NATIONAL MULTIDIMENSIONAL POVERTY IN MALDIVES 2020

Joint effort of

National Bureau of Statistics, Maldives

Oxford Poverty and Human Development Initiative (OPHI)

UNICEF Maldives Country Office

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

CB	Census Block
DHS	Demographic Health Survey
HIES	Household Income and Expenditure Survey
HDI	Human Development Index
HDRO	Human Development Regional Office
ICPD	International Conference on Population and Development
MDG	Millennium Development Goals
MPI	Multidimensional Poverty Index
NBS	National Bureau of Statistics
NDP	National Development Plan
OPHI	Oxford Poverty and Human Development Initiative
ROSA	Regional Office of South Asia
SDG	Sustainable Development Goals
SE	Standard Error
VNR	Voluntary National Report (for SDG)
UNICEF	United Nation's Children Fund
UN	United Nations
UNFPA	United Nation's Fund for Population Activities

FOREWORD

It is a great honor and privilege for me to bring out the first ever National Multidimensional Poverty Index (MPI) report of Maldives.

As an island nation, Maldives faces huge challenges in the development arena. The country faces challenges in terms of building opportunities for young people, improving gender equality, improving health care, migration and urbanization issues and development of basic infrastructure and providing equitable access to basic services across the islands. Being a low-lying island nation, the impact on climate change should not be undermined.

Inequality remains high and issues in providing access to essential services across the islands remain a barrier in achieving equitable human development. While no one measure can capture the deprivations that exist within the society, MPI will serve as an indicator to help monitor progress in poverty related goal and targets outlined in the 2030 Agenda for Sustainable Development (SDGs).

Maldives has been measuring poverty based on income and has made huge improvements in this front. However, in order to achieve the Sustainable Development Goals and leave no one behind, it becomes imperative to look at the deprivation's society faces from different angles. MPI aims to do that and it has been constructed taking into account the crucial dimensions which reflect the situation of people affected by multiple and intersecting deprivations in Health, Education and Information and in Living Standard.

The government has taken affirmative actions to reduce inequality and poverty in the Strategic Action Plan (2019-2023) and MPI provides a prominent tool to coordinate the efforts of the multisectoral agencies in this fight against poverty reduction.

President Ibrahim Mohamed Solih, in consultation with his Cabinet of Ministers, declared to use MPI as an additional indicator to measure living standard in the country. This was publicly announced by the President's office on 4th February 2020. National MPI will serve as a tool to help identify areas and localities facing issues in access to basic services, and to target policies and programs to reduce poverty and inequality among the population.

With COVID-19 pandemic, we are posed with huge challenges in all aspects of our lives. While the extent of socio-economic impact of this pandemic is yet unknown, it is likely that more people would fall into poverty. This presents us with an opportunity to use MPI as a monitoring tool to ensure that right policies are implemented to support recovery and help improve people's lives.

Maldives MPI is a joint product of National Bureau of Statistics (NBS), UNICEF Maldives and Oxford Human Development Initiative (OPHI), with support and input from relevant stakeholders. I congratulate the team for their efforts. I also acknowledge the role of the Ministry of health in providing the Demographic Health Survey, 2016/17 data as input for this exercise.

I am convinced that use of MPI will be instrumental in our work towards reducing poverty and inequality and in achieving the developmental targets of the country.

Mohamed Aslam,
Minister of National Planning and Infrastructure

FOREWORD

I am truly delighted that the first ever National Multidimensional Poverty Index (MPI) for the Maldives is now released as a tool for informed policy making. At this time when so many are facing new and overlapping deprivations, the National MPI can shed light on how multidimensional poverty manifests itself.

The National MPI for Maldives is unique in South Asia and beyond. It captures the simultaneous deprivations commonly faced in Small Island Developing States. By providing a new official statistic of poverty, the Maldives adds a vibrant perspective to other South Asian countries, and also offers a beacon to other Small Island Developing States that wish to track their distinctive forms of multidimensional poverty. The National MPI captures the inherent complexities of remote islands in the Maldives, especially with regards to health and healthcare. The regional analysis picks up local nuances. Given the rich information on MPI for all age cohorts, especially young people and older generations, I hope that the National MPI can guide planning and budgeting ensuring a bright future for everyone, including the children of the Maldives.

At the time of writing the entire country is in lockdown and peoples' livelihood are at risk. The National MPI provides a snapshot at the multiple deprivations many more people could face in 2020. The huge progress made between in 2009 and 2016 is rightly celebrated. It shows that key policies have worked in lifting so many out of multidimensional poverty.

Maldives' 2016 MPI also hints at newly emerging problems in health, such as under nutrition and obesity, and persistent inequalities in access to adequate healthcare, that merit special attention, especially during this time of crisis. With better data for nutrition and healthcare planned in future surveys, the MPI looks set to continue to offer rigorous evidence to policy actors in the coming years. I look forward to seeing more Maldivians prosper and move out of multidimensional poverty.

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

FOREWORD

UNICEF congratulates the Maldives for joining the first group of countries in South Asia, which completed national Multidimensional Poverty Indices (MPI). The adoption of an MPI in the Maldives has several significances. First, the recognition that poverty and inequities are much more complex to be measured through income poverty only. Second, a strong political commitment to acknowledge and commit to addressing the reality of 28% multidimensional poverty index in the Maldives rather than hiding behind the political comfort the 8% income poverty figure can offer. Third, adopting the MPI also signifies the Maldives' commitment to the 2030 Sustainable Development Agenda.

UNICEF is pleased to have supported the Maldives with the first-ever national multidimensional poverty index measurement. UNICEF is content with the final national MPI report as well as with the process leading to the report, which empowered the National Bureau of Statistics (NBS) and built their expertise to produce future MPI reports on their own.

The support UNICEF provided to the Maldives to establish a national MPI has been part of a regional initiative that covered all the countries of South Asia. Under a UNICEF contract, Oxford Poverty and Human Development Initiative (OPHI) supported the South Asian countries, including the Maldives, in this crucial endeavor.

I thank the National Bureau of Statistics for allowing UNICEF to partner with them on the establishment of the first-ever national MPI report. No doubt, this national MPI report is an essential milestone in the translation into action the 2030 Sustainable Development Agenda of eradicating poverty and leaving no one behind in the Maldives.

M. Munir A. Safieldin, PhD
UNICEF Representative
Male, Maldives

ACKNOWLEDGEMENTS

Maldives is an island nation located in the Indian Ocean. It lies southwest of Sri Lanka and India. The country is composed of 20 administrative Atolls with Male' being the capital City. Male' is located within Kaafu Atoll. In this report, results are presented at both the national and regional level. The latter are disaggregated by Male' and five regions of Atolls. In total, 20 administrative Atolls form five regions as given below:

Map of Maldives with English name for each Atoll
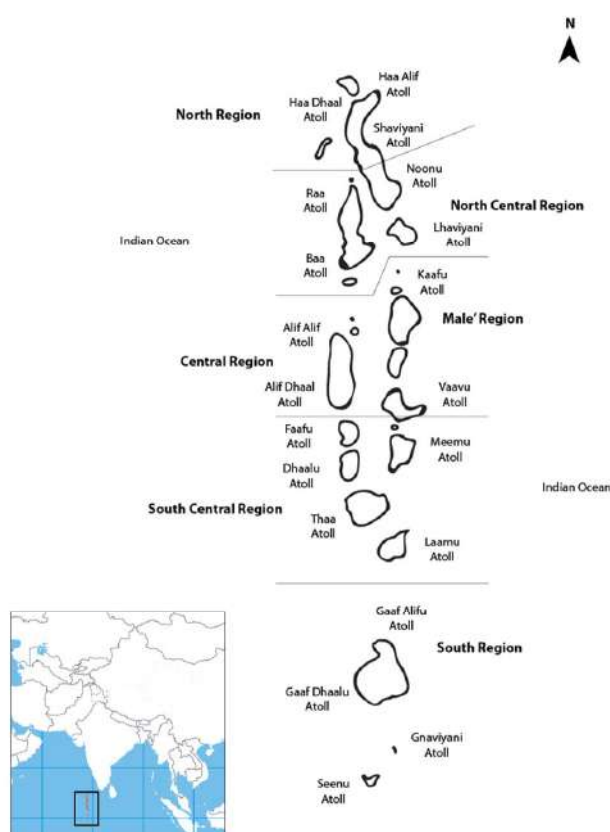
For analytical purposes, this report presents results for five regions of Atolls and Male as a sixth region as follows:

1. North Region (Haa Alif Atoll, Haa Dhaalu Atoll, Shaviyani Atoll)
2. North Central Region (Noonu Atoll, Raa Atoll, Baa Atoll, Lhaviyani Atoll)
3. Central Region (Kaafu Atoll, Alif Alif Atoll, Alif Dhaalu Atoll, Vaavu Atoll)
4. South Central Region (Meemu Atoll, Faafu Atoll, Dhaalu Atoll, Thaa Atoll, Laamu Atoll)
5. South Region (Gaafu Alif Atoll, Gaafu Dhaal Atoll, Gnaviyani Atoll, Seenu Atoll)
6. Male'

Even though Male' is located within Kaafu Atoll, Male' is considered as a separate administrative unit. Therefore, the results of Kaafu Atoll exclude Male'.

EXECUTIVE SUMMARY

Poverty is often defined by unidimensional measures, such as income. Such has been the case in the Maldives, as poverty has been measured through a relative poverty line based on consumption expenditure (VPA 2008, HIES 2009, HIES 2016). However, there is a wide consensus among policy makers globally that no single indicator alone can capture the multiple aspects that constitute poverty. The UN Sustainable Development Goals (SDG) go far beyond income alone and include more than 200 indicators that are to be tracked over time.

Goal 1 of the SDGs is to end poverty in all its forms. Target 1.1 focuses on monetary poverty, but Target 1.2 explicitly urges countries to reduce by half the proportion of women, men and children living in multidimensional poverty, according to national definitions. A national Multidimensional Poverty Index (MPI) captures simultaneous deprivations poor people face across a small set of high priority poverty-related indicators. Given the uniqueness of people's lives on the Maldives archipelago, the first national MPI for the Maldives is tailored to that context. Its indicators include, for example, indicators such as obesity and being underweight as well as access to healthcare. In the context of the unfolding COVID-19 pandemic and the ensuing policy response, these and other indicators of the national MPI, such as overcrowding and safe drinking water, seem highly relevant to gauge the pandemic's effects on the poor who are highly vulnerable to COVID-19, as well as on those who have lost their livelihoods and become poor. The aim, of course, is to use the rigorous evidence from the MPI to steer the Maldives through this difficult period, and into a brighter future. A national MPI is considered as a key source of information used to measure the achievement of Sustainable Development Goals (SDG) as the country embarks on its journey to achieve the SDG targets and to 'leave no one behind'.

In partnership with UNICEF Regional Office South Asia (ROSA), UNICEF Maldives, and with the Oxford Poverty and Human Development Initiative (OPHI), University of Oxford, the National Bureau of Statistics (NBS) followed several other South Asian countries in developing a National MPI. The foundation was laid to build an MPI using 2009 data (as learning exercise for the country). Subsequently, the first ever National MPI report was produced, using data from the Demographic Health Survey (DHS) 2016 and the DHS 2009.

This report presents the result of the first national MPI constructed based on the Alkire-Foster (AF) method. Tailoring the measure to the Maldives context and in order to meet the currently ongoing government priorities, eight indicatorsare chosen for the national measure[1] Multiple consultations were carried out at various stages to define the indicators and indicator cut-offs for the middle-income country. The health dimension consists of three indicators that capture the prevalence of obesity and underweight or stunting and deprivations in access to health care. The dimension of education and information includes indicators onyears of schooling and lack of internet connectivity, while the living standard dimension consists of three indicators (lack of safe drinking water, lack of toilet/sewage connectivity and overcrowding).

Each of the three dimensions are given equal weights of one third (33.3 percent). Similarly, across dimensions all indicators are weighted equally (11.1 percent), except for years of schooling, which has an indicator weight of 22.2 percent, to reflect the importance of education in peoples' lives. Hence, a person is considered multidimensionally poor if he/she is deprived in at least 34 percent of the weighted indicators (which is equivalent to being deprived in more than one dimension or more than three indicators with a weight of 11.1 percent).

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[1] These are partly different from the 10 indicators used for the global MPI produced by OPHI and UNDP to compare more than 100 countries.

Multidimensional Poverty in the Maldives at-a-Glance

This first ever national MPI shows that 28 percent of the population was multidimensionally poor in 2016/17. This means, that almost one third of the population was deprived in more than two or three of the weighted indicators. On average, the poor were deprived in nearly 51 percent of all indicators. This means, that the multidimensionally poor suffered from more than four of the eight indicators on average.

The MPI is the product of the incidence of poverty (percentage of poor people) and the intensity of poverty (average deprivation share of the poor). The MPI for the country stood at 0.145. This index ranges between 0 and 1 where values closer to 1 refer to higher multidimensional poverty.

A comparison of MPI between Male' and Atoll shows that multidimensional poverty was relatively low in Male'. While 10 percent of the population in Male' was multidimensionally poor, 40 percent of the population was poor in the Atolls.

Poverty across the country shows that the highest multidimensional poverty was experienced in Central Region (K., AA, ADh, V Atoll) with an MPI value of 0.239. MPI was lowest in North Central Region with an MPI of 0.185.

The largest contribution to the national MPI can be traced to the indicator of "years of schooling (19%). In addition, the dimensions of health and living standard got the largest contributor to the national MPI with a contribution of 35 percent each to overall poverty.

A comparison of MPI and monetary poverty reveals that income poverty ratios are lower than multidimensional poverty headcount ratios across regions. The difference at the national level is around 20 percentage points. At the same time, regional income and multidimensional poverty rankings differ and thus provide alternative insights, potentially more precise and effective, for policy making.

The report includes a section on multidimensional poverty reduction for the time period 2009 to 2016/17 using the DHS 2009 and DHS 2016/17. The national MPI has reduced to almost one third of its original value (from 0.425 in 2009 to 0.145 in 2016). Deprivation in education (years of schooling) registered the largest reduction.

Household Characteristics

Disaggregating the MPI by age reveals significant inequalities across age groups. In fact, children (0-17 years) are more likely to be poor compared to other age groups. This report shows that one in three children live in multidimensional poverty.

Further disaggregation of the results by household head's characteristics reveal other differences in multidimensional poverty. For instance, multidimensional poverty tends to be slightly lower in households where the household head had completed secondary education or higher compared to those whose head has achieved secondary education (without completion). However, poverty incidence is equally observed regardless of the gender of the household head.

Unsurprisingly, the distinction by wealth status[2] shows that the poorest quintile was considerably poorer than the richest quintile. While 57 percent of the people in the poorest quintile live in poverty, only 3 percent of the richest are poor and reflects the inequality that exists between the poor and the richest.

Poverty is normally associated with larger household sizes however, with an average household size of 5.4 persons per household in 2016-17, there seems to be no association between household size and multidimensional poverty in the Maldives.

Focusing on disability status of household members, the report shows that households having a member with disability are more likely to be multidimensionally poor. Among the households with a disability member, 34 percent are multidimensionally poor, whereas it is 27 percent for other households. These differences are statistically significant.

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[2] In DHS 2016, information on household assets was used to create an index representing the wealth of the households. To construct the wealth index, each household asset for which information was collected in the survey was assigned a weight or factor score generated through principal components analysis, and the resulting asset scores were standardized. The sampled households were then assigned a standardized score for each asset, where the score differed depending on whether or not the household owned that asset. The scores were summed by household. Individuals were ranked according to the total score of the household in which they resided and divided into population quintiles, i.e., five groups with the same number of individuals in each (DHS, 2016).

Recommendations

The report concludes with a set of recommendations. These include:

1. Use of the MPI to measure multidimensional poverty and allocate resources,
2. Resource allocation formula based on both multidimensional poverty and consumption poverty,
3. Dialogue on MPI among policy makers,
4. The Maldives MPI is directly linked to the Sustainable Development Goals (SDGs) and the National Plan,
5. Evidence-based policies should draw on insights from MPI trends,
6. Atoll level MPI reports should inform regional policies,
7. Atoll level policies should be informed by the composition of poverty in each region,
8. MPI variables should be included in future surveys and census,
9. The Maldives MPI needs to be disseminated widely and transparently, so it can help to advance policy research,
10. Further research on drivers of multidimensional poverty to be undertaken within the Maldives.

CHAPTER 1:

INTRODUCTION

Over the past years, Maldives has experienced tremendous growth in socio-economic development. The population is dispersed over 187 inhabited islands while more than 400 islands are being used as resorts and for non-administrative purposes. The country has a resident population[3] of 533,941 in 2019 with resident Maldivians as 372,739 (Maldives Projection, 2014-2054).

