percent in urban areas. Consumption of meats were high in urban areas (20%) compared to 13 percent in rural areas.

Table 19: Consumption composition - per HH average

	Spatially and temporally deflated							
	National		%	Rural		%	Urban	%
Total consumption	**$**	**11,961.4**	**100.0%**	**$**	**9,941.1**	**100.0%**	**$**	**13,520.5**	**100.0%**
Total food	$	4,718.1	39.4%	$	4,695.6	47.2%	$	4,735.4	35.0%
Total non-food	$	7,243.4	60.6%	$	5,245.5	52.8%	$	8,785.1	65.0%

Food major breakdown		National	%		Rural	%		Urban	%
Vegetables	$	1,050.8	22.3%	$	1,379.4	29.4%	$	797.3	16.8%
Cereals	$	840.8	17.8%	$	839.0	17.9%	$	842.2	17.8%
Meats	$	781.8	16.6%	$	600.1	12.8%	$	922.1	19.5%
Seafood	$	542.8	11.5%	$	676.3	14.4%	$	439.8	9.3%
Dairy	$	298.4	6.3%	$	211.4	4.5%	$	365.5	7.7%
Oils	$	244.8	5.2%	$	206.1	4.4%	$	274.7	5.8%
Sugars	$	205.3	4.4%	$	202.1	4.3%	$	207.9	4.4%
Food Away from Home	$	205.0	4.3%	$	140.9	3.0%	$	254.6	5.4%
Fruits	$	192.9	4.1%	$	201.5	4.3%	$	186.3	3.9%
Other foods	$	180.6	3.8%	$	124.8	2.7%	$	223.7	4.7%
Beverages	$	174.7	3.7%	$	114.1	2.4%	$	221.5	4.7%

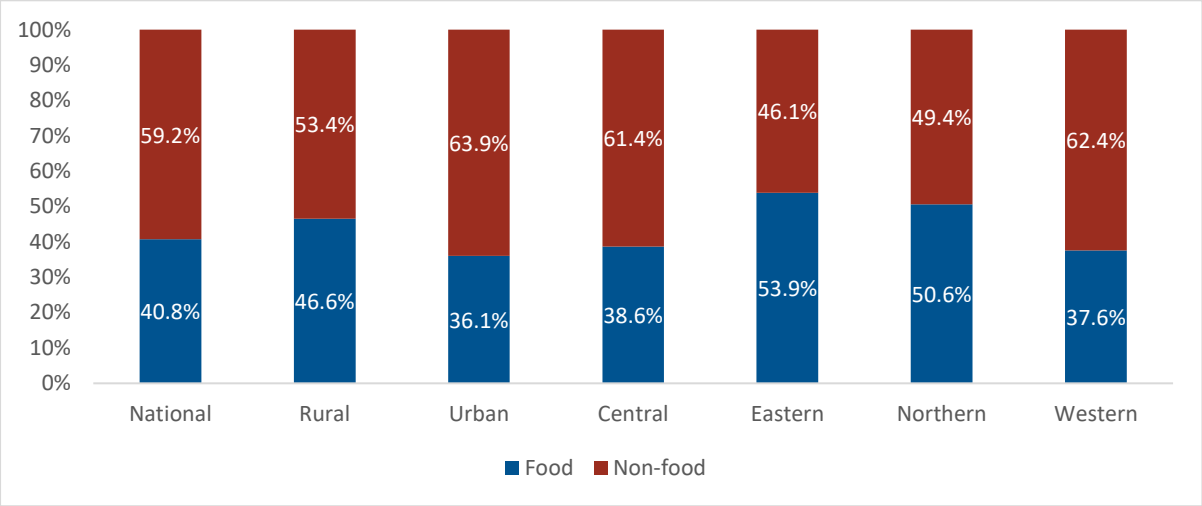
Non-food breakdown		National	%		Rural	%		Urban	%
Housing and utilities	$	3,748.4	51.7%	$	2,375.2	45.3%	$	4,808.0	54.7%
Transport	$	1,130.4	15.6%	$	1,013.6	19.3%	$	1,220.6	13.9%
Communications	$	697.8	9.6%	$	494.7	9.4%	$	854.5	9.7%
Education (incl. grants)	$	341.2	4.7%	$	360.1	6.9%	$	326.6	3.7%
Other non-food	$	278.6	3.8%	$	193.9	3.7%	$	343.9	3.9%
Recreation and Hotels	$	268.3	3.7%	$	151.1	2.9%	$	358.8	4.1%
Clothing and footwear	$	265.8	3.7%	$	224.4	4.3%	$	297.6	3.4%
Alcohol, tobacco, narcotics	$	256.4	3.5%	$	255.6	4.9%	$	257.0	2.9%
Domestic goods and services	$	220.7	3.0%	$	160.4	3.1%	$	267.2	3.0%
Health	$	35.8	0.5%	$	16.4	0.3%	$	50.7	0.6%

Of the total non-food consumption, 52 percent of total non-food devoted to housing and utilities, followed by transport (16%), communications (10%), and education (5%). Similar pattern was noted in rural and urban areas.

10.3. Distribution of consumption per AE

At the per Adult Equivalent aggregate, food consumption accounts for 41 percent of the total consumption compared to non-food (59%). Food consumption in the rural areas account for 47 percent of the total consumption compared to urban areas (36%). This is consistent with rural areas being generally poor and thus devoting a larger share of the consumption to food spending. By division, more than 50 percent of the total consumption were devoted to food in the Eastern and Northern Division which is again consistent with the poverty rates by division (Figure 42).

Figure 42: Consumption breakdown per AE



The per Adult Equivalent consumption breakdown by decile shows that the bottom 10% annual expenditure equates to only 4 percent of the total consumption. Table 20 shows the decile distribution of per adult equivalent expenditures by food and non-food components. The share of consumption increases as the decile increases. On average, the bottom 10% per adult equivalent annual expenditure was $1,222 in 2019-20, equivalent to only 4 percent of the national consumption. In contrast, the top 10% per adult equivalent annual expenditure was around $7,200 in 2019-20, equivalent to 23 percent of the national consumption.

The relationship between the share of spending on food and non-food was also evident in Table 20. It shows that the average food share decreases as expenditure (welfare) rise. However, it remains over 40 percent of the total consumption until the top of the distribution. On the other hand, the average non-food share increases as expenditure (welfare) rise. But, due to the data limitation of excluding the use value of durable assets, the distribution of the non-food consumption is more likely to be underestimated for wealthier individuals.

Table 20: Food and Nonfood shares by decile

Spatially and temporally deflated						
Deciles	Total exp per AE	Food exp per AE	Nonfood exp per AE	% of national consumption	Food share	Nonfood share
1 - Lowest	$1,222.1	$445.7	$776.4	3.8%	36.5%	63.5%
2	$1,697.6	$688.6	$1,009.0	5.3%	40.6%	59.4%
3	$2,034.4	$865.1	$1,169.3	6.4%	42.5%	57.5%
4	$2,324.2	$995.8	$1,328.5	7.3%	42.8%	57.2%
5	$2,626.7	$1,131.9	$1,494.7	8.2%	43.1%	56.9%
6	$2,952.8	$1,292.3	$1,660.6	9.2%	43.8%	56.2%
7	$3,339.4	$1,418.9	$1,920.5	10.4%	42.5%	57.5%
8	$3,890.9	$1,638.0	$2,252.9	12.2%	42.1%	57.9%
9	$4,685.7	$1,843.0	$2,842.7	14.7%	39.3%	60.7%
10 - Top	$7,200.4	$2,445.6	$4,754.8	22.5%	34.0%	66.0%

10.4. Breakdown of food consumption per HH average

At the national level, only 15 percent of the food consumption was from home production. The share was much higher in rural areas with 29 percent compared to urban areas (4%) (Table 21). Food consumption from purchases account for 92 percent in urban areas compared to 62 percent in rural areas. Consumption by division shows that Eastern and Northern Division dominates the home production with 48 percent and 28 percent, respectively. As expected, the Central and Western Division account for more than 80 percent of the food purchases, whereas Eastern and Northern Division have a high share of gifts received for consumption.

Table 21: Annual average food consumption per HH

	Total food	Home production	Purchases	Gift
National	$4,718.1	14.8%	79.3%	6.0%
Rural	$4,695.6	29.2%	62.4%	8.3%
Urban	$4,735.4	3.7%	92.1%	4.2%
Central	$5,018.5	8.1%	86.9%	5.0%
Eastern	$4,982.8	47.8%	41.6%	10.6%
Northern	$5,516.4	28.4%	62.1%	9.5%
Western	$4,102.3	11.7%	83.4%	4.9%
1 - Lowest	$2,684.6	23.3%	71.7%	5.0%
2	$4,096.6	21.3%	73.0%	5.7%
3	$4,839.1	19.2%	73.3%	7.5%
4	$5,238.6	15.2%	78.6%	6.2%
5 - Top	$5,666.8	7.3%	87.3%	5.4%

Across the consumption quintiles, only 7 percent of food consumption in the top quintile comes from home production compared to bottom of the distribution (23%). Food consumption from purchases and gifts are fairly distributed across the quintiles.

10.5. Distribution of non-food consumption per HH average (top 4)

Of the total non-food consumption, more than 80 percent was devoted towards housing and utilities, transport, communication and education. Table 22 shows the HH annual average non-food distribution in 2019-20. It shows that on average 52 percent of the total non-food consumption was devoted to housing and utilities, followed by transport (16%), communications (10%), and education (5%). This pattern is consistent in urban areas and in the Central and Western Division. The rest of the non-food items recorded less than 5 percent of the total non-food consumption.

By decile distribution, consumption of housing and utilities increases as the decile increases. It shares of the total non-food also increase as decile increases which shows the importance of housing and utilities (basic need) to every Fijian household. The average consumption of transport and communications also increase as decile increases but its relevant share to total non-food decreases as decile increases. In contrast, consumption of education shows a declining trend as decile increases, together with its share to total non-food consumption (Table 22). *Refer to Annex F for the other non-food consumption breakdown.*

Table 22: Average non-food consumption per HH (top 4)

	Total non-food	Housing and utilities	Transport	Communications	Education (incl. grants)
National	$7,243.4	51.7%	15.6%	9.6%	4.7%
Rural	$5,245.5	45.3%	19.3%	9.4%	6.9%
Urban	$8,785.1	54.7%	13.9%	9.7%	3.7%
Central	$8,703.4	53.6%	14.6%	9.4%	4.2%
Eastern	$4,334.8	61.0%	3.4%	6.8%	6.3%
Northern	$5,320.1	41.4%	22.5%	8.9%	7.6%
Western	$6,821.5	51.7%	15.7%	10.3%	4.4%
1 - Lowest	3,730.2	43.5%	20.3%	10.7%	12.5%
2	4,850.9	44.6%	19.5%	12.3%	9.5%
3	5,369.3	47.2%	18.2%	11.3%	8.9%
4	5,823.3	48.3%	18.2%	11.3%	7.0%
5	6,286.4	48.9%	17.1%	11.5%	6.5%
6	6,488.0	50.4%	16.3%	11.4%	6.1%
7	6,979.1	50.9%	16.5%	10.5%	4.8%
8	7,547.5	51.6%	17.1%	10.0%	3.7%
9	8,486.6	54.5%	14.7%	9.1%	2.7%
10 - Top	11,606.2	56.4%	11.7%	6.8%	1.6%

Table 23 shows the key drivers of the top 4 non-food consumption. At the national level, the data reveals that 82 percent of housing expenditures are devoted to rent (including imputed rent). For transport, bus transport accounted for 67 percent of the transport services, followed by private transport (21%). Nearly 100 percent of the communication expenditure are driven by mobile communication, and 96 percent of the consumption on education are mostly driven by the government grant.

Table 23: Breakdown of top 4 non-food consumption - per HH average

	National	Rural	Urban
Housing and utilities	100.0%	100.0%	100.0%
Rent	81.5%	76.7%	83.3%
Repairs and maintenance	12.6%	15.2%	11.6%
Fuel & Energy	5.9%	8.1%	5.1%
Transport	100.0%	100.0%	100.0%
Bus transport	66.7%	71.3%	63.7%
Private transport	20.8%	14.7%	24.7%
Transport services	12.5%	13.9%	11.6%
Communications	100.0%	100.0%	100.0%
Mobile communications	98.7%	99.7%	98.2%
Other communication services	1.3%	0.3%	1.8%
Education (incl. grants)	100.0%	100.0%	100.0%
Grant	96.1%	99.4%	93.3%
Other education services	3.9%	0.6%	6.7%

10.6. Non-consumption expenditure (donations)

Non-consumption expenditure in terms of donations account for 6.0% of the total HH expenditure. Table 24 shows that household donation expenditures recorded less than 10 percent of the estimated total HHs expenditure on average. The breakdown of the donation expenditures reveals that an estimated 63 percent were devoted to religious activities including tithes and offerings compared to donation to other HHs (34%). Donations to religious activities were high in the urban areas (76%) compared to rural areas (48%).

Table 24: Households non-consumption expenditure

Total expenditure – per HH average

	National	Rural	Urban
Total HH expenditure	**100.0%**	**100.0%**	**100.0%**
Total consumption	94.0%	92.5%	95.0%
Total non-consumption (donations)	6.0%	7.5%	5.0%

	National	Rural	Urban
Total non-consumption (donations)	**100.0%**	**100.0%**	**100.0%**
Donations - other HHs	34.2%	48.2%	22.0%
Donations - religious	62.7%	47.5%	76.0%
Donations - other	3.1%	4.4%	2.0%

11.0 EMPLOYMENT

In this section, some key results on labour force participation and unemployment are presented for the year 2019-20. The labour force analyzed below is consists of those "economically active" persons, that is those population aged 15-64 with employment and those who are unemployed but looking for a job.

11.1. Labour force participation

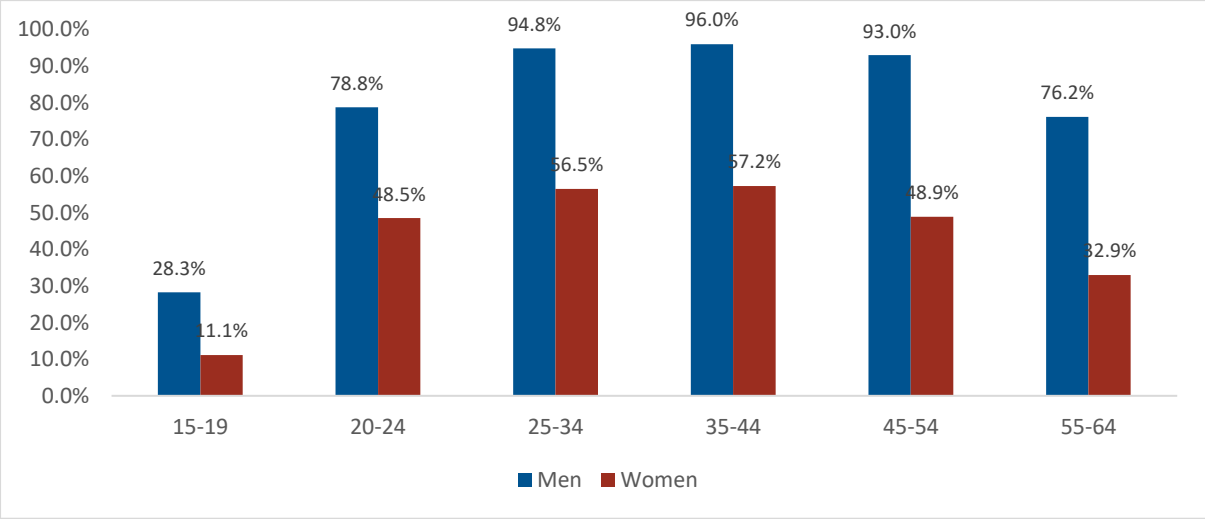
Women in Fiji are less likely to be in the labor force and, once in the labor force, less likely to be employed. The 2019-20 labor force participation rate for the population was 64.1 percent, and was much higher for men (83 percent) than for women (46 percent) (Table 25). Among the active labor force participants, the rate of unemployment (people not working who are looking for jobs) was higher for women (12 percent) than men (5 percent). Thus, not only are women less likely to be active labor force participants in Fiji, the active labor force participants are also less likely to find work.

