



Multidimensional Poverty Index Report 2019

Seychelles

National Bureau of Statistics
Seychelles

The Poverty Alleviation
Department

Seychelles MPI Technical
Committee

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Executive Summary

In the third quarter of 2019, the poverty incidence (**H**) was 11.88%, and the average intensity (**A**) was 33.26%. The Multidimensional Poverty Index (MPI), which is the product of H and A ($H \times A$) was 0.040.

Examining the poverty indices by different subgroups reveal interesting results. It has been found that those living in the largest households, may be more likely to experience multidimensional poverty (with a headcount ratio of 31.15%), than those living in the smallest households (with a headcount ratio of 4.89%). In fact, the relationship between household size and multidimensional poverty is quite clear: poverty rate increases, as the household size increases.

A breakdown of the poverty indices by age group also shows interesting results. The poverty rate (16.46%) and MPI (0.057) is highest for those in the youth age group. The youth are particularly affected by 'Overcrowding', 'Substance use/abuse', 'School attendance' and 'Youth NEET'.

With regards to labour force status, the results show that as expected, multidimensional poverty is more prevalent among the unemployed (with a headcount ratio of 57.35%), than among those who are employed and those who are outside the labour force.

The report also examines performance across characteristics of household head. With regards to sex of the head of household, results show that the incidence of multidimensional poverty is higher among female-headed households (with a rate of 12.88%), than male-headed households (with a rate of 10.40%).

An obvious gradient can be observed in the headcount ratio by education level of head of household: the lower the education level (no schooling), the higher the headcount ratio (34.58%). The same pattern can be observed in the MPI, whereby those with no schooling, has the highest MPI (0.115), and the MPI decreases as the education level increases.

Poverty indices were also examined at island level. Results show that the main island (Mahe), experiences a higher rate of multidimensional poverty (12.2%), than the Inner islands (7.41%). The MPI follows the same pattern, whereby an MPI of 0.041 is observed for Mahe, whereas a lower MPI of 0.022 is observed for the Inner islands.

Foreword – OPHI | Oxford Poverty & Human Development Initiative

It has been an honour to have the opportunity to collaborate with colleagues in the Seychelles National Bureau of Statistics and the Ministry of Family Affairs on, first, the development of the pilot Multidimensional Poverty Index (MPI), and, now, the national Multidimensional Poverty Index (MPI). Following the evaluation of the pilot MPI, which was introduced last year to test that the methodology was fit for purpose, this official national MPI is fully tailored to the context of Seychelles and is ready for use. The commitment and coordination of the Seychelles team across all sectors of government and society to using the MPI to advance the shared goal of poverty eradication is inspiring. As a high-income country, and a Small Island Developing State, the challenges faced by Seychelles are different from other contexts. But Seychelles' MPI, which includes innovative indicators on obesity, substance abuse and crime, can help policymakers identify those being left behind and target their programmes more effectively. We look forward to the national MPI being updated every two years to evaluate policies and monitor progress, providing a new tool for the fight to end poverty in all its dimensions, and documenting successful steps towards that goal.

Dr. Sabina Alkire
Director
Oxford Poverty & Human Development Initiative (OPHI)





The Seychelles has undergone a swift transition from merely looking at poverty from a monetary perspective, to taking up a Multidimensional Poverty Measurement approach. Through this approach, the connection between statistics and measured outcomes are undeniable, evidenced through infinite volumes of readily available documentation. The only consistent challenges to effectively measure and bring about good change from any domain are time and willpower.

Time in our context, although universal, is subjective to the demands and expectations of our society but it remains infinite regardless. The efforts of the Multidimensional Poverty Index (MPI) Technical Committee¹ comprising of members from different sectors of the Seychelles' Government Administration are timeless, but still the need to get business done within a time frame is a blunt reality supported by the actualities of everyday life in Seychelles. That is, the common belief and conviction that life is getting more difficult, the rich is getting richer and the poor are getting poorer, that the cost of living is constantly rising and that inequality is evident points to the fact that these are an even stronger issue than was the case decades ago.

Decision makers need to positively react to this conviction by first providing timely and scientific evidence, which may support or refute this opinion. With that done, the first challenge is taken care of: the MPI Technical Committee has responded positively to the questions being asked and during a period of ambiguity has shed much light on the current situation in Seychelles in a timely manner.

¹ MPI Technical Committee consist of members from the following entities: Poverty Alleviation Department, National Bureau of Statistics, Family Affairs Department, Ministry of Health and the Department of Economic Planning.

The second challenge, will power, in our context is represented firstly by a political will and secondly a call of duty. Political will has clearly been present from the onset and we have exhibited on various occasions how the Administrative and Legislative bodies of the Seychelles government have wholly supported the MPI process. The Cabinet of Ministers, the National Poverty Consensus Forum chaired by the President of the Republic of Seychelles and the presentations to and endorsement by the Seychelles Parliament of the Multidimensional approach to measuring poverty, have been pivotal in the efforts to move more towards measuring what can be improved.

A call for duty and a response by the MPI Technical Committee, notably the National Bureau of Statistics remains an example to be followed; nothing much needs to be said here, the progress from 2018 and this report speaks for itself. The Poverty Alleviation Department remains committed to fighting poverty using sustainable means, starting with Multidimensional Poverty analysis.

Mr. Alvin Laurence
Principal Secretary

Introduction

What is the MPI?

The MPI is a multidimensional poverty measure developed by the Oxford Poverty and Human Development Initiative (OPHI) at the University of Oxford. The global MPI, an application of the MPI, was later developed with the United Nations Development Program's Human Development Report Office. This multidimensional poverty measure provides a more comprehensive picture of poverty. It complements the traditional economic monetary approach, by identifying the different dimensions of poverty in a particular setting. It identifies those who are deprived in several dimensions at the same time, meaning the **Joint Distribution of Poverty**.

It reveals who is poor and how they are poor, and the average number of deprivations that each poor person experiences, meaning the range of different disadvantages they experience. As well as providing a headline measure of poverty, an MPI can be broken down to reveal the poverty level in different areas of a country and among different sub-groups of people.

Monetary Poverty Measurement of
Seychelles

Poverty in Seychelles is traditionally measured by a monetary indicator, using data from Household Budget Surveys.

The last poverty figures were published in 2015, using data from the Household Budget Survey 2013. The welfare indicator used for the poverty and inequality analysis is gross income from all sources. Although consumption based welfare indicators are considered best practice for most countries, given issues with the reliability of the consumption diary, an income-based indicator was deemed to be the best available alternative. Since complete data required to estimate the cost of basic human needs were not available, the methodology used for constructing the 2013 poverty line is based upon the poverty line used in NBS's poverty estimation for 2006/07. First, an implicit gross-income-based poverty line was estimated for 2006/07 which produced the household consumption poverty rate (in adult equivalent terms) of 30% officially reported for 2006/07. This equals SCR 1,828.60, relative to a consumption poverty line used of SCR 1,529.00 per month (NSB 2009). The headcount poverty rate in 2006/07 associated with the 30% published household poverty rate was 38% but was not reported by NSB (2009). Headcount poverty rates exceed household poverty rates in this case because poorer households tend to be larger. To obtain the poverty line for 2013, the 2006/07 gross-income-based poverty line of SCR 1,828.6 per adult equivalent was updated to 2013 prices using the increase in the consumer price index (CPI) of 215.76 relative to 2006/07=100 average prices (between May 2006 and July

2007). The poverty line for 2013 was therefore estimated at SCR 3,945 per adult equivalent per month.

This poverty line translates to a gross income per adult equivalent per day of USD 10.76, or USD 15.22 in 2013 Purchasing Power Parity (PPP). This is broadly in line with international levels for a high income country. Using the poverty line estimated, the proportion of the population below the poverty line was estimated at 39.3%.

Motivation for Seychelles 2019 MPI

In the long run, the purpose of the MPI is to identify the range of deprivations that people in Seychelles face. In understanding this, the Department of Poverty Alleviation will then be able to initiate programs to eradicate multidimensional poverty. In quarter 4 2018, Seychelles conducted a pilot test

which indicators work for Seychelles. This particular MPI was an exploratory one. An exploratory/pilot MPI was essential for Seychelles, given that the Seychelles is a Small Island Developing State (SIDS), categorised as 'Middle High Income', by the World Bank. Such characteristics imply that the specificities of this small island nation may be different to those of other countries, especially those on the African continent, to which Seychelles belongs. The indicators which work well for mainland African countries, may then not work well for Seychelles, given that issues faced by the Seychelles may not be the same issues faced by mainland African nations. The 2019 MPI is thus the culmination of information gathered from the 2018 pilot MPI survey. The indicators that have been used in the 2019 edition of the MPI, will remain in future editions, to enable policy-makers to track changes and thus monitor poverty.



Methodology

Alkire Foster methodology

The Seychelles' MPI is estimated using the Alkire Foster (AF) methodology. In summary, the AF methodology was created by Sabina Alkire and James Foster. It is an extension of the Foster Greer Thorbecke (1984) unidimensional poverty methodology which identifies individuals who are poor, by considering the intensity of deprivations they suffer and includes an aggregation method. In the first step, a poverty profile is constructed for each household, which shows in which indicators the household faces deprivation, according to the deprivation cut-offs. Next, deprivations are aggregated for each person or household, into a weighted deprivation score. The choice of weights reflects normative judgements. The next step is choosing a poverty cut-off (for e.g. 20% of the weighted indicators). Individuals whose deprivation score is less than the cut-off, are categorised as non-poor, and individuals whose deprivation score meets or exceeds the deprivation score, are categorised as poor. The unique feature about the AF method is that it combines two aspects of poverty:

The first measure is the Incidence or headcount ratio (denoted by H), which is the percentage of people who are poor.