Maldives with its unique archipelago has become a world-famous destination for tourism, with nature-based tourism being the key driver of economic growth. This is followed by the fishing and to a lesser extent by the service sector. With this, the Maldives economy has flourished over the past decade. The Gross Domestic Product (GDP) per capita stood at $6,095 (in current prices) in 2009 and rose up to $9,088 in 2016. This gives more than 49.1% growth over the years (Statistical Yearbook of Maldives, 2018). Tourism contributes to 23% of the GDP in the country.

The rapid economic growth in the country also brought an influx of migrant workers into the country, largely coming from Bangladesh, Sri Lanka and India. The foreign population in the country constitutes 16 percent of the resident population and it is expected to reach close to 50 percent by 2054 (Maldives Population Projection, 2014-2054).

Maldives has also achieved remarkable improvement in important socio-economic indicators. Maldives has almost completed its demographic transition (May, 2016) with the bulk of the population being in the working age group. The life expectancy at birth has gradually increased over the years reaching 73.0 years for men and 74.7 years for women in 2016. The infant mortality and maternal mortality rates are at their lowest for the country implying that improvements have been made in the health sector across the country (Maldives Health Profile, 2016).

Maldives was the only Millennium Development Goal plus (MDG+) country in South Asia that fully achieved five out of the eight goals ahead of schedule (Maldives ICPD 2014 and beyond, 2014). But the challenges remain in terms of sustaining the progress and lessons learnt when moving forward with the SDG goals and achieving the ICPD25+ targets.

Maldives is facing rapid urbanization. According to the Census 2014, 38 percent of the population lives in Male'. The current government plans to develop regional growth centers across the country through the regional development strategy. This plan expects to curb the population living in these regions and bring development to these regions.

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[3] The resident population consist of Resident Maldivian and Resident Foreigners.

Maldives has also been a pioneer in eradicating extreme poverty and hunger, focusing on many agricultural driven projects and empowerment of the women within the island communities. Ministry of Fisheries, Agriculture and Marine Resources works in collaboration with IFAD on several rural livelihood projects. The country has also achieved universal primary education and lower secondary education and moves towards improving the quality of education and educational facilities and strengthening higher education opportunities.

A huge milestone achieved in the health sector is the provision of universal health coverage for the Maldives. Between 2015 and 2016, extensive efforts have been made to expand the reach of pharmacies with the result that at least one has now been established in each inhabited island (Maldives VNR, 2017).

Significant progress in the newborn and child health has also been observed over the past decade. The percentage of children (under age 5) who are stunted has improved from 19 percent in DHS 2009 to 15 percent in 2016/17. The percentage of children under five years who are chronically underweight (wasted) has slightly improved from 17 percent to 15 percent while the prevalence of moderate anaemia among children under 5 years of age is around 20 percent in 2016/17. For infants, the percentage of children under 6 months who were exclusively breastfed increased from 48 percent in 2009 to 64 percent in 2016/17, which is a major achievement and will contribute to improving other nutrition related indicators if further improved (DHS profile, 2016).

Since the first Vulnerability and Poverty Assessment which was conducted in 1997/1998, income poverty using a relative poverty approach has been used as a standardized tool for measuring the national poverty level. Using this methodology, the results from Household Income and Expenditure Survey (HIES) 2016 show that only 8.2 percent of the Maldives population were considered poor at the time of the survey, using a national poverty line of MVR 74 (i.e., the poverty line based on half the median of total expenditure per person per day).

However, as this report and the Maldives multidimensional poverty index clearly illustrates, poverty is intrinsic to numerous development areas beyond income. Understanding the social as well as geographic inequalities within the Maldives is key to eradicating poverty and reaching the Sustainable Development Goals (SDGs) which seek to end poverty in all its forms and dimensions and leaving no one behind.

It is with this intention of leaving no one behind, that the NBS together with the UNICEF Maldives country office has taken the initiative to analyze poverty using a multidimensional approach. This it to inform national policy makers developing programs and services that address the most prevalent needs of the population.

Furthermore, as we enter the last decade of the Agenda 2030, a concerted effort to address the growing inequalities within and between nations, disaggregated data on key indicators (including multidimensional poverty) will be required to measure progress against these ambitious targets. The Maldives MPI aims to serve as a tool for monitoring progress on the National Development Plan (NDP) 2019-2029 and Strategic Action Plan (SAP) 2019-2024; for policy coordination, readjusting programmes, targeting the most disadvantaged, and accelerating the outputs given by different sectors in their development plans. With key SDGs prioritized and embedded within the NDP, the multidimensional measure (MPI) complements the existing income poverty measure and raises awareness among the general public to look beyond monetary poverty.

Against this background, the remainder of this chapter serves as an introduction to the Maldives MPI report and has the following sub-sections:

1.1 History of poverty measurement in Maldives
1.2 Context
1.3 Purpose of the new and more human capital focused poverty measure MPI

1.1

History of Poverty Measurement in Maldives

The analysis of poverty in Maldives has been based on income poverty, relying on a relative poverty line approach. The concept of relative poverty defines poverty in relation to the standards that exist in the society. A common poverty line in such a case is based on median per capita expenditure.

The Household Income and Expenditure Survey (HIES) 2016 has been recently used to obtain the most up to date estimates of income poverty in the country. The HIES 2016 has set the benchmark of the latest poverty lines for the country as follows:

1- High poverty line – set at the median of total expenditure (MVR 148)
2- Low poverty line (national poverty line) – set at half the median of total expenditure (MVR 74).
International poverty line- set at the upper middle-income International Poverty line of $5.50 a day[4].

Table 1.1: Poverty measures, HIES 2016

Poverty Line	Head count ratio (population below the poverty line in %)
	2016
National Poverty line (Half the median of total expenditure per person per day)	
National	8.2
Male'	1.7
Atolls	12.8
International Poverty Line ($5.50 a day/MVR 70)	
National	6.6
Male'	1.5
Atolls	10.4

The results for the last two poverty lines using the HIES 2016 (Table 1.1) show that poverty is less than 10 percent at the national level, applying either the national or international poverty line. However, people are more likely to be income poor in the Atolls where headcount ratios are above 10 percent, compared to Male' where this figure is less than 2 percent.

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[4] Converted from 2011 US Dollars to MVR by using the Purchasing Power Parities (PPP) conversion factor and CPI. As differences in the cost of living across the world evolve, the global poverty line has to be periodically up dated to reflect these changes and in 2017, the World Bank adopted international poverty lines by income class (Joliffe and Prydz, 2016): the upper middle-income International Poverty Line, set at $5.50/ day.
A purchasing power parity (PPP) is a price index very similar in content and estimation to the consumer price index, or CPI. Whereas the CPI shows price changes over time, a PPP provides a measure of price level differences across countries. A PPP could also be thought of as an alternative currency exchange rate, but based on actual prices. The CPI though, is easier to understand because it is based on the national currency, which remains the same over time. The PPP conversion factor in 2011 for the Maldives is MVR 10.7 for every 1 US Dollar

1.2

Context

Until recently, many countries have measured poverty only by income or consumption. It is widely understood, that no one indicator (such as income) can capture the multiple aspects of poverty. Nobel Laureate Professor Amartya Sen has argued that social evaluation should be based on the extent of the freedoms that people have to further the objectives that they value. The term 'capability' or 'capability set' provides information on the array of functionings that a person could achieve. Poverty in this framework becomes 'capability failure' – peoples' lack of capabilities to enjoy key 'beings and doings' that are basic to human life. The concept is inherently multidimensional and the MPI has its roots in this capability approach.

The Multidimensional Poverty Index (MPI) is a particular application of the Alkire-Foster Method – a methodology developed by Sabina Alkire and James Foster and applied by the Oxford Poverty and Human Development Initiative (OPHI) to measure the many dimensions of poverty. In 2010, OPHI and the United Nations Development Programme Human Development Report Office (UNDP HDRO) launched the global MPI. This is an internationally comparable index of multidimensional poverty, computed for 100+ countries (including Maldives), and it has been updated regularly and published in the Human Development Reports. Furthermore, OPHI's analysis presents detailed tables, graphics, policy briefings, and academic papers on this index. Since 2012, Maldives has also been included in the global MPI estimations in the national Human Development Report.

The global MPI complements monetary poverty measures by reflecting the acute deprivations that people face simultaneously in other dimensions which are essential to guarantee a dignified life. Following the Human Development Index (HDI), the global MPI shares the same three dimensions: education, health and living standard.

However, in order to monitor the Sustainable Development Goals (SDG) and to measure deprivations relevant to the country context, many countries have been moving towards constructing a country specific MPI, i.e. a National MPI which is a permanent official statistic of poverty, tailored to the national priorities.

1.3

Purpose of the Measure

Measuring poverty through different dimensions has always been voiced at various government levels and by international organizations. As such, the lack of information on different pockets of the population living in poverty and their vulnerability remains a challenge and concern for various stakeholders. In this context, the purpose of the measure is to determine the level and the changes over time of multidimensional poverty in its multiple forms and regions.

With the initiative of the UNICEF Regional Office of South Asia (ROSA) and in partnership with OPHI, Maldives ventured out to produce the first localised National MPI for the country. This laid the foundation for the need to invest in building national capacity to produce a multidimensional poverty measure that captures poverty from a different angle. Commitment for this work came from the policy level and this paved the way for identifying the different deprivations that the population experiences.

It was discussed and agreed that it is important to have an official permanent national MPI to complement Maldives income poverty statistic. It is imperative to analyse if the reduction in relative poverty in the country was accompanied by a reduction in multidimensional poverty.

This report presents results of the MPI including the identification of dimensions, indicators and cut-offs. However, this report is not a stopping point. Follow up actions are required, including communicating the results to policy makers, integrating MPI in the monitoring of National Development Plan (NDP) and programmes, creating policy interventions based on MPI results, monitoring and evaluating the interventions based on the application of MPI, and so on. This requires close coordination among relevant sectors and strong political commitment.

CHAPTER 2:

METHODOLOGY AND MPI DESIGN

The analysis is based on the Alkire Foster methodology. This chapter presents this methodology, a description of the MPI and its properties, along with the measurement design. It concludes with a section on the data used for the analysis. It has the following three sections:

2.1 Alkire Foster methodology,
2.2 Measurement design,
2.3 Data.

2.1

Alkire Foster Methodology

The global MPI, which was developed by Alkire and Santos (2010, 2014) in collaboration with UNDP, and first appeared in the 2010 Human Development Report, is one particular adaptation of the adjusted headcount ratio (M0) proposed in Alkire and Foster (2011) and elaborated in Alkire, Foster, Seth, Santos, Roche, and Ballon (2015). This section outlines the methodology and relevant properties that are used in the subsequent sections to understand the change in Maldives's multidimensional poverty.

The Alkire Foster method is applied to measure multidimensional poverty. It identifies who is poor by counting deprivations, and shows how poor the poor are by considering the intensity of poverty they suffer. Mathematically, the MPI entails these two aspects of poverty as follows:

$$MPI = H \times A$$

1) Incidence: the percentage of people who are multidimensionally poor, or the headcount ratio: H

2) Intensity of people's poverty: the average percentage of weighted indicators in which poor people are deprived: A

3) The MPI combines these two aspects of poverty and shows the multidimensional poverty of the poor

2.1.1 The Multidimensional Poverty Index: An Adjusted Headcount Ratio

Suppose at a particular point in time, there are n people in Maldives and their wellbeing is evaluated by d indicators. We denote the achievement of person i in indicator j by $x_{ij} \in R$ for all $i = 1, \dots, n$ and $j = 1, \dots, d$. The achievements of n persons in d indicators are summarized by an $n \times d$ dimensional matrix X, where rows denote persons and columns denote indicators. Each indicator is assigned a weight based on the value of a deprivation relative to other deprivations. The relative weight attached to each indicator j is the same across all persons and is denoted by w_j, such that $w_j > 0$ and $\sum_{j=1}^{d} w_j = 1$.

For single-dimensional analysis, people are identified as poor as long as they fail to meet a threshold called the 'poverty line' and non-poor otherwise. In multidimensional analysis based on a counting approach – as with the adjusted headcount ratio – a person is identified as poor or non-poor in two steps. In the first step, a person is identified as deprived or not in each indicator subject to a deprivation cut-off. We denote the deprivation cut-off for indicator j by z_j and the deprivation cut-offs are summarized by vector z. Any person i is deprived in any indicator j if $x_{ij} < z_j$ and non-deprived, otherwise. We assign a deprivation status score g_{ij} to each person in each dimension based on the deprivation status. If person i is deprived in indicator j, then $g_{ij} = 1$; and $g_{ij} = 0$ otherwise. The second step uses the weighted deprivation status scores of each person in all d indicators to identify the person as poor or not. An overall deprivation score $c_i \in [0,1]$ is computed for each person by summing the deprivation status scores of all d indicators, each multiplied by their corresponding weights, such that $c_i = \sum_{j=1}^{d} w_j g_{ij}$. A person is identified as poor if $c_i \geq k$, where $k \in (0,1]$; and non-poor, otherwise.[5] The deprivation scores of all n persons are summarized by vector c.

After identifying the set of poor and their deprivation scores, we obtain the adjusted headcount ratio (M_0). Many countries refer to this as the MPI or Multidimensional Poverty Index. The focus axiom requires that while measuring poverty the focus should remain only on those identified as poor.[6] This entitles us to obtain the censored deprivation score vector $c(k)$ from c, such that $c_i(k) = c_i$ if $c_i \geq k$ and $c_i(k) = 0$, otherwise. The M_0 is equal to the average of the censored deprivation scores:

$$M_0 = MPI = \frac{1}{n} \sum_{i=1}^{n} c_i(k).$$

[5] For $k = 100\%$, the identification approach is referred to as the intersection approach; for $0 < k \leq \min \{w_1, \dots, w_d\}$, it is referred to as the union approach (Atkinson, 2003); and for $\min_j\{w_1, \dots, w_d\} < k < 1$, it is referred to as the dual cut-off approach by Alkire and Foster, or more generally as the intermediate approach.

[6] In the multidimensional context, there are two types of focus axioms. One is deprivation focus, which requires that any increase in already non-deprived achievements should not affect a poverty measure. The other is poverty focus, which requires that any increase in the achievements of non-poor persons should not affect a poverty measure. See Bourguignon and Chakravarty (2003), and Alkire and Foster (2011).

2.1.2 Properties of The Multidimensional Poverty Index

We now outline some of the features of M_0 that are useful for policy analysis. The first is that M_0 can be expressed as a product of two components: the share of the population who are multidimensionally poor or Multidimensional Headcount Ratio (H) and the average of the deprivation scores among the poor only, or Intensity (A). Technically:

$$M_0 = MPI = \frac{q}{n} \times \frac{1}{q} \sum_{i=1}^{n} c_i(k) = H \times A;$$

where q is the number of poor.[7] This feature has an interesting policy implication for inter-temporal analysis. A certain reduction in M_0 may occur either by reducing H or by reducing A. This difference cannot be understood by merely looking at M_0. If a reduction in M_0 occurs by merely reducing the number of people who are marginally poor, then H decreases but A may not. On the other hand, if a reduction in M_0 occurs by reducing the deprivation of the poorest of the poor, then A decreases, but H may not.[8]

The second feature of M_0 is that if the entire population is divided into m mutually exclusive and collectively exhaustive groups, then the overall M_0 can be expressed as a weighted average of the M_0 values of m subgroups, where weights are the respective population shares. We denote the achievement matrix, the population, and the adjusted headcount ratio of subgroup l by X^l, n^l, and $M_0(X^l)$, respectively. Then the overall M_0 can be expressed as:

$$M_0 = MPI = \sum_{l=1}^{m} \frac{n^l}{n} M_0(X^l).$$

This feature is also known as subgroup decomposability and is useful for understanding the contribution of different subgroups to overall poverty levels. Note that the contribution of a subgroup to the overall poverty depends both on the poverty level of that subgroup and that subgroup's population share.

The third feature of M_0 is that it can be expressed as an average of the censored headcount ratios of indicators weighted by their relative weight. The Censored Headcount Ratio of an indicator is the proportion of the population that is multidimensionally poor and is simultaneously deprived in that indicator. Let us denote the Censored Headcount Ratio of indicator j by h_j. Then M_0 can be expressed as:

$$M_0 = MPI = \sum_{j=1}^{d} w_j h_j = \sum_{j=1}^{d} w_j \left[\frac{1}{n} \sum_{i=1}^{n} g_{ij}(k) \right];$$

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[7] This feature is analogous to that of the Poverty Gap Ratio, which is similarly expressed as a product of the Headcount Ratio and the Average Income Gap Ratio among the poor.

[8] Apablaza and Yalonetzky (2011) have shown that the change in M_0 can be expressed as $\Delta M_0 = \Delta H + \Delta A + \Delta H \times \Delta A$, where Δx is referred to as change in x.