Table 25: Labour force statistics (population aged 15-64)

	All	Men	Women
Labor force participation rate (employed + unemployed / total 15-64)	64.1%	82.6%	45.5%
Unemployment rate (unemployed / employed + unemployed)	7.4%	5.1%	11.7%
Employment rate (employed / total 15-64 population)	59.4%	78.4%	40.2%

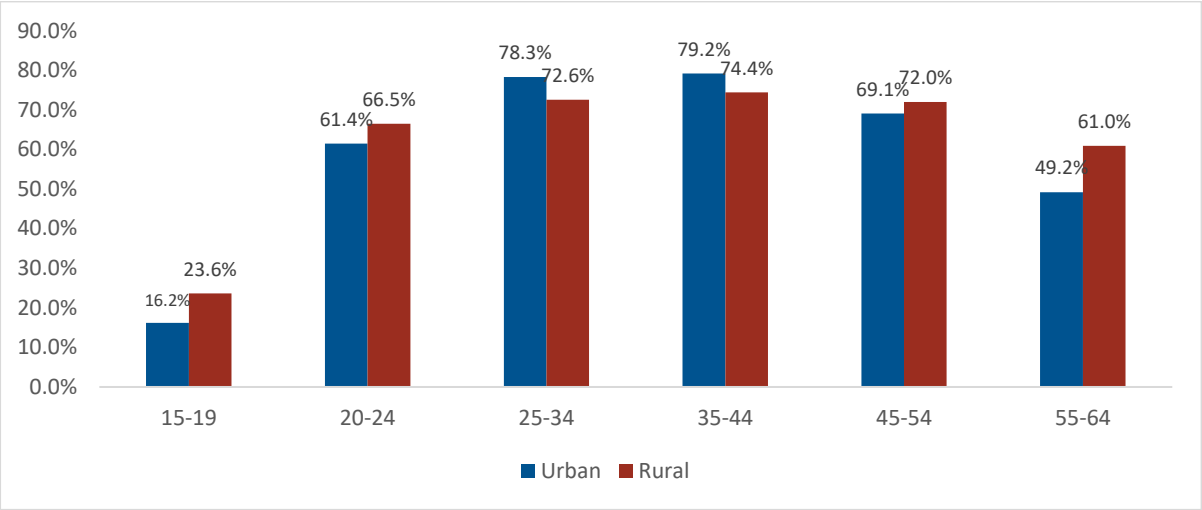
The distribution in terms of labour force participation between men and women gets wider as age-group increases. Figure 43 shows that men participation in the labour force was much higher over women across all age groups, particularly among the 25-54 age groups which recorded more than 90 percent participation rate. *Refer to Annex I for more details.*

Figure 43: Labour force participation by age group and sex



However, there was a fair distribution of labour force participation by age groups in the rural and urban areas. Despite the fairly distribution of labour force participation in rural and urban areas, the survey data reveals an interesting pattern in the rural areas where the younger age groups (15-24) and age groups (45-64) recorded with a higher labour force participation compared to urban areas. A higher labour force participation rate was noted in the urban areas for the age groups 25-44 compared to rural areas (Figure 44).

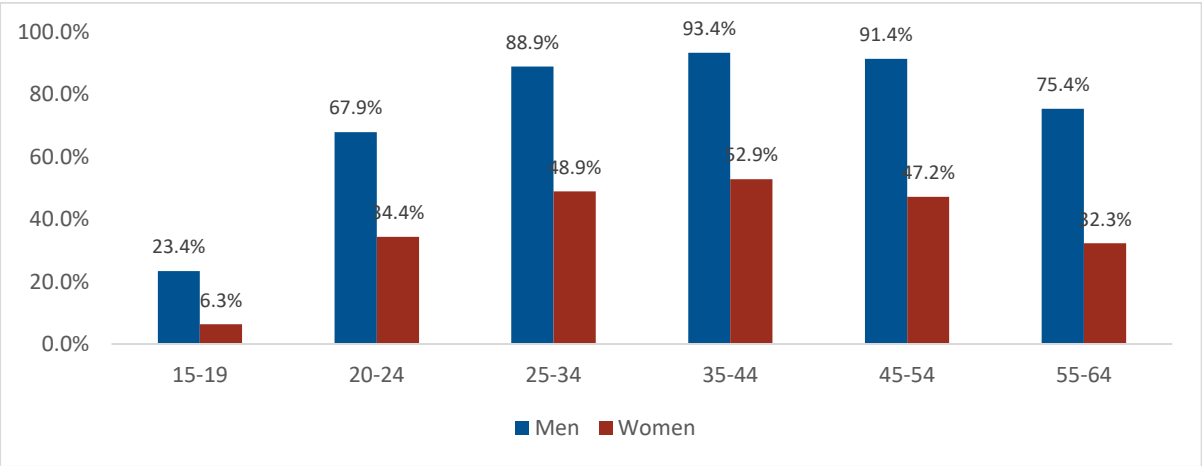
Figure 44: Labour force participation rate by geographical area and sex



11.2. Employment rate by age group

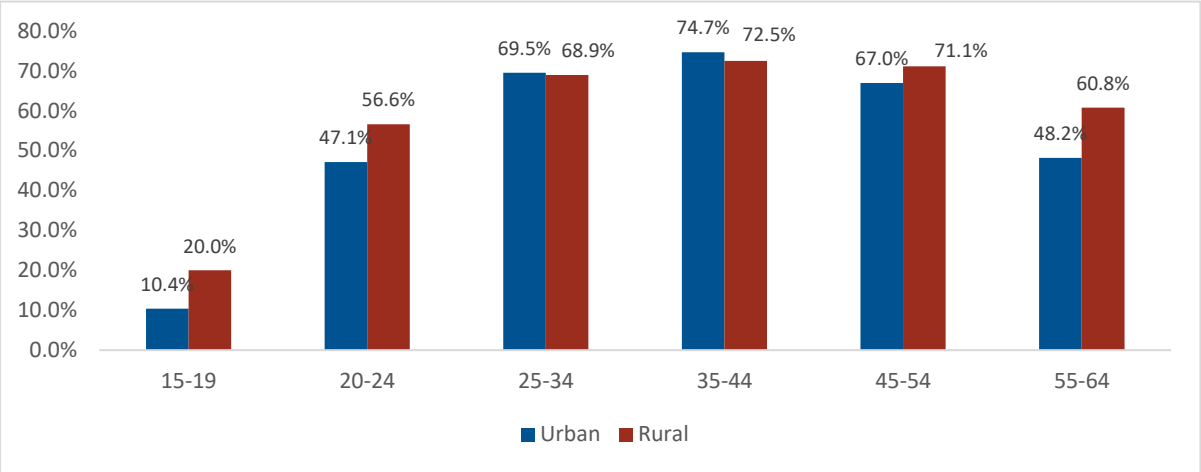
High employment rate was recorded for men in all age groups. Figure 45 shows that more than 65 percent of the employment rate was recorded in the age group 20-64 years for men compared to less than 55 percent for women in the same age group. Only 6 percent of the women are likely to find work in the age-group 15-19 compared to men (23%). On the other extreme, 75 percent of men are still able to find work after 55 years compared to women (32%).

Figure 45: Employment rate by age group and sex



High employment rate of over 60 percent was recorded in the age group 25-54 years. As expected, low employment rate was recorded in the younger age group of 15-19 years (Figure 46). The survey data reveals a high employment rate of over 60 percent recorded in the age group 25-54 years in both rural and urban areas. Also, a higher employment rate was noted in the rural areas for the age group 55 years and above (61%) compared to urban areas (48%).

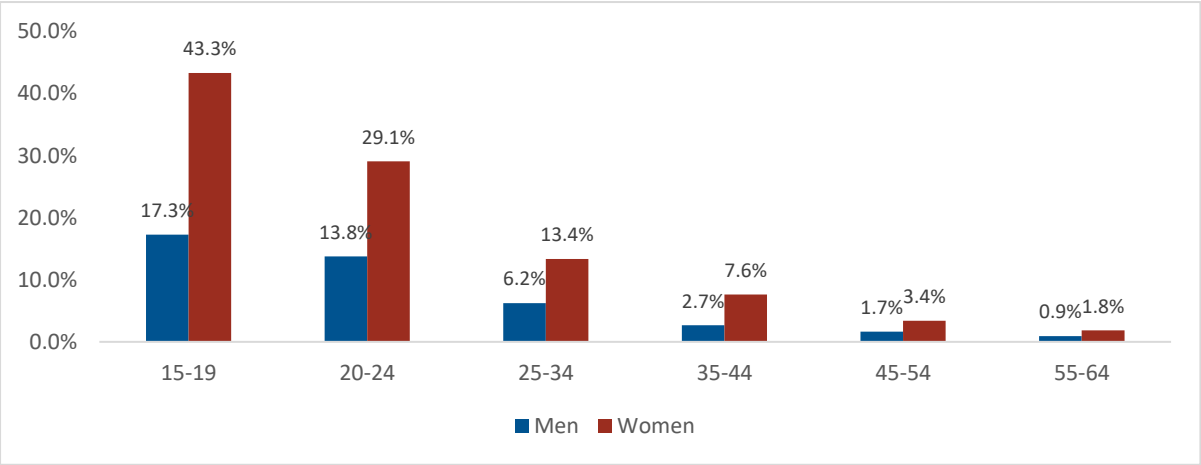
Figure 46: Employment rate by geographical area and age groups



11.3. Unemployment rate by age group

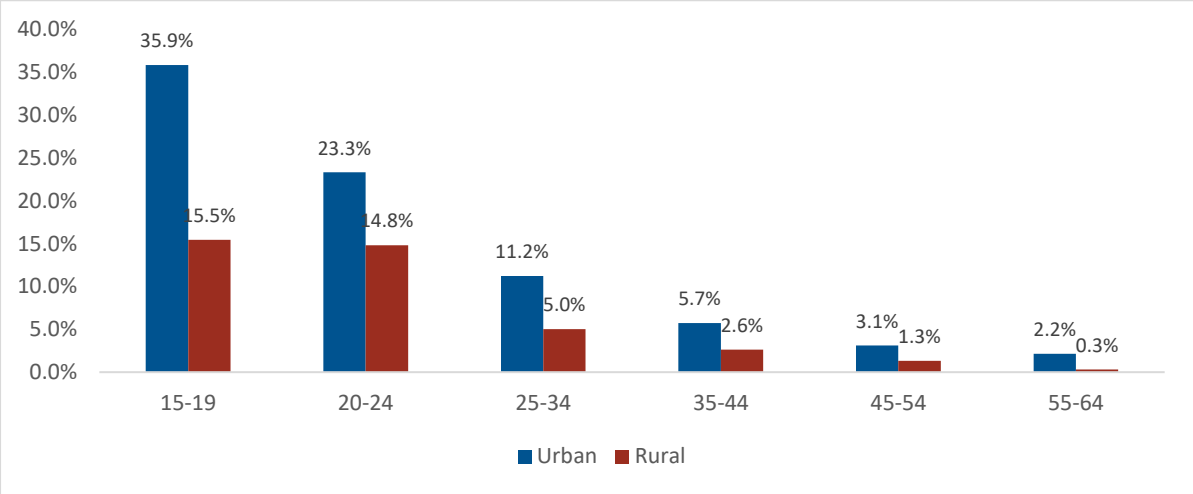
Higher unemployment rate was recorded for women in all age groups. Figure 47 shows that there were more women than men being unemployed during the year 2019-20 in all age groups. Majority of the unemployed were in the age group 15-24, with men recorded a lower unemployment rate over women as age increases.

Figure 47: Unemployment rate by men and women with different age groups



Majority of the unemployed live in the urban areas in all age groups. Figure 48 shows a higher unemployment rate of over 20 percent for the age group 15-24 in the urban areas compared to around 16 percent in the rural areas. Unemployment rate decline as age increases in both urban and rural areas.

Figure 48: Unemployment rate by geographical areas and age groups



11.4. Employment by type

Employment distribution was similar for both men and women. Table 26 shows that most adults aged 15-64 are working as wage/salary earners, followed by self-employed and subsistence farmers. More women reported working as wage/salary earners than men, while more men reported working as self-employed than women.

Table 26: Type of employment (population aged 15-64) by sex

Type of employment	All	Men	Women
Wage/salary earner	61.2%	59.0%	65.5%
Self-employed	22.6%	25.2%	17.5%
Subsistence	12.7%	12.7%	12.7%
Family/community worker	2.7%	2.1%	3.8%
Employer	0.8%	0.9%	0.5%

11.5. Employment by rural-urban

Wage work is more prevalent in urban areas, while rural areas are dominated with wage work, self-employed and subsistence. Four out of five workers in urban areas are wage/salary earners, compared to only two out of five in rural areas. Over half of the rural working population are either self-employed or subsistence farmers (Table 27).

Table 27: Type of employment (population aged 15-64) by rural-urban

Type of employment	All	Rural	Urban
Wage/salary earner	61.2%	38.5%	79.5%
Self-employed	22.6%	35.6%	12.1%
Subsistence	12.7%	21.9%	5.4%
Family/community worker	2.7%	3.8%	1.9%
Employer	0.8%	0.3%	1.1%

11.6. Poverty rates by employment status of population aged 15-64

Poverty rates among adults who work as employers and wage/salary earning employees were much lower than other types of workers. However, the poverty rate for adults that were not working (either unemployed or inactive) were not significantly different from the poverty rates for the self-employed, family/community workers and subsistence farmers. There were substantial gender differences for the poverty rates among family/community workers and subsistence farmers where poverty was much higher for men in these jobs but smaller differences in the other categories (Table 28).