The second measure is the Intensity (denoted by an A , because it is usually referred to as the Average Intensity),

which is the average share of dimensions in which poor people are deprived. In other words, the intensity reveals how poor the poor are.

The MPI is the multidimensional poverty index, which is the product of incidence and intensity ($MPI = H \times A$). The MPI always ranges from zero to one, and a higher number signifies greater poverty.

Data: Quarterly Labour Force Survey, quarter 3 2019

The data used to calculate the Seychelles MPI comes from a special module attached to the Quarterly Labour Force Survey (QLFS) of quarter 3 2019. The QLFS is a nationally representative continuous survey to collect labour market data on a monthly basis from which quarterly labour market indicators are generated. The sample size for the QLFS is 1,200 households per quarter. The QLFS provides data on demographic characteristics, education and the labour market. The other MPI indicators relating to living standards and housing, health and social issues, were generated from the MPI module attached to the QLFS. The country intends to produce an MPI every 2 years meaning the MPI module will feature in the QLFS every 2 years.

Data collection

Data collection was carried out over a period of one week every third week of each month in 2019 Q3. Data on unemployment was collected relative to

a current period (the previous calendar week). Data collection is now fully automated, meaning the questionnaire is administered using Computer Assisted Personal Interviewing (CAPI) technique, via tablets. Interviewers and supervisors were allocated districts and selected enumeration areas (EAs) to collect information from a list of sampled households. For 2019 Q3, 24 districts were selected from different regions on Mahe, Praslin and La Digue and a response rate of 90.5% was achieved.

Sampling method

The sample design used for the survey is the stratified three stage sampling. The first stage consists of splitting the national master frame into 2 sub-frames (group 1 and group 2). Both sub-frames include all districts on the three main islands (Mahe, Praslin and La Digue). In any given year, sampling is done using only one of the sub-frames. Each sub-frame is used in alternate years. This prevents the possibility of the same households being sampled year after year, hence reducing respondent fatigue. EAs serve as Primary Sampling Units (PSUs). At the second stage, the EAs are selected with probability proportional to size (i.e. the number of EAs in the respective district is proportional to the size of the district). At the third stage, households are selected from each selected EA.



Measurement design

Seychelles uses a set of dimensions, indicators and cut-offs that are meaningful to the national context. More information is provided in the sub-section 'Dimensions, indicators and deprivation cut-offs'.

Unit of identification and analysis

Data collection was done at both household and individual level. For household level information, the information for all household members, within one household, were considered

together. This means that only one response was recorded for the household, regardless of the number of individuals within the household. The household was the unit of identification for the following indicators: 'Overcrowding', 'Condition of dwelling', 'Water disconnection', 'Electricity disconnection', 'Substance use/abuse', 'Teenage pregnancy'



For individual level information, separate information was recorded for each individual in the appropriate age

category (individuals aged 15 years or more in most cases). The individual was the unit of identification for the following indicators: 'Undernutrition', 'Obesity', 'School attendance', 'Highest level of education attained', 'Unemployment', 'Informal employment', and 'Youth Not in Employment, Education or Training (NEET)'.

The unit of analysis refers to how the results are analysed and reported, and it can also be either at individual or household level. In the case of Seychelles, the unit of analysis was the individual. This is common practice for poverty analysis. In instances where questions were asked at household level, the household response was attributed to each individual within the household. In other words, all individuals within one household were attributed with the same response (as reported by that household). Using the individual as the unit of analysis allows for the computation of headcount ratios, meaning the percentage of people who (for example) are deprived in each indicator.

When it comes to building a poverty profile/deprivation matrix, the unit of identification is the household (e.g. a household is deprived if any individual in the household is malnourished).

Dimensions, indicators and deprivation cut-offs: A comparison of the 2019 MPI to the 2018 Pilot MPI, and to the Global MPI

The Global MPI consists of three dimensions: 'Living standards', 'Health' and 'Education' (Figure 1). The Seychelles' MPI retains these three dimensions and adds a fourth one which is 'Employment'. (Table 1b). In comparison to the global MPI which

consists of 10 indicators (Figure 1), the Seychelles' MPI consists of 14 indicators (Table 1b). This is different from the pilot MPI where there were 13 indicators. Tables 1a and 1b compares the 2019 indicators with the 2018 pilot MPI.

Figure 1: Dimensions and indicators of the Global MPI, 2018

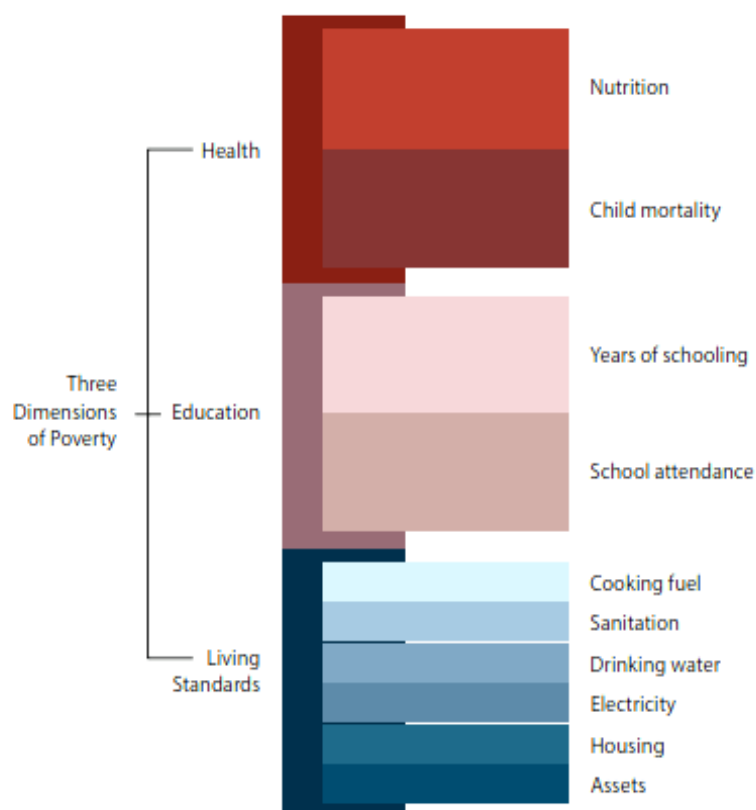


Table 1a: Dimensions and indicators of 2018 Pilot MPI

Dimensions	Indicators	Deprivations
Living Standards	Overcrowding	Deprived if there are more than 2 adults per room used for sleeping
	Condition of dwelling	Deprived if the household lacks adequate materials for two of these three: roof, floor, exterior walls
	Electricity	Deprived if the household has no electricity connection
	Safe Drinking Water	(2) Deprived if the household does not have access to safe drinking water
Health	Food consumption	Deprived if household member experiences poor food consumption
	Child mortality	Deprived if household experienced child mortality
	Substance use/abuse	Deprived if any household member uses illegal drugs or any household member abuses alcohol
	Teenage pregnancy	Deprived if any girl under the age of 19 gave birth in the past 5 years
Education	School Attendance	Deprived if anyone aged 15-16 is not attending school up to the age at which he/she would complete S5
	Highest level of education attained	Deprived if one household member (aged 18 years) or more has not completed secondary level education
Employment	Unemployment	Deprived if any household member aged 15 years or more is unemployed
	Informal employment	Deprived if any household member is in informal employment
	Youth, Not in Employment, Education or Training (NEET)	Deprived if any household member aged 15-24 is not in employment, education or training

Table 1b: Dimensions and indicators of the 2019 MPI

Dimensions	Indicators	Deprivations
Living Standards	Overcrowding	Deprived if there are more than 2 people per room used for sleeping
	Housing	Deprived if the household lacks adequate walls, floor, or overall housing condition
	Electricity	Deprived if the household has no electricity connection or has been disconnected in the past 12 months
	Safe Drinking Water	Deprived if the household does not have access to safe drinking water or has been disconnected in the past 12 months
	Crime	Deprived if any household member has experienced a crime in the past 12 months
Health	Undernutrition	Deprived if any household member is malnourished (children 0-5 are underweight, stunted, or wasted; teens have low BMI-by-age, or adults have low BMI)
	Obesity	Deprived if a majority of household members are obese
	Substance use/abuse	Deprived if any household member uses illegal drugs or any household member abuses alcohol
	Teenage pregnancy	Deprived if any girl under the age of 19 gave birth in the past 5 years
Education	School Attendance	Deprived if anyone aged 15-16 is not attending school up to the age at which he/she would complete S5
	Highest level of education attained	Deprived if one household member (aged 18 years) or more has not completed secondary level education
Employment	Unemployment	Deprived if any household member aged 15 years or more is unemployed
	Informal employment	Deprived if any household member is in informal employment
	Youth, Not in Employment, Education or Training (NEET)	Deprived if any household member aged 15-24 is not in employment, education or training

The set of dimensions and indicators and the cut-offs were discussed and agreed upon by the MPI Technical Committeeⁱ. The decision to increase the number of dimensions and indicators, was both a technical and normative decision. The Living Standards dimensions now

consists of 5 indicators compared to 4 indicators in this dimension in the 2018

pilot MPI. The new indicator is the 'Crime' indicator, which relates to crime against the person, crime against property and burglary/robbery. The

decision to include this indicator relates to an increase in crimes in Seychelles, which is attributed to the current drug problem that the country is facing. The Living Standards dimension also consists of ‘Overcrowding’ and ‘Condition of dwelling’ indicators which are similar to those of the 2018 pilot MPI. With regards to indicators for electricity and water, the 2019 MPI considers those whose electricity and water had been disconnected in the past 12 months, compared to the pilot MPI where these indicators referred to those without access to electricity and water.