Where $g_{ij}(k) = g_{ij}$ if $c_i \geq k$ and $g_{ij}(k) = 0$, otherwise. Similar relationships can be established between A and the deprivations among the poor. Let us denote the proportion of poor people deprived in indicator j by h_j^p. Then, dividing both sides of the above relationship by H, we find:

$$A = \frac{MPI}{H} = \sum_{j=1}^{d} w_j \frac{h_j}{H} = \sum_{j=1}^{d} w_j h_j^p.$$

Breaking down poverty in this way allows an analysis of multidimensional poverty to depict clearly how different indicators contribute to poverty and how their contributions change over time. Let us denote the contribution of indicator j to M_0 by ϕ_j. Then, the contribution of indicator j to M_0 is:

$$\phi_j = w_j \frac{h_j}{MPI} = w_j \frac{h_j^p}{A}.$$

2.2

Measurement Design

The national MPI includes a set of dimensions each of which is considered relevant to measure poverty in the Maldives. These broad dimensions include separate indicators with indicator-specific cut-offs. This section describes how these parameters were selected and their relevance in the country context.

2.2.1 Unit of Identification and Analysis

The unit of identification is the household. This means, that any household member is identified as multidimensionally poor as long as the household is considered multidimensionally poor. All the household members receive the same deprivation score. This approach acknowledges intra-household caring and sharing- for example, educated household members reading for others, and multiple household members being affected by someone's severe health conditions. It also allows indicators that are specific to certain age groups such as nutritional indicators relevant to children.

The unit of analysis, meaning how the results are reported and analyzed, is the individual. This means that, for instance, the headcount ratio is the percentage of people who are identified as poor, rather than the percentage of households that are identified as poor. This allows for subgroups decompositions by age and gender, for example.

2.2.2 Dimensions, Indicators and Deprivation Cut-Offs

The Maldives MPI comprises of three dimensions and eight indicators. As shown in Table 2.1, the three dimensions are: health, education and information, and living standard. The choice of dimensions and indicators reflect both the policy priorities and data availability in the Maldives DHS. Employment, violence, quality of health and quality of education are equally important indicators but since limited or no data were collected in the DHS, these could not be included as national indicators.

The health dimension consists of three indicators: underweight in children (<5 years) and women (15 to 49 years), obesity in children (<5 years) and women (15 to 49 years), and lack of access to health care. The indicators selected for the health dimension differ from the global MPI's health indicators. The dimension of education and information includes years of schooling and access to internet. The third dimension or the living standard dimension consists of three indicators: safe drinking water, toilet/ sewerage connectivity and overcrowding.

Table 2.1: Maldives MPI- indicators deprivation cut-offs and weights

Dimension	Indicator	Deprivation Cut-off	Weights
Health	Underweight	- Household is deprived if any child (<5 years) that is either underweight or stunted OR if the household has any adult female (15 to 49 years) that is malnourished (BMI <18.5)	1/9 = 11%
	Obesity	- Household is deprived if any child (<5 years) that is obese OR if household has any adult female (15 to 49 years) that is obese (BMI >=30)	1/9 = 11%
	Access to Health Care	Deprived if any eligible women in the household declares having problems in seeking medical advice or treatment (i.e. either 'distance to a health facility' or 'not having a female health provider')	1/9 = 11%
Education and Information	Years of Schooling	Deprived if household does not have any person with at least ten (10) years of schooling (for 15+ population)	2/9 = 22%
	Access to Internet	Deprived if household does not have access to internet	1/9 = 11%
Living Standard	Safe drinking water	Deprived if household does not use safe drinking water (e.g. rainwater that is not purified or from unprotected well and purified)	1/9 = 11%
	Toilet/Sewage	Deprived if household does not have toilets connected to public sewage system	1/9 = 11%
	Overcrowding	Household is deprived if has more than 3 persons per sleeping room	1/9 = 11%

For the selection of dimensions and indicators several deliberations among government officials and representatives from international organization as well as thorough discussion within the National Bureau of Statistics were undertaken. Stakeholder workshops were held three times with government officials who had expertise in the relevant areas and with representatives from international organizations such as UNICEF, UNDP and UNFPA. Refinement was brought to indicators after each stakeholder workshop. Though the participants were able to identify many of the deprivations the population as a whole face, one major challenge lies in data limitation. As data need to come from one source alone[9], it was noticed that Maldives DHS does not capture all the necessary information needed to reflect all the vulnerabilities associated with a person. Due to this, many ideal indicators were dropped or adjusted.

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[9] It is important to identify joint deprivations for each individual and therefore requires one and the same source of data for this.

Indicators on health were included after thorough evaluation of different information collected on health in the DHS. For health, child obesity, child malnutrition, BMI and obesity of adult females were selected. After evaluating the results of these indicators and the number of observations for each indicator, MPI indicators for health dimensions was formulated as follows:

- Underweight - deprived if household has any child (<5 years) that is either underweight or stunted OR if the household has any adult female (15 to 49 years) that is malnourished (BMI <18.5)
- Obesity - Deprived if household has any child (<5 years) that is obese OR if household has any adult female (15 to 49 years) that is obese (BMI >=30)

In these two indicator we combined child and female information due to the high missing values within the sub-sample as it did not give enough observation to have it as a separate indicator for children or female.

In addition, access to health care was included as an indicator whereby the household was considered deprived if any eligible women (aged 15-49) declares having problems in receiving medical care (i.e. distance to health facility or not having a female health provider).

The education and information dimension went through a thorough evaluation of the data. The DHS Maldives did not collect much information with regard to education. Given that formal education up to grade 10 is universal across the country, almost all the children are in the school system. The global index on education referring to child school attendance was tested but the low incidence obtained did not justify it to be included as an indicator for the national MPI.

Since Maldives has made advancement in the education sector with the provision of universal education up to lower secondary, it was decided to include an indicator that reflects this, i.e. if the household does not have any person with an educational qualification greater than grade 10, the household is considered deprived.

Access to internet was also tested and selected within this dimension. In MDHS, the question related to internet access is only asked at household level as 'does your household have internet connection'. The results showed that the proportion of the population using the internet was at 83 percent. The MDHS also states that there might have been underestimation of internet connection given that almost universal access to mobile phone is there across the country which also include internet coverage.

However, for the purpose of MPI we felt this provided a good indicator for this dimension. Internet accessible via a connection is necessary as we move ahead with the technology era.

Internet is today needed to gather information for educational purpose, for learning and for different project work given that each student has been provided a tablet by the government. Internet is needed for an unemployed person to seek the available job opportunities, online trainings for skill development, etc. Having a secure connection makes a difference rather than getting access through a mobile phone.

A total of three indicators were selected for the housing dimension which include safe drinking water, toilet/sewage and overcrowding. Rainwater is the main source of drinking water in the islands and is consumed without any purification, which is considered a deprivation. Though the islands have 'some sort of' sanitation system, proper public sewage system was considered topmost when it comes to deprivation. This is mainly because of the health consequences associated with other type of sanitation and the related difficulties households face at times of flooding. In addition, as many of the households living in Male' are living in rented accommodation, overcrowding is considered as the third indicator within the housing dimension.

2.2.3 Weights

The Maldives MPI uses an equal weighting scheme for all dimensions. Each of the three dimensions is assigned an equal weight of 1/3 (33.33 percent). Within the dimension of health and living standard, each indicator is equally weighted (1/9). This is because each indicator is considered to be of equal importance within these dimensions.

A different weighing scheme is applied for the education dimension. The education dimension consists of two indicators (years of schooling and access to internet) while other dimensions have 3 indicators. Educational attainment of the population is considerably more important than access to internet and it was decided to give 2/3 of the weights within the dimension to the indicator of years of schooling. With this, years of schooling gains a weight of 2/9 while access to internet gets a weight of 1/9. Overall the weights add up to 100 percent. The deprivation score is the sum of the weighted indicators in which a person is deprived and thus shows the percentage of total possible deprivations that the person experiences.

2.2.4 Poverty Cut-off

In order to identify who is multidimensionally poor, a dual threshold is used, as defined in the Alkire and Foster methodology. It first applies indicator-specific poverty cut-offs, which set the minimum level of deprivation needed for a person to be considered poor in each indicator. Next, a single cross-dimensional poverty cut-off is applied which sets the minimum share of deprivations needed for a person to be considered poor.

For Maldives, the multidimensional poverty cut-off is chosen at 34% based on the reasoning that this threshold is equivalent to being deprived in more than just one dimension, with each having a weight of 33 percent. This means that a person is considered multidimensionally poor if he or she is deprived in more than three indicators (cross-indicator cut-off) out of the eightindicators across different dimensions.[10]

2.3

Data

The construction of an MPI requires information from one single data source. The data used for the national MPI comes from the Maldives Demographic Health Survey (DHS). In Maldives, the first ever DHS was conducted in 2009. The most recent survey was conducted in 2016/17. The report includes a trend analysis using the DHS cross-sectional data from both rounds.

The 2009 Maldives DHS was based on a probability sample of 7,515 households. The sample was designed to produce representative data on households, women, and children for the country as a whole. The results of the survey were representative at Male', and for each of the six geographical regions.

According to DHS, the sample was a stratified multistage sample selected in two stages from the census frame. In the first stage, 270 census blocks were selected using a systematic selection, with a probability proportional to the number of residential households residing in the block. Stratification was achieved by treating each of the 21 Atolls as a sampling stratum. Samples were selected independently in each stratum according to an appropriate allocation.

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[10] Note that this condition is also met with more than 2 indicators if one of them is years of schooling given the analytical weight attached to this deprivation.

In the second stage of sampling, residential households were selected in each of the selected census blocks. Household selection involved an equal probability systematic selection of a fixed number of households.

The sampling frame used for the 2016/17 MDHS was the 2014 Maldives Population and Housing Census. The MDHS sample was designed to yield representative information for most indicators for the country as a whole and for the six regions. The sample was also designed to yield information for some indicators for each of the atoll of the country (MDHS, 2016).

The stratified sample for the 2016/17 MDHS was selected in two stages from the Census sampling frame. Stratification was achieved by separating each region into atolls. In total, 21 sampling strata were created, within each of which samples were selected independently. In the first stage, 266 Census Blocks (CBs), or clusters, wereselected with probability proportional to size according to the sample allocated to each stratum. In the second stage, a fixed number of 25 households were selected in every CB (except for Felidhu Atoll (V) where about 42 households on average were selected in all the six clusters of the atoll), by an equal probability systematic sampling based on the household listing. Selection of households was done in the field.

A total of 6,750 households were sampled, 1,075 households in Male' region and 5,675 households in other areas. Among women eligible for an interview, one woman per household was selected for questions about domestic violence. In all of the selected households, height and weight measurements were collected from children age 0-59 months, women aged 15-49 years and men age 15-49 years. Anemia testing was performed on consenting women age 15-49 and on children age 6-59 months whose parent/guardian consented to the testing. The MDHS was for the most part limited to Maldivian citizens; non-Maldivians were included inthe survey only if they were the spouse, son, or daughter of a Maldivian (MDHS, 2016/17).

Survey weights have been calculated, added to the data file, and applied so that weighted results arerepresentative estimates of indicators at the regional and national levels.

CHAPTER 3:

RESULTS

This chapter presents a detailed composition of the Maldives National MPI results for National, Male' and Atolls. Similarly, the results will be presented at regional level as mentioned in the introduction. This chapter in specific has the following sections:

3.1 National uncensored headcount ratios,

3.2 Maldives National MPI- key findings,

3.3 MPI disaggregation between Male' and Atolls,

3.4 MPI across regions- key findings,

3.5 The composition of MPI by indicators,

3.6 Robustness analysis: Incidence, Intensity and MPI at alternative values of the poverty cut-offs,

3.7 Multidimensional poverty and income poverty,

3.8 Performance across household characteristics.

3.1

National Uncensored Headcount Ratios

The uncensored headcount ratio of an indicator represents the proportion of people who are deprived in that particular indicator, irrespective of their poverty status.

Figure 3.1 shows the uncensored headcount ratios of each of the eight MPI indicators in 2016. Across these indicators, the highest uncensored headcount ratio is found for the deprivation in access to health care with 59 percent of the population being deprived. This is followed by the lack of proper toilet/sewage facilities (39 percent) and access internet (29 percent).

Some uncensored headcount ratios are comparatively low. Only 16 percent of the population is deprived in years of schooling while 20 percent of the population was deprived in overcrowding.

Figure 3.1: National uncensored headcount ratios (in percent), 2016/17
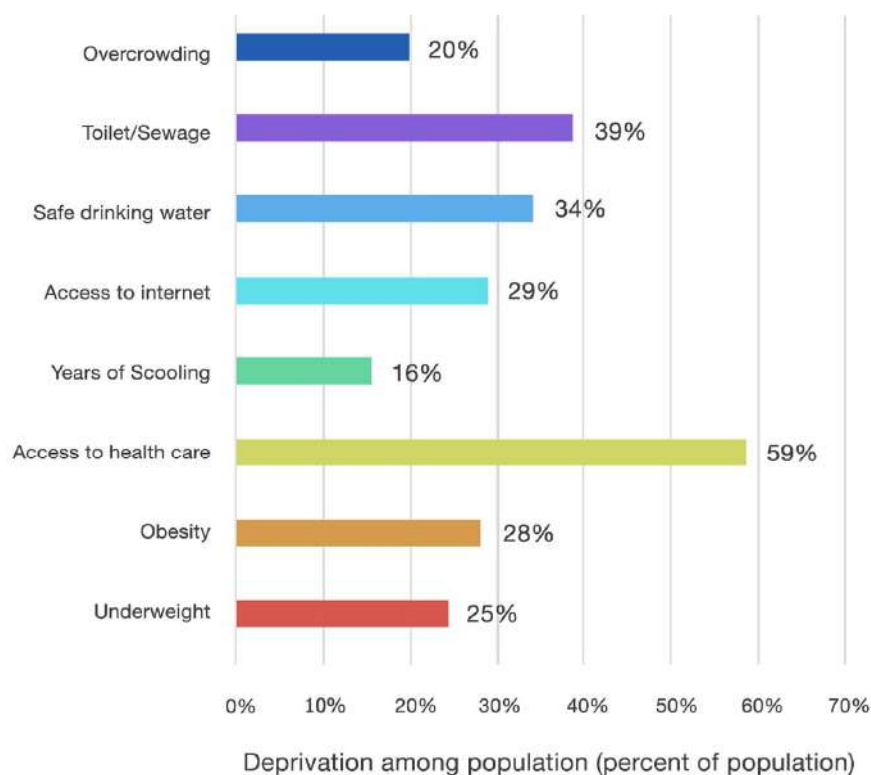
Note: Each indicator is out of 100 percent

Source: Maldives Demographic Health Survey, 2016/17

3.2

Maldives National MPI – Key Results

Table 3.1 shows the Maldives National MPI for 2016/17 with its partial indices: the incidence of poverty and intensity of poverty for the poverty cut-off of 34 percent.

Poverty Cut-off	Index	Republic	Confidence Interval (95%)	
K-value=34%	MPI	0.145	0.134	0.156
	Headcount ratio (H, %)	28.4	26.3	30.4
	Intensity (A, %)	51.1	50.5	51.6

Source: Maldives Demographic Health Survey, 2016/17

The incidence of multidimensional poverty (H) was 28.4 percent. This figure represents the population that is multidimensionally poor for the poverty cut-off of 34 percent. Since these estimates are based on a sample, it has a margin of error. Hence, the 95% confidence interval is presented here and in forthcoming tables to show the precision of each of the results. In other words, we can say with 95% confidence that the true multidimensional poverty headcount ratio was between 26.3 percent and 30.4 percent of the population.

The average intensity of poverty (A) reflects the share of deprivations poor people experience on average. The results show that the poor were on average deprived in 51.1 percent of the weighted indicators. That is, poor people were on average deprived in more than half of the eight indicators (at least 4 indicators).

The MPI is the product of the headcount ratio or incidence of poverty (H) and the intensity (A). The MPI ranges between 0 and 1 with results closer to 1 showing higher multidimensional poverty. As reported in Table 3.1, the MPI value was 0.145. This means that the multidimensionally poor people in Maldives experience 14.5 percent of the total deprivations that would be experienced if all people were deprived in all the indicators.

The MPI can be supplemented by a simple description of the poverty intensity. One way to do so is by reporting subsets of poor people with graded bands of deprivation scores to illustrate the fact that the experience of poverty varies by the number of deprivations accrued by the poor.[11] Figure 3.2 presents the distribution of the intensity of poverty among the poor (the gradient of intensity) and shows that nearly two-thirds of all the poor people in Maldives were in the intensity band of 57 percent of the weighted indicators (this is, deprived in 3 to 4 indicators). About 40 percent of the poor were in the next highest gradient of intensity of being deprived between 5-6 indicators. This implies that with a small positive change in their living condition (either in their health, education or housing condition), these are the people who can be easily uplifted from their state of deprivation.