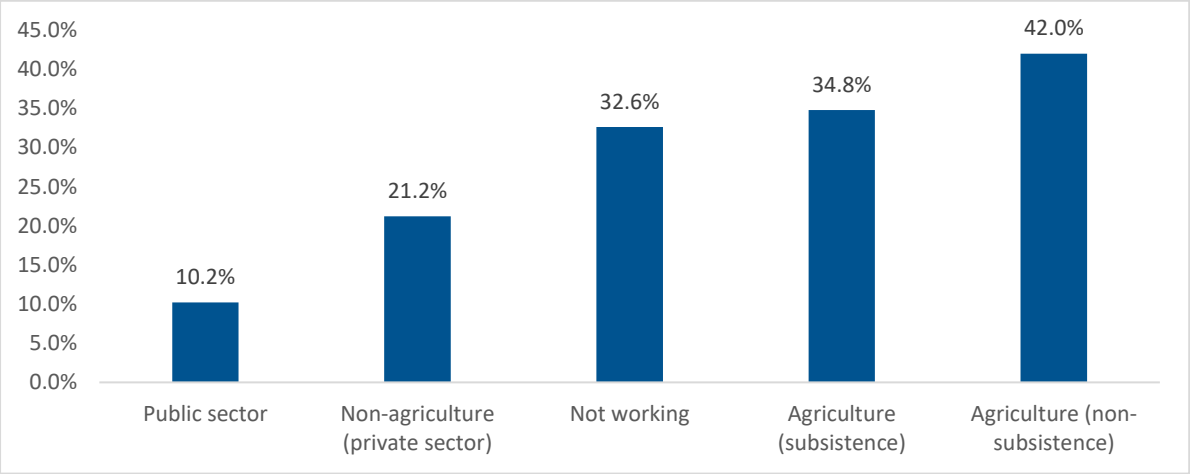
Table 28: Type of employment by gender

Type of employment	All	Men	Women
Employer	9.4%	8.5%	12.6%
Wage/salary earner	20.2%	21.9%	17.2%
Not working	32.6%	35.2%	31.7%
Self-employed	32.9%	34.0%	29.9%
Family/community worker	33.8%	39.0%	28.1%
Subsistence	34.8%	39.6%	25.5%

11.7. Poverty rate by employment sector

Adults working in the agriculture sector recorded the highest poverty rates than those in the public sector. Figure 49 indicates that the gap between subsistence and non-subsistence agriculture could be an indicative of low wages earned in the agriculture sector. Outside the agriculture sector, public sector workers have a substantially lower poverty rate than workers in the private sector.

Figure 49: Poverty rates by employment sector (aged 15-64)



12.0 ANNEXES

12.1. Annex A: Poverty rates and Poverty gaps

Area	Estimated population	Absolute Poverty	Poverty rate	Poverty gap
National	**864,132**	**258,053**	**29.9%**	**7.0%**
Rural	386,632	160,450	41.5%	11.1%
Urban	477,500	97,602	20.4%	4.2%
Sex				
Male	434,914	134,060	30.8%	7.6%
Female	429,218	123,992	28.9%	7.0%
Sub-population group				
iTaukei	535,554	192,977	36.0%	9.2%
Indo-Fijian	295,326	58,933	20.0%	4.2%
Others	33,251	6,143	18.5%	3.6%
Geographical Division				
Central	361,459	87,766	24.3%	5.2%
Eastern	36,274	15,480	42.7%	11.8%
Northern	135,965	47,819	35.2%	8.2%
Western	330,434	106,988	32.4%	8.7%
Geographical Areas				
Rural Central	101,422	41,178	40.6%	9.9%
Rural Eastern	32,724	13,911	42.5%	11.9%
Rural Northern	98,550	39,579	40.2%	9.5%
Rural Western	153,936	65,782	42.7%	12.7%
Urban Central	260,037	46,588	17.9%	3.4%
Urban Eastern	3,550	1,569	44.2%	11.0%
Urban Northern	37,415	8,240	22.0%	4.7%
Urban Western	176,498	41,206	23.3%	5.2%
Religion				
Christian	581,216	200,871	34.6%	8.7%
Hindus	214,029	41,042	19.2%	3.9%
Muslim	51,828	11,679	22.5%	5.4%
Others	17,059	4,461	26.1%	7.3%
Marital Status				
Never married	162,418	49,955	30.8%	7.7%
Legally married	357,524	97,586	27.3%	6.5%
Defacto	10,978	3,043	27.7%	5.8%
Widowed	46,606	11,848	25.4%	6.2%
Separated	12,375	2,998	24.2%	6.0%
Divorced	7,087	1,228	17.3%	4.8%
Employment status				
Not working	265,903	84,872	31.9%	7.8%
Wage/salary earner	204,673	41,294	20.2%	4.6%
Employer	2,886	273	9.5%	1.4%
Self-employed	80,389	26,207	32.6%	8.4%
Family/community worker	9,295	3,159	34.0%	8.5%
Subsistence	47,831	16,030	33.5%	8.5%
Employment by sector				
Not working	265,903	84,872	31.9%	7.8%
Non-agriculture (private sector)	219,226	46,240	21.1%	4.7%
Public sector	25,201	2,557	10.1%	1.9%
Agriculture (subsistence)	47,831	16,030	33.5%	8.5%
Agriculture (non-subsistence)	52,816	22,135	41.9%	11.4%

12.2. Annex B: Poverty rates and food poverty per AE

Area	Estimated population	Absolute Poverty	Poverty Rate	Food Poverty estimates	Food Poverty Rate
National	**864,132**	**258,053**	**29.9%**	**55,286**	**6.4%**
Rural	386,632	160,450	41.5%	42,923	11.1%
Urban	477,500	97,602	20.4%	12,364	2.6%
Sub-population group					
iTaukei	535,554	192,977	36.0%	46,306	8.6%
Indo-Fijian	295,326	58,933	20.0%	8,322	2.8%
Others	33,251	6,143	18.5%	658	2.0%
Sex					
Male	434,914	134,060	30.8%	26,052	6.0%
Female	429,218	123,992	28.9%	29,234	6.8%
Age-group					
0-14	253,156	86,218	34.1%	19,359	7.6%
15-19	66,769	23,367	35.0%	5,103	7.6%
20-29	135,489	41,156	30.4%	9,231	6.8%
30-39	128,255	32,986	25.7%	6,259	4.9%
40-49	99,640	26,718	26.8%	5,526	5.5%
50-59	94,260	24,514	26.0%	5,493	5.8%
60+	86,563	23,094	26.7%	4,316	5.0%
55+	130,671	33,834	25.9%	6,655	5.1%
Geographical Division					
Central	361,459	87,766	24.3%	12,309	3.4%
Eastern	36,274	15,480	42.7%	4,973	13.7%
Northern	135,965	47,819	35.2%	9,173	6.7%
Western	330,434	106,988	32.4%	28,831	8.7%
Geographical Areas					
Rural Central	101,422	41,178	40.6%	8,006	7.9%
Rural Eastern	32,724	13,911	42.5%	4,628	14.1%
Rural Northern	98,550	39,579	40.2%	8,319	8.4%
Rural Western	153,936	65,782	42.7%	21,970	14.3%
Urban Central	260,037	46,588	17.9%	4,303	1.7%
Urban Eastern	3,550	1,569	44.2%	346	9.7%
Urban Northern	37,415	8,240	22.0%	854	2.3%
Urban Western	176,498	41,206	23.3%	6,861	3.9%
Religion					
Christian	581,216	200,871	34.6%	45,909	7.9%
Hindus	214,029	41,042	19.2%	5,177	2.4%
Muslim	51,828	11,679	22.5%	2,378	4.6%
Others	17,059	4,461	26.1%	1,822	10.7%
Marital Status					
Never married	162,418	49,955	30.8%	11,120	6.8%
Legally married	357,524	97,586	27.3%	19,800	5.5%
Defacto	10,978	3,043	27.7%	283	2.6%
Widowed	46,606	11,848	25.4%	2,911	6.2%
Separated	12,375	2,998	24.2%	722	5.8%
Divorced	7,087	1,228	17.3%	327	4.6%

12.3. Annex C: Poverty rates and food poverty by characteristics of HH heads

Sex of HH head	Share of total HH heads	Absolute Poverty	Food Poverty
Male	83.7%	30.8%	6.8%
Female	16.3%	25.1%	4.4%
Total	100.0%		
Sub-population group			
iTaukei	61.7%	36.2%	8.7%
Indo-Fijian	34.4%	19.8%	2.8%
Others	3.9%	17.6%	1.5%
Total	100.0%		
Religion			
Christian	66.8%	34.7%	7.9%
Hindus	25.1%	19.4%	2.5%
Muslim	6.1%	21.3%	4.1%
Others	2.0%	25.2%	11.0%
Total	100.0%		
Marital Status			
Never married	3.9%	23.4%	5.0%
Legally married	77.2%	30.5%	6.4%
Defacto	1.5%	25.0%	1.6%
Widowed	14.0%	29.2%	7.1%
Separated	2.3%	30.3%	6.3%
Divorced	1.1%	21.4%	6.4%
Total	100.0%		
Age-group of HH head			
15-19	0.1%	10.6%	0.0%
20-29	5.3%	20.3%	4.0%
30-39	19.2%	26.3%	5.1%
40-49	24.3%	29.8%	6.4%
50-59	26.6%	31.8%	8.5%
60+	24.6%	32.8%	5.6%
55+	37.3%	31.6%	6.4%
Highest education level of HH head			
No school	2.3%	34.8%	8.4%
Some primary	15.5%	39.4%	7.6%
Completed primary	17.0%	37.5%	9.6%
Some secondary	29.2%	33.9%	7.4%
Completed secondary	14.5%	25.8%	6.1%
Completed foundation	3.5%	18.2%	4.0%
Completed tertiary	16.1%	13.8%	1.4%
Completed post-graduate	1.8%	5.4%	0.0%
Total	100.0%		
Employment status of HH head			
Employer	22.3%	17.2%	2.1%
Wage/salary earner	42.0%	23.2%	5.1%
Not working	1.2%	32.8%	5.7%
Self-employed	23.8%	34.3%	7.9%
Subsistence	1.2%	41.0%	9.8%
Family/community worker	9.6%	44.3%	12.9%
Total	100.0%		
Employment by sector of HH head			
Public sector	22.3%	14.2%	3.6%
Non-agriculture (private sector)	45.5%	22.6%	4.2%
Not working	5.2%	32.8%	5.7%
Agriculture (subsistence)	9.6%	41.0%	9.8%
Agriculture (non-subsistence)	17.3%	43.8%	12.2%
Total	100.0%		

12.4. Annex D: Poor and near poor by HH characteristics

	National				
	Total population	Pop	Poor	Near-poor	Non-poor
	N	%	%	%	%
Housing tenure					
Owner occupier	658,928	76.3%	31.3%	35.2%	33.5%
Renting	119,483	13.8%	16.3%	29.8%	53.9%
Occupying rent-free	69,557	8.0%	33.7%	30.0%	36.3%
Renting (government subsidized) & others	16,164	1.9%	54.9%	20.0%	25.1%
Land tenure					
Freehold	134,596	15.6%	16.8%	27.7%	55.4%
Lease from Housing Authority	76,533	8.9%	13.2%	32.3%	54.5%
Lease from State	89,044	10.3%	18.9%	34.1%	47.0%
Lease from TLTB	164,047	19.0%	29.6%	34.3%	36.1%
Occupy Native Land with formal or informal arrangement	112,466	13.0%	38.3%	34.8%	26.9%
Occupy through traditional village tenure	260,839	30.2%	42.2%	35.1%	22.8%
Occupy without legal arrangement, state or freehold land	26,607	3.1%	25.4%	46.0%	28.6%
Living quarters					
Single family house	673,674	78.0%	32.5%	34.9%	32.6%
Apartment	40,539	4.7%	19.3%	19.9%	60.8%
Attached to other dwelling	142,613	16.5%	20.3%	32.8%	46.8%
Others	7,305	0.8%	29.3%	23.3%	47.4%
Building outer walls materials					
Concrete, brick or cement	307,278	35.6%	15.4%	30.1%	54.5%
Wood	210,564	24.4%	33.3%	34.5%	32.1%
Tin or corrugated iron	340,763	39.4%	40.3%	36.6%	23.1%
Traditional bure materials	5,527	0.6%	60.4%	28.4%	11.2%
Number of rooms in dwelling					
1-2 rooms	162,762	18.8%	48.5%	31.9%	19.7%
3 rooms	171,750	19.9%	32.9%	34.1%	33.0%
4 rooms	229,774	26.6%	27.7%	34.1%	38.2%
5 rooms	181,990	21.1%	20.6%	35.7%	43.7%
6+ rooms	117,856	13.6%	18.4%	32.0%	49.7%
Main water supply					
Borehole	40,761	4.7%	41.6%	36.8%	21.6%
Communal Standpipe	213,020	24.7%	44.1%	34.0%	21.9%
FSC / EGM	3,903	0.5%	49.3%	37.2%	13.5%
Metered	573,551	66.4%	22.5%	33.2%	44.2%
River or Creek	5,871	0.7%	52.3%	34.0%	13.7%
Roof tank	19,062	2.2%	51.3%	32.1%	16.7%
Well	7,963	0.9%	39.7%	48.4%	11.9%
Main electricity supply					
EFL	691,822	80.1%	27.0%	33.3%	39.7%
Home solar system	94,053	10.9%	38.0%	37.7%	24.2%
Own Plant/ Generator	39,098	4.5%	33.9%	36.7%	29.4%
None	39,158	4.5%	56.3%	29.4%	14.3%
Main source of lighting					
Electricity	783,709	90.7%	27.9%	34.0%	38.1%
Other	80,423	9.3%	48.7%	31.5%	19.7%
Main source of cooking fuel					
Electricity	24,951	2.9%	23.5%	29.9%	46.6%
Kerosene	188,366	21.8%	32.1%	40.8%	27.1%
LPG	372,381	43.1%	14.7%	29.6%	55.7%
Wood	278,435	32.2%	49.2%	34.8%	16.0%
Main toilet facility					
Exclusive use facilities	820,325	94.9%	29.2%	33.6%	37.3%
Shared use facilities	42,597	4.9%	42.5%	37.4%	20.2%
None	1,210	0.1%	63.7%	27.2%	9.0%

12.5. Annex E: Households coping mechanisms

No.	Top 5 coping mechanisms (National)	National	Rural	Urban	National rank	Rural rank	Urban rank
1	Help from friends/relatives	62.9%	68.8%	57.3%	1	1	1
2	Less preferred foods	46.0%	42.7%	49.2%	2	3	3
3	Relied on savings	44.9%	38.4%	51.1%	3	4	2
4	Help from government	35.5%	55.2%	16.5%	4	2	4
5	Changed crop practices	10.7%	19.7%	2.1%	5	5	14
6	Other	10.2%	10.0%	10.4%	6	6	6
7	Reduced size/number of meals	10.0%	6.4%	13.4%	7	8	5
8	HH members took on more non-farm employment	6.9%	6.4%	7.4%	8	7	7
9	Obtained credit	6.1%	5.5%	6.7%	9	9	8
10	Sold livestock	3.0%	5.1%	0.9%	10	10	18
11	Skipped days without eating	2.4%	2.6%	2.2%	11	12	12
12	Sent children to live elsewhere	2.3%	1.8%	2.7%	12	14	11
13	Reduced expenditures on health and education	2.2%	1.3%	3.1%	13	16	9
14	HH members took on more farm employment	2.1%	3.2%	1.0%	14	11	17
15	Take children out of school	1.8%	1.4%	2.1%	15	15	13
16	Sold durable HH assets	1.7%	1.8%	1.5%	16	13	15
17	Rented out land/building	1.7%	0.5%	2.8%	17	17	10
18	Transfer children to different schools	0.8%	0.0%	1.5%	18	20	16
19	Distress sales of animal stock	0.2%	0.5%	0.0%	19	18	21
20	Sold land/building	0.2%	0.0%	0.4%	20	20	19
21	HH members migrated	0.2%	0.0%	0.4%	21	20	20