Note that indicators relating to sanitation and number of assets (similar to the Global MPI) were captured and analysed, but were found to be yielding very low deprivation and poverty headcounts, corroborating results found in previous surveys. It would be good to keep these indicators within the index to examine their relationship with other indicators but the limitation of including indicators that yield low deprivation scores is that they have a very small contribution to the MPI and thus not

useful for policy purposes. For indicators that are very low, it is usually better to monitor them separately, rather than include them in the measure.

The health dimension is the dimension with the most number of changes in the 2019 MPI compared to the 2018 pilot MPI. For the pilot MPI, a food consumption indicator was used to replace the nutrition indicator, and this decision was based on availability of resources and data. Computation of the nutrition indicators requires using the anthropometric measure approach. However, the NBS did not have the proper equipment for the anthropometric measure at the time of data collection for the pilot MPI. This equipment has now been purchased and data for the nutrition indicators were collected in the 2019 MPI. The nutrition indicators used in the 2019 MPI are ‘Undernutrition’ and ‘Obesity’ (Table 1b). While the Global MPI indicator for nutrition (malnourishment) relate to children aged less than 5 years old, the corresponding indicator for Seychelles relates to all individuals. The reason why measurements were taken for



everyone relates to the fact that this is the first time that the country compiles nutrition indicators at national level from a household survey, and including information for all age groups might be useful in identifying any potential age-related issues. The other new indicator, within the health dimension, is the 'Obesity' indicator. There has been strong indication, from the Ministry of Health, that obesity is a cause of concern for Seychelles. So given that the data for measuring malnourishment, also allows for the measurement of obesity, this indicator was included within the health dimension.

The child mortality indicator was part of the pilot MPI but the decision was made to exclude this indicator in the 2019 MPI, given that it has yielded very low deprivation (both in the 2018 pilot MPI and the 2019 MPI) and it is also not really a cause for concern in Seychelles. The data was however captured and analysed, and it was decided that this indicator will be monitored separately, rather than within the MPI. The health dimension also consists of the same substance use/abuse and teenage pregnancy indicators, as used in the 2018 pilot MPI.

The indicators within the Education dimension are similar to those used in the 2018 pilot MPI. The school attendance indicator in the education dimension consists of information for those aged 15 to 16 years only. Capturing school attendance

deprivation for this age group does not provide the complete picture. The way forward is to capture school attendance information for those aged 6-14 years. The school attendance indicator will thus be as follow in the next edition: 'Deprived if any school-aged child is not attending school up to the age at which he/she would complete S5'. Within the same dimension, the indicator for highest level of education attained, deviates from the Global MPI (Figure 1), which considers the household deprived if there is no one in the household who has at least 6 years of education. On the other hand, the Seychelles MPI considers the household as deprived if anyone (aged 18 years or more) in the household has not attained secondary level of education.

The reason for this deviation relates to the fact that secondary education completion is compulsory in Seychelles, showing that it is deemed as crucial for securing employment later on in life. Older members of the population may not have had the chance to complete secondary level of education for many reasons, including the fact that they could not afford it, or because they were required to work from a young age, to support their family. Nevertheless, the fact remains that these individuals did not complete secondary level of education which is now recognised as being crucial for wellbeing later on in life. As such, it was deemed necessary to define this indicator this way, so as to see the impact of a lack of secondary

school attainment, regardless of the age of the individual.

Unlike the Global MPI, the Seychelles' MPI consists of an employment dimension (Table 1b) and the indicators in the Employment dimension are similar to those used in the 2018 pilot hereafter referred to as 'Youth NEET'. These concepts are defined in the definitions section. Note that all three labour market indicators are SDG and Decent Work indicators. Past surveys provided evidence of the link between poverty and employment status, and hence the decision was taken to include these important indicators in the MPI, especially since they were readily available in the QLFS dataset.

Weights and deprivation scores

The Seychelles' MPI uses equal nested weights, assigning a weight of 1/4 to each of the four dimensions (Living standard, health, education and employment). Within each dimension, each component indicator is also equally weighted (as in the Global MPI). Within the living standard dimension, each indicator accrues one twentieth of the weight, within the health dimension, each indicator accrues one sixteenth, within the education dimension, each indicator accrues one eighth, and within the employment dimension, each indicator accrues one twelfth.

Poverty cut-off

The cut-off used in the MPI is two-fold, as per the Alkire Foster measurement framework. The first cut-off (deprivation cut-off) is indicator specific, where a person is considered as deprived in each indicator, if his / her achievement falls below the cut-off. The second cut-off (poverty cut-off) sets the minimum share of deprivations (or deprivation score) needed for a person to be considered poor. A person is considered multidimensionally poor if the weighted sum of their deprivations meets or exceeds the poverty cutoff.

The poverty cut-off for the 2019 MPI was set at 25%. This is different from the 2018 pilot MPI, where the cut-off was set at 20%. The reason for this change relates to the decision to set the cut-off at the equivalent of dimensions within the MPI; so with this reasoning, given that there are four dimensions, then the cut-off should be 25%. The 2019 MPI consists of 14 indicators, and so a person is considered as multidimensionally poor, if there is deprivation in roughly 4 indicators. This is different from the 2018 pilot MPI which consisted of 13 indicators and a person was multidimensionally poor if there was deprivation in roughly 3 indicators. The concept of multidimensional poverty, more specifically, the MPI, looks at those who are deprived in multiple deprivations at the same time, so it makes sense to increase the cut-off so as to capture those with multiple deprivations.

Results

Uncensored headcount ratios of the MPI indicators

The uncensored headcount ratio of each indicator represents the proportion of the population who are deprived in each indicator. Figure 2 shows that the highest deprivation is for highest level of education attained (proportion of people living in households where at least one household member aged 15 years or more, has not completed secondary level), with a rate of 27.03%. The second highest deprivation is informal employment (proportion of people living in households where at least one household member aged 15 years or more, engages in informal employment, in their main job) with a rate of 24.17%. This is followed by overcrowding (proportion of people living in households where there are more than 2 persons per room used for sleeping), with a rate of 18.85%. On the other hand, some indicators show much lower rates of deprivation, such as the proportion of the population deprived in teenage pregnancy is (2.53%).

The level of multidimensional poverty in Seychelles

Table 2a shows the Seychelles' MPI for Q3 2019, as well as its partial indices: the incidence of poverty (or the proportion of people identified as multidimensionally poor, denoted by **H** (for headcount)), and the intensity of poverty (or the average percentage of

dimensions in which poor people are deprived), denoted by **A**. As can be seen in Table 2a, the incidence of multidimensional poverty is 11.88%, for Q3 2019.

The average intensity of poverty, which reflects the share of deprivations each poor person experiences on average, is 33.26%. This means that each poor person is, on average, deprived in 33.26% of the weighted indicators.

The MPI, which is the product of **H** and **A** is 0.040. This means that multidimensionally poor people in Seychelles experience 4% of the total deprivations that would be experienced if all people were deprived in all indicators. It is important to again highlight the fact that the MPI considers both the **H** and the **A**. In some instances, one goes down but not the other. The headcount ratio, for example is a useful measure, but it does not increase if poor people become more deprived. On the other hand, the MPI takes into account both the **H** and the **A**, so it goes down if either of these decreases. So if a poor person becomes non-poor, the MPI will go down. And if a poor person becomes non-deprived in an indicator in which they were previously deprived, the MPI will also go down. The MPI thus tracks not just movement over the poverty line but also improvements among the poor, incentivizing policies that target the poorest of the poor.

Given that the 2018 pilot MPI used a cut-off of 20% (rather than 25%), Table 2b provides the result of the 2019 MPI and its partial indices, using a 20% cut-off. As can be seen in Table 2b, the results for the MPI and the headcount ratio, are higher, with a 20% cut-off, than with a 25% cut-off. This is expected, given that a 20% cut-off means that people are considered multidimensionally poor if

they are deprived in less indicators (3), compared to a 25% cut-off (deprived in 4 indicators). On the other hand, the A is lower (33% with k=25 vs. 29% with k=20), which makes sense because of the lower bound for being considered poor. So now the deprivation scores can range from 20-100 instead of 25-100, and hence the average is lower.

Table 2a: Incidence, intensity and Multidimensional Poverty Index-25% cut-off, 2019 Q3

Poverty cut-off (k)	Index	Value	Confidence Interval (95%)	
k-value = 25%	MPI	0.040	0.030	0.049
	Headcount ratio (H, %)	11.88	9.23	14.53
	Intensity (A, %)	33.26	31.07	35.45

Table 2b: Incidence, intensity and Multidimensional Poverty Index-20% cut-off, 2019 Q3

Poverty cut-off (k)	Index	Value	Confidence Interval (95%)	
k-value = 20%	MPI	0.056	0.046	0.066
	Headcount ratio (H, %)	19.51	16.35	22.66
	Intensity (A, %)	28.90	27.45	30.36

The composition of the MPI by indicator (censored headcount ratios)

Understanding what deprivation causes poverty, can help reduce poverty. This can be done by first breaking the MPI down by indicator, and examining its composition. The censored headcount

ratio of an indicator represents the proportion of the population that is multidimensionally poor and also deprived in that indicator. The MPI can