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[11] This is possible by ordering all poor persons according to the value of their deprivation score and dividing them into mutually exclusive groups.

Another interpretation of the intensity gradient is that it provides a measure of depth of poverty among the MPI poor. As majority of them are poor in 3-4 indicators, this indicates that if we can bring a slight improvement in any of the four indicators, these are the people who can easily move out of multidimensional poverty.

Figure 3.2: Intensity Gradient among the poor, 2016/17

- 3-4 indicator
- 5-6 indicator
- 7-8 indicator
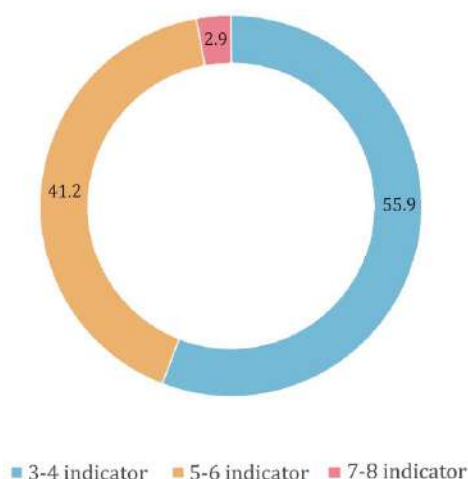
Source: Maldives Demographic Health Survey, 2016/17

Less than three percent was deprived in an intensity of greater than 70 percent, which is more than 6 of the weighted indicators. While it is easier for a poor person with low intensity to move out of poverty, emphasis should also be laid on improving the condition of those deprived in 50 percent or more of the indicators – as this subset of the population is suffering the most.

3.3
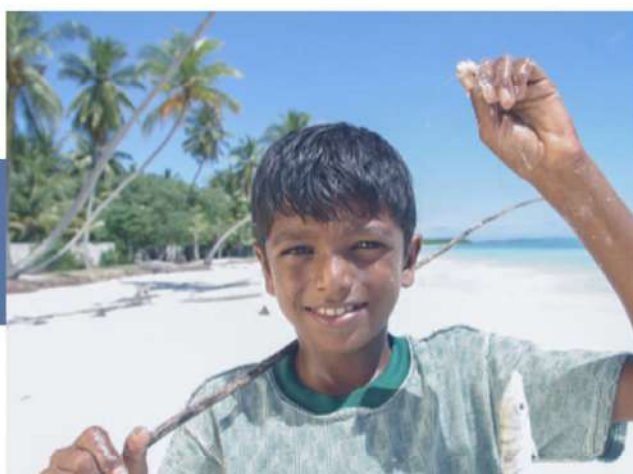
MPI disaggregation between Male' and Atolls

In the administrative hierarchy, the next unit of disaggregation is Male' and Atolls. The category of 'Atolls' refers to 20 administrative atolls or the 6 regions used in MDHS. A comparison of the MPI across Male' and Atolls reveals that the multidimensional poverty, incidence and intensity was higher in the Atolls than in Male'.

## Table 3.2: Incidence, Intensity and Multidimensional Poverty Index (MPI) for Male' & Atolls, 2016/17

Index	Population Share (in %)	Male'			Population Share (in %)	Atolls		
		Value	Confidence Interval (95%)			Value	Confidence Interval (95%)	
MPI		0.047	0.032	0.062		0.207	0.193	0.222
Headcount ratio (H, %)	38.98	9.6	6.7	12.6	61.02	40.3	37.6	43.0
Intensity (A, %)		48.7	46.7	50.8		51.4	50.9	51.9

Source: Maldives Demographic Health Survey, 2016/17

The MPI is much larger in the Atolls than in Male' not only because the intensity of poverty (A) is larger, but because the incidence (H) was much higher. While nearly 10 percent of the population was multidimensionally poor in Male', 40 percent of the population was poor in the Atolls. The average intensity of poverty (A) was quite similar across these two regions, with 51 percent in the Atolls, and 49 percent in Male'. As a product of H and A, the MPI was significantly higher in the Atolls (0.207) than in Male' (0.047).

According to the MDHS (2016), close to 39 percent of the population lived in Male' with the remaining population in the Atolls. This is presented in Figure 3.3. While 61 percent of the population lived in the Atolls, 87 percent of the multidimensionally poor resided in the Atolls. Only about 13 percent of the country's multidimensionally poor lived in the capital city, Male', disproportionately less than Male's population share. This implies that in order to improve the condition of the poor, better targeted poverty reduction programmes need to be carried out for the population living in the Atolls.

Figure 3.3: Distribution of population and poor population in Male' and Atolls, 2016/17
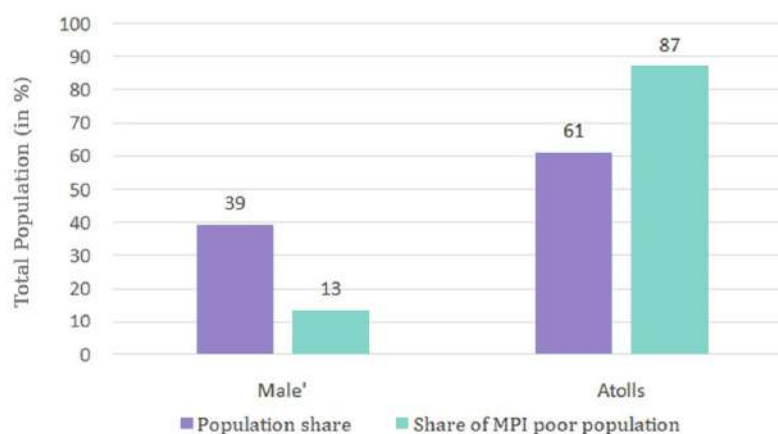
Source: Maldives Demographic Health Survey 2016/17

3.4

MPI across regions- key findings

Due to the geographic nature of the country and considering that the sample of MDHS (2016) was designed to be representative at the regional level[12], this section focuses on regional disaggregation of the MPI. The results for MPI, H, A along with confidence intervals are presented in Table 3.3.

Table 3.3: Multidimensional Poverty by Regions, 2016/17

Region	Population Share (%)	MPI			Headcount ratio (H, %)			Intensity (A ,%)		
		Value	Confidence Interval (95%)		Value	Confidence Interval (95%)		Value	Confidence Interval (95%)	
Male'	39.0	0.047	0.032	0.062	9.6	6.7	12.6	48.7	46.7	50.8
North Region (HA, HDh, Sh)	13.8	0.231	0.185	0.276	44.0	35.6	52.5	52.4	51.0	53.7
North Central Region (N, R, B, Lh)	13.3	0.185	0.159	0.211	36.5	31.8	41.2	50.7	49.5	51.8
Central Region(K, AA, Adh, V)	6.3	0.239	0.210	0.269	46.7	41.0	52.5	51.2	50.2	52.3
South Central (M, F, Dh,Th, L)	12.4	0.198	0.167	0.229	38.5	32.9	44.2	51.4	50.3	52.5
South (GA, GDh, Gn, S)	15.2	0.200	0.173	0.226	39.0	34.1	44.0	51.1	50.1	52.1

Source: Maldives Demographic Health Survey, 2016/17

The highest level of multidimensional poverty (0.239) is found in Central Region (comprised by Kaafu, Alif Alif, Alif Dhaalu and Vaavu Atoll) which is the main hub for tourism and guest houses. A closer look at the deprivation that takes root in this region comes from years of schooling, access to internet and the access to safe drinking water (refer to Figure 3.8). On the other hand, the close proximity to Male' made this region better off in terms of income poverty. This contrast shows the significance of MPI to supplement the national income poverty line in the country. On the other extreme, the North Central Region had the lowest multidimensional poverty and incidence of poverty.

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[12] Male' was also included as a separate Region (as Region 1).

The overlap in the confidence intervals suggests that there are no statistically significant differences across regions other than Male'. This means that with the current sample design we cannot reject statistical differences in the poverty profile already observed in the five regions other than Male'. There might be important nuances but a larger sample size is required to detect them. This alone is an interesting finding and worth noting. Furthermore, while these five regions may not be distinguishable in terms of multidimensional poverty (MPI, H, or A) given the data constraints, the underlying poverty profiles and the actual number of poor people in each region may vary, as shown below. Male' is the only region with no overlapping confidence intervals and is thus statistically different from the rest of the regions– it clearly stands out as the region with the smallest MPI. The poorest region seems to be the Central Region, even though more observations (precise data) are needed to support this claim statistically.

Going beyond the headcount ratios as such, it is informative to see which region contributes most to overall poverty. In terms of population, 39 percent of the total population lived in Male' and only 6 percent of the total population resided in Central Region. The distribution of the multidimensionally poor population, however, follows a slightly different pattern (Figure 3.4). It is evident, that although the most populous, Male' does not inhabit the highest share of poor people. Regions, such as the North inhabit 14 percent of the total population, but 21.5 percent of the poor population. Although the Central region was the poorest, due to its low population share of 6 percent, only 10 percent of the total MPI poor lived in this region.
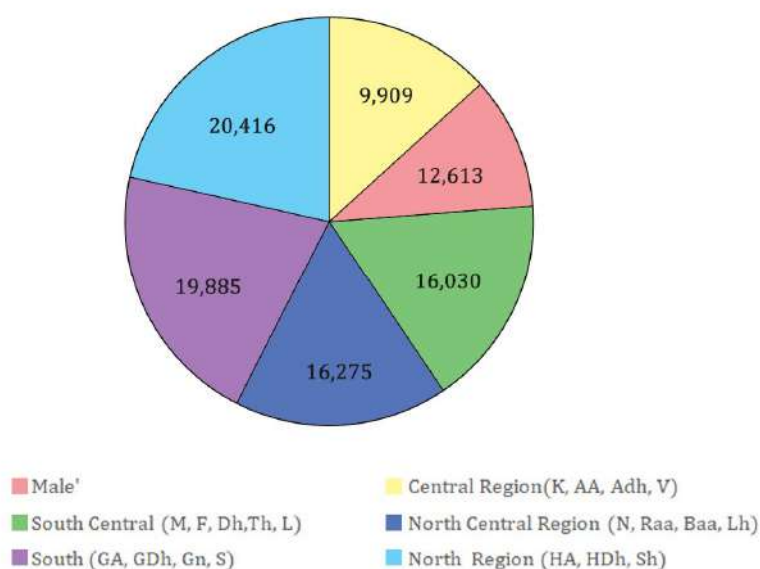
Figure 3.4: Distribution of population and poor population by Region, 2016/17
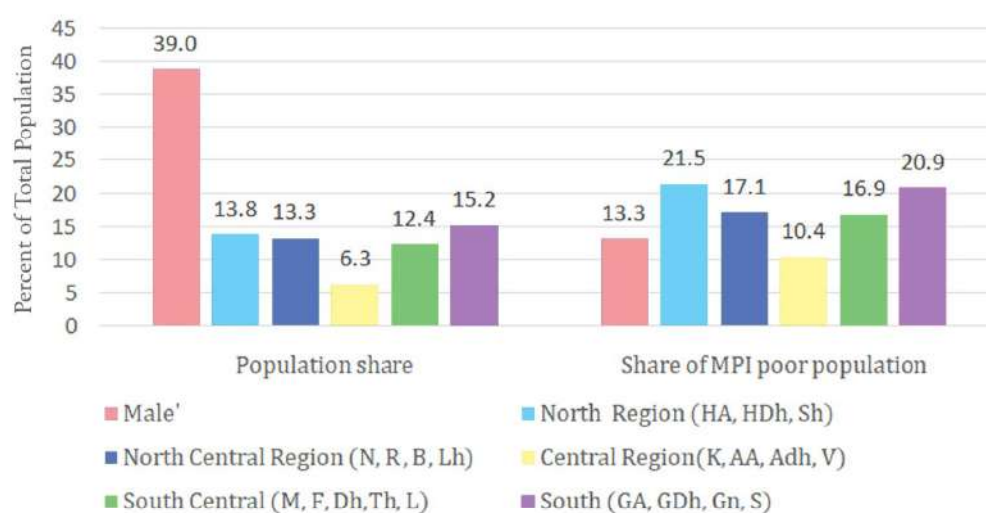
Source: Maldives Demographic Health Survey 2016/17

Figure 3.5 report the absolute values of poverty incidence by region. The North Region has the highest number of poor people, followed by the South and South central regions. Male' stands out as the regions with the lowest concentration of poor population in absolute terms. In total, close to 95,000 people are multidimensionally poor in the country.

Figure 3.5: Distribution of poor in numbers for Resident Maldivian, 2016/17

Legend:
- Male'
- South Central (M, F, Dh,Th, L)
- South (GA, GDh, Gn, S)
- Central Region(K, AA, Adh, V)
- North Central Region (N, Raa, Baa, Lh)
- North Region (HA, HDh, Sh)

Source: Maldives Demographic Health Survey 2016/17 and Maldives Population Projection 2014-2054

3.5

Composition of MPI by indicator

In order to look at what multidimensional poverty is like in the Maldives, it is important to break the MPI down by indicators and examine the composition of poverty. For policy makers it may be particularly useful to know which sector is driving multidimensional poverty, which indicator contributes the most to overall poverty within each region. As such, the censored headcount ratio of an indicator represents the proportion of the population that is multidimensionally poor and at the same time deprived in that indicator. Essentially, the MPI is the sum of the weighted censored headcount ratios. So, reducing any of the censored headcount ratios reduces overall poverty.

Figure 3.6: National censored headcount ratios, 2016/17
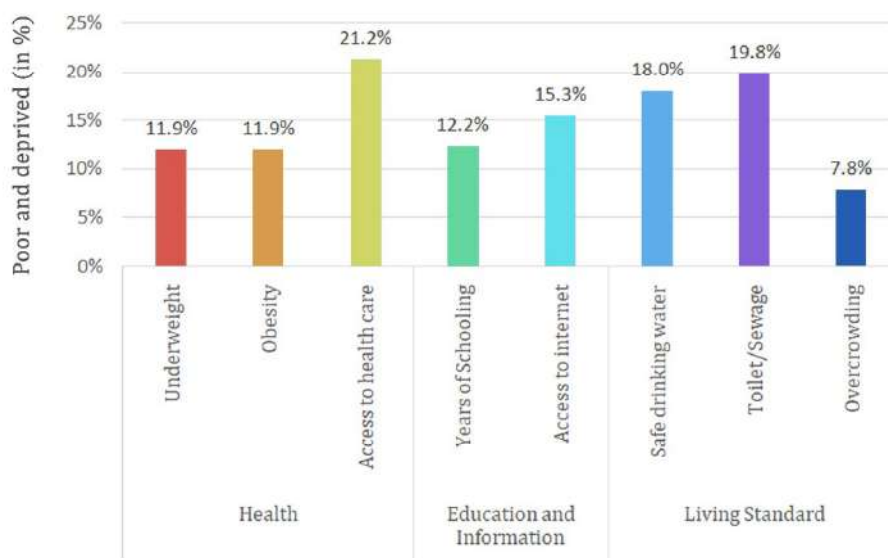
Source: Maldives Demographic Health Survey, 2016/17

As seen from Figure 3.6 the largest censored headcount ratio is observed for access to health care, with 21 percent of the population multidimensional poor and deprived in access to health care. About 20 percent of the population was multidimensionally poor and deprived in adequate sanitation (toilet/sewage). Similarly, 18 percent are both multidimensionally poor and deprived in access to safe drinking water. On the other hand, some indicators show low levels of deprivation among the poor. Four indicators, underweight (12 percent), obesity (12 percent), years of schooling (12 percent) and overcrowding (8 percent), have the lowest censored headcount ratios.
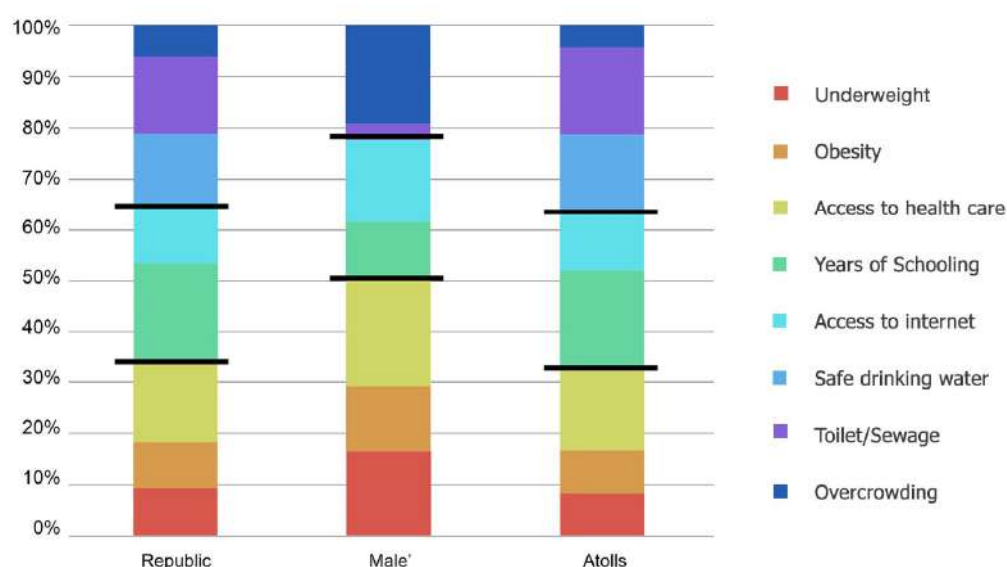
The percentage contribution of each ofthese eight indicators to overall multidimensional poverty provides additional insights for policy makers. This statistic shows the indicators driving poverty and inform on specific areas which need further improvement. The percentage contribution reflects both the weights and the censored headcount ratios. It is important here to recall that all the indicators are given an equal weight of 1/9 except years of schooling with a normative weight of 2/9.