No.	Top 5 coping mechanisms (Rural)	National	Rural	Urban	National rank	Rural rank	Urban rank
1	Help from friends/relatives	62.9%	68.8%	57.3%	1	1	1
2	Help from government	35.5%	55.2%	16.5%	4	2	4
3	Less preferred foods	46.0%	42.7%	49.2%	2	3	3
4	Relied on savings	44.9%	38.4%	51.1%	3	4	2
5	Changed crop practices	10.7%	19.7%	2.1%	5	5	14
6	Other	10.2%	10.0%	10.4%	6	6	6
7	HH members took on more non-farm employment	6.9%	6.4%	7.4%	8	7	7
8	Reduced size/number of meals	10.0%	6.4%	13.4%	7	8	5
9	Obtained credit	6.1%	5.5%	6.7%	9	9	8
10	Sold livestock	3.0%	5.1%	0.9%	10	10	18
11	HH members took on more farm employment	2.1%	3.2%	1.0%	14	11	17
12	Skipped days without eating	2.4%	2.6%	2.2%	11	12	12
13	Sold durable HH assets	1.7%	1.8%	1.5%	16	13	15
14	Sent children to live elsewhere	2.3%	1.8%	2.7%	12	14	11
15	Take children out of school	1.8%	1.4%	2.1%	15	15	13
16	Reduced expenditures on health and education	2.2%	1.3%	3.1%	13	16	9
17	Rented out land/building	1.7%	0.5%	2.8%	17	17	10
18	Distress sales of animal stock	0.2%	0.5%	0.0%	19	18	21
19	Transfer children to different schools	0.8%	0.0%	1.5%	18	20	16
20	Sold land/building	0.2%	0.0%	0.4%	20	20	19
21	HH members migrated	0.2%	0.0%	0.4%	21	20	20

No.	Top 5 coping mechanisms (Urban)	National	Rural	Urban	National rank	Rural rank	Urban rank
1	Help from friends/relatives	62.9%	68.8%	57.3%	1	1	1
2	Relied on savings	44.9%	38.4%	51.1%	3	4	2
3	Less preferred foods	46.0%	42.7%	49.2%	2	3	3
4	Help from government	35.5%	55.2%	16.5%	4	2	4
5	Reduced size/number of meals	10.0%	6.4%	13.4%	7	8	5
6	Other	10.2%	10.0%	10.4%	6	6	6
7	HH members took on more non-farm employment	6.9%	6.4%	7.4%	8	7	7
8	Obtained credit	6.1%	5.5%	6.7%	9	9	8
9	Reduced expenditures on health and education	2.2%	1.3%	3.1%	13	16	9
10	Rented out land/building	1.7%	0.5%	2.8%	17	17	10
11	Sent children to live elsewhere	2.3%	1.8%	2.7%	12	14	11
12	Skipped days without eating	2.4%	2.6%	2.2%	11	12	12
13	Take children out of school	1.8%	1.4%	2.1%	15	15	13
14	Changed crop practices	10.7%	19.7%	2.1%	5	5	14
15	Sold durable HH assets	1.7%	1.8%	1.5%	16	13	15
16	Transfer children to different schools	0.8%	0.0%	1.5%	18	20	16
17	HH members took on more farm employment	2.1%	3.2%	1.0%	14	11	17
18	Sold livestock	3.0%	5.1%	0.9%	10	10	18
19	Sold land/building	0.2%	0.0%	0.4%	20	20	19
20	HH members migrated	0.2%	0.0%	0.4%	21	20	20
21	Distress sales of animal stock	0.2%	0.5%	0.0%	19	18	21

12.6. Annex F: Annual average non-food consumption per HH

	Total non-food	Housing and utilities	Transport	Communications	Education (incl. grants)	Other non-food	Recreation and Hotels	Clothing and footwear	Alcohol, tobacco, narcotics	Domestic goods and services	Health
National	$7,243.4	51.7%	15.6%	9.6%	4.7%	3.8%	3.7%	3.7%	3.5%	3.0%	0.5%
Rural	$5,245.5	45.3%	19.3%	9.4%	6.9%	3.7%	2.9%	4.3%	4.9%	3.1%	0.3%
Urban	$8,785.1	54.7%	13.9%	9.7%	3.7%	3.9%	4.1%	3.4%	2.9%	3.0%	0.6%
Central	$8,703.4	53.6%	14.6%	9.4%	4.2%	3.8%	4.1%	3.2%	3.7%	2.9%	0.4%
Eastern	$4,334.8	61.0%	3.4%	6.8%	6.3%	3.3%	6.8%	3.8%	6.0%	2.5%	0.2%
Northern	$5,320.1	41.4%	22.5%	8.9%	7.6%	4.2%	2.2%	5.4%	3.6%	4.0%	0.2%
Western	$6,821.5	51.7%	15.7%	10.3%	4.4%	3.8%	3.5%	3.8%	3.1%	3.0%	0.7%
1 - Lowest	3,730.2	43.5%	20.3%	10.7%	12.5%	3.7%	1.2%	4.4%	1.4%	2.3%	0.1%
2	4,850.9	44.6%	19.5%	12.3%	9.5%	3.7%	1.8%	4.0%	1.5%	2.8%	0.2%
3	5,369.3	47.2%	18.2%	11.3%	8.9%	3.9%	1.8%	3.8%	1.7%	2.7%	0.2%
4	5,823.3	48.3%	18.2%	11.3%	7.0%	4.1%	1.9%	3.8%	2.3%	2.9%	0.3%
5	6,286.4	48.9%	17.1%	11.5%	6.5%	4.2%	1.8%	3.6%	3.0%	3.1%	0.3%
6	6,488.0	50.4%	16.3%	11.4%	6.1%	4.2%	1.9%	3.8%	2.5%	2.9%	0.4%
7	6,979.1	50.9%	16.5%	10.5%	4.8%	4.3%	2.7%	3.8%	3.0%	3.0%	0.4%
8	7,547.5	51.6%	17.1%	10.0%	3.7%	4.2%	2.7%	3.8%	3.4%	3.0%	0.5%
9	8,486.6	54.5%	14.7%	9.1%	2.7%	3.9%	3.4%	3.5%	4.2%	3.3%	0.6%
10 - Top	11,606.2	56.4%	11.7%	6.8%	1.6%	3.3%	7.5%	3.4%	5.3%	3.2%	0.8%

12.7. Annex G: Percentage of deprivation in Fiji by rural-urban areas

	Percentage of adults deprived	National (%)	Rural (%)	Urban (%)
1	Two meals a day	2%	3%	2%
2	All medicines prescribed	9%	12%	7%
3	Celebrations on special occasions	16%	18%	13%
4	Clothes for social occasions	16%	20%	13%
5	Access to land for residential purposes	18%	11%	23%
6	Meet Social/Traditional obligations	18%	21%	15%
7	Visit friends and family in hospital	19%	23%	14%
8	Two pairs of properly fitting shoes	19%	24%	16%
9	Get-together at least once a month	21%	24%	17%
10	Replace worn out clothes	23%	27%	19%
11	Presents once a year	27%	30%	23%
12	Repair broken goods	34%	39%	29%
13	Replace worn out furniture	34%	40%	29%

	Deprived adults in households	National (%)	Rural (%)	Urban (%)
1	Regular savings for emergencies	20%	22%	18%
2	A small amount of money to spend each week on yourself	23%	26%	20%
3	Have your own means of transport	53%	57%	49%

	Child deprivation items	National (%)	Rural (%)	Urban (%)
1	Three meals a day	2%	2%	3%
2	School trips and events	9%	10%	8%
3	A suitable place to do homework	11%	13%	9%
4	Enough beds and beddings	16%	19%	13%
5	Celebrations on special occasions	17%	20%	14%
6	One meal with protein daily	20%	22%	18%
7	New, properly fitting shoes	23%	25%	21%
8	Some new clothes	28%	30%	25%
9	Bicycle	27%	29%	25%

12.8. Annex H: Multidimensional poverty rates

Area	Estimated population	Multidimensionally poor pop	Multidimensional poverty rate
National	**864,132**	**256,093**	**29.6%**
Rural	386,632	146,061	37.8%
Urban	477,500	110,032	23.0%
Sex			
Male	434,914	126,941	29.2%
Female	429,218	129,152	30.1%
Sub-population group			
iTaukei	535,554	179,546	33.5%
Indo-Fijian	295,326	69,241	23.4%
Others	33,251	7,306	22.0%
Geographical Division			
Central	361,459	111,981	31.0%
Eastern	36,274	13,691	37.7%
Northern	135,965	35,856	26.4%
Western	330,434	94,565	28.6%
Geographical Areas			
Rural Central	101,422	43,708	43.1%
Rural Eastern	32,724	13,691	41.8%
Rural Northern	98,550	30,028	30.5%
Rural Western	153,936	58,634	38.1%
Urban Central	260,037	68,273	26.3%
Urban Eastern	3,550		
Urban Northern	37,415	5,828	15.6%
Urban Western	176,498	35,931	20.4%
Religion			
Christian	581,216	187,465	32.3%
Hindus	214,029	50,603	23.6%
Muslim	51,828	12,709	24.5%
Others	17,059	5,316	31.2%

Note: Multidimensional poverty by Eastern Urban has been merged with Central Urban due to low sample size, and Eastern Division are mainly Eastern Rural.

12.9. Annex I: Labour force participation by age-group

Labour force participation		
Age group	Men	Women
15-19	28.3%	11.1%
20-24	78.8%	48.5%
25-34	94.8%	56.5%
35-44	96.0%	57.2%
45-54	93.0%	48.9%
55-64	76.2%	32.9%
Total (15-64)	82.6%	45.5%

Labour force participation		
Age group	Urban	Rural
15-19	16.2%	23.6%
20-24	61.4%	66.5%
25-34	78.3%	72.6%
35-44	79.2%	74.4%
45-54	69.1%	72.0%
55-64	49.2%	61.0%
Total (15-64)	63.9%	64.4%

Note: LF participation = (employed + unemployed) / total population

Employment rate		
Age group	Male	Female
15-19	23.4%	6.3%
20-24	67.9%	34.4%
25-34	88.9%	48.9%
35-44	93.4%	52.9%
45-54	91.4%	47.2%
55-64	75.4%	32.3%
Total (15-64)	78.4%	40.2%

Employment rate		
Age group	Urban	Rural
15-19	10.4%	20.0%
20-24	47.1%	56.6%
25-34	69.5%	68.9%
35-44	74.7%	72.5%
45-54	67.0%	71.1%
55-64	48.2%	60.8%
Total (15-64)	57.8%	61.4%

Note: Employment = (employed) / total population

Unemployment rate		
Age group	Male	Female
15-19	17.3%	43.3%
20-24	13.8%	29.1%
25-34	6.2%	13.4%
35-44	2.7%	7.6%
45-54	1.7%	3.4%
55-64	0.9%	1.8%
Total (15-64)	5.1%	11.7%

Unemployment rate		
Age group	Urban	Rural
15-19	35.9%	15.5%
20-24	23.3%	14.8%
25-34	11.2%	5.0%
35-44	5.7%	2.6%
45-54	3.1%	1.3%
55-64	2.2%	0.3%
Total (15-64)	9.5%	4.6%

Note: Unemployment = Unemployed / (employed + unemployed)

12.10. Annex J: Absolute poverty measurement methodology

This methodology section details the process of estimating the poverty rate for Fiji based on the 2019-20 HIES. The estimation of poverty requires three major steps:

1. Constructing a single dimensional, measurable welfare indicator that can be used to rank the population according to well-being (the "welfare aggregate")
2. Constructing an appropriate threshold of welfare that can be used to classify individuals as poor or non-poor (the "poverty line")
3. Combine the welfare indicator with the poverty line to describe the poverty status of the population (the "poverty rate")

The methodology updates to the calculations presented in the 2019-20 HIES report are in line with the latest international and regional guidance on aggregate construction and poverty measurement. The section below details the major decisions made and how they deviate from previous HIES rounds. The concepts are explained in the following order:

A. Adult equivalency scales
B. Income aggregates
C. Consumption aggregates
D. Poverty line construction

A. Adult equivalency scales

In order to compare welfare measures, which are often recorded at the household level, it is necessary to account for differences in household composition. Two alternative ways to do this are: 1) per capita measures, which divide the household-level welfare aggregate by the number of household members, and 2) adult equivalent measures, which assign different weights to the household members depending on their age or sex. In the Pacific, countries that apply adult equivalent measures typically utilize a simple scale, where household members aged 0-14 (children) are given a weight of 0.5, with all other household members given a weight of 1, with no differentiation by sex. The welfare aggregates and poverty lines in the Fiji 2019/20 poverty analysis use this simple adult equivalency scale.

B. Income aggregates

The income aggregate construction for the 2019-20 HIES round is consistent with the recommendations of the Canberra Group Handbook on Household Income Statistics, Second Edition (2011), which uses the 2004 ILO definition of household income, as follows:

> Household income consists of all receipts whether monetary or in kind (goods and services) that are received by the household or by individual members of the household at annual or more frequent intervals, but excludes windfall gains and other such irregular and typically one-time receipts.

1. **Labor income**

   a. **Casual worker wages**
   Annualization of casual worker wages assumed that the weekly wage reported is stable throughout the entire year, thus using a multiplier of 52 from the reported weekly wage. Exceptions are made for sugarcane cutters and other types of known seasonal workers, which instead used a multiplier of 26 to reflect the seasonal nature of the work. The final income figures account for income tax deductions as reported in the HIES.

   b. **Salaried work**
   Annualization of salaried work was done based on the pay periods reported by each respondent (daily, weekly, fortnightly, twice per month, annually). The final income figures account for income tax deductions as reported in the HIES.

   c. **Income from small businesses (agriculture and non-agriculture)**
   Income from small businesses, both agriculture and non-agriculture, are calculated as a sum of all outputs produced (cash sales + own-consumed outputs) and net gifts received, less the costs of production and income tax deductions as reported in the HIES.

   d. **Income from subsistence farming**
   Income from subsistence farming was calculated as the annualized value of food items reported as home-produced consumption in the two-week consumption diaries.

2. **Non-labor income**

   a. **Transfers**
   Transfer incomes included only recurrent transfers, including government benefits and school subsidies. This income component excludes windfall transfers such as insurance payouts, as well as withdrawals from provident funds or savings, which deplete assets.

   b. **Remittances**
   The total value of the remittance component includes both remittances from domestic and international sources.

   c. **Property income**
   Property income includes interest, dividends, royalties, and rent from land and buildings received by the household in the last 12 months.

   d. **Gifts received**
   The “gifts received” component of income includes the annualized value of all food and non-food items reported as gifts received in the two-week consumption diary. No windfall receipts of gifts (e.g., wedding gifts and other ceremonial gifts) were reported in the consumption diary.

e. Imputed rent

In the case that households own the dwelling that they occupy, it is necessary to calculate the hypothetical rental income that they are both earning and spending from this housing ownership. A question of "if the dwelling was rented, taking into consideration the geographic (urban/rural) location and physical state of the dwelling, what would be the likely cost of rent for a month?" was asked in the HIES in order to obtain the respondent's estimate of that rental income. In previous HIES rounds, these responses were annualized and used as the "imputed rent" component of income.