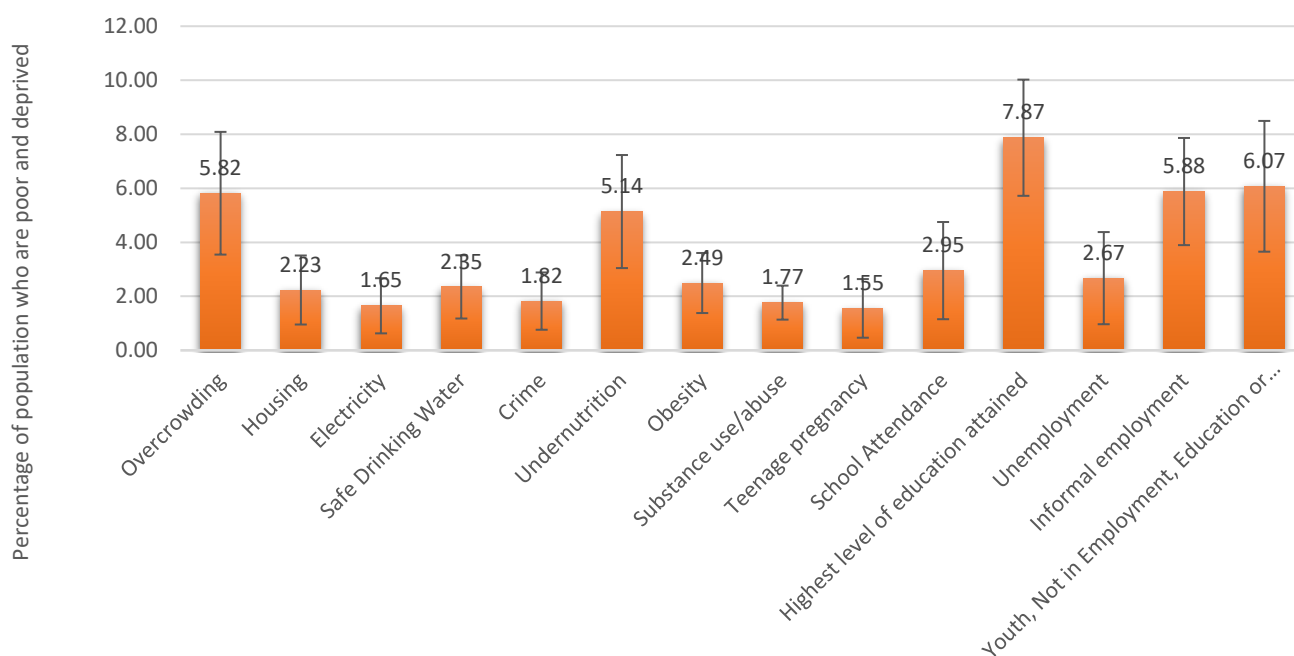


also be computed as the sum of the weighted censored headcount ratios. This means that reducing any of the censored headcount ratios changes poverty. Figure 3 shows that the largest deprivation is for people living in households in which at least one person aged 18 years or more, has not completed secondary level of education. In 2019 Q3, 7.87% of the population was found to be multidimensionally poor and deprived in

this indicator.

Figure 3 also shows that 6.07% are multidimensionally poor and living in households where at least one youth (aged 15-24 years), is not in employment, education or training (NEET). Furthermore, 5.88% of the population is multidimensionally poor and living in households where at least one person is engaged in informal employment.

Figure 3: National censored headcount ratios (proportion of population deprived who are multidimensionally poor and deprived in each indicator), 2019 Q3



The confidence intervals of the indicators, in relation to other indicators, indicate the significance of the indicators. One indicator is significantly higher or lower than another indicator, if there is no overlap in the confidence intervals of these two indicators. Looking at the indicators with the highest censored headcount ratio ('Highest level of education'), it can be seen that the confidence interval for this indicator does not overlap with 'Condition of dwelling', 'Electricity disconnection', 'Water disconnection', 'Obesity', 'Substance use/abuse', 'Teenage pregnancy', 'Crime' and 'Unemployment'. It can thus be

concluded with certainty (95% confidence interval), that there are more people who are poor and deprived in 'Highest level of education', than in 'Condition of dwelling', 'Electricity disconnection', 'Water disconnection', 'Obesity', 'Substance use/abuse', 'Teenage pregnancy', 'Crime' and 'Unemployment' (Figure 3).

The indicator with the second highest censored headcount is 'Youth NEET'. The confidence interval of 'Youth NEET' does not overlap with the confidence interval for 'Electricity disconnection', 'Crime', 'Substance use/abuse' and 'Teenage pregnancy'. It can thus be concluded with certainty (95% confidence interval), that the proportion of youth who are poor and not in employment, education, or

training, is significantly higher than the proportion who are deprived in 'Electricity disconnection', 'Crime', 'Substance use/abuse' and 'Teenage pregnancy' (Figure 3).

The indicator with the third highest censored headcount ratio is 'Informal employment'. The confidence interval for this indicator does not overlap with the confidence interval for 'Electricity disconnection', 'Condition of dwelling', 'Crime', 'Substance use/abuse' and 'Teenage pregnancy'. It can thus be concluded with certainty (95% confidence interval), that there are more people who are poor and deprived in 'Informal employment', than in 'Electricity disconnection', 'Condition of dwelling', 'Crime', 'Substance use/abuse' and 'Teenage pregnancy'.

Percentage Contribution

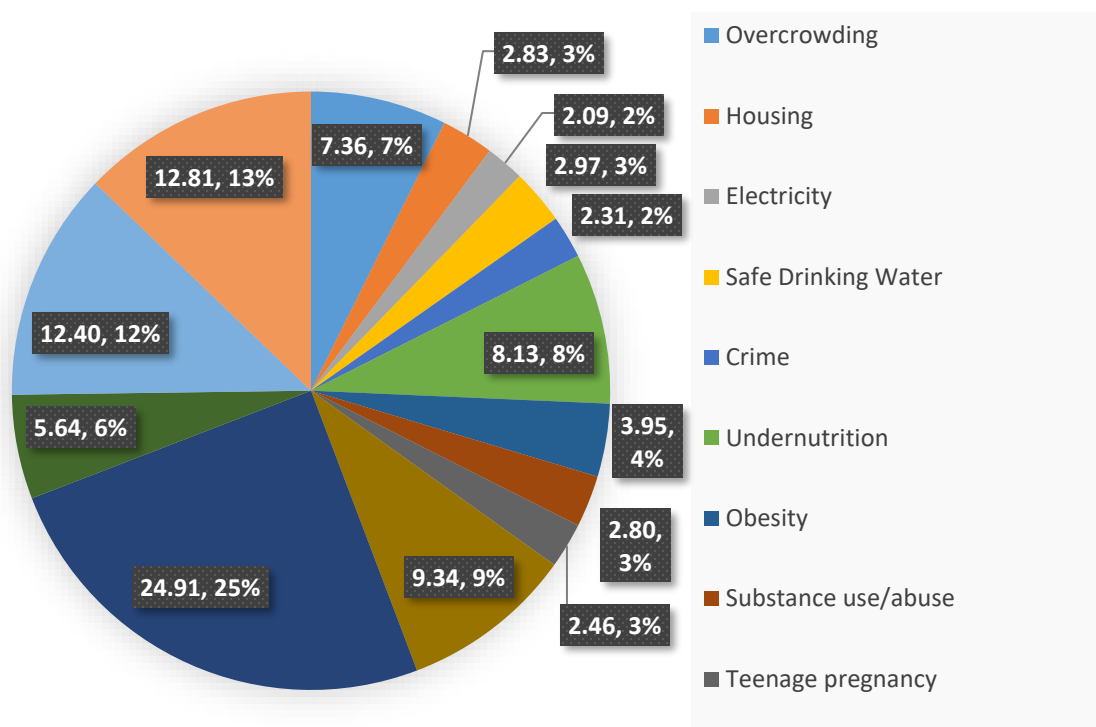
For a more in-depth view on multidimensional poverty, it is useful to see the percentage contribution of each of the 14 indicators to overall multidimensional poverty in the Seychelles. Figure 4 shows the percentage contribution of each indicator and thus the composition of multidimensional poverty in Seychelles. Recall that while all dimensions are equally weighted, some indicators carry higher weights. In the case of Seychelles, the indicators within the education dimension carry higher weights and are thus expected to contribute relatively more to overall poverty. These indicators carry higher

weights because there are only two indicators within the education dimension-the fewer the indicators within a dimension, the higher the contribution.

The largest contributors to multidimensional poverty in Seychelles

are deprivations in highest level of education attained (24.91%), meaning at least one household member has not completed secondary level of education, followed by deprivation in 'Youth NEET' (12.81%), and informal employment (12.40%).

Figure 4: Percentage contribution of each indicator to national MPI, 2019 Q3



Subgroup Decomposition

In addition to examining the poverty indices at the aggregated level, it is also useful to look at the poverty indices by different sub groups. This provides deeper understanding on the poverty experiences of various sub groups of the population, and can thus help policy-makers to plan for specific

interventions. The following section presents results for poverty indices by different sub group/characteristics: household size, age group, labour force status, sex of head of household, education level of head of household, island of residence and welfare status (whether or not household receives welfare assistance).

Performance across household size

Poverty indicators by household size is presented in Table 5a. Household sizes are aggregated in the following categories: 1-3 persons, 4-6 persons, and 7+ persons. The highest proportion

of the population live in households consisting 4-6 persons (48.92%), followed by those living in households consisting 1-3 persons (37.2%), then those living in households with 7+ persons (13.87%).

Table 5a: Poverty indicators by household size, k=25 2019 Q3

Household Size	Population share (%)	MPI	Confidence Interval (95%)			Confidence Interval (95%)		A(%)	Confidence Interval (95%)	
Household size 1-3	37.20	0.014	0.008	0.020	4.89	2.93	6.86	28.34	27.48	29.20
Household size 4-6	48.92	0.037	0.025	0.048	11.72	7.80	15.65	31.23	29.48	32.98
Household size 7+	13.87	0.118	0.071	0.166	31.15	18.86	43.44	38.02	32.83	43.21

Table 5a indicates that those living in the largest households may be more likely to experience multidimensional poverty than those living in the smallest households. The gradient is apparent, as the headcount ratios increase as the household size increases. While the headcount ratio is 4.89% for those living in the smallest household (1-3 persons), it increases to 11.72% for those living in households consisting 4-6 persons, and it

increases again (to 31.15%) for those living in households consisting of 7 or more persons. Figure 5a confirms the positive relationship between household size and incidence of multidimensional poverty. The confidence interval of the smallest household does not overlap with that of household of size 4-6 and that of household of size 7 or more, indicating that the incidence of multidimensional poverty, across these households are significantly different.