Figure 3.7 shows the breakdown of percentage contributions of each indicator to MPI for the country, and for Male' and Atolls. Accordingly, the largest contribution to the National MPI was years of schooling (19 %) .This was followed by the contributionsof access to health care and access to adequate toilet/sewage system. This highlights that improvements in these indicators would bring an overall improvement to the national MPI. In turn, the indicators which contribute the least to the national MPI were overcrowding (6%), underweight and obesity (9% each).

In terms of MPI dimensions, the health and living standard dimensionwas the largest contributor to the national MPI with a contribution of 35 percent. The dimension with the smallest contribution was education and information dimension (31%).

Figure 3.7: Percentage contribution of each indicator to MPI for National, Male' and Atolls, 2016/17
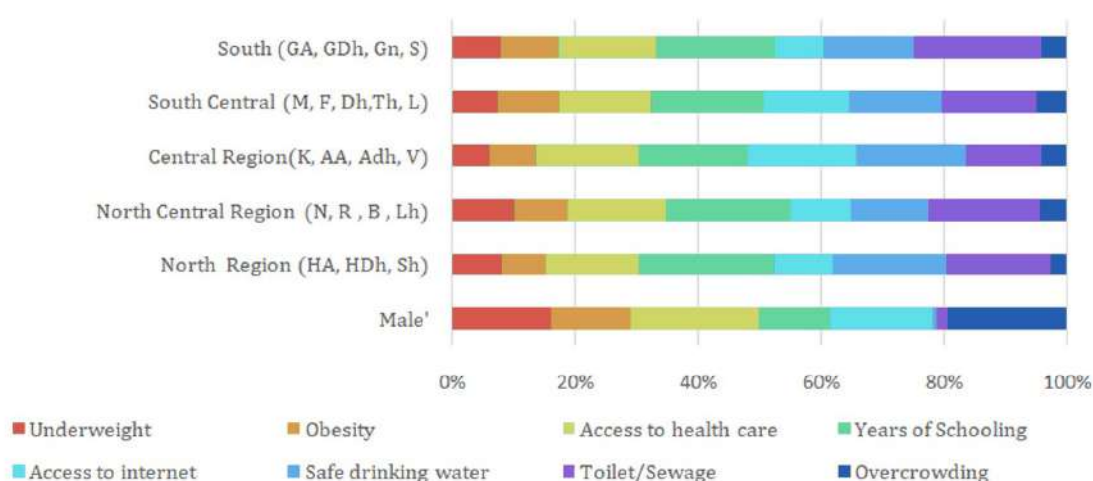

Source: Maldives Demographic Health Survey, 2016/17

Regarding percentage contributions of each indicator for Male' and Atolls, some differences in the composition of poverty are revealed. The largest contributor to MPI poverty in the Atolls stems from years of schooling (20%), followed by contributions from access to adequate toilet/sewage system (17%), access to health care and safe drinking water (16% each). The contribution of overcrowding was relatively as low as 4%. Overall, the living standard dimension was the largest contributor in the Atolls (37%). This was followed by the health dimension.

Results for Male' are different. The multidimensional poverty in Male' was largely influenced by access to health care (21%) and overcrowding (19%). This is followed by access to internet and underweight. Contrary to other Atolls, the contribution of deprivations in safe drinking water and access to a proper toilet sewage system were low (less than 2 percent). In sum, the health dimension is the main contributor to overall poverty in Male' (50%).

Figure 3.8 depicts the percentage contribution of each indicator to the MPI for the 6 regions – including Male as a region. The composition of MPI across the 5 regions in the Atolls are quite similar. In almost all the regions, the main contributor to MPI was years of schooling, access to safe drinking water and proper toilet/sewage system. This was followed by health-related indicators. In the Central Region, access to internet showed an increasing contribution to the multidimensional poverty. Overall, the lowest contributor to the MPI across regions was overcrowding. This is very different from Male', where indicators of overcrowding (19 percent) and access to health care (21 percent) contributed the most.

Figure 3.8: Percentage contribution of each indicator to Regional MPI, 2016/17

Source: Maldives Demographic Health Survey, 2016/17

This analysis lends itself to important areas the government can spearhead its interventions on. Clearly, both the lack of access to health care and bad nutritional outcomes (underweight and obesity) were prevalent across all regions, even though they are so crucial for everyone's well-being and a healthy aging. Nutrition of children are as important as healthy eating habits among adults. Maternal health and women's health are important to reduce obesity among females. Addressing overall health is important to avoid consequences which may result in non-communicable diseases in the future. Thus, a comprehensive health initiative is needed. Addressing the housing needs in Male' will bring a significant improvement in the MPI of Male' while addressing proper sanitation and access to safe drinking water will bring an immense improvement in the MPI of the Atolls.

3.6

Robustness Analysis: MPI, H and A Using Alternative Poverty Cut-Offs

This section examines the sensitivity of results to alternative poverty cut-offs. As the poverty cut-off increases, the MPI (Figure 3.11) and the headcount ratio (H) (Figure 3.9) decrease towards zero, while the intensity (A) increases towards 100 percent (Figure 3.10). With a poverty cut-off of 10 percent, the percentage of the poor is around 92 percent and the MPI is at 0.295. This indicates that a large majority of the population is deprived in at least 10 percent or one of the weighted indicators. Similarly, with a poverty cut-off of 30 percent, the percentage of poor is around 52 percent with an MPI of 0.225.

Figure 3.9: Headcount ratios for alternative poverty cut-off
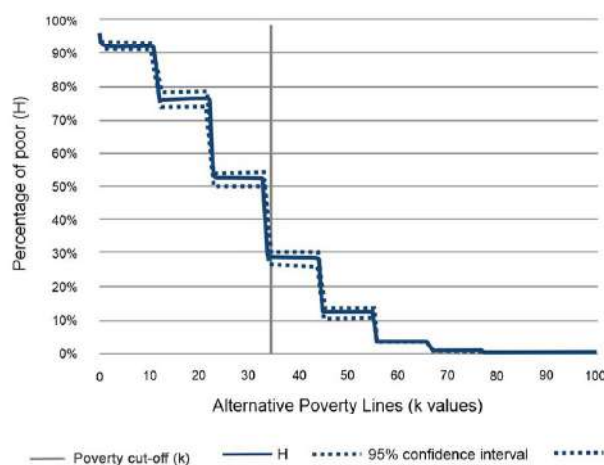

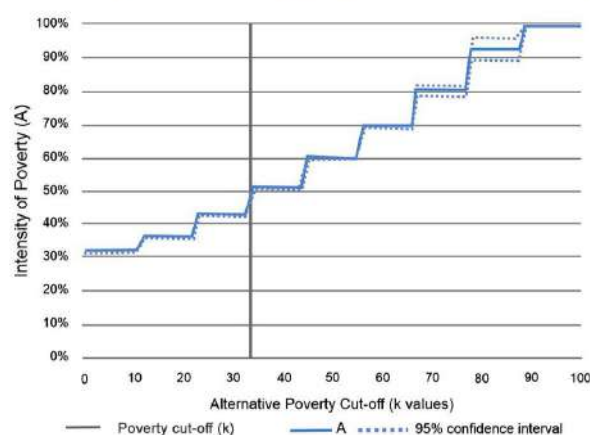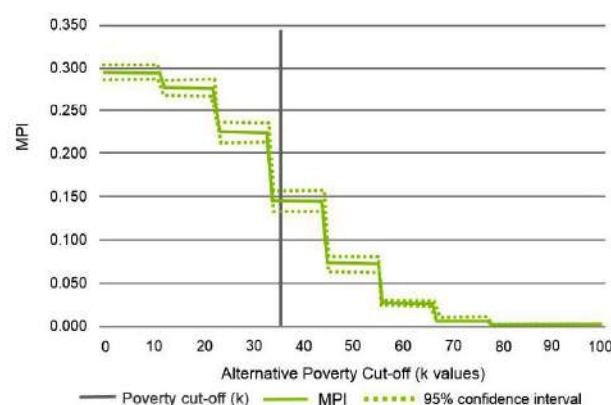### Figure 3.10: Intensity of Poverty (A) for alternative poverty cut-off

Figure 3.11: MPI for alternative poverty cut-off
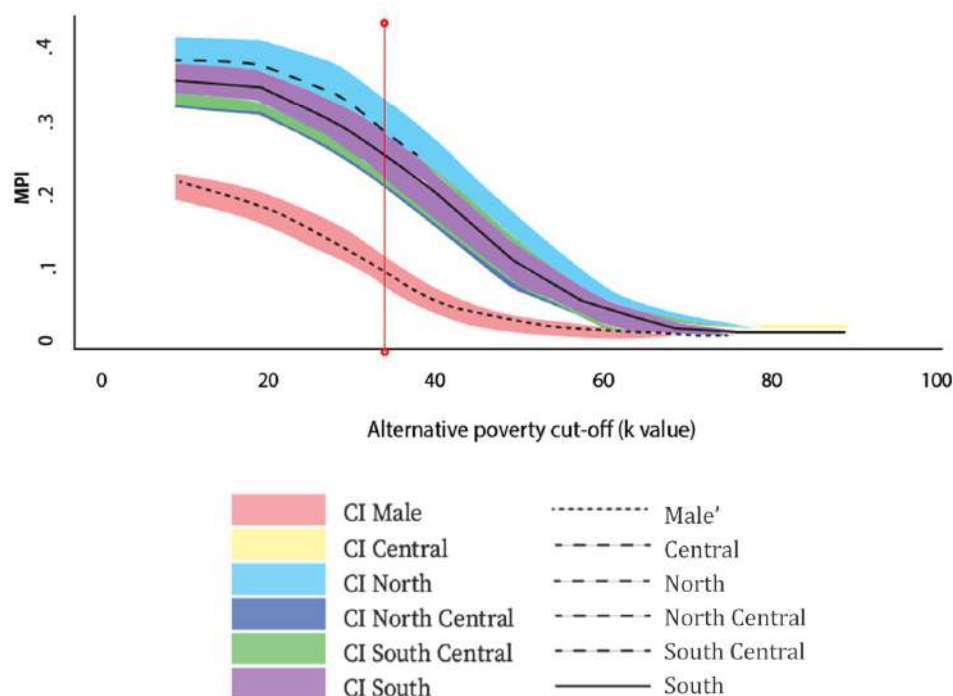

Source: Maldives Demographic Health Survey, 2016/17

Further disaggregation of the MPI and H for different poverty cut-offs are undertaken across regions. Figure 3.12 plot the MPI over alternative values of k with corresponding confidence intervals. A line for the adopted poverty line, k=34% MPI threshold, is drawn as a reference. The overlap in the confidence intervals shows that there is no clear poverty ranking between different regions for all possible poverty cut-offs. Note, however, that the point estimate as such is still informative and provides important information for each region.[13] Overall, it can be unambiguously concluded that multidimensional poverty in Male' was the lowest among all regions for all relevant poverty thresholds, that is, for every cut-off between 10 percent and 60 percent.

It is worth noting that a breakdown of the MPI at a more disaggregated level (20 atolls) would be very informative from a policy perspective. However, the DHS was not designed to be representative at that level. In addition, since the poverty ranking of the broader regions do not deliver statistically significant differences, the most feasible comparison is that between Male' and Atolls. Hence, in moving forward, the results will focus at the national level and a comparison between Male' and the group of Atolls.

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[13] When the confidence interval of two regions overlap, the difference in H or MPI is not statistically significant.

Figure 3.12: MPI for alternative poverty cut-off for regions, 2016/17

Source: Maldives Demographic Health Survey, 2016/17

3.7

Multidimensional Poverty and Income Poverty

The Household Income and Expenditure Survey (HIES), conducted every five years, is the primary source for setting the poverty threshold and measuring income poverty in the country. HIES 2016 follows the relative poverty line approach and the latest poverty threshold was set at MVR 74; i.e. half the median of total expenditure per person per day. The results show that 8 percent of the population was monetary poor according to the national poverty line. While close to 13 percent of the population was poor in the Atolls,

less than 3 percent were poor in Male'. In this section, the two ways of measuring poverty – monetary and multidimensional– are compared across regions to elicit whether rankings may change and public policy responses may differ. This is done by comparing the two headcount ratios, or the percentages of the population that are poor according to any of the two measure.

Figure 3.13: Comparison of headcount ratio for poverty (% of poor) using MPI and Income poverty
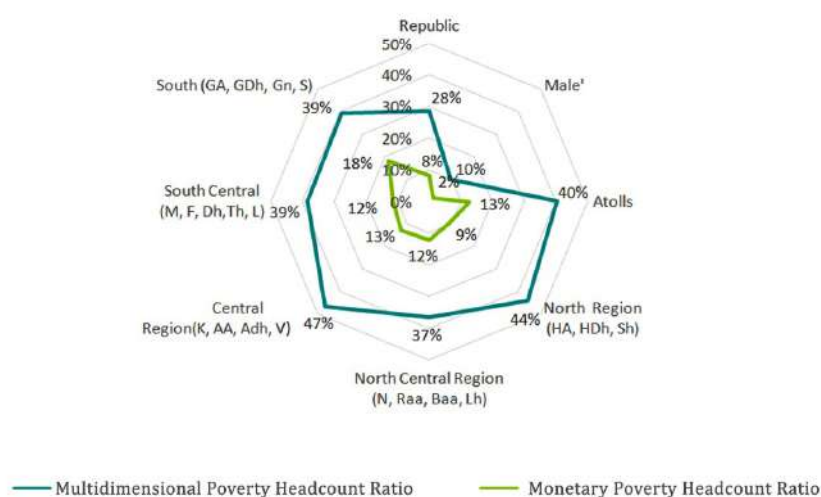
Source: Maldives Demographic Health Survey, 2016/17& Household Income and Expenditure Survey, 2016

As seen from Figure 3.13, there is a huge difference in the two types of headcount ratios: multidimensionally poor vs income poor. At the national level, there is a difference of 20 percentage points between the two measures, with the multidimensional poverty headcount ratio almost three times as large as the income poverty rate. This pattern is reflected across the regions, albeit with some variation. In Male', for example, income poverty is negligible at two percent, while multidimensional poverty was 10 percent, i.e. more than six times as high. For the Atolls, the relative difference is substantial (40 percent versus 13 percent). Across the other regions, multidimensional poverty ratios range between 37 percent and 47 percent, whereas income poverty rates were between 9 percent and 18 percent. Interestingly, the highest income poverty rate (South) did not coincide with the highest multidimensional poverty rate (Central). The highest relative difference in headcount ratios can be found for the North Region, where 44 percent of the population was identified as multidimensional poor but only 9 percent as income poor.

As a result, and as depicted in Figure 3.14, the poverty ranking of regions differs between the two ways of measuring poverty. While the least poor region was always Male', the poorest region according to income poverty was South Region, whereas it was Central Region according to multidimensional poverty. The second poorest region according to multidimensional poverty is North Region, which happens to be the second least poor according to income poverty.