However, as owner estimates could be overreported or otherwise biased, the imputed rent for this HIES round was instead calculated using a predictive "hedonic" model. The model assesses the physical (number of rooms, building materials for walls and roofs) and location (province, urban/rural, type of locality) characteristics of the dwelling and calculates the additional rental value contributed by each of those characteristics. The model was based on actual rental expenses from the renting households in the sample (roughly 15 percent of the total sample). The predictive model had an R-squared score of ~0.6, which is roughly on par with imputed rent models used in other countries.

The resulting predicted values are then deducted by the average maintenance expenses incurred by these households, which results in a maintenance coefficient of 17%.

f. Other non-labor income

The following other sources of income were excluded from the aggregate: 1) gambling/lotteries incomes due to their irregular nature, 2) "drawings" from savings due to their asset-depleting nature. However, "drawings" were included for people who reported their employment status as "employers" but did not report any business income, as this was assumed to be in lieu of business owners paying themselves a salary.

C. Consumption aggregates

Consumption aggregate construction for the 2019/20 HIES was based on the latest recommendations of the Pacific Statistics Methods Board (PSMB). Deviations from the recommended method are caused by limitations of the questionnaire, as detailed in each sub-section below.

1. Food consumption

Food consumption was calculated as the annualized value of the reported food consumption in the two-week diaries. This includes all food items that were reported to be consumed by the household, whether purchased in cash transactions, home-produced, or received as a gift. The consumption aggregate does not include food purchased or produced by the household but given away as a gift (whether to another household, social gatherings, churches, etc.) in order to prevent double counting of expenditures between households.

2. Non-food consumption

a. Non-durables

Like food consumption, the consumption of non-food non-durable items was calculated as the annualized value of reported transactions in the two-week diaries and the individual and household expenditures in the CAPI modules.

b. Durables

Durables are defined as items that are infrequently purchased by the household and have a lifetime that spans multiple years, e.g., motor vehicles or major household appliances such as televisions, computers, and refrigerators. The PSMB guidance recommends the calculation of "annualized use values" for durable items owned by the households, regardless of whether the items were purchased in the past year. The use values are calculated by estimating the annual rate of depreciation of the durable asset, which can be done if the following data are collected: 1) length of ownership of asset, 2) purchase price of asset, and 3) estimated resale value of asset at time of survey. However, this HIES dataset does not allow for the calculation of the annualized use values, as the questionnaire only 1) takes stock of existing durables without collecting the purchase price, length of ownership, or estimated resale value, and 2) only records the purchase values of durables purchased over the past year. As such, all durable items were excluded from the consumption aggregate.

c. Semi-durables

Semi-durables are a sub-category of durable items that still have utility for multiple years, but not as long as the lifespan of the major durables such as vehicles or white goods. Semi-durables also tend to be purchased more frequently and are not as expensive as durables. As there is no strict guidance on semi-durables in the PSMB recommendations, the Fiji Bureau of Statistics includes and excludes semi-durables following the table below, based on the likelihood of purchasing new items on an annual basis. Due to the likelihood of annual purchases, the semi-durables are included in the consumption aggregate using their full purchase value.

Table A1. Inclusion and exclusion of semi-durables

Included	Excluded
Clothing and footwear	Small electronic household appliances (blenders, coffee makers)
Household textiles (bed linens, pillows)	Glassware, tableware, household utensils
Spare parts and accessories for personal transport	Small household tools and accessories (hammers, saws, wheelbarrows)
Recording media (CDs, film cartridges)	Equipment for sport, camping, and open air recreation

Games, toys, and hobbies	
Books	

d. Imputed rent

The imputed rent calculations used in the income aggregates are also applied to the consumption aggregates, including the deductions. To maintain consistency between income and consumption aggregates, household maintenance expenditures are replaced by the coefficient used for deducting imputed rents (17%).

3. Outlier corrections

Outlier corrections were applied to all transactions reported in both the diaries and CAPI modules of the survey. The outliers were identified for the per capita annualized amounts, by COICOP subclass and region (urban/rural and division), using a cut-off score of 2 standard deviations above or below the mean. The outlier values were replaced by the per capita median transaction value (scaled up according to household size).

4. Spatial-temporal deflation

In order to account for regional and seasonal differences in costs of living and enable direct comparisons of household welfare across regions, a "deflator" was applied to the nominal consumption aggregates. The spatial-temporal deflator is calculated by comparing regional and seasonal differences in the prices of food goods (assuming that these differences are consistent between food and non-food goods), weighted by the importance of those goods to the consumption basket. The spatial disaggregation used was survey strata and the temporal disaggregation used was survey sub-rounds (each 3 months long).

The reference population used for the consumption basket is individuals in the 11th to 50th percentiles, which is the same reference population used to estimate the poverty line. In order to capture the "real" reference population rather than the nominal one, the deflators were estimated using an iterative approach, where households are re-ranked after deflators are applied, and the deflation is repeated (on the nominal aggregates) using the consumption shares of the "new" 11th to 50th percentile. This iterative process is repeated until the households in the reference population stabilize. In the case of Fiji, due to the relatively small deflator values, only two iterations were required to stabilize the reference population.

Tornqvist deflators were used in order to better account for outlier prices and consumption shares, though in the case of Fiji, the final choice of deflator would not have made a large difference (Table A2 below).

Table A2. Spatial-temporal deflators

Strata	Sub-round	Laspeyres	Paasche	Fisher	Tornqvist
Central Rural	1	1.029	1.106	1.067	1.023
	2	1.120	1.247	1.182	1.127
	3	0.964	0.956	0.960	0.903
	4	0.994	1.047	1.020	0.995
Central/Eastern Urban	1	1.054	1.050	1.052	1.045
	2	1.078	1.073	1.076	1.067
	3	1.022	1.019	1.020	1.011
	4	1.040	1.031	1.035	1.027
Eastern Rural	1	1.281	1.358	1.319	1.192
	2	1.466	1.578	1.521	1.358
	3	1.277	1.287	1.282	1.199
	4	1.291	1.284	1.287	1.161
North Rural	1	0.928	0.896	0.912	0.875
	2	0.941	0.918	0.929	0.888
	3	0.937	0.898	0.917	0.874
	4	0.902	0.867	0.884	0.848
North Urban	1	0.971	0.959	0.965	0.951
	2	1.010	1.209	1.105	1.014
	3	0.942	0.921	0.932	0.918
	4	0.958	0.965	0.962	0.941
West Rural	1	0.985	1.000	0.992	0.980
	2	0.996	1.085	1.039	0.997
	3	0.966	1.009	0.987	0.969
	4	0.986	1.019	1.002	0.986
West Urban	1	0.982	0.982	0.982	0.982
	2	0.988	0.987	0.987	0.981
	3	0.997	0.974	0.986	0.976
	4	0.978	0.982	0.980	0.972

D. Poverty line construction

A new Basic Needs Poverty Line (BNPL) was constructed for the 2019/20 HIES data, due to the methodology changes in data collection between the 2013/14 round and the 2019/20 round. This new BNPL will be used for future rounds of poverty analysis, with the application of appropriate inflation adjustments.

1. Issues in food poverty line construction

A single national food poverty line is constructed by computing the amount of monetary expenditure required to consume a daily calorie target using the real consumption patterns of a reference population.

The calorie target was set at 2,228 calories per day per adult equivalent, based on the guidance of the Fiji Food and Nutrition Centre.

The reference population chosen was individuals in the 11th to 50th percentile based on real (deflated) per adult equivalent consumption.

The cost per calorie of food items was computed using nutritional values (calories per 100g) from the FAO food composition tables for the Pacific and unit values (FJD per 100g) for each food item calculated based on reported transactions in the two-week consumption diaries.

2. Issues in non-food poverty line construction

The non-food poverty line is computed as a multiplier of the food poverty line. The Lower Ravallion method is used, in line with PSMB recommendations, to estimate the non-food consumption patterns of households whose total consumption is around the food poverty line.

3. Choice of aggregate

In a change from previous years, the 2019/20 poverty rate measures the per adult equivalent consumption aggregates against the BNPL. The two reasons for this change: 1) due to the smoother nature of the consumption distribution compared to the income distribution, particularly where some households have irregular income sources and may sometimes report zero annual incomes; and 2) in order to promote consistency between the methods used in Fiji and the methods used in other Pacific Island Countries, which all use consumption rather than income as the aggregate of choice.

Table A3. Regressions to estimate the determinants of poverty and consumption

Table A3. Regression coefficients

Household characteristics	Per AE consumption	Likelihood of poverty
HH in urban area	0.187*** (-8.08)	-0.109*** (-5.19)
HH in Eastern division (compared to Central division)	-0.122 (-1.75)	0.084 (-1.39)
HH in Northern division (compared to Central division)	-0.027 (-0.77)	-0.010 (-0.34)
HH in Western division (compared to Central division)	-0.113*** (-4.61)	0.078*** (3.52)
Household size	-0.065*** (-14.20)	0.051*** (10.26)
Proportion of household members aged 15-30	-0.149*** (-4.16)	0.156*** (4.02)
Proportion of household members aged 31-64	0.196*** (-4.62)	-0.032 (-0.69)
Proportion of household members aged 65+	0.247*** (-5.55)	-0.045 (-0.93)
Sex of HH head	0.014 (-0.81)	-0.004 (-0.22)
Proportion of household members that are male	-0.105*** (-3.37)	0.116*** (3.58)
Number of adults (25+) with primary education or lower	-0.106*** (-9.62)	0.062*** (5.54)
Number of adults (25+) with some secondary education	-0.082*** (-7.05)	0.052*** (4.23)
Number of adults (25+) with secondary education completion	-0.016 (-1.66)	0.010 (0.91)
Number of adults (25+) with tertiary education completion	0.088*** (-8.86)	-0.054*** (-4.1)
Number of HH members working outside of agriculture	0.051*** (-5.71)	-0.068*** (-7.09)
Number of HH members working in subsistence agriculture	0.045*** (-3.35)	-0.035*** (-2.79)
Number of HH members working in non-subsistence agriculture	0.020 (-1.3)	-0.0223458 (-1.42)
Marginal effects presented under “likelihood of poverty” using probit model. * p<0.05, ** p<0.01, *** p<0.001		

12.11. Annex K: Multidimensional Poverty Methodology

Table A1.1 shows the 25 material and social deprivation questions which were selected by FBoS after a detailed expert review of similar deprivation question modules which had been used in Pacific Countries (particularly Solomon Islands, Tonga & Tuvalu) and other developing countries. FBoS consulted with UNICEF and academics at the University of Bristol and were also advised by Dr Viliami Fifita (the Government Statistician, Kingdom of Tonga) who is the Chair of the PSSC (Pacific Statistics Steering Committee) on poverty measurement for the SDGs. This represents an excellent example of cooperation in improving poverty measurement methodology.

Table A1.1: Consensual Poverty Questions in the 2019-20 Fiji HIES

Respondents all >= 18

Instructions: Each item has 2 questions, for each item, ask the respondent if he/she believes the item is something everyone should possess, the second question asks whether the respondent possess the item and the reasons for not possessing

Child Items	Is (item) 1 = Essential 2=Desirable but not essential 3 = Neither 4 = Don't Know	Do you have (item)? 1 = Have it 2 = Don't have, can't afford 3= Don't have, don't want 4= Don't have, for another reason 5=Don't know
Q1. Three meals a day		
Q2. One meal with meat, chicken or fish or vegetarian equivalent daily		
Q3. New, properly fitting shoes		
Q4. Some new, not second-hand clothes		
Q5. Participate in school trips and school events that cost money		
Q6. Bicycle		
Q7. Enough beds and bedding for every child in the household		
Q8. A suitable place at home to study or do homework		
Q9. Celebrations on special occasions such as birthdays, Christmas or religious festivals.		

Adult Items (18+)	Is (item) 1 = Essential 2=Desirable but not essential 3 = Neither 4 = Don't Know	Do you have (item)? 1 = Have it 2 = Don't have, can't afford 3= Don't have, don't want 4= Don't have, for another reason 5=Don't know
QA1.Two meals a day		
QA2. Clothes to wear for social or family occasions such as parties or special lunch occasions		
QA3. Two pairs of properly fitting shoes, including a pair of all-weather shoes.		
QA4. Replace worn out clothes with new (not second hand) ones		
QA5. All medicines prescribed by your doctor when you are sick		
QA6. Enough money to replace own out furniture		
QA7. Enough money to repair broken goods such as a refrigerator or washing machine		

QA8. Celebrations on special occasions, such as birthdays, Christmas or religious festivals.		
QA9. Get-together with friends/family (relatives) for a drink/meal at least once a month		
QA10. Enough money to be able to visit friends and family in hospital or other institutions		
QA11. Presents for friends or family once a year		
QA12. Enough money to meet Social/Traditional obligations (Church/Family Functions etc.)		
QA13. Access to land for residential purposes		

Household Items	Is (item) 1 = Essential 2=Desirable but not essential 3 = Neither 4 = Don't Know	Do you have (item)? 1 = Have it 2 = Don't have, can't afford 3= Don't have, don't want 4= Don't have, for another reason 5=Don't know
QB1. Have your own means of transportation (e.g. car, bike, motorcycle, boat)		
QB2. A small amount of money to spend each week on yourself, not your family.		
QB3. Regular savings for emergencies.		

Analytical Method

It is of paramount importance to avoid producing a poverty measure which is simply a collection of things the authors think are 'bad' added together in an essentially arbitrary manner. There are, unfortunately, many studies that use such arbitrary poverty measures and they invariably have limited credibility or impact (Gordon, 1995). The robust measurement of both adult and child poverty requires a methodology that allows the 'best' set of deprivation indicators to be selected and also the rejection of inadequate indicators.

Building on recent methodological advances from the Poverty and Social Exclusion project[2], Guio, Gordon and Marlier (2012) proposed a theory-based analytical framework for developing robust aggregate deprivation indicators that can be used for analytical and monitoring purposes at national and regional levels (see also Guio et al., 2016; 2017a, 2017b). The optimal list of deprivation indicators should be identified based on four criteria:

1) The **suitability** of each deprivation item, in order to check that citizens in Fiji (as well as the different population sub-groups within the country) perceive them as necessary for people to have an 'acceptable' standard of living. 'Suitability' should thus be understood as the 'face validity' of the measure among Fijian citizens.

2) The **validity** of individual deprivation items, to ensure that each item exhibits statistically significant relative risk ratios with independent variables known to be correlated with deprivation. Three validators were used to assess criterion validity (Cronbach and Meehl, 1955):

[2] http://www.poverty.ac.uk/

Extensive research has shown that people suffering from deprivation are more likely to have lower incomes, worse education and lower status occupations compared with people who are not deprived. In addition, people who are deprived are *a priori* more likely to consider themselves to be 'poor' (Bradshaw and Finch, 2003).

3) The **reliability** of the deprivation scale, to assess the internal consistency of the scale as a whole, i.e. how closely related the set of deprivation items are as a group. This assessment can be undertaken using the basis of the Cronbach's Alpha statistic and a Classical Test Theory (CTT) framework and complemented with additional tests on the reliability of each individual item in the scale based on Item Response Theory (IRT).

4) The **additivity** of items, to check whether a child or adult with a deprivation indicator score of '2' (suffering from 2 deprivations) is in reality suffering from more severe deprivation than a person with a score of '1', i.e. that the deprivation indicator's components add up.