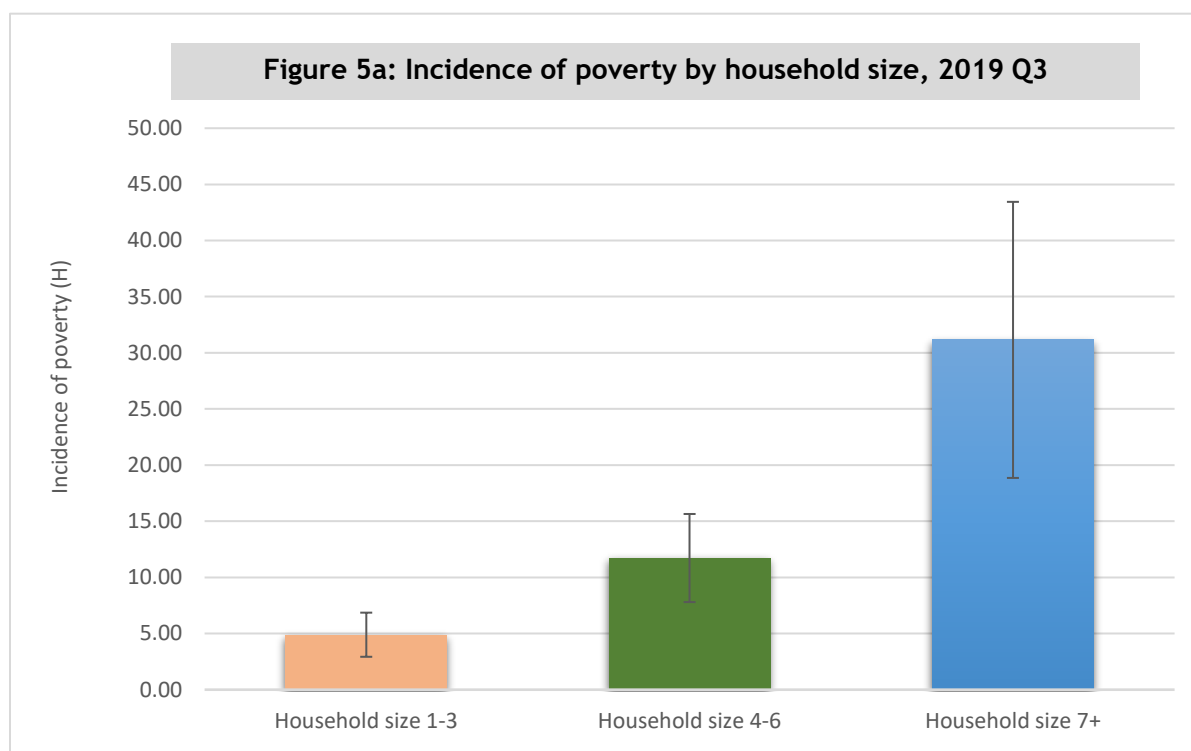
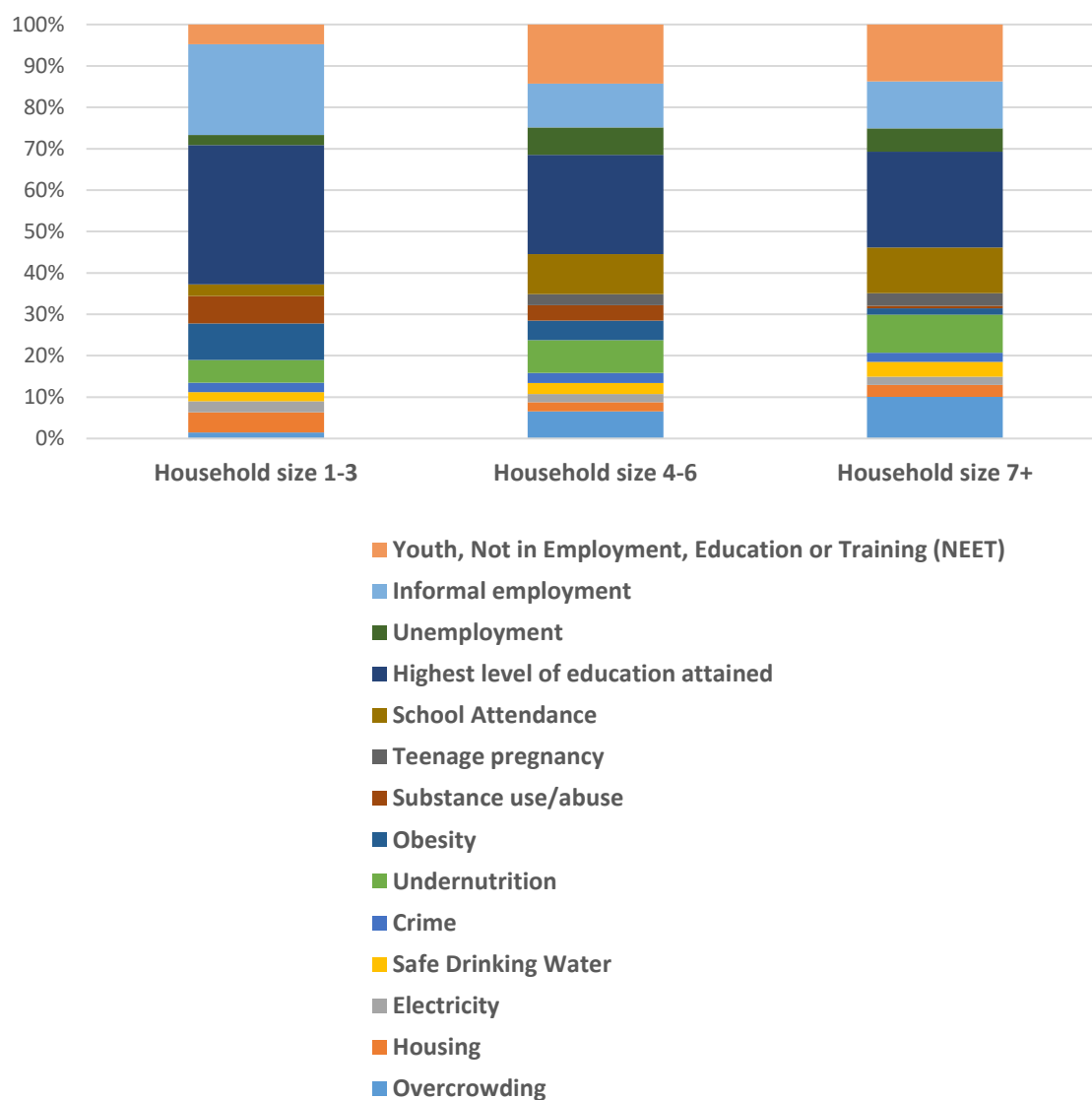


Figure 5b provides more information about how the composition of poverty varies by household size. This shows how different indicators are contributing more to poverty for different household sizes. For example, school attendance contributes relatively more to poverty in

larger households than in households with only 1-3 members. However, informal employment contributes more to poverty among smaller households. Naturally, overcrowding is also a big contributor to poverty for larger households, especially for those that have 7 or more persons.

Figure 5b: Percentage contribution to poverty by household sizes, 2019 Q3



Performance by age group

Table 6a presents poverty indices by the following age cohorts: 0-14 years, 15-24 years, 25-54 years, 55-64 years and 65+

years. The highest proportion of the population are aged between 25 to 54 years (41.43%). The headcount ratio is