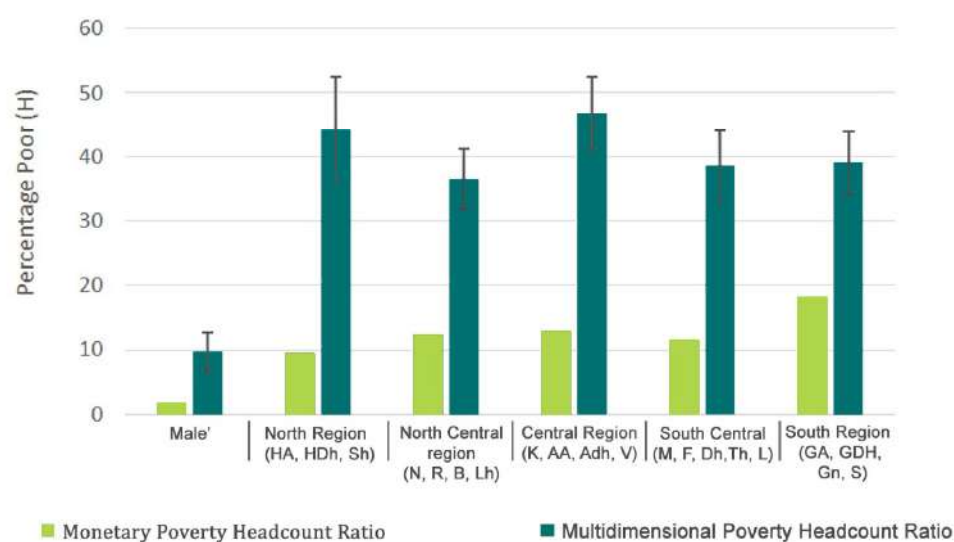## Figure 3.14: Comparison of headcount ratio for poverty (% of poor) using MPI and Income Poverty by Regions

Note: 95% Confidence Interval shown in the graph
Source: Maldives Demographic Health Survey, 2016/17

The large difference between the two measures illustrates the vital importance of using both measures to inform policy and planning, as they convey information about people who are poor in different ways and thus inform different policy interventions.

It is important to note that both the MPI and income poverty headcount ratios do not necessarily identify the same people. For example, even if 20 percent were income poor and also 20 percent were MPI poor, the 20 percent were not necessarily the same people. This implies that there may bepeople beingincome poor but not MPI-poor and vice versa. Furthermore, the two underlying surveys, HIES for income poverty and DHS for the MPI, did not interview the same households. Therefore, it cannot be ascertained whether a household was both MPI and income poor, or neither of the two, or poor according to only one measure. Yet, both surveys are representative at the national level and regional level[14]. For an analysis of capturing both types of poverty at the same time, new data are needed that capture both the dimensions of income (consumption) and of the MPI.

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[14] HIES 2016 had a sample size of 4,910 households and was carried out from Mar-Nov 2016 while DHS 2016/17 had a sample size of 6,750 households and was carried out from Mar 2016 to Nov 2017.

3.8

Performance across Household Characteristics

This section examines the results of multidimensional poverty across household characteristics. The MPI is disaggregated by age group, gender of household head, educational attainment of household head, wealth quintile, household size and household disability status.

3.8.1 MPI among children and other age groups

As a first step, the MPI is disaggregated by the following age groups[15]: 0-17 years (child population), 18-35 years (national youth), and 35 years and above.

Table 3.4: Multidimensional poverty by age group, 2016/17

Age Group	Population Share (%)	MPI	Confidence Interval (95%)		H (%)	Confidence Interval (95%)		A (%)	Confidence Interval (95%)	
0-17	34	0.176	0.162	0.189	33.9	31.4	36.4	51.8	51.2	52.5
18-35	33	0.108	0.098	0.119	21.8	19.7	23.8	49.8	49.1	50.4
36+	33	0.149	0.138	0.160	29.2	27.0	31.3	51.0	50.5	51.5

Source: Maldives Demographic Health Survey, 2016/17

Children constitute 34 percent of the population – the largest share of the population. As depicted by Table 3.4, 34 percent of the children live in poverty with a relatively high multidimensional poverty index (0.176) in comparison to other age groups. This result shows the need for child nutrition, child protection, and improving their vulnerability as children constitute the majority of the population share in the given context. The second highest MPI (0.149) is found for the age group of 36 years and above with an incidence of 29 percent. However, it should be noted that the confidence intervals of the first and third group overlap. Hence, these groups are not statistically different. Yet both groups are markedly, and statistically significantly poorer than the group aged 18-35 years.

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[15] Note that the household is considered as the unit of analysis. This means that households that fall below the MPI threshold will be considered poor and all its members (of different age groups). All the household members receive the same deprivation score.

3.8.2 MPI by gender and educational attainment of household head

This section analyses MPI disaggregations by characteristics of the household head, beginning with highlighting the difference between female headed households and male headed households. Close to 44 percent of the population lives in female-headed households. Yet, while the MPI value for this group (0.156) is much higher than for the male-headed households (0.136), overlapping confidence intervals do not allow for a definite ranking of multidimensional poverty between male and female-headed household – meaning there is no difference in the level of poverty with household being a male or a female.
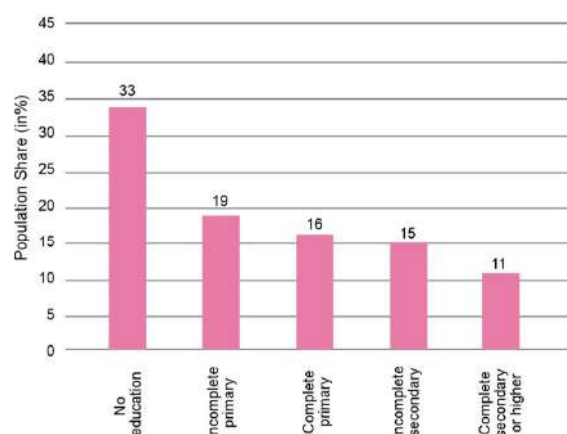
Table 3.5: Multidimensional poverty by household head status, 2016/17

Head of household	Population Share (%)	MPI	Confidence Interval (95%)		H (%)	Confidence Interval (95%)		A (%)	Confidence Interval (95%)	
Male-head household	55.6	0.136	0.124	0.149	26.8	24.3	29.2	51.0	50.2	51.7
Female-head household	44.1	0.156	0.141	0.171	30.5	27.5	33.4	51.2	50.4	51.9

Source: Maldives Demographic Health Survey, 2016/17

Educational attainment of the household head may be another important driver of poverty in the Maldives. According to Figure 3.15, half of the population belongs to households with the household head having no education or only incomplete primary education. As shown in Figure 3.16, multidimensional poverty decreases with increasing educational attainment of the household head. While there are no statistically significant differences between the groups of "no education", "incomplete primary", and "complete primary", households headed under such educational attainments are more likely to be multidimensionally poor than others.

Figure 3.15: Population share by educational attainment of household head, 2016/17

Figure 3.16: Incidence of multidimensional poverty (H) by educational attainment of household head, 2016/17

Source: Maldives Demographic Health Survey, 2016/17
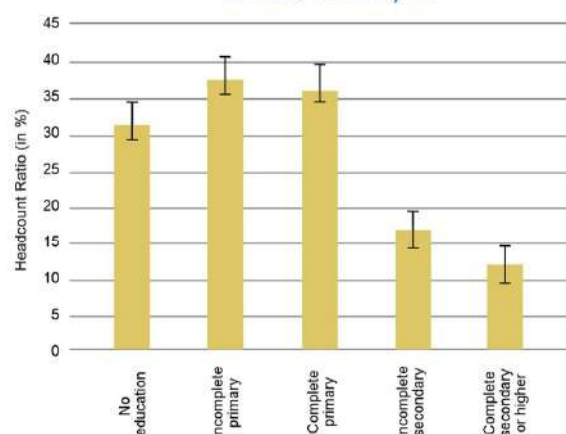
3.8.3 MPI by wealth quintiles

Wealth quintiles[16]– as based on the DHS classification – provide insight into the level of poverty at different levels of assets. Drawing on the disaggregation by wealth quintiles (Table 3.6), the poorest quintile experienced the highest multidimensional poverty. While 57 percent of the people in the poorest quintile lived in poverty, only 3 percent of the richest were poor. This difference is statistically significant.

Table 3.6: Multidimensional poverty by wealth quintile, 2016/17

Wealth Status	Population Share (%)	MPI	Confidence Interval (95%)		H (%)	Confidence Interval (95%)		A (%)	Confidence Interval (95%)	
Poorest	21.0	0.302	0.283	0.321	57.1	53.7	60.5	52.9	52.2	53.7
Poorer	20.5	0.205	0.188	0.223	40.6	37.3	43.8	50.6	49.8	51.4
Middle	20.3	0.121	0.104	0.138	24.6	21.2	28.0	49.0	47.9	50.1
Richer	19.6	0.061	0.040	0.083	12.7	8.5	17.0	48.3	44.5	52.1
Richest[17]	18.6	0.015	0.001	0.029	3.1	0.1	6.2	47.8	40.3	55.4

Source: Maldives Demographic Health Survey, 2016/17

3.8.4 MPI by household size

Household size matters. The average household size in Maldives was 5.4 persons (MDHS, 2016/17) and according to many studies on income poverty, poverty tends to increase with increasing household size. Disaggregating the MPI by household size shows a somewhat different pattern. While multidimensional poverty varied across household size, small households with members of up to five accounted for the highest MPI. Thus, larger households were less likely to be multidimensional poor. However, these results need to be interpreted with caution as confidence intervals overlap, prohibiting any claims of statistically significant differences. More precise data are needed to make any such claims.

Table 3.7: Multidimensional poverty by household size, 2016/17

Household size	Population Share (%)	MPI	Confidence Interval (95%)		H (%)	Confidence Interval (95%)		A (%)	Confidence Interval (95%)	
1-5	40.8	0.154	0.140	0.167	29.52	27.02	32.02	52.08	51.38	52.79
6-7	24.5	0.137	0.122	0.151	26.59	23.90	29.29	51.46	50.42	52.50
8+	34.7	0.140	0.120	0.160	28.24	24.22	32.26	49.52	48.52	50.51

Source: Maldives Demographic Health Survey, 2016/17

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[16] In DHS 2009, information on household assets was used to create an index representing the wealth of the households. To construct the wealth index, each household asset for which information was collected in the survey was assigned a weight or factor score generated through principal components analysis, and the resulting asset scores were standardized. The MDHS households were then assigned a standardized score for each asset, where the score differed depending on whether or not the household owned that asset. The scores were summed by household. Individuals were ranked according to the total score of the household in which they resided and divided into population quintiles, i.e., five groups with the same number of individuals in each. For more information, refer to DHS 2009 report, section 2.6.

[17] The lower shares in the richest quintiles is effect of households that was dropped due to missing values

3.8.5 MPI by disability status

In the MDHS 2016/17, household members were asked whether they suffered from any disability and 4 percent of the population responded they did. For the purpose of MPI, this is aggregated at the household level and thus households can be identified as a 'household having a member that experiences a disability'. In total, 22 percent of the household reports having at least one member with some disability. Disability is defined as being or having any of the following: blind or partially blind, deaf of partially deaf, paralyzed, missing limb, intellectual disability, speech impairment, medical disability, or learning disability.

As seen from Table 3.8, households with a disability member experience a higher level of multidimensional poverty. Among the households with a disability member, 34 percent are multidimensionally poor, whereas it is 27 percent for other households. These differences are statistically significant.

Table 3.8: Multidimensional poverty by household's disability status, 2016/17

Household population by disability status	Population Share (%)	MPI	Confidence Interval (95%)		H (%)	Confidence Interval (95%)		A (%)	Confidence Interval (95%)	
No disability	77.8	0.135	0.125	0.146	26.7	24.6	28.8	50.7	50.2	51.3
With disability	22.2	0.178	0.156	0.200	34.2	30.0	38.4	51.9	50.8	53.1

Source: Maldives Demographic Health Survey, 2016/17

CHAPTER 4:

MULTIDIMENSIONAL POVERTY REDUCTION OVERTIME

This chapter analyses how multidimensional poverty in Maldives has changed over time. As Maldives has completed two rounds of Demographic Health Surveys (DHS), a trend analyses between the years 2009 and 2016/17 is possible.

Since both waves of the DHS share a common survey design and questionnaire, the same indicators can be constructed for each year, applying the same indicator and poverty cut-offs to construct the same MPI for both waves.

The basic component of poverty comparisons is the absolute change across time. The absolute rate of change is the simple difference in poverty levels between two periods. Changes (increase or decrease) in poverty across two time periods can also be reported as a relative rate. The relative rate of change is the difference in levels across two periods as a percentage of the initial period. The analysis of absolute and relative changes together provides an elementary sense of overall progress.

Based on this, this chapter examines multidimensional poverty reduction overtime in the following sections:
4.1 Changes in multidimensional poverty between 2009 and 2016/17,
4.2 Changes in censored and uncensored headcount ratio over time,
4.3 Poverty reduction across regions.

4.1

Changes in multidimensional poverty between 2009 and 2016/17

Over a period of 8 years, Maldives has reduced the MPI, H, and A. As presented in Table 4.1, there has been a sharp drop in both the MPI and the incidence of poverty between 2009 and 2016/17. This change is statistically significant.

Table 4.1: Change in H, A and MPI, 2009-2016/17

Cut-off (k= 34%)	MPI	Incidence (H)	Intensity (A)
2009	0.425	70.2%	60.6%
Standard errors	(0.008)	(0.012)	(0.003)
2016/17	0.145	28.4%	51.1%
Standard errors	(0.006)	(0.010)	(0.003)
Absolute Change 2009-2016/17	-0.28	-0.42	-0.10
T-statistic	29.6	26.5	24.2
p-value	0.01	0.01	0.01

Source: Maldives Demographic Health Survey, 2009 &2016/17

Within less than a decade, the MPI value has decreased close to one third of its original value from 0.425 to 0.145. At the same time, the incidence of poverty reduced close to one third of its original value (considering SEs) from 70 percent to about 28 percent. The intensity of poverty reduced gradually over the years from 61 percent to 51 percent. These trends are made visible in Figure 4.1.

Figure 4.1: Multidimensional poverty in Maldives, 2009-2016/17
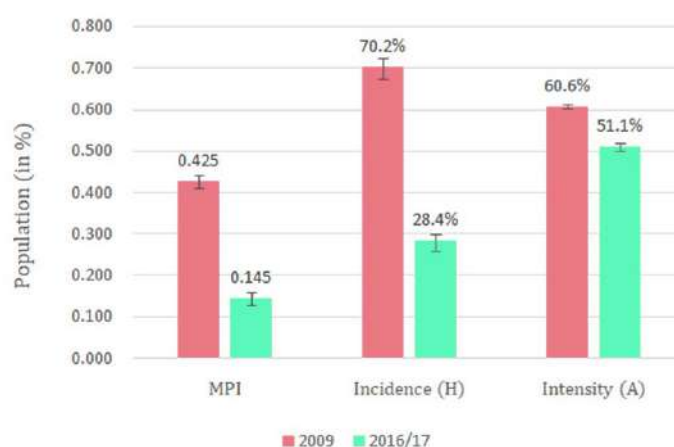
Source: Maldives Demographic Health Survey, 2016/17

A closer look at the multidimensional poverty reduction overtime between Male' and Atolls shows that poverty reduction was stronger in the Atolls in both absolute and relative terms. In Table 4.2, the absolute reduction in MPI was 0.025 for Male' and 0.328 for the Atolls. This translates to relative reductions of 20 percent for Male' and 49 percent for the Atolls. Thus, poverty reduction was much faster in the Atolls than in Male'.

## Table 4.2: Change in H, A and MPI for Male' and Atolls, 2009 – 2016/17

Cut-off (k= 34%)	Male'			Atolls		
	MPI	Incidence (H)	Intensity (A)	MPI	Incidence (H)	Intensity (A)
2009	0.144	29.1%	49.3%	0.560	89.7%	62.4%
Standard errors	(0.010)	(0.020)	(0.005)	(0.006)	(0.007)	(0.003)
2016/17	0.047	9.6%	48.7%	0.207	40.3%	51.4%
Standard errors	(0.007)	(0.015)	(0.010)	(0.007)	(0.014)	(0.003)
Absolute Change 2009-2016/17	-0.10	-0.20	-0.01	-0.35	-0.49	-0.11
t-statistic	8.0	8.0	0.5	37.2	32.1	28.2
p-value	0.01	0.01	0.63	0.01	0.01	0.01

Source: Maldives Demographic Health Survey, 2009 & 2016/17

The MPI in the Atolls fell to close to one third of its original value going from 0.560 in 2009 to 0.207 in 2016/17. This was mainly driven by a reduction in the headcount ratio (H) in the Atolls: a reduction from 90 percent to 40 percent. In other words, while almost 9 in 10 people were poor in 2009, only about 4 in 10 were poor 8 years later. In Male' the reduction in the headcount ratio was also important although less impressive, as it fell from 29 percent to 10 percent.

The two regions also differ in their respective reduction of the intensity (A). In the Atolls, the intensity was reduced by about 11 percentage points from 62 percent to 51 percent. In Male', it barely changed so that the time difference in A is not statistically significant.