Only the deprivation items that successfully pass these four steps should be considered eligible for being aggregated into a final deprivation index. In particular, it is important that a deprivation measure does not attempt to aggregate 'apples and pears' – the components of such a measure need to be adequate measures of an underlying latent construct (i.e. poverty).

The step-by-step details of the results of these tests can be found below:

Step 1 – creating a suitable deprivation index

Select the deprivation indicators that 50% or more of the population agree are 'essentials' for everyone to be able to afford in order for them to enjoy an acceptable standard of living (see Table A1.1)

Table A1.2: Percentage of respondents who view the child deprivation item as essential

Child deprivation items		% essential
1	Three meals a day	92
2	Enough beds and bedding for every child in the household	78
3	A suitable place at home to study or do homework	76
4	Participate in school trips and school events that cost money	71
5	One meal with meat, chicken or fish or vegetarian equivalent daily	67
6	Celebrations on special occasions such as birthdays, Christmas or religious festivals.	64
7	New, properly fitting shoes	63
8	Some new, not second-hand clothes	51
9	Bicycle	15

Source: Fiji Household Income and Expenditure Survey 2019-20 (N= 17,366 respondents)

Note: cases were weighted by the population weight.

Table A1.3: Percentage of respondents who view the adult deprivation item as essential

Adult deprivation items		% essential
1	Two meals a day	88
2	All medicines prescribed by your doctor when you are sick	84
3	Access to land for residential purposes	74
4	Enough money to meet Social/Traditional obligations (Church/Family Functions etc.)	64
5	Enough money to be able to visit friends and family in hospital or other institutions	62
6	Two pairs of properly fitting shoes, including a pair of all-weather shoes.	61
7	Celebrations on special occasions, such as birthdays, Christmas or religious festivals.	60
8	Clothes to wear for social or family occasions such as parties or special lunch occasions	52
9	Get-together with friends/family (relatives) for a drink/meal at least once a month	50
10	Replace worn out clothes with new (not second hand) ones	42
11	Enough money to repair broken goods such as a refrigerator or washing machine	41
12	Presents for friends or family once a year	41
13	Enough money to replace worn out furniture	36

Source: Fiji Household Income and Expenditure Survey 2019-20 (N= 17,366 respondents)

Table A1.4: Percentage of respondents who view the household deprivation item as essential

Household deprivation items		% essential
1	Regular savings for emergencies.	82
2	A small amount of money to spend each week on yourself, not your family.	58
3	Have your own means of transportation (e.g. car, bike, motorcycle, boat)	51

Source: Fiji Household Income and Expenditure Survey 2019-20 (N= 17,366 respondents)

Tables A1.2 to A1.4 show that there were five deprivation items that fewer than 50% of respondents considered to be essentials and they were therefore dropped from the deprivation index, since these items do not have the support of the majority of the Fijian population and thus lack face validity. The five items were;

- Bicycle for children (15%)
- Enough money to replace worn out furniture (36%)
- Enough money to repair broken goods such as a refrigerator or washing machine (41%)
- Presents for friends or family once a year (41%)
- Replace worn out clothes with new (not second hand) ones (42%)

The remaining 20 deprivation items (8 Child, 9 Adult and 3 Household) were then tested to see if they were valid indicators of poverty.

Step 2 - creating 'a preference free' deprivation index

In order to separate respondents' choices about how to live from constraints resulting from insufficient income and other resources, only select (where available) items for the deprivation index that people 'don't have because they can't afford' them.

Table A1.5: Percentage of children deprived of the item

Child deprivation items		% don't have, can't afford
1	Three meals a day	2
2	Participate in school trips and school events that cost money	9
3	A suitable place at home to study or do homework	11
4	Enough beds and bedding for every child in the household	16
5	Celebrations on special occasions such as birthdays, Christmas or religious festivals.	17
6	One meal with meat, chicken or fish or vegetarian equivalent daily	20
7	New, properly fitting shoes	23
8	Some new, not second-hand clothes	28
9	Bicycle	27

Source: Fiji Household Income and Expenditure Survey 2019-20 (N= 9,105 Children)

Note: cases were weighted by the population weight.

Age-appropriate child indicators in Fiji

Children's needs change as they grow older, thus deprivation measures for children need to be age appropriate. The following protocol was used:

- Age 6-17 for a suitable place to do homework and participate in school trips and events that costs money
- Age 5-17 for bicycle
- Age 0-17 for all other child items.

Table A1.6 Percentage of adults deprived of the item

Adult deprivation items		% don't have, can't afford
1	Two meals a day	2
2	All medicines prescribed by your doctor when you are sick	9
3	Celebrations on special occasions, such as birthdays, Christmas or religious festivals.	16
4	Clothes to wear for social or family occasions such as parties or special lunch occasions	16
5	Access to land for residential purposes	18
6	Enough money to meet Social/Traditional obligations (Church/Family Functions etc.)	18
7	Enough money to be able to visit friends and family in hospital or other institutions	19

8	Two pairs of properly fitting shoes, including a pair of all-weather shoes.	19
9	Get-together with friends/family (relatives) for a drink/meal at least once a month	21
10	Replace worn out clothes with new (not second hand) ones	23
11	Presents for friends or family once a year	27
12	Enough money to repair broken goods such as a refrigerator or washing machine	34
13	Enough money to replace worn out furniture	34

Source: Fiji Household Income and Expenditure Survey 2019-20 (N= 17,366 respondents)

Table A1.7 Percentage of households deprived of the item

Household deprivation items		% don't have, can't afford
1	Regular savings for emergencies.	20
2	A small amount of money to spend each week on yourself, not your family.	23
3	Have your own means of transportation (e.g. car, bike, motorcycle, boat)	53

Source: Fiji Household Income and Expenditure Survey 2019-20 (N= 17,366 respondents)

It is clear from the results in Tables A1.5, A1.6 & A1.7 that the five items that the majority of respondents in Fiji did not consider to be 'essential' (shaded in grey in the tables) are also the items which the most people did not have due to a lack of money. It appears that possessions and activities that more than 20-25% of the population cannot afford are not considered to be necessities by the majority of the population in Fiji. This result is consistent with Townsend's theory of poverty as relative deprivation.

Step 3 – creating a valid deprivation index

It is essential that each component in the index is a valid measure of deprivation. The simplest way to achieve this is to ensure that every deprivation item has a high odds ratio (using Logistic Regression) with independent indicators known to correlate highly with poverty – specifically:

(1) Low educational attainment of the highest educated household member (Primary or less) **Low_edu**;

(2) Expenditure poverty using the official measure (1 poor, 0 not poor) **- Poor**;

(3) Food Insecurity Experience Scale (FIES) (total **Fi_11 to Fi_18)**[3];

[3] http://www.fao.org/in-action/voices-of-the-hungry/en/

Table A1.8: Logistic regression validity tests for child deprivation items

Child deprivations		Low Edu	Poor	Food Insecurity
1	Three meals a day	1.36	1.51	1.76
2	Participate in school trips and school events that cost money*	1.54	1.44	1.55
3	A suitable place at home to study or do homework*	1.52	1.44	1.71
4	Enough beds and bedding for every child in the household	1.52	1.48	1.72
5	Celebrations on special occasions such as birthdays, Christmas or religious festivals.	1.60	1.38	1.62
6	One meal with meat, chicken or fish or vegetarian equivalent daily	1.55	1.24	1.78
7	New, properly fitting shoes	1.50	1.27	1.74
8	Some new, not second-hand clothes	1.57	1.33	1.85
9	Bicycle(b)	1.35	1.34	1.86

Source: Fiji Household Income and Expenditure Survey 2019-20.

Note: All above analyses were run on children only. (*) School related items were run for school aged children 6 to 17, bike was run for the 5-17 age group. The odd ratios are significant at >0.001 level.

Table A1.9: Logistic regression results for adult and household deprivation items

Adult & household deprivations		Low Edu	Poor	Food Insecurity
1	Two meals a day	1.27	1.85	1.10
2	All medicines prescribed by your doctor when you are sick	1.43	1.45	1.62
3	Celebrations on special occasions, such as birthdays, Christmas or religious festivals.	1.58	1.53	1.62
4	Clothes to wear for social or family occasions such as parties or special lunch occasions	1.50	1.51	1.54
5	Access to land for residential purposes	0.95	0.93	1.41
6	Enough money to meet Social/Traditional obligations (Church/Family Functions etc.)	1.50	1.39	1.68
7	Enough money to be able to visit friends and family in hospital or other institutions	1.45	1.51	1.84
8	Two pairs of properly fitting shoes, including a pair of all-weather shoes.	1.50	1.72	1.98
9	Get-together with friends/family (relatives) for a drink/meal at least once a month	1.49	1.56	1.62
10	Replace worn out clothes with new (not second hand) ones	1.48	1.61	1.89
11	Presents for friends or family once a year	1.45	1.54	1.74
12	Enough money to repair broken goods such as a refrigerator or washing machine	1.46	1.53	1.82
13	Enough money to replace worn out furniture	1.44	1.51	1.91
14	Regular savings for emergencies.	1.32	1.61	1.88
15	A small amount of money to spend each week on yourself, not your family.	1.43	1.58	1.84

16	Have your own means of transportation (e.g. car, bike, motorcycle, boat)	1.41	1.65	2.21

Source: Fiji Household Income and Expenditure Survey 2019-20

Note: All above analyses were run on adults only

The odd ratios highlighted in red are not statistically significant at >0.05 level. The rest are significant at >0.001 level.

The odds ratio table A1.8 above shows that respondents, who cannot afford for their children to eat *'three meals a day',* are 1.5 times more likely to be below the monetary poverty line (Poor). They were also almost twice as likely to be food insecure. In both these cases, the 95% confidence intervals for these odds does not span 1.0 and so can be considered to be statistically 'significant'.

Tables A1.8 and A1.9 show that all the adult, household and child deprivation items passed all five validity tests, with the exception of *'access to residential land'* which failed two of the three tests. This is noted for further analysis.

Step 4 – creating a reliable index of deprivation (Classical Test Theory)

Deprivation indices need to be both valid and reliable. A valid index is one which has an acceptably low level of *systematic* measurement error and a reliable index is one with an acceptably low level of *random* measurement error. The most common way to measure reliability is to use a Classical Test Theory framework and the Cronbach's Alpha statistic (Cronbach, 1951). A Cronbach's Alpha above 0.7 is considered acceptable in the Social Sciences. Table A1.10 shows that the Alpha for the nine child deprivation items was 0.837 which indicates a high level of reliability. In many circumstances, McDonald's ω (Omega) and Guttman's λ2 (Lamda2) measures of reliability provide better estimates of the 'true' levels of reliability than Chronbach's Alpha. The Omega reliability was 0.852 and Lamda2 reliability was 0.851 indicating high levels of scale reliability.

Table A1.10: Reliability scores for child items

Child Deprivations		**Omega if deleted**	**Alpha if deleted**	**Lamda2 if deleted**
1	New, properly fitting shoes	0.815	0.803	0.816
2	Some new, not second-hand clothes	0.815	0.804	0.815
3	Celebrations on special occasions such as birthdays, Christmas or religious festivals.	0.835	0.816	0.833
4	Enough beds and bedding for every child in the household	0.836	0.817	0.834
5	A suitable place at home to study or do homework	0.837	0.819	0.835
6	One meal with meat, chicken or fish or vegetarian equivalent daily	0.840	0.822	0.839
7	Participate in school trips and school events that cost money	0.841	0.825	0.839
8	Three meals a day	0.851	0.845	0.850
9	Bicycle	0.852	0.834	0.850
	Total reliability score	*0.852*	*0.838*	*0.851*

Source: Fiji Household Income and Expenditure Survey 2019-20

Note: The total weighted alpha score suggests that the items are internally consistent.

Table A1.11: Reliability scores for adult and household items combined

Adult and household items		Omega if deleted	Alpha if deleted	Lamda2 if deleted
1	Two meals a day	0.922	0.919	0.922
2	All medicines prescribed by your doctor when you are sick	0.919	0.913	0.919
3	Celebrations on special occasions, such as birthdays, Christmas or religious festivals.	0.917	0.910	0.917
4	Clothes to wear for social or family occasions such as parties or special lunch occasions	0.917	0.910	0.917
5	Access to land for residential purposes	0.925	0.919	0.925
6	Enough money to meet Social/Traditional obligations (Church/Family Functions etc.)	0.917	0.910	0.917
7	Enough money to be able to visit friends and family in hospital or other institutions	0.916	0.909	0.916
8	Two pairs of properly fitting shoes, including a pair of all-weather shoes.	0.916	0.910	0.916
9	Get-together with friends/family (relatives) for a drink/meal at least once a month	0.915	0.909	0.916
10	Replace worn out clothes with new (not second hand) ones	0.916	0.910	0.916
11	Presents for friends or family once a year	0.915	0.908	0.915
12	Enough money to repair broken goods such as a refrigerator or washing machine	0.914	0.908	0.914
13	Enough money to replace worn out furniture	0.915	0.909	0.914
14	Regular savings for emergencies.	0.919	0.912	0.919
15	A small amount of money to spend each week on yourself, not your family.	0.916	0.910	0.916
16	Have your own means of transportation (e.g. car, bike, motorcycle, boat)	0.926	0.919	0.926
	Total reliability score	***0.923***	***0.917***	***0.923***

Source: Fiji Household Income and Expenditure Survey 2019-20

Note: The total reliability scores suggest that the items are internally consistent.

Table A1.11 shows the scale reliability results for 16 adult and household deprivation items – the overall reliability is >0.9 for all measures (Alpha, Lamda2 and Omega) indicating very high levels of reliability (i.e. low levels of random measurement error). However two deprivation items are less reliable '*access to land for residential purposes*' and '*having your own means of transportation (car, bike, motorcycle, boat)*'.

Step 4b – creating a reliable index of deprivation (Item Response Theory)

Item Response Theory (IRT) models can provide additional information on the reliability of each individual item in the deprivation scale/index. IRT models describe the relationship between a person's response to questions and an unobserved latent trait such as knowledge of biology, level of happiness or amount of deprivation.

In Table A1.12, the column marked 'severity' can be interpreted as the likely severity of deprivation suffered by a child who lacks an item because their household/parents can't afford it. The severity scores in this table are measured in units of standard deviation from the population average. The table shows that respondents who do not have enough money to buy their children a bicycle the lowest latent deprivation score, while those who cannot afford for their children to have three meals a day are likely to be much more severely deprived.

The column marked 'Discrimination' in Table A1.12 indicates how well the deprivation item distinguishes between 'deprived' and 'not deprived' children. The discrimination score has been converted into a correlation[4] (ranging between 0 and 1) and a score above 0.4 is considered to be an acceptable level of discrimination (Guio et al, 2012). Thus, Table A1.12 shows that all the nine child deprivation items discriminate well between the deprived and not deprived. The highest discrimination score is for 'Some new, not second-hand clothes' (0.95).

Table A1.12: Severity and discrimination scores for child deprivations

Child deprivations		severity	Discrimination
1	Bicycle	0.38	0.76
2	Some new, not second-hand clothes	0.63	0.95
3	New, properly fitting shoes	0.79	0.94
4	One meal with meat, chicken or fish or vegetarian equivalent daily	1.07	0.78
5	Celebrations on special occasions such as birthdays, Christmas or religious festivals.	1.13	0.83
6	A suitable place at home to study or do homework	1.16	0.87
7	Enough beds and bedding for every child in the household	1.18	0.83
8	Participate in school trips and school events that cost money	1.32	0.83
9	Three meals a day	2.89	0.68

Note () All items appear to have relatively high ability to distinguish between the deprived and the non-deprived.