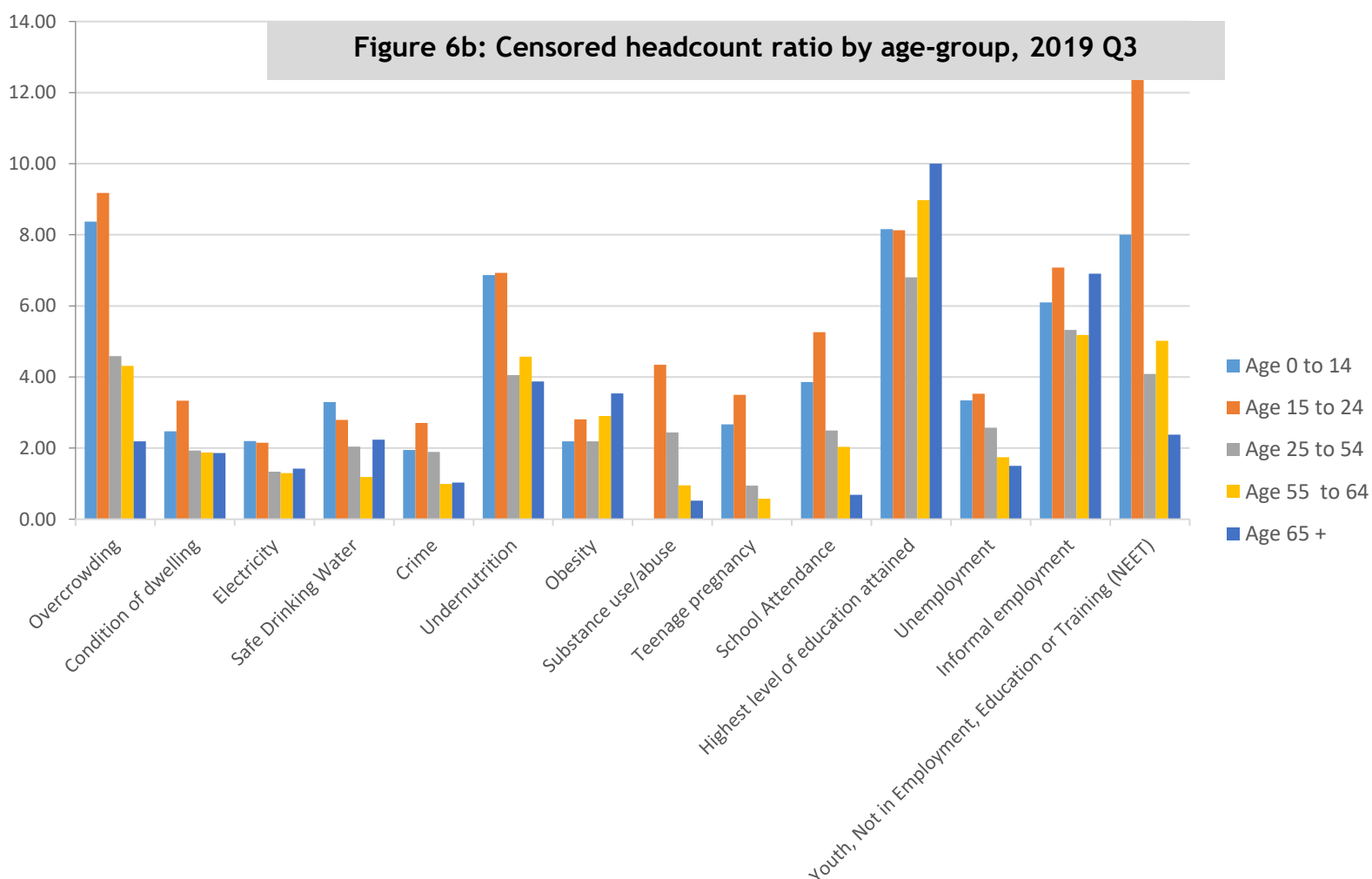
higher for those in the youth age group (15-24 years), indicating that the youth are more likely to be experiencing multidimensional poverty (16.46%). However, because all of the confidence intervals overlap, it is not possible to state with certainty which age groups are poorer or less poor than others, as shown in Table 6a.

Table 6a: Poverty indicators by age group, k=25 2019 Q3

Age group	Population share (%)	MPI	Confidence Interval (95%)		H (%)	Confidence Interval (95%)		A(%)	Confidence Interval (95%)	
Age 0 to 14	23.03	0.046	0.031	0.061	13.08	9.10	17.07	35.17	32.00	38.34
Age 15 to 24	13.59	0.057	0.041	0.073	16.46	12.06	20.86	34.64	32.30	36.99
Age 25 to 54	41.43	0.034	0.025	0.042	10.29	7.59	12.99	32.60	30.51	34.70
Age 55 to 64	12.22	0.034	0.024	0.045	10.98	7.48	14.47	31.13	28.56	33.71
Age 65 +	9.73	0.032	0.021	0.042	10.52	7.09	13.95	30.11	28.18	32.04

A comparison of the composition of poverty for different age groups shows that the deprivations experienced by people of different ages vary. This is shown in Figure 6b. For instance, substance abuse contributes more to

informal employment. Overcrowding contributes more to poverty among younger people, especially those under 25.



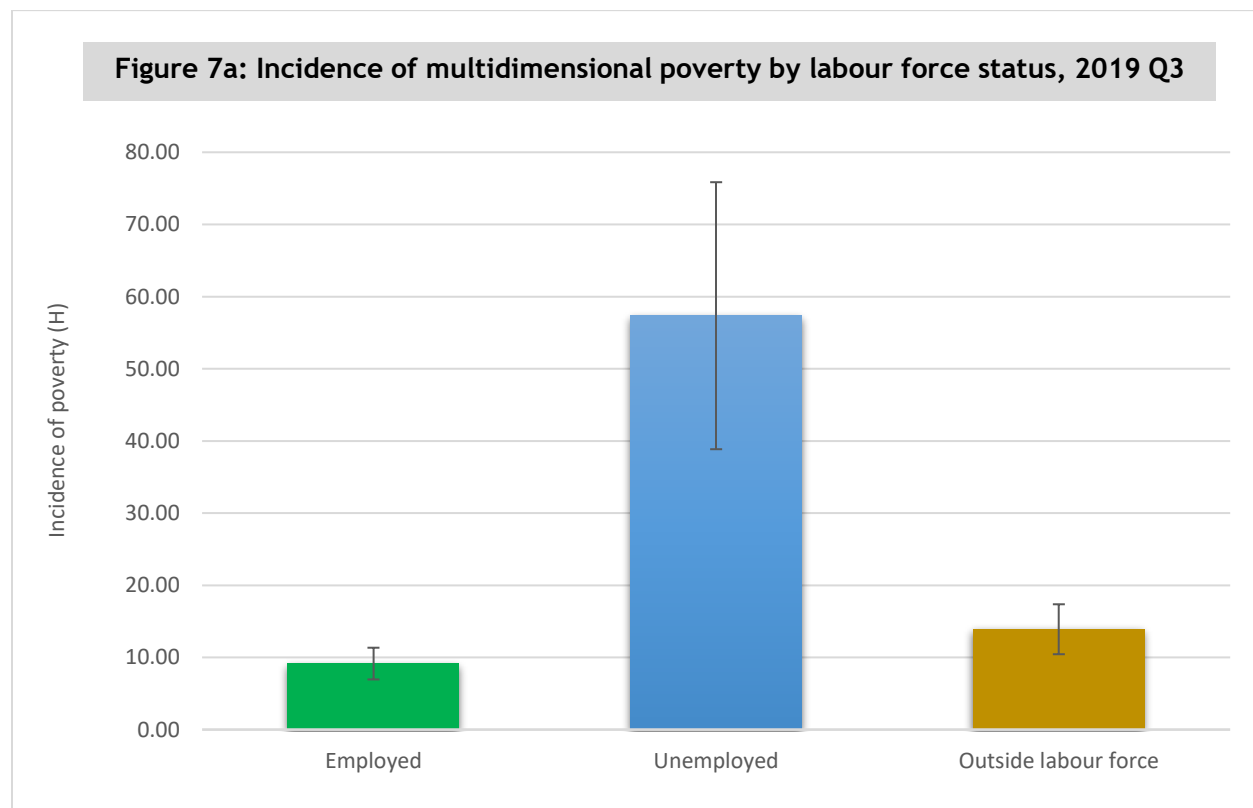
Performance by labour force status

Table 7a presents poverty indices by the following labour force statuses: employed, unemployed and being outside the labour force. The results indicate that those who are unemployed experience a higher rate of

multidimensional poverty (57.35%), followed by those who are outside the labour force (13.90%) and those who are employed (9.15%), though the difference between those who are employed and those who are outside the labour force is not statistically significant. Figure 7a confirms that the unemployed are more likely to be poor.

Table 7a: Poverty indicators by labour force status (every one), k=25, 2019 Q3

Labour Force Status	Population share (%)	MPI	Confidence Interval (95%)		H (%)	Confidence Interval (95%)		A(%)	Confidence Interval (95%)	
Employed	64.01	0.030	0.023	0.036	9.15	6.95	11.35	32.26	30.31	34.22
Unemployed	1.51	0.200	0.133	0.267	57.35	38.85	75.85	34.89	33.22	36.56
Outside labour force	34.48	0.045	0.034	0.057	13.90	10.44	17.36	32.62	30.41	34.82



Performance across household characteristics of household head

This subsection examines how multidimensional poverty varies according to characteristic of the head of household. Figure 8a shows the incidence of multidimensional poverty by sex of head of household. It seems that the incidence of multidimensional poverty is higher among female-headed households (with a rate of 12.88%), than male-headed households (with a rate of 10.40%). These differences are however not significant. In addition to this, Table

8b shows that female-headed households have a higher censored headcount ratio for almost all indicators, with the exception of 'Substance use/abuse' and 'Unemployment', indicating that male-headed households perform better for all indicators, with the exception of 'Substance use/abuse' and 'Unemployment'. However, the only one of these that is statistically significant is 'Informal employment'.

Figure 8a: Incidence of multidimensional poverty by sex of head of household

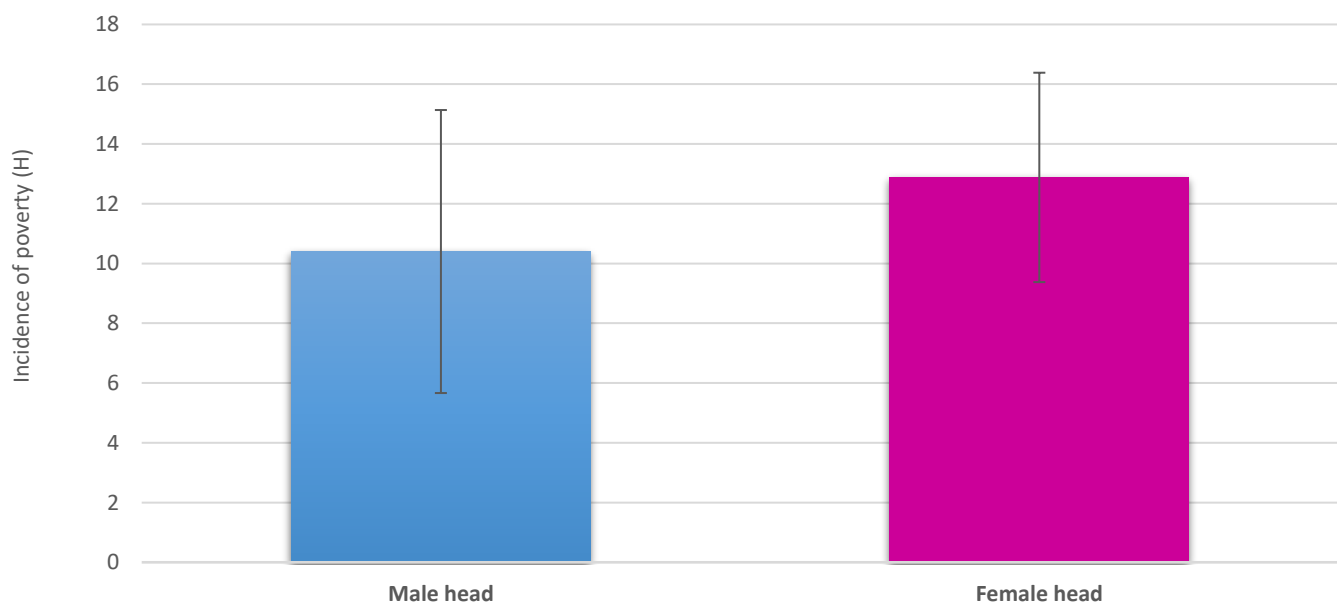


Table 8a: Censored headcount ratio by sex of head of household, k = 25 (Part 1)