## Figure 4.2: Multidimensional poverty by Male' and Atolls, 2009 -2016/17
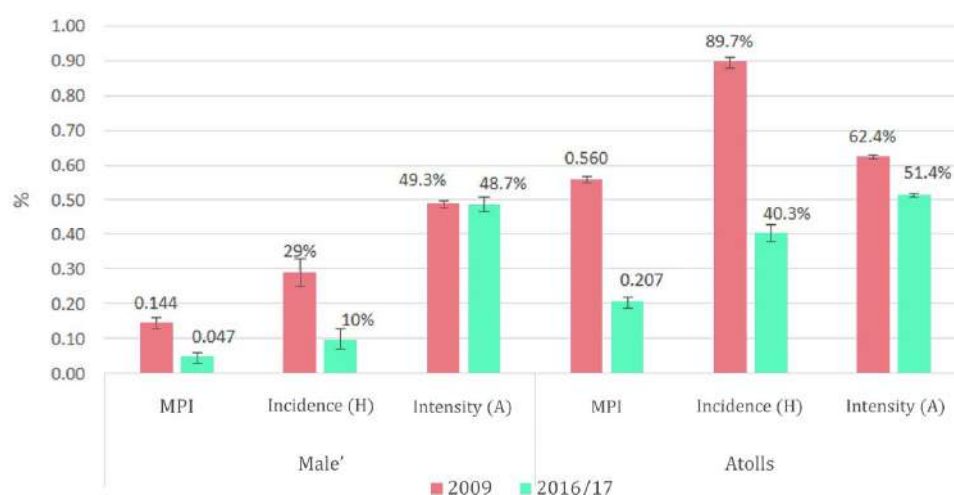
Note: 95% Confidence Interval bars included

Source: Maldives Demographic Health Survey, 2009 &2016/17

The multidimensional poverty index allows analyzing the extent to which these improvements in H, A, and MPI depend on the k-value. Figure 4.3 show the value of MPI for the country over all the possible values of k for 2009 and 2016/17. This means that the MPI fall observed during this period is robust to the poverty cut-off used. In other words, the selection of the k-value is not driving the clear downward trend in poverty.

Figure 4.3: MPI for different values of the poverty cut-off k
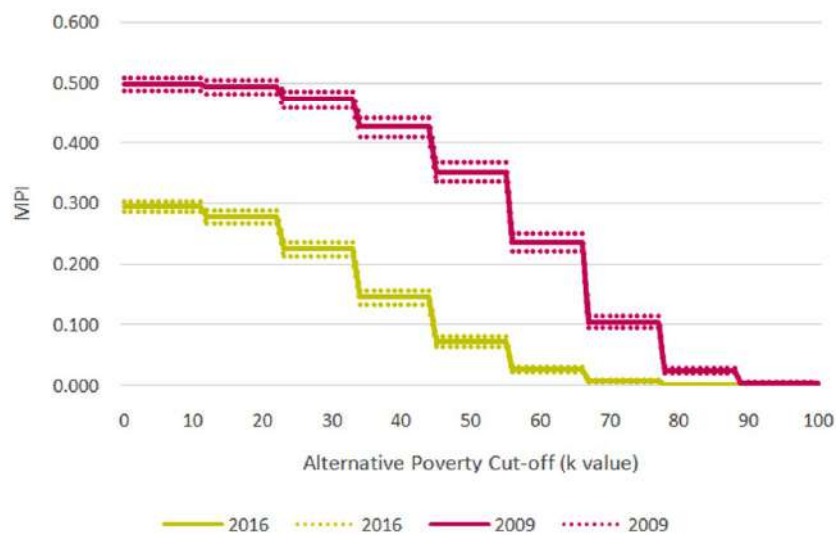
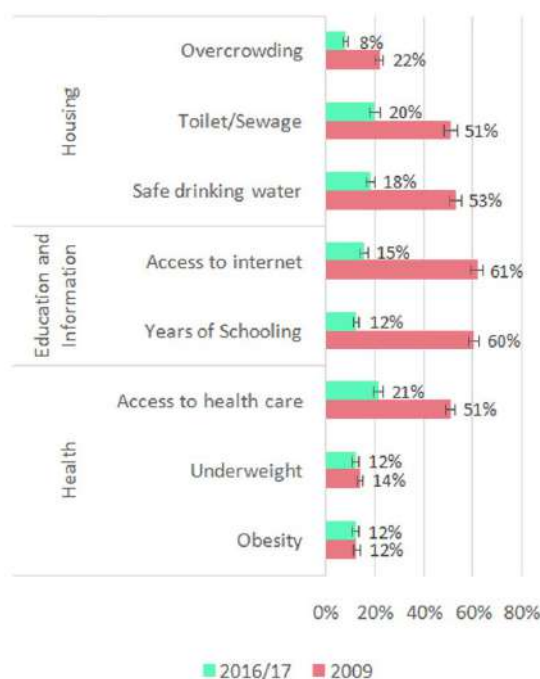Source: Maldives Demographic Health Survey, 2009 &2016/17

4.2

Changes in uncensored and censored headcount ratio over time

The indicators driving the reduction in the MPI are analyzed in this section. It is useful to first analyze the population that was both MPI poor and deprived in any indicator (censored headcount ratios) and then focus at the population-wide trend of MPI indicators – the uncensored headcount ratios.

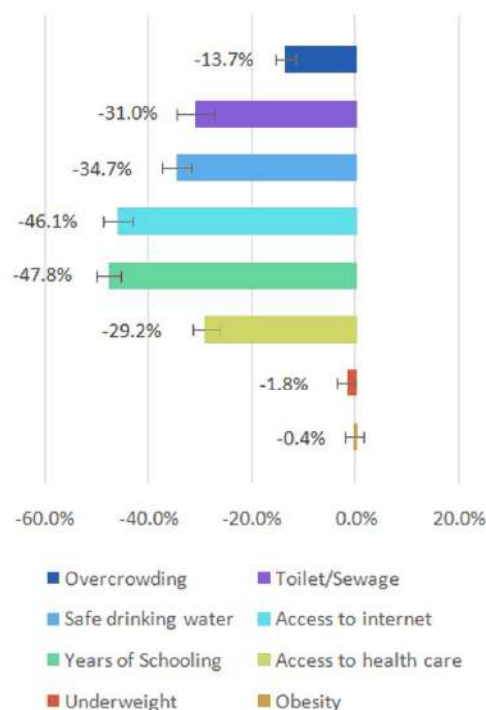The censored headcount ratio of all indicators declined significantly. The largest reduction can be seen in access to internet, years of schooling, and in safe drinking water. This is shown in Figure 4.5 which depicts the absolute change in the censored headcount ratios between 2009 and 2016/17. All but the nutrition indicators (underweight and obesity) show statistically significant reductions over this period.
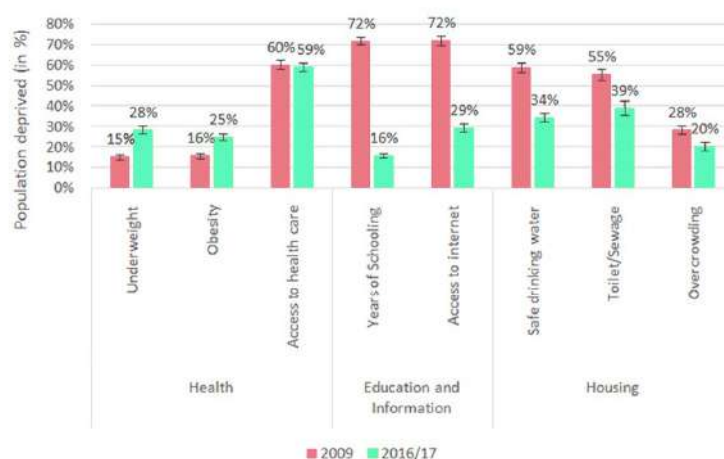
Figure 4.4: National censored headcount ratios, 2009-2016/17

Figure 4.5: Absolute change in censored headcount ratios between 2009 and 2016/17

Source: Maldives Demographic Health Survey, 2009 &2016/17

Source: Maldives Demographic Health Survey, 2009 &2016/17
1% significance level for all indicators, two-tailed tests

Figure 4.6 shows the uncensored headcount ratios for 2009 and 2016/17. The largest absolute improvements are visible for years of schooling (reduction from 72 % to 16%), access to internet and safe drinking water. The health indicators accounted for the slowest reduction (access to health care) or even a worsening (underweight and obesity).

Figure 4.6: National uncensored headcount ratios, 2009-2016/17

Source: Maldives Demographic Health Survey, 2009 & 2016/17

Figure 4.7 shows the absolute change in the uncensored headcount ratios between 2009 and 2016/17. The largest absolute improvement can be seen in years of schooling, access to internet, and safe drinking water. Health indicators accounted for the least progress or even worsening (underweight and obesity) with regard to the whole population. In order to improve the health indicators, this analysis emphasizes the importance of addressing the health and well-being of the population as well as adequate nutrition of children and mothers.

Figure 4.7: Absolute change in uncensored headcount ratios between 2009 and 2016/17
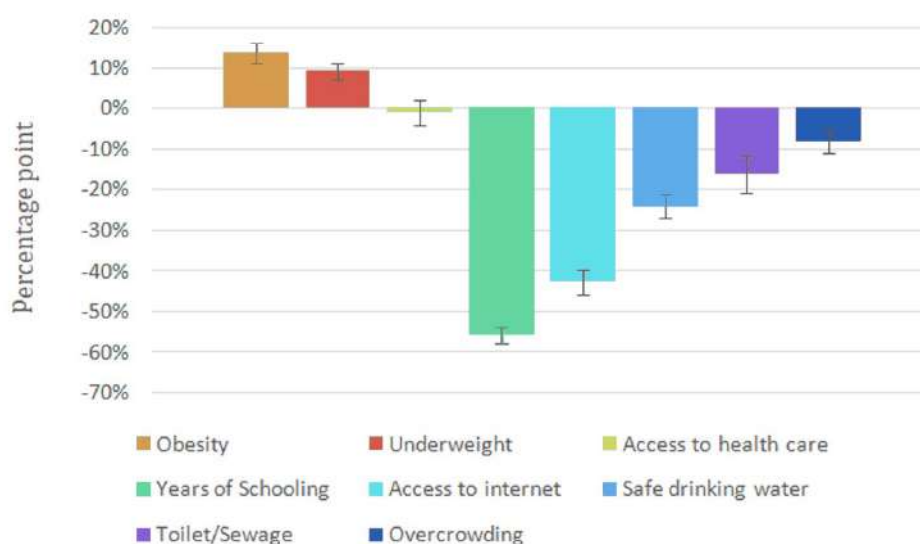
Source: Maldives Demographic Health Survey, 2009 &2016/17
1% significance level for all indicators except for access to health care, two-tailed tests

While 80 percent of the indicators have shown improvement over the years, decisive action is needed to improve the health condition of the population given that two important deprivation in the domain of health, i.e prevalence of obesity and underweight significantly rose over the last years and the access to health facilities showed no changed over the period of analysis. Policies addressing public health, nutritional status of child and mother needs to be revitalized in order to garner improvement in the next round of DHS.

4.3

Poverty reduction across regions

Figure 4.8 shows the regional trend in changes over time in multidimensional poverty. Each region has registered a reduction in incidence (H) of poverty over the years. There has been a faster absolute reduction in H in regions than in Male'. A closer examination of the results shows that each region halved its headcount ratio within the 8 years. Improvements across the regions has led to an overall reduction at the national level.

Figure 4.8: Headcount ratio by region, 2009 – 2016/17
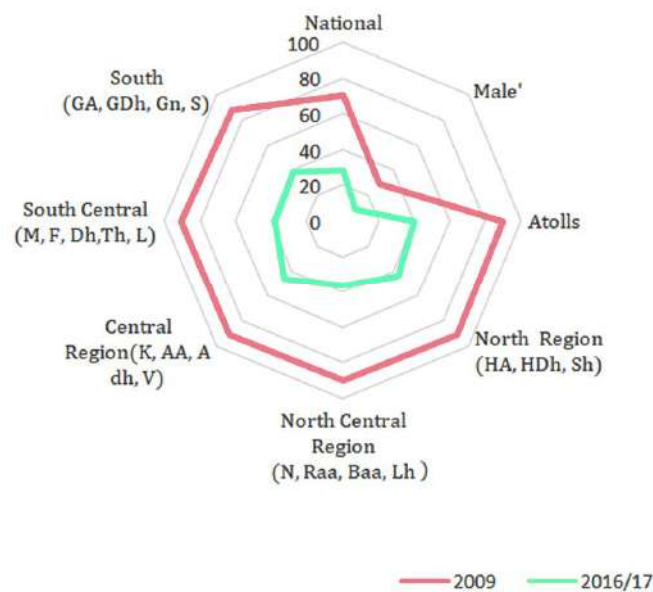
Source: Maldives Demographic Health Survey, 2016/17

CHAPTER 5:

CONCLUSION AND POLICY RECOMMENDATIONS

This report is the first of many ventures undertaken by National Bureau of Statistics (NBS) to produce a different approach to poverty measurement in Maldives. It is intended to complement the national monetary poverty measures and provides new valuable information for policy makers. The Maldives National MPI can guide new interventions in respective areas to address the vulnerabilities and deprivations faced by the poor and implement poverty reduction programmes that are sector and region-specific, thereby allocating important resources where they are most needed.

The first official National MPI in Maldives relies on three equally weighted dimensions. Each of the health and living standard dimensions include three indicators while the education and information dimension includes two indicators. The poverty cut-off is set at 34 percent which reflects deprivations in at least one dimension or three indicators. The results show that 28.4 percent of the population experienced multidimensional poverty in 2016/17. The average intensity of deprivation experienced by the poor was 51 percent. This means that poor people were deprived in nearly half of the weighted indicators on average, or more than 4 of 8 indicators.

The national MPI 2016-17 at 0.145 indicates that poor people in Maldives experienced 14 percent of the deprivations that would be experienced if all people were deprived in all indicators. In terms of individual indicators, deprivations in years of schooling (a contribution of 19% to overall poverty) and access to health care (18.0%) were the largest contributors to the national MPI. These indicators were followed by the contributions of accessto proper sanitation (15%) and access to safe drinking water (14%). In terms of dimensions, the dimensions of health and living standard registered the largest contribution (35 percent each). This was followed by the dimension of education and information.

Comparison of MPI results by regions show that both the headcount and intensity of poverty were higher in the atolls than in Male'. In the Central Region (K, AA, ADh and V Atoll), 46.7 percent of the population was multidimensionally poor while the headcount ratio was much lower elsewhere. The intensity of poverty was the highest in the North Region (HA, HDh & Sh Atoll) with the poor being deprived on average in 52 percent of all the indicators. However, it should be noted that apart from the Male' region the differences in the MPI index across regions are not statistically significant.

Changes in multidimensional poverty over time have shown significant improvements. The MPI, H, and A reduced significantly between 2009 and 2016, which is the only period with comparable information. Over this period of nearly a decade, the MPI reduced to nearly one-third of its original value (from 0.425 to 0.145). The reduction in the MPI is visible for both Male' and the Atolls, with the latter reducing much MPI and H much faster.

Policy Recommendations and Planning

The Government's Adoption of the MPI

The 2016 income poverty for the Maldives is 8% (3% Male and 13% Atolls)[18] while the MPI, using 2016/17 statistics, shows that 28% (13% Male, 87% Atolls) are indeed multidimensionally poor. The Government's adoption of the MPI is a daring decision that reflects political will to acknowledge multidimensional poverty as a national challenge the Government is committed to addressing. From a national planning point of view, the adoption of the MPI represents a significant paradigm shift of attention from income poverty as an over simplification of the development challenges facing the Maldives to the more complex reality of the multiplicity of dimensions and sectors the government needs to address in order to achieve higher standards of living to the Maldivians. Furthermore, the adoption of the MPI signals the government's acknowledgment of and commitment to address the inequity between Male and the Atolls, which is an accumulation of many years of imbalanced allocation of national resources.

Resource allocation formula based on MPI

The results of this MPI report clearly identify the sectors, atolls, and the segments of the population that require more attention and allocation of national resources. Access to health services (especially for women), better nutrition, access to safe drinking water, access to proper sanitation, access to education beyond the initial 10 years of schooling, and access to less congested housing are key sectors where more investment is needed. The Central Region (K, AA, Adh, V) and the North Central Region (N, R, B, Lh) are lagging behind the rest of the country. Children, women, elderly people, and people with disabilities are more multidimensional poor than the rest of the population. An equitable approach to multidimensional poverty reduction that is based on the commitment of "leaving no one behind", requires more attention and resources allocation for those who are lagging behind.

By integrating this information into the budget allocation process, duplications in investment, or gaps, can be identified, resources shared out rationally and efficient progress made against poverty. There a range of ways in which countries have used national MPIs to inform this process:

• Bhutan's district allocation formula uses a national MPI as the basis to allocate resources across sectors, districts and villages.
• Costa Rica officially incorporated the MPI and its results into their budget allocation process.
• In Mexico, members of Congress receive reports on multidimensional poverty before their annual budget meeting.