[4] The IRT discrimination coefficients (d) can be converted to correlations using the following formula:

$d / \mathrm{sqrt}(3.29+d^2)$

Table A1.13: Severity and discrimination scores for adult and household deprivation items combined

	Adult and household items	severity	Discrimination
1	Have your own means of transportation (e.g. car, bike, motorcycle, boat)	**-0.06**	0.63
2	Enough money to replace worn out furniture	0.48	0.92
3	Enough money to repair broken goods such as a refrigerator or washing machine	0.49	0.93
4	Presents for friends or family once a year	0.73	0.89
5	Replace worn out clothes with new (not second hand) ones	0.87	0.87
6	A small amount of money to spend each week on yourself, not your family.	0.89	0.86
7	Get-together with friends/family (relatives) for a drink/meal at least once a month	0.92	0.90
8	Two pairs of properly fitting shoes, including a pair of all-weather shoes.	0.97	0.88
9	Enough money to be able to visit friends and family in hospital or other institutions	0.99	0.91
10	Enough money to meet Social/Traditional obligations (Church/Family Functions etc.)	1.05	0.86
11	Regular savings for emergencies.	1.06	0.79
12	Clothes to wear for social or family occasions such as parties or special lunch occasions	1.13	0.89
13	Celebrations on special occasions, such as birthdays, Christmas or religious festivals.	1.13	0.89
14	All medicines prescribed by your doctor when you are sick	1.47	0.89
15	Access to land for residential purposes	1.73	0.50
16	Two meals a day	2.73	0.73

Note () The IRT scores suggest that all items have high ability to distinguish between the deprived and the non-deprived. The negative severity scores mean that respondents who lack their own means of transport are UNLIKELY to be severely deprived.

Tables A1.10 to A1.12 shows that '*having your own means of transportation (car, bike, motorcycle, boat)'* failed both the Classical Test Theory and Item Response Theory tests , i.e. this indicator seem to be measures of a relatively high standard of living in Fiji (more than 0.15 standard deviations above the average person's standard of living). Not being able to afford *three meals a day* for children measured very severe deprivation in Fiji – more than three standard deviations more deprived than the average child in Fiji. *Access to land for residential purposes* does not seem to be a reliable measure of deprivation for the population of Fiji as a whole (this deprivation mainly affects certain groups in Fiji).

Summary of items that failed suitability, reliability and validity tests
Suitability • Bicycle for children • Replace worn out clothes with new (not second hand) ones • Enough money to repair broken goods such as a refrigerator or washing machine • Presents for friends or family once a year • Enough money to replace worn out furniture **Validity** • Access to land for residential purposes **Reliability** • Access to land for residential purposes • Have your own means of transportation (e.g. car, bike, motorcycle, boat)

Out of the 25 deprivation questions included in the consensual deprivation module of the Fiji HIES 2019-2020 survey, seven items failed the suitability, validity or reliability tests and were thus excluded and 18 deprivation items were retained for further testing. It should also be noted that Two Meals a Day for children and Three Meals a Day for adults were borderline on one of the tests.

Step 5 – checking the revised index is additive after removing outliers

The components of any deprivation index should be additive, e.g. a person or household with a deprivation score of three should be poorer than a person or household with a deprivation score of two. Some components of the index may not be additive, for example, it is important to check that a respondent who 'cannot afford' two pairs of properly fitting shoes and a bed for each of their children is poorer than a person who 'cannot afford' beds but has shoes for their children.

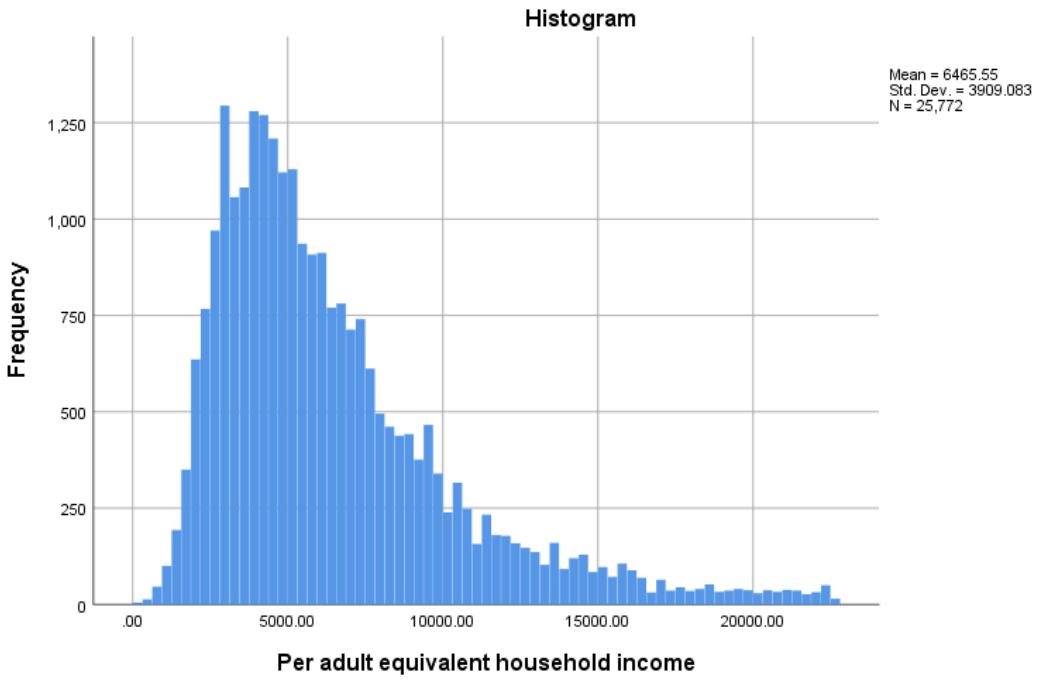
It is also essential to remove large outliers[5]. For example, there is invariably somebody in a survey who says they earn millions of dollars but cannot afford any of the deprivation items. Figure A1.1 shows the distribution of equivalised monthly household expenditure after the removal of likely outliers. As would be expected, Figure A1.1 shows a right-skewed normal distribution of household expenditure, after adjusting for household size and composition (equivalisation).

It should be noted that these 'rich' households were only excluded in the models used to identify the additivity of the deprivation items and the optimum poverty line (as their inclusion would have distorted these results). The 'rich' households are of course included in all the results tables which estimate the proportion of the population that is multidimensionally poor.

[5] The outlier labelling rule of Hoaglin and Iglewicz (1987) was used for determining the equivalised household expenditure cut off point for: [Q3 + 2.2 X (Q3-Q1)]. In total 709 outliers were omitted which is approximately 2.7% of the Fiji HIES sample.

Additivity was checked using an ANOVA model and all suitable, valid and reliable deprivations passed these additivity tests[6].

Figure A1.1: Histogram of equivalised household income in the 2019/20 Fiji HIES survey after the removal of likely outliers



The final suitable, valid, reliable and additive material and social deprivation index included two household deprivations, eight adult deprivation and eight child deprivations (18 deprivations in total) and is shown in Table A1.14 (below)

[6] The detailed additivity results are not shown here but are available from Professor Gordon (e-mail: dave.gordon@bristol.ac.uk) there were some minor additivity problems with the following child deprivation variables Clothes Vs Meal, Clothes Vs Bed and Bed Vs Shoes

Table A1.14: Final Adult and Child Deprivation Index

1. Two meals a day
2. All medicines prescribed by your doctor when you are sick
3. Enough money to meet Social/Traditional obligations (Church/Family Functions etc.)
4. Two pairs of properly fitting shoes, including a pair of all-weather shoes.
5. Celebrations on special occasions, such as birthdays, Christmas or religious festivals.
6. Enough money to be able to visit friends and family in hospital or other institutions
7. Clothes to wear for social or family occasions such as parties or special lunch occasions
8. Get-together with friends/family (relatives) for a drink/meal at least once a month
9. Regular savings for emergencies.
10. A small amount of money to spend each week on yourself, not your family.
11. Three meals a day (Child)
12. Participate in school trips and school events that cost money (Child)
13. A suitable place at home to study or do homework (Child)
14. Enough beds and bedding for every child in the household (Child)
15. Celebrations on special occasions such as birthdays, Christmas or religious festivals (Child)
16. One meal with meat, chicken or fish or vegetarian equivalent daily (Child)
17. New, properly fitting shoes (Child)
18. Some new, not second-hand clothes (Child)

This deprivation index includes age-appropriate deprivation measures, e.g. deprivations which only affect school age children, adults, etc. Thus, different age groups can potentially have different maximum scores. Nevertheless, the final adult and child deprivation index is both valid and highly reliable for all age groups.

Reliability by age groups:

Pre-school (0-5):	Alpha = 0.799	Lambda 2 = 0.823	N=6
Primary-school (6-12):	Alpha = 0.857	Lambda 2 = 0.871	N=8
Secondary School/Teenage (13-17):	Alpha = 0.856	Lambda 2 = 0.871	N=8
Working age (18-60):	Alpha = 0.889	Lambda 2 = 0.897	N=10
Older Adults (60+):	Alpha = 0.877	Lambda 2 = 0.887	N=10

Values of Cronbach's Alpha above 0.7 are considered to indicate a reliable index and values above 0.8 indicate a highly reliable deprivation index. The results of the Classical Test Theory analyses show that Alpha is about 0.8 or greater for all age groups and is highly reliable.

Step 6 – finding the 'objective' poverty line

The 'objective' poverty line can be defined as the division between the 'poor' group and the 'not poor' group that maximises the between group sum of squares and minimises the within group sum of squares. The graph below illustrates a multidimensional poverty line – where the 'poor' are identified as those with both a low income and a low standard of living (e.g. a high deprivation score). The 'objective' or 'optimal' poverty line is shown in Figure A1.2 (below).

Figure A1.2: Multidimensional poverty line

The 'objective' combined poverty line can be identified using the General Linear Model (GLM) in one of its forms (e.g. ANOVA, Discriminant Analysis or Logistic Regression), controlling for income, deprivation and household size and composition. The richest 4% of households were excluded from the modelling exercise.

The General Linear Models, ANOVA, Logistic Regression and the independent sample Kruskal-Wallis Test (a non-parametric ANOVA method) were used to determine the scientific poverty threshold, i.e. the deprivation score that maximises the between group differences and minimises the within group differences (sum of squares). These techniques were applied to a succession of groups created by increasing the number of items of which respondents were deprived. Thus, the first analysis was undertaken on groups defined by people lacking no items compared with people lacking one or more items (a deprivation score of one or more). Similarly, the second analysis was undertaken on a group comprised of people lacking one or no items against two or more items, and so forth.

The dependent variable in the ANOVA model was the equivalised (adult equivalent) household income and the independent variables were deprivation group (constructed as described above), number of adults in each household and the number of children in each household. With the Logistic Regression models, the dependent variable was the deprivation group and the independent variables were the equivalised household income, number of adults and number of children in the household.

Table A.15: ANOVA and Logistic Regression Results for 8 Deprivation Groups

Model *	Adult and Children F Statistic for corrected ANOVA Model	Adult and Children LR Chi2 Statistic for Logistic Regression Model	Kruskal-Wallis Test Statistic
Null Model **	1,289	-	
Deprivation score of 1 or more	**1,341**	**34,253**	**1,610**
Deprivation score of 2 or more	1,283	31,011	1,533
Deprivation score of 3 or more	1,204	27,282	1,299
Deprivation score of 4 or more	1,131	23,446	1,013
Deprivation score of 5 or more	1,076	19,683	789
Deprivation score of 6 or more	1,018	15,728	558
Deprivation score of 7 or more	974	12,149	395
Deprivation score of 8 or more	938	8,690	244

Note (*): In ANOVA & Logistic Regression models, total number of adults (18+) and children (under 18) are used as controls to help correct any inconsistencies in the equivalisation scale. In the Kruskal-Wallis Test the number of adults and children were not used as controls.

Note (**): The null model only contains the control variables

Table A1.15 shows that the ANOVA model, Logistic Regression Model and Kruskal-Wallis model all suggest and optimum poverty threshold of one or more deprivations.

As deprivation can only be measured in whole numbers for single person households, so the average household deprivation score has been rounded to the nearest integer and the poor have been identified as those households/people who suffer from low equivalised household income (below $6,263) and one or more deprivations – marked 'Poor' in Figure A1.3 (bottom left hand corner). The error bar graph also shows the approximate location of the 'Not Poor' (Top Left), Vulnerable (Bottom Left) and Rising (Top Right) groups of households (see Step 7 below for details). Please note that the areas on the error bar graph do not correspond with the size of these four groups (i.e. there are many households with a deprivation score of zero).