Sex	Overcrowding	Condition of dwelling	Electricity	Safe Drinking Water	Crime	Undernutrition	Obesity
Male	4.62	1.42	0.51	1.11	0.97	4.72	1.08
Female	6.61	2.77	2.39	3.15	2.38	5.43	3.41

Table 8a: Censored headcount ratio by sex of head of household, k = 25 (Part 2)

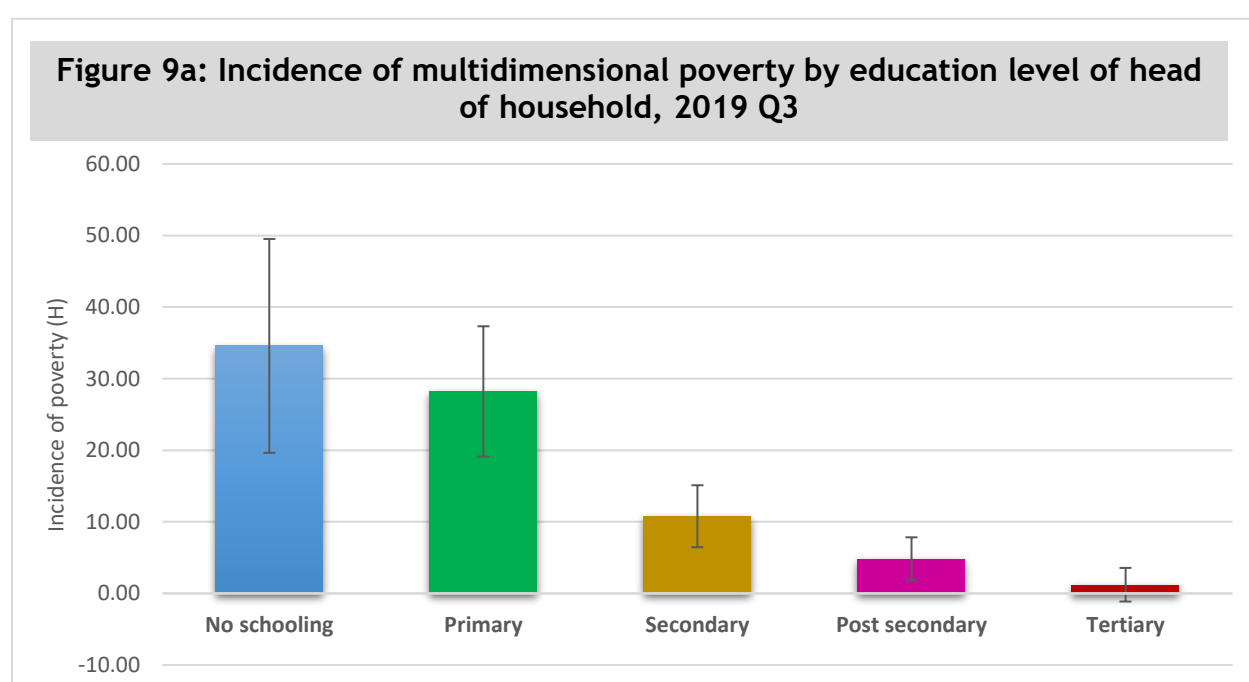
Sex	Substance use/abuse	Teenage pregnancy	School Attendance	Highest level of education attained	Unemployment	Informal employment	Youth, Not in Employment Education or Training (NEET)
Male	1.79	0.62	2.90	6.53	2.80	2.88	5.97
Female	1.76	2.16	3.00	8.76	2.61	7.82	6.17

Table 9a presents the poverty indicators by education of head of household. An obvious gradient can be observed in the headcount ratio by education level: the lower the education level (no schooling), the higher the headcount ratio (34.58%). The same pattern can be observed in the MPI, where those with no schooling have the highest MPI (0.115), and the MPI decreases as the education level increases (0.097) for those with primary level, 0.035 for those

with secondary level, 0.016 for those with post-secondary, and 0.003 for those with tertiary level of education. Although there is some overlap in the confidence intervals of the different education levels, Figure 9a shows significant differences between the levels of multidimensional poverty rates for households whose heads have had no schooling or only primary schooling, compared to those who have attained at least secondary level of education.

Table 9a: Poverty indicators by education of head of household, k=25, 2019 Q3

Education level	Population share (%)	MPI	Confidence Interval (95%)			H (%)	Confidence Interval (95%)		A(%)	Confidence Interval (95%)	
No schooling	2.88	0.115	0.056	0.175		34.58	19.64	49.52	33.34	30.18	36.50
Primary	16.57	0.097	0.061	0.133		28.21	19.11	37.32	34.41	30.28	38.53
Secondary	44.61	0.035	0.022	0.048		10.78	6.46	15.11	32.28	29.35	35.21
Post-secondary	27.64	0.016	0.005	0.027		4.84	1.84	7.84	33.13	27.61	38.65
Tertiary	7.57	0.003	-0.003	0.010		1.22	-1.13	3.57	27.08	27.08	27.08
Not stated	0.73	0.000	0.000	0.000		0.00	0.00	0.00	0.00	0.00	0.00



Performance by island

Given the small population size of the country, geographical disaggregation can only be done by island, rather than by region and district. For the purpose

of this report, the three districts from the second and third largest islands (in terms of population size), are grouped together to form the inner island

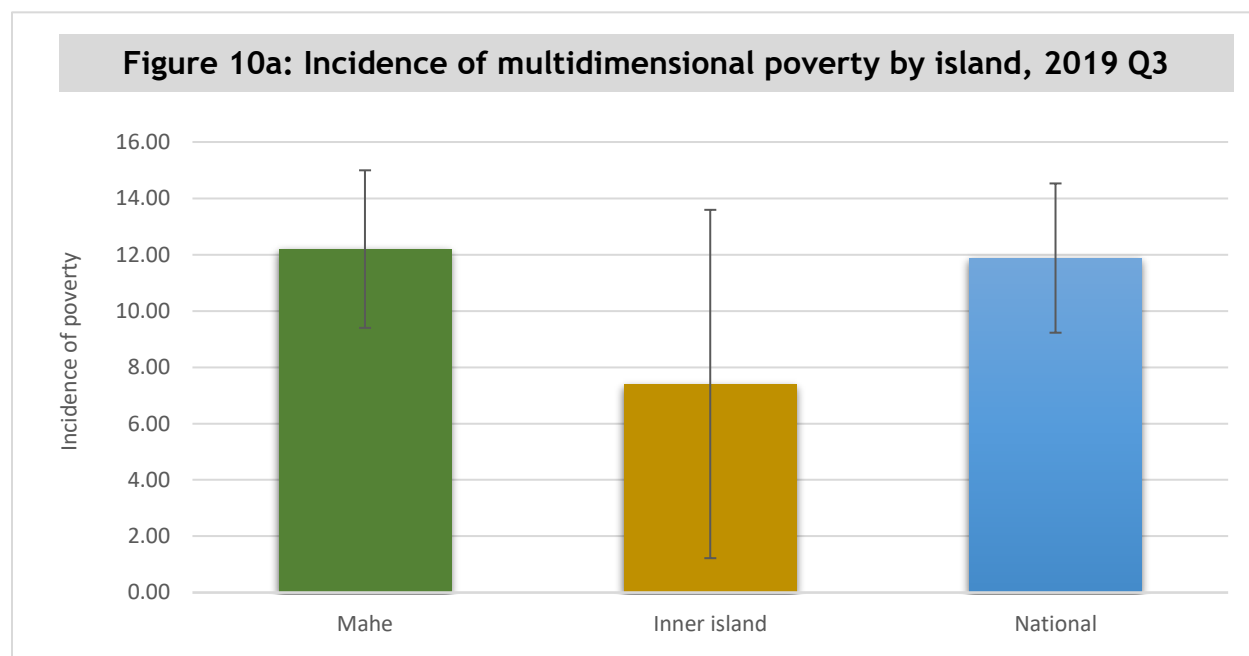
category, and observations from the inner island group are compared to observations from the main island (Mahe). Note that policies are done at national level, not by island or any other geographical grouping. However, given the fact that the inner islands are different from the main island in terms of economic activities, it is good to carry out separate estimates for the inner

island population, to see if the experience of the population is different from that of the population of the main island. Note that the inner island inhabitants make up 12% of the total population. Table 10a shows that the main island (Mahe) experiences a higher rate of multidimensional poverty (12.2%), than the Inner islands (7.4%).

The MPI follows the same pattern, where an MPI of 0.041 is observed for Mahe, whereas a lower MPI of 0.022 is observed for the Inner islands. These differences are however not statistically significant due to overlapping confidence intervals (Figure 10a).