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[18] HIES, 2016

The MPI is directly linked to the UN Sustainable Development Goals (SDGs) and the National Plan

The national MPI for the Maldives captures the multiple deprivations poor people suffer from simultaneously. Capturing many SDG targets, the national MPI can be used as an SDG indicator tracking tool, providing key information on indicator 1.2.2: "Proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions." The adoption of the national MPI is an assertion of the Government's commitment to international normative standards.

Integrated and multisectoral policies can be designed to achieve the SDG targets most relevant for the Maldives and to advance national development goals. In Table 5.1, key linkages between the MPI and both the SDGs are identified and most of the indicators can be used to track an SDG target.

Table 5.1: MPI linkage to SDGs

Dimension	Indicator (Deprivation)	SDG Target	Starting level (% deprived and MPI poor)	Absolute change between 2009 and 2016 (in ppts)
Health & Education	Obesity	2.2	12.2%	-0.4%
	Underweight	2.2	13.7%	-1.8%
	Access to Health Care	3.8	50.5%	-29.2%
Education and Information	Years of Schooling	4.1	60.0%	-47.8%
	Access to internet	9.c	61.4%	-46.1%
Housing	Safe drinking water	6.1	52.7%	-34.7%
	Toilet/Sewage	6.2	50.8%	-31.0%
	Overcrowding	11.1	21.5%	-13.7%

Evidence-based policies should draw on insights from MPI trends. Each of the MPI indicators changed significantly over time in absolute terms. An immediate policy recommendation is to focus on indicators that have changed slowly or even worsened. For example, one can think of implementing nutritional policies that tackle both undernutrition as well as obesity for all age groups. Other policies should focus especially on access to health care, transport across all Atolls and on improving sanitation systems. Overall, the MPI provides for a detailed evidence-based tool to monitor progress in various dimensions of poverty as defined for the Maldivian context and in the global SDG framework. Using the MPI helps to accelerate the positive trends in the future.

Immediate policy relevance of COVID-19 related indicators Several indicators may be directly affected or serve as key predictors of populations at risk during the COVID-19 pandemic and theensuing policy measures adopted to contain the spread of the virus.

Indicators such as safe drinking water, for example, provide for quick guidance on how many people are MPI poor and may not be able to undertake appropriate disinfecting measures. They would be at considerable risk of contracting the virus. Similarly, indicators on obesity and being underweight highlight how many people may be at risk of experiencing a severe case if they were to contract the virus. In addition, the information on nutrition can be used to estimate how many more people may become malnourished due to the economic shock of the pandemic – and thus fall into multidimensional poverty. Another very relevant indicator during the unfolding health crisis is access to healthcare, as this helps to track and map where MPI poor people struggle to receive immediate healthcare.

Atoll level MPI reports should inform regional policies. Drawing upon this report and its component data, short and straightforward policy briefings will need to be prepared in local and national languages and shared with government, academia, and other institutions operating in the provinces. Such briefings are straightforward to prepare (for examples, see OPHI's 'country briefings') and, in time, may generate motivation at the Atolls level among those who become leaders in and champions of reducing multidimensional poverty. Currently, however, there is a clear data limitation: the DHS data can only be disaggregated at the broader regional level of several Atolls. It is therefore strongly advised to make adequate resources available for the next round of data collection, so that more localized results can be computed.

Atoll level policies should be informed by the composition of poverty in each region, as well as the overall level of poverty. This report includes broad regional MPIs – Male' and Atolls – which could be further circulated across regions. It is good to see that the poorest region (the Atolls) have seen faster reductions in poverty. Such a pro-poor trend in poverty reduction needs to be sustained. Analyses and research are required to better understand the different obstacles and success stories the Atolls have experienced.

MPI variables should be included in future surveys and census. It is strongly recommended that all MPI variables are included in future surveys such as the DHS and HIES. Doing so will enable the Maldives MPI to be updated more frequently and used for accurate and real-time policy making. This increases its utility as a management tool, because just-in-time information is vital to evidence-based policy. The lag between data collection and MPI release should be minimized towards the same end. The next census should also include as many MPI variables as feasible so as to map poverty at the local level. Finally, data quality on health indicators needs to improve drastically. Both the 2009 and 2016 DHS suffered from huge amounts of non-response codes on anthropometric outcomes as well as only limited information on access to healthcare facilities. Questions on both these important indicators should be revised and improved. Furthermore, better information on access to public transport across the Atolls is desirable. Overall, the sample size should increase to yield more powerful results at the Atoll level and even below.

The Maldives MPI needs to be disseminated transparently and advance policy research. It is highly recommended that the files required to compute the MPI – data files as well as Stata.do files – be posted online so that researchers at all levels can replicate and understand the results. This is done by other governments across the globe, as it stimulates research by their academic bodies into poverty reduction. It is also recommended that the MPI documentation (such as this report or some improvement of it) be freely accessible online in Dhivehi and English.

To understand what really caused the reductions in poverty observed in this report, it is recommended that further research is under-taken within the Maldives, particularly by local academics and researchers at, for example, the Maldives National University. Their expertise can bring a great deal of texture and insight to the issues of multidimensional poverty, which can accelerate its reduction.

Dialogue on MPI among policy makers

The newly elected government currently includes new officials and political appointees. It is important that the incoming policy actors be informed about the Maldives MPI. It should become their political commitment to reduce poverty in all its forms in the Maldives.

Maldives has made remarkable progress in reducing multidimensional poverty over the years. It is hoped that the MPI and the detailed information it provides can create synergies across policies and result in public actions that will continue to eradicate multidimensional poverty in the country.

Coordination

A key benefit of the MPI is that it provides a tool to break down government silos and help coordinate policymaking across ministries and stakeholders. With an MPI, governments can more easily persuade departments and ministries to work together. In Colombia, the former President Santos convened a roundtable Cabinet meeting that met at least twice a year to identify actions across several departments and ministries at the same time. The reason is clear. The actions of ministries working on, for example, the environment, housing, drinking water, educational attainments will all affect the challenges facing the ministry of health. The MPI can also help the process of assigning departments accountability for progress in poverty reduction.

Monitoring and evaluation

If updated regularly, the Maldives MPI should be used to monitor and evaluate policy interventions. Any reduction in the incidence or intensity of poverty will cause the MPI value to fall. Colombia has tracked changes over time to evaluate policy interventions by setting up alerts for underperforming areas

Understanding the drivers of poverty

The MPI produces a set of figures that describe the nature and scope of multidimensional poverty, but these figures do not explain it. Whilst an MPI can offer avenues for research on the interlinkages between deprivations, it is best complemented with qualitative research to understand the drivers of poverty.

The Atolls have seen faster reductions in poverty from 2009-2016/17 than Male'. This pro-poor trend should be sustained, and further qualitative research undertaken to understand better the different obstacles and success stories the Atolls have experienced. It is recommended that local academics and researchers at, for example, the Maldives National University explore the results further.

Regularization and improved data

The Maldives MPI offers baseline figures to help monitor trends and progress. To this end, the MPI should be updated as regularly as surveys permit. The lag between data collection and MPI release should be minimized to allow for accurate and real-time policy making, which can then benefit from the intuitive use of technologies such as maps. For example, Pakistan is able to produce district level maps from frequent survey maps which clearly visualize the challenges and successes.

Governments who invest in data invest in their people. There are opportunities with the Maldives MPI to develop data collection and analysis further in future survey rounds. Extending data collection throughout the regions, using larger samples, and revising questions on indicators relating to nutrition, healthcare and transport will guarantee high quality outputs from the Maldives MPI.

Summary

By introducing a national MPI, Maldives has joined the ranks of the first wave of countries in South Asia to honour their commitments to the SDGs and National Development Plans and take responsibility for eliminating multidimensional poverty. Around the world, countries are adapting national MPIs to their specific contexts and learning vital lessons along the way. It is hoped that Maldives can share its success stories with other countries in due course. Through sustained use and with political leadership and technical support, the MPI can help Maldives to leave no one behind. The 2020 launch of the MPI in Maldives is not the end, but the beginning of the next phase in its journey.

Maldives has made remarkable progress in reducing multidimensional poverty over the years. It is hoped that the MPI and the detailed information it provides can create synergies across policies and result in public actions that will continue to eradicate multidimensional poverty in the country.

Annex 1: Administrative note on how NBS moved forward with the construction of National Multidimensional Poverty Index for Maldives

With the initiative of the UNICEF Regional Office of South Asia (ROSA) and in partnership with Oxford Poverty and Human Development Initiative (OPHI), Maldives embarked on the exercise to produce the first localised Multidimensional Poverty Index for the country. Similarly, during this regional exercise, Bhutan and Sri Lanka also began work of their national MPIs.

Upon formalised of the work in May 2017, National Bureau of Statistics started with the initial preparation of planning and implementation of the MPI activities. As DHS 2017 was still in field, it is expected that the latest data on DHS will take time to received. Hence, at the initial meetings held between NBS, OPHI and UNICEF, it was decided to initiate the MPI work using DHS 2009 data and replicate the same results using the latest DHS. In addition, it was also recommended for NBS to trial out the national MPI using Household Income and Expenditure Survey 2016 and Census 2014 results and see the possibility of a national MPI using alternative data sources.

As a first step, capacity building of NBS staff was prioritised and 2 staff from NBS was trained at OPHI Summer School Training in July 2017 in Marrakesh, Morocco. During the period August- September 2017 initial approval process within the Ministry of Finance and Treasury was carried out. As such an executive summary on MPI and how NBS propose to move forward with MPI was prepared and shared with policy makers. Consultative meeting was also held between UNICEF, NBS and policy makers at NBS to brief them on this work.

Upon approval, NBS moved forward with the formulation of Advisory and Technical committee for MPI consultative process. Terms of references for each of these committee with their expectation was prepared and sent to relevant Ministries/ Agencies to nominate the most appropriate person for this task.

The technical Committee consisted of 16 members which represented participants from Ministry of Health, Ministry of Environment and Energy, Sustainable Development Goal (SDG) section, National Social Protection Agency (NSPA), Ministry of Education, Ministry of Gender and Family, Local Government Authority (LGA), UNDP, UNFPA, UNICEF and NBS. The Advisory committee consisted of policy makers from the respective institutions.

The first meeting of the technical committee was held on 1st February 2018. The meeting discussed the preparation of the country MPI team for the upcoming mission of the OPHI consultant in February. It was agreed by the members that those working in the country team will first need to be equipped in basic Stata before the mission so that each participant can contribute towards the work and discussion. NBS took initiative in conducting basic Stata training for the participants for one week.

In the weeks preceding the mission, NBS compiled a list of participants from each agency and conducted the training for 24 participants. The training was conducted during office hours from 9am to 12pm.

During the first mission of the OPHI, the country team was briefed on the measure and worked in groups in coming up with different indicators for the dimensions. At the end of the mission, a trial MPI was developed and presented to key policy makers.

Based on the feedback and high-level discussions, NBS also started working on a model MPI using alternative data sources. During the second mission of OPHI held in June 2018, this was the key activity carried out. The results of Census 2014 and HIES 2016 was used to come up with dimensions and indicators. Each of these datasets had it strengthens and limitations with the biggest weakness being the lack of health-related indicators (such as stunting, mortality, BMI). Neither Census 2014 nor HIES 2016 have health related indicators except for access to health services. In order to measure poverty, health is a key dimension and to have indicators to measure child related health outcomes. On the other hand, Census included better indicators with regard to education and employment of the population. HIES included indicators relevant to employment and to measure wealth. During the stakeholder workshop, the selected indicators was further discussed including the deprivation cut-off for each of these indicators

In November 2018, a new government came into office. There was a change in organisation structure where the National Bureau of Statistics went under the newly formed Ministry of National Planning and Infrastructure (NBS was previously under Ministry of Finance and Treasury).

The final dataset of DHS 2016/17 was received at the beginning of June 2019. The team started the preparation of do file, cross-analysis of available data from 2009 to 2016/17. During Dr. Christian Oldiges mission from 24-28 June 2019, the result was derived and compared with 2009 results. While some indicators showed slight improvement, others showed vast improvement, making the indicator obsolete and irrelevant to be included in the model. As a result, new indicators were again included in the national MPI and presented at the Stakeholder meeting held on 27 June 2019.

The team who worked with Dr. Chrisrian Oldiges during his mission, attended a training in Colombo/ Sri Lanka to work further on the MPI do file and generate the results. This training was carried out from 29 July to 3 August 2019 at Department of Census and Statistics, Colombo. Following the training, the do file was exchanged between the country team and OPHI for verification of the steps followed in generating the results. The final results were generated, shared with the committee. With this, NBS proceeded with getting the reported finalised and to launch national MPI at the end of November 2019.

The result was presented to the Minister of National Planning and Infrastructure, Mr. Mohamed Aslam before the launch. Valuable input into the deprivation matrix was provided by the Minister. Further discussions were held with Minister and his team together with UNICEF and NBS to decide on the poverty cut-off (two poverty cut-offs were used at this time; 50% cut-off and 34% cut-off). The 50% poverty cut-off gave a lower poverty rate, making it less significant for using MPI as a policy tool. Hence, the team agreed that poverty threshold of 34% (ie, deprived in more than one dimension) will be used for Maldives National Multidimensional Poverty Index. MPI was also presented to the team at Policy Office withinthe President's Office in early December 2019. Based on their suggestion and as per Minister's request, a cabinet paper was prepared requesting to present it at the cabinet working session. On 24 Dec 2019, national MPI was presented to the cabinet working session. Following this, it was advised by the cabinet working session to prepare a cabinet paper for MPI endorsement by the cabinet. The cabinet paper was prepared and was sent to President's Office during the first week of January 2020. MPI was endorsed by the President on 4 February 2020. With that, NBS started the preparation for the official launch of the results.

References

Alkire, S., and Foster, J. (2011). "Counting and multidimensional poverty measurement", *Journal of Public Economics, 95(7 8), 476-487.*

Alkire, S., Foster, J., Seth, S., Santos, M. E. Roche, J. M. and Ballon, P. (2015). *Multidimensional Poverty Measurement and Analysis*, Oxford University Press.

Alkire, S. and Santos, M. E. (2014). "Measuring Acute Poverty in the Developing World: Robustness and Scope of the Multidimensional Poverty Index", *World Development, 59, 251-274.*

Apablaza, M. and Yalonetzky, G. (2011). "Measuring the dynamics of multiple deprivations among children: the cases of Andhra Pradesh, Ethiopia, Peru and Vietnam", *Young Lives Research in Progress*, Oxford: University of Oxford.

Atkinson, A. B. (2003). "Multidimensional deprivation. Contrasting social welfare and counting approaches", *Journal of Economic Inequality, 1, 51-65.*

Bourguignon, F., and Chakravarty, S. (2003). "The measurement of multidimensional poverty", *Journal of Economic Inequality, 1(1), 25-49.*

Drèze, J. and Sen, A. (2013). *An Uncertain Glory: India and its Contradictions.* Princeton, New Jersey: Princeton University Press.

Foster, J., Greer, J. and Thorbecke, E. (1984). "A class of decomposable poverty measures", *Econometrica: Journal of the Econometric Society, 761-766.*

ICPD Beyond 2014 - Maldives Operational Review 2012 Progress, Challenges and Way Forward, *https://maldives.unfpa.org/en/publications/icpd-beyond-2014-maldives-operational-review-2012progress-challenges-and-way-forward*

Joliffe and Prydz, 2016- the upper middle-income International Poverty Line, set at $5.50/ day, *http://documents.worldbank.org/curated/en/133671495562984832/pdf/ WPS8073.pdf*

Ministry of Health, Maldives Demographic Health Survey Report 2016/17, *http:// www.health.gov.mv/Uploads/Downloads//Publications/Publication(56).pdf*

Ministry of Health, Maldives Demographic Health Survey 2016/17 Profile, *http:// www.health.gov.mv/Uploads/Downloads//Publications/Publication(57).pdf*

National Bureau of Statistics, Maldives population projection, http://statisticsmaldives. gov.mv/maldives-population-projections-2014-2054/

National Bureau of Statistics, Household Income and Expenditure Survey 2009/10, *http://statisticsmaldives.gov.mv/nbs/wp-content/uploads/2015/09/HIES-report.pdf/*

National Bureau of Statistics, Household Income and Expenditure Survey 2016, http://*statis- ticsmaldives. gov.mv/nbs/wp-content/uploads/2018/10/HIES2016-PovertyIn- equality_Report-ENG.pdf*

National Bureau of Statistics, Statistical Yearbook of Maldives, *http://statisticsmaldives. gov.mv/yearbook/2018*

National Bureau of Statistics & John F. May (2017), 'Maldives' Population Dynamics: Policy prospects for human growth and opportunity',*http://statisticsmaldives.gov.mv/nbs/wp- content/uploads/2016/07/Population-Dynamics-Report.pdf*

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