Figure A1.3: Deprivation Index Score by Per Adult Equivalent Income

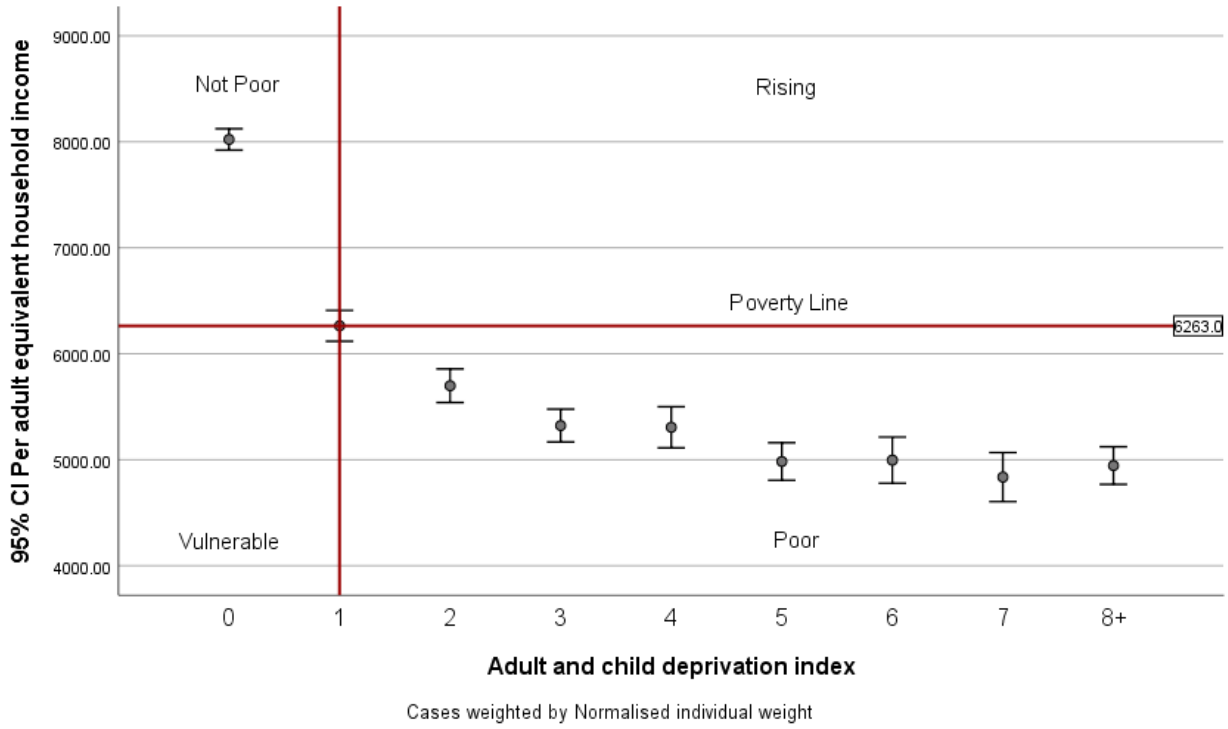


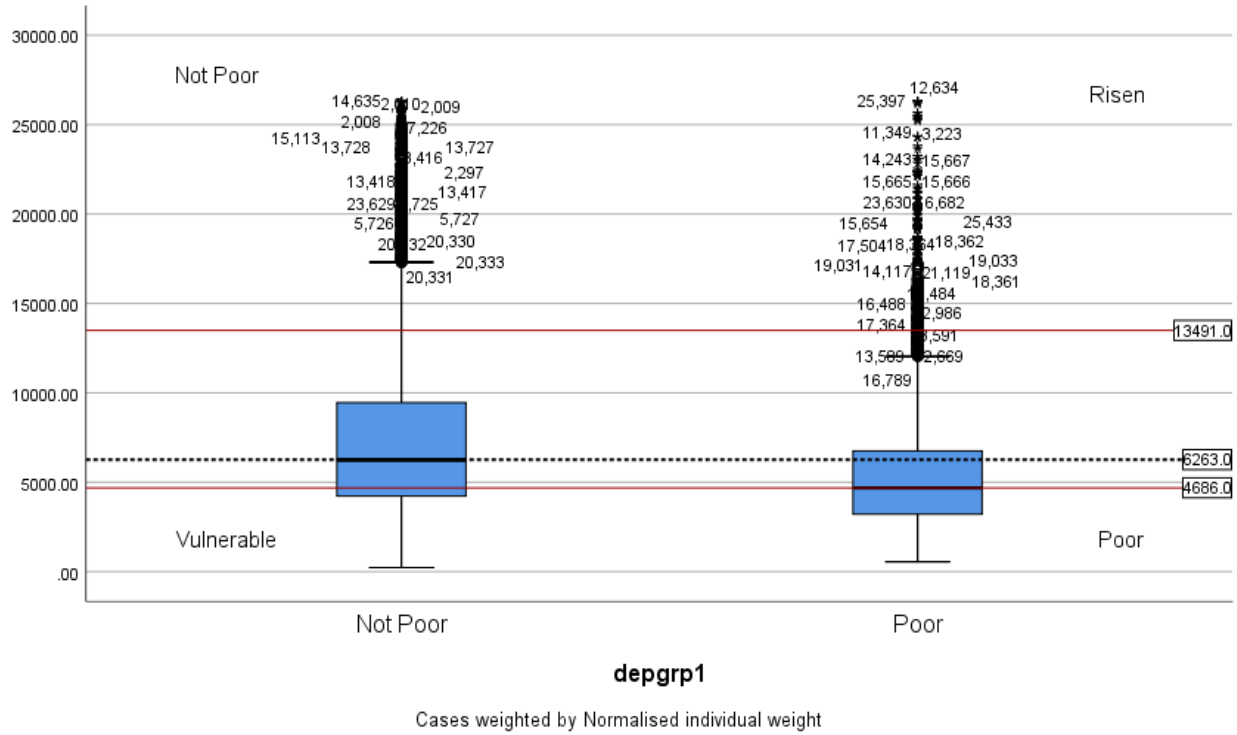
Figure A1.3 shows the relationship between the deprivation index score and monthly household expenditure (after adjusting for household size and type and regional price difference) in the 2019/20 Fiji HIES, after the removal of expenditure outliers. Townsend (1979) argued that, as income declined, deprivation would increase but there came a point in this relationship where an additional small fall in income would result in a large increase in deprivation and this 'break of slope' could be used to identify the optimal poverty line. This is shown in Figure A1.3 as the poverty line. This identifies people as poor when they cannot afford but would like to have one or more essential deprivation items and their per adult equivalent income is less than $6,263.

Step 7 - Identifying those rising out of poverty and sinking into poverty (vulnerable)

In a cross-sectional survey, there will probably be a few people who are 'rising out of poverty', e.g. those with a high deprivation score and a high income. Their incomes and/or 'standard of living' should have increased in the recent past. These few cases can be identified using boxplots of household expenditure by 'deprivation threshold group' (found on Step 6) and controlling for household size/type. The outliers (with high household expenditures) in each household type should be those rising out of poverty.

The boxplot below shows that there are a few children and adults who have deprivation scores of two or more but also high household equivalised income – over $13,491 per year (e.g. rising out of poverty) – see top right of the boxplot (Figure A1.4).

Figure A1.4: Boxplot showing the Multidimensional Poverty Groups



The boxplot also shows the other three groups of households. The 'Poor' are those households suffering from two or more deprivations and low adult equivalent household incomes (under $6,263). The 'Vulnerable' are those households with a low score deprivation (less than two deprivations), who also have a low equivalised household expenditure (below $4,686), i.e. the median income of depgrp1. The 'Not Poor' are the remaining households that have not been classified as 'poor', 'rising' or 'vulnerable'.

Using these definitions, the HIES survey found that in Fiji in 2019-20:

- **30% were living in multidimensional poverty**
- **1% were rising out of poverty**
- **18% were potentially vulnerable to poverty**
- **The majority of people (51%) were relatively well off.**

By comparison, the new Fiji Basic Needs Poverty Line classifies approximately 30% of people as poor. As would be expected multidimensional poverty is similar but slightly lower than basic needs expenditure poverty, as people/households do not instantaneously become deprived once their expenditures drop below the poverty line. Expenditure poverty measure in a cross-sectional survey will include some of the multidimensional poor and also some of those vulnerable to becoming multidimensionally poor. Expenditure needs to remain low for a period of time before people/households begin to suffer from material and socially deprivations (Deutsch et al, 2015).

References

Cronbach LJ (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*. 16 (3): 297–334.

Cronbach, LJ, & Meehl, PE. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 52(4), 281-302.

Bradshaw, J and Finch, N. (2003) Overlaps in dimensions of poverty. *Journal of Social Policy*. 32, 513-525.

Deutsch, J., Guio, A-C., Pomati, M. & Silber, J (2015) Material Deprivation in Europe: Which Expenditures are Curtailed First? *Social Indicators Research*, 120, 3, 723-740

Gordon, D. (1995) Census Based Deprivation Indices: Their Weighting and Validation. *Journal of Epidemiology and Community Health.* 49 (Suppl 2), S39-S44.

Guio, A-C, Gordon, D. & Marlier, E. (2012) *Measuring material deprivation in the EU indicators for the whole population and child-specific indicators*. Luxembourg: Publications Office of the European Union.

Guio, A-C, Gordon, D., Marlier, E., Fahmy, E., Nandy, S. & Pomati, M. (2016) Improving the measurement of material deprivation at EU level. *Journal of European Social Policy*, 26, 3, 219-333

Guio, A-C, Gordon, D., Marlier, Najera, H. & Pomati, M. (2017a) Towards an EU measure of child deprivation. *Child Indicators Research*, DOI 10.1007/s12187-017-9491-6

Guio, A-C, Gordon, D. Catalan, HN & Pomati, M, (2017b) *Revising the EU material deprivation variables.* Luxembourg: Publications Office of the European Union.

Hoaglin, D. C., and Iglewicz, B. (1987) Fine Tuning Some Resistant Rules for Outlier Labeling, *Journal of American Statistical Association*., 82, 1147-1149

Najera, H. and Gordon, D. (2021) A Monte Carlo study of methods to find the optimal poverty line. *Journal of the Royal Statistical Society: Series A* (In Press).

Townsend, P. (1979) *Poverty in the United Kingdom*. London. Allan Lane and Penguin Books.

Photo Credit :Kumar, R. (2021, 08 03). Retrieved from Fijisun: https://fijisun.com.fj/2019/09/04/fiji-government-and-asian-development-bank-discuss-ports-master-plan/

Photo credit: Deo, D. (2021, 08 03). Retrieved from Fijivillage: https://www.fijivillage.com/news/Lautoka-Chamber-of-Commerce-will-liaise-with-businesses-to-ensure-protocols-are-followed--Singh-4xrf58/

Photo credit: Pratap, R. (2021, 08 03). Retrieved from FBC News: https://www.fbcnews.com.fj/business/economic-damage-from-covid-19-to-continue-into-2021/

Photo credit: Pulley, F. -C. (2021, 08 03). *Poverty in Fiji.* Retrieved from Borgen Project: https://borgenproject.org/tag/poverty-in-fiji/

12.12. Annex L: Definitions and Classifications

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

Household

A household refers to a 'private household' which is defined as either:

i. a single individual living in a dwelling who makes his or her own housekeeping arrangements; or
ii. a group of persons living in or sharing a dwelling for most of the survey period and participate in some measure at least in the consumption of food purchased for joint use by members, or who, if not dependent upon a household member, contribute some portion of income towards the provision of essentials of living for the households as a whole; or
iii. in the case of a halfway house or a refuge, it can be regarded as a private household only if it fits the criteria of [ii.] above and complete information can be obtained without consulting outside agencies; or
iv. the typical dwelling occupied by a private household is a house, flat, or apartment. Other private accommodation [such as a bed-sitting room] constitutes a separate dwelling if self - contained at least in respect of sleeping, cooking and dining facilities.

Household Income

In general, HH income consists of all receipts in cash, in kind or in services that are received by the household or by individual members of the household at annual or more frequent intervals, but excludes windfall gains and other such irregular and typically one - time receipts.

Household income excludes holding gains, lottery prices, gambling winnings, non-life insurance claims, inheritances, lump sum retirement benefits, life insurance claims (except annuities), windfall gains, legal/injury compensation (except those in lieu of foregone earnings) and loan repayments. Also excluded are other receipts that result in a reduction of net worth. These include sale of assets, withdrawals from savings and loans obtained.

The improvement in the categorisation of different income sources is align to the Pacific classification of income (PACCOI) for classifying HH income including the definition of income types as follows:

Employment income – consists of employee related income such as:

- 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 own-account activities (agriculture, fisheries, livestock, handicrafts and selling home-processed foods); and
- income from the consumption of home produced and consumed goods (subsistence).

Capital income - relates to the generation of income from assets that the HH owns such as:

- home rental (receiving rent from dwellings that the HH owns);
- land lease (receiving payments for the use of land that the HH owns); and
- other general capital income (interest on deposits or loans, and dividend from non-managed businesses).

Transfer income - refers to receipts such as:

- social security, pension, superannuation or provident funds, child support (alimony), grants or scholarships, insurance claims and other.

Gifts and Remittances - refers to the receipts such as:

- cash and in-kind gifts from domestic or foreign HHs; and
- the receipts of home-produced food items.

Imputed rents – refers to the income from the value of the services that an owner occupied HH derives. In other words, it estimate what would the HH owner would receive if the dwelling was rented on the commercial market.

Also, imputed rents is treated as both non-cash income (e.g., the gross value of the services delivered to the owner-occupied HH) and expenditure (e.g., the opportunity cost of not selling those services, or the cost of consuming those services), 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 owner-occupied HHs is comparable to that of renting HHs.

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 is it 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.

Household Expenditure

Household expenditure includes consumption and non-consumption expenditures as follows:

Consumption expenditure - value of consumer goods and services acquired (used or paid) 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.

Other consumption expenditure - the value of consumer goods and services acquired (used) by the HH through transfers from the government, non-profit institutions or other HHs.

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.

Investment expenditure - 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.

HH head

The HH head is the person who is regarded by its members as the Head. There is no criteria for the selection of HH head. That is, the HH head may not necessarily the main income earner or to be the person responsible for the management of HH finances.

However in Fiji, the oldest person or the man who own the HH is 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 lose 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.

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.

Non-subsistence

Non-subsistence agriculture refers to employment in the agriculture sector which receives payment in cash. This category was derived by identifying respondents who reported an agriculture-related occupation (e.g., farmer, fisher, cane cutter) but did not identify their labor force status as "subsistence".

Average HH and per capita

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

Decile

A decile represents one-tenth of the population (HHs) grouped by their total income and expenditure. Decile 1 represents 10 percent of the HHs with the lowest income or expenditure, while Decile 10 represents 10 percent of the HHs with the highest income or expenditure.

Quintile

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

per Adult Equivalent (pAE)

The release is using the United Nations (UN) definition of treating each child between 0 to 14 as 'half an adult', and any person above the age of 14 as 1 adult.

Labour Force

Consists of those workforce or "economically active" persons, that is those population aged 15-64 with employment and those who are unemployed but looking for a job.

Labour force participation rate

The labour force participation rate is a measure of the proportion of a country's working-age population that engages actively in the labour market, either by working or looking for work. It provides an indication of the size of the supply of labour available to engage in the production of goods and services, relative to the population at working age.

Employment rate

Employment rate is the percentage of employed persons in relation to the total labour force.

Unemployment rate

Unemployment rate is the number of people unemployed as a percentage of the labour force.

Gini-coefficient

The Gini Coefficient measure the level of inequality in the distribution of income or expenditure of households or individuals. The coefficient is on a scale from 0 in a situation of perfect equality where everyone has the same level of income or expenditure, to 100 representing perfect inequality, where one person holds all of the wealth.

Palma Index

The Palma ratio is an alternative to the Gini index, and focuses on the differences between those in the top and bottom income/consumption brackets. The ratio takes the richest 10% of the population's share of income/consumption and divides it by the poorest 40% of the population's share. This measure has become popular as more income/consumption inequality research focuses on the growing divide between the richest and poorest in society.

The ratio has been used in the report to complement the Gini coefficient, the most commonly used measure of inequality, but is known to be insensitive to the tails of the distribution, and insensitive at high levels of inequality.

Theil Index

The Theil Index can be used to quantify how much of income or consumption inequality is due to differences across individuals within and between sub-groups in order to identify the major sources of inequality.

Fiji Bureau of Statistics

Check our website for latest statistics or call us

www.statsfiji.gov.fj

Suva [Head Office]
5th Floor, Ratu Sukuna House,
MacArthur Street,
Suva.

PO Box 2221
Government Buildings,
Suva.
Fiji Islands.

[679] 331 5822

[679] 3303 656

info@statsfiji.gov.fj

Nadi Office
MB Pala Building,
Nakavu, [opp.old Kennedy Hotel]

PO Box 360
Nadi,
Fiji Islands.

[679] 670 5959

[679] 670 5931

fibosnadi@connect.com.fj

Labasa Office
1st Floor, Local Timber Building,
Damanu Street,

PO Box 1900
Labasa,
Fiji Islands.

[679] 881 3188

[679] 881 3188

fiboslabasa@connect.com.fj

Ba Office
2nd floor, Koronubu House,
Koronubu Street,
Ba

PO Box 3950
Ba,
Fiji Islands.

[679] 667 3722

[679] 667 5566

fibosba@connect.com.fj

2019-20 HOUSEHOLD INCOME AND EXPENDITURE SURVEY

MAIN REPORT

ISSN:

AUGUST 2021