Table 10a: Poverty indicators by island, k=25, 2019 Q3

Island	Population share (%)	MPI	Confidence Interval (95%)		H (%)	Confidence Interval (95%)		A(%)	Confidence Interval (95%)	
Mahe	88.00	0.041	0.031	0.050	12.20	9.40	14.99	33.39	31.10	35.67
Inner islands	12.00	0.022	0.003	0.042	7.41	1.22	13.59	30.30	27.53	33.07



Robustness Checks

Table 11a presents the Spearman and Kendall rank correlation coefficients between the households' rankings using

the selected poverty cut-off, k=25%, and the ranking for alternative poverty cut-offs of 20% and 30%. Table 11a shows that the Kendall Tau-b is 0.77 at k=20% and also 0.76 at k=30% indicating that among the whole population, the

selected poverty cut-offs is preserved to a large extent under these alternative choices.

Similar results are obtained when using the Spearman coefficient. Table 11a shows that Spearman coefficient is 0.79 at k=20% and 0.77 at k=30%. This means that the rank correlation between the selected poverty cut-offs (from 20% to 25%, from 25% to 30%) is preserved to a large extent under these alternative choices.

Table 11a: Correlation ranks for different poverty cut-offs, 2019 Q3

		k=25%
k=20%	Spearman	0.79
	Kendall Tau-b	0.77
k=30%	Spearman	0.77
	Kendall Tau-b	0.76

Table 11b shows the Spearman and Kendall rank correlation coefficients between the households' rankings using alternative weighting schemes. Similar pairwise comparison tests were performed to assess the relationship

between the rank obtained under the baseline (k=25% and 1/4 weight for each dimension) and alternative weighting schemes. To test rank stability with respect to the dimension-weighting scheme, pairwise comparison tests were performed to assess the relationship between the rank obtained with the baseline (k=25%) and alternative weighting scheme. Computing alternative schemes in which each dimension is in turn given 50% while each of the remaining dimension is given 16.7%, we obtain the results in Table 11b.

The results indicate that the pairwise comparisons are robust, meaning the poverty orderings are quite stable, regardless of which dimension gets more (50%) of the weights. The household poverty orderings are particularly stable in the living standards dimension, indicating that deprivations in the living standards dimension are clearly present among those who suffer other deprivations elsewhere.

Table 11b: Correlation ranks for different weight cut-offs, 2019 Q3

k=20%	Living Standards Dimension -50%	Health Dimension -50%	Education Dimension -50%	Employment Dimension-50%
Spearman	0.81	0.69	0.60	0.73
Kendall Tau-b	0.83	0.72	0.63	0.75

Policy Implication

The Poverty Alleviation Department has been supporting the MPI process throughout all stages via different means and platforms. This includes financial support for data collection of the pilot MPI, as well as the 2019 MPI. With the backing of the Poverty Alleviation Department, the results of the pilot MPI was presented to the Poverty Consensus Forum and to the Cabinet of Ministers.

It is to be noted that the country is beyond the stage of deciding whether or not to use the MPI, but has rather reached the stage of deciding how to make use of the MPI measure for poverty reduction. As the portfolio for poverty reduction rests with the Poverty Alleviation Department, it has the mandate to ensure the continuity of the Poverty Awareness campaign, so that other Ministries, Departments and Agencies (MDAs), are not only well versed with the concept, but that they also learn to integrate the MPI in decision-making.

To start with, the Poverty Alleviation Department has adopted three different approaches for poverty reduction; a dimensions/indicator approach, a groups and sub-group approach as well as the usual blanket approach. Each of these approaches have different targets and have different expected outcomes.

The dimensions/indicators approach is being tested with the use of the Poverty Profiling Regional Survey which was carried out by the NBS in 2017/18. The aim of this approach is to target the specific 'ills' related to deprivations in society, and aim to resolve those ills. The issue of 'Highest Level of Education' being the largest percentage contributor is therefore the best place to start. The Poverty Alleviation Department aims to prioritize this indicator, as well as the 'Education' dimension as a whole, so as to improve this aspect of wellbeing. It is hoped that a reduction in the headcount in this indicator should reduce the headcount in some other indicators, notably in the 'Employment' dimension.

The second approach relates to policy action by groups and sub-groups. This approach zooms in on specific groupings based on characteristics such as age, labour force status, region, sex of head of household or highest level of education of head of household. The Poverty Alleviation Department takes note of the 2019 MPI which shows that the younger side of the population is most likely to be multidimensionally poor. The Department will thus work alongside other stakeholders with the aim of reducing this unfavorable statistic. It is noticeable that one specific indicator is also in itself a sub-group by age; this is the Youth NEET. The Department thus aims to continue with previous interventions to improve

the quality of life of the youth population.

The Department is constantly including the Youth of all ages in its programs to improve the lifestyle of the youth group. An example of current programs is the Life-Coaching Program which aims at equipping the community with necessary skills to overcome personal or familial lacking, and to overcome issues stemming from poverty which may induce poverty itself. Remarkably, many young persons are keen to be involved in these processes.

The Department has also been supporting other organisations that are willing to provide similar support to young people. Keeping in mind that Seychelles may soon have to deal with the effect of having an ageing population, the importance of

prioritising young people cannot be stressed enough.

The third approach is the common blanket approach. This is inevitably the bulk of policy work and will include most of the indicators as points of focus, with the remainder for referencing and comparison. The policy work planned out by the Poverty Alleviation Department, through the blanket approach, will comprise of a series of consultations, work and advocacy campaign for refining existing short and long term policies and regulations. These will happen within a two-year interval, as it has been decided that there will be a two-year interval between MPIs. The Poverty Alleviation Department has already submitted proposals in the form of Cabinet Memorandums which will be supported at discussion level by the MPI report.

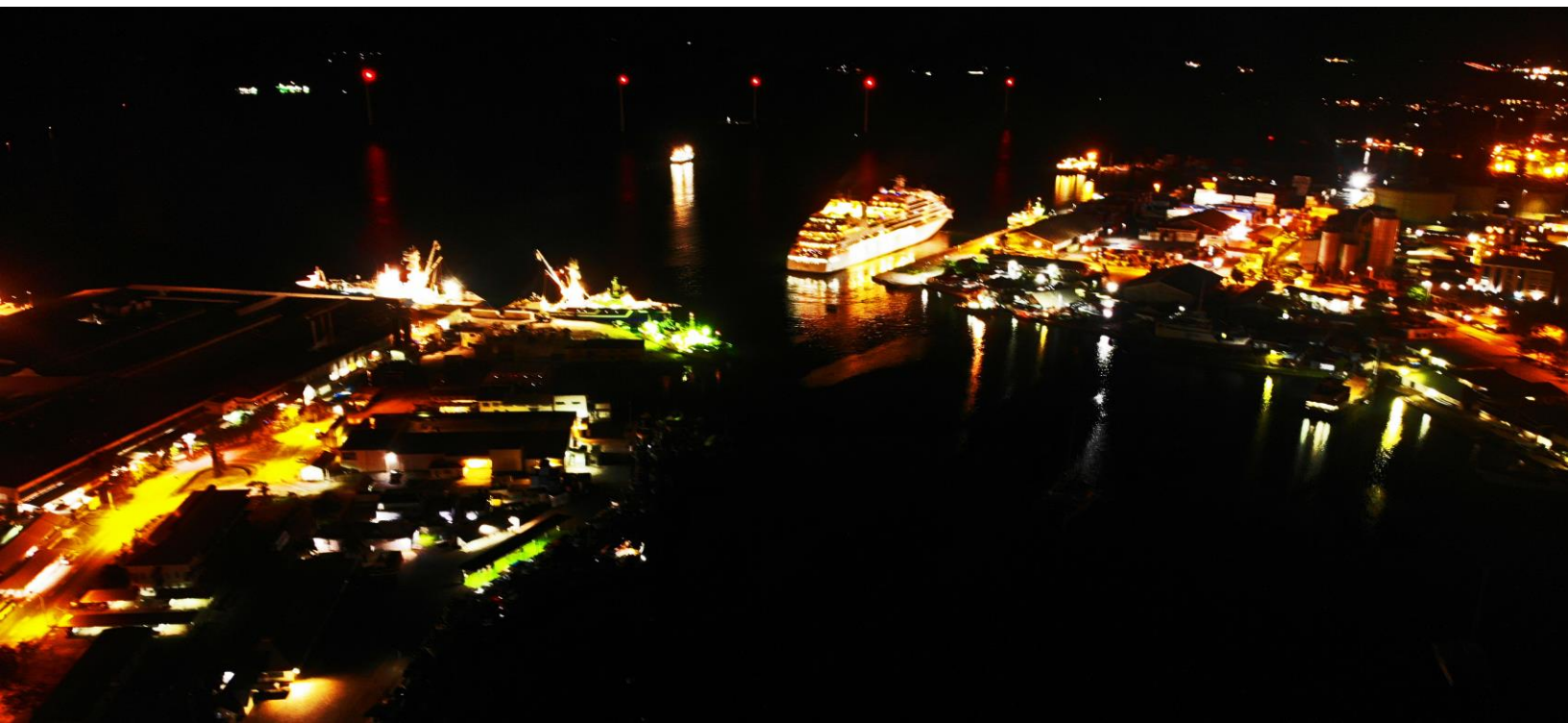


Way Forward

The MPI survey collected data on individual and household income. This information will be used to compare the poverty level using the MPI measure to the poverty level generated from the Household Budget Survey 2018. The poverty level which will be generated

from the Household Budget Survey 2018, will use both income and consumption expenditure as the welfare indicator.

Seychelles will produce an MPI every 2 years. The two-year interval will hopefully provide enough time for interventions. The next MPI survey will be conducted in quarter 3 of 2021.



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