A MULTIDIMENSIONAL VULNERABILITY INDEX FOR THE MALDIVES IN TIMES OF COVID-19

Maldives Bureau of Statistics

A Multidimensional Vulnerability Index for the Maldives in Times of COVID-19

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1. Introduction

The outbreak of COVID-19 across the globe has made countries seek to accelerate their response to control the spread of infection by strengthening prevention and health care programs. Maldives is no exception to this. The first positive cases of COVID-19 emerged in the Maldives on the 7th of March 2020. Since then, the government has taken extreme measure to control the spread of virus through closure of borders from 27th March to 15th July 2020, curfew, limiting mobility and encouraging work from home arrangement for workers from the government and the private sector. While the measures deployed are deemed essential, the situation has had negative consequences on the lives of people and has increased their vulnerability to poverty. The closure of borders has affected the tourism industry and those whose main job was in this sector of the economy. The employment loss in the tourism sector is felt across the country, creating inequality and poverty in the rural communities, who are dependent on tourism income.

The Maldivian economy depends primarily on the tourism and tourism-related sectors. Tourism contributes to 26 percent of the GDP. Maldives' economy is estimated to have contracted by 32 percent in 2020 as tourism, transportation, trade and construction activity slumped (MBS, 2021). Since December 2020, however, tourism has picked up strongly thanks to the absence of quarantine requirements and the unique 'one island, one resort' concept (WB, Mar 29, 2021), but guest house tourism located in inhabited islands has continued to suffer. Despite this rebound in the number of tourists in the country, the tourism sector is still 42 percent below the comparable period in 2019, which shows that the recovery of the economy will take time and will have lasting effects on the population. With the new wave of the pandemic, tightening of measures came into effect again on the 26th May 2021 and continued till June 2021- the recovery is expected to take much longer.

The government was quick to respond to the crisis and the Maldives Resilience and Recovery Plan (RRP) was formulated during the latter half of 2020. The Income Support Allowance has been rolled out to provide a safety-net to affected and displaced workers due to COVID-19 since March 2020. A total of 18,534 individuals received assistance under the program and MVR 292.8 million has been invested by February 2021 (MoFT, 2021).

According to the national Multidimensional Poverty Index (MPI) for Maldives, 28 percent of the population were multidimensionally poor in 2016. Given the negative consequences of the pandemic, it is expected that there has been an increase in the number of poor and that the effect of the pandemic could erase the gains in poverty reduction made over the years.

Following the launch of the national MPI for Maldives in 2020, the need to measure the overall vulnerability exacerbated through the pandemic was felt by the government and it proposed to measure the joint vulnerability of households using a Multidimensional Vulnerability Index (MVI).This measure identifies the vulnerable population who faces more than three vulnerabilities to COVID-19 and to deprivations related to the current context in the country, as well as shows where vulnerable groups live and which characteristics increase vulnerability. The MVI is, thus, a policy tool to direct action towards the most needed groups in times of COVID-19.

2. Why an MVI?

While there may be information on the overall vulnerability of Maldives (eg. percent of the population in informal sector), there is no measure that reflects the joint vulnerabilities households face across all sectors. For a targeted and cost-efficient government response, such information is vital. The national MPI launched in May 2020 (MBS, 2020) would be an ideal candidate to gauge the number and proportion of people at risk, facing multiple deprivations at the same time. However, the national MPI relies on data from the Demographic Household Survey (DHS) 2016 and is thus somewhat outdated to inform a COVID-19 related policy response[1]. Furthermore, the national MPI does not include information on employment and income, impacted due to COVID-19-related preventive measures. Thus, there is a need to a) make use of the latest available data and b) to complement the national MPI capturing some of the deprivations most relevant for the current context.

3. Data source for MVI

The data source used to compute the MVI is the Household Income and Expenditure Survey 2019 (HIES 2019). HIES 2019 covers only administrative islands, therefore, the employed population residing in tourist resorts and industrial islands is not included. The survey was in field when the first case of COVID-19 was reported in the country. Due to the health emergency state declared in the country, it was not possible to continue implementing the survey in the remaining Atolls.[2] As a result, the survey covers 17 Atolls and the capital city Male' (refer to Annex 1 on Map of Maldives). The initial sample design was adjusted and the results were made representative at the Republic level, Male' and Atolls. For the Atolls, the results were also representative at each individual Atoll where data was collected.

For administrative islands, a weighted multi-stage stratified sampling approach was used. Sample selection for the survey was implemented in two stages. The first stage included the selection of Enumeration Area (EA) as primary sampling units from each stratum. The second stage of sample selection involved a systematic selection of a fixed number of households from each EA. Fifteen household from each EA were selected for the survey. A total of 5,415 households were selected from administrative islands. However, as the survey was not implemented in all islands, a total 4,817 households were interviewed.

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1 Each of this dataset has its strength and limitations. MPI is constructed using DHS 2016/17 data. DHS does not include information related to employment but has better indicators to reflect the health of the population. HIES on the other hand is rich in employment data but does not capture health of the population as in DHS.

2 Due to Covid, NBS was not able to carry out field operation in Noonu, Meemu and Gnaviyani Atoll.

4. Design of the MVI for Maldives

The MVI uses the Alkire-Foster method, the same method used to compute the national MPI.[3] This method allows the identification of deprivations in dimensions affected by the pandemic. The index includes five dimensions measured at the household level: education, employment, health, housing and basic services. These dimensions have been selected to cover the ones included in the national MPI, and also to capture and profile the vulnerability of households to poverty, particularly exacerbated through the pandemic.

The MVI is calculated as a product of the percentage of the population that is multidimensionally vulnerable (the incidence, H) and the average share of deprivations that vulnerable people experience (the intensity, A). A household and all its members are identified as multidimensionally vulnerable if they are deprived in more than three of the ten weighted indicators included in the index (vulnerability cut-off or k=31%).

It is important to note that given the source of data, it is not possible to trace and track individuals falling into poverty or becoming vulnerable as a result of the pandemic. The information gathered by the MVI gives a rapid and detailed assessment of where the most vulnerable people live (region, area), and the characteristics that increase their vulnerability.

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3   To learn more on the Alkire-Foster method please refer to "http://statisticsmaldives.gov.mv/nbs/wp-content/uploads/2020/06/Multidimensional-Poverty-in-Maldives-2020_4th-june.pdf"

5. Multidimensional Vulnerability Index (MVI) structure

The MVI is structured as follows: the five dimensions each comprise of two indicators, a total of ten indicators in the MVI. Each indicator assigned an equal weight, as seen from table 1.1. The indicators were selected after consulting with relevant stakeholders and reflect the different angles to measure vulnerability in the Maldives. Careful consideration was also given to select indicators that would reflect the current COVID-19 context in the country. This includes measures of social deprivation, loss of income, weak ability to cope and resilience of the household.

Table 1.1: Dimensions, indicators and weights included in the MVI, HIES 2019

Multidimensional Vulnerability Index			
Dimension	**Indicator**	**Deprivation cut-off** **A household and all its members are deprived if …**	**Weight**
Education	Years of schooling	no member (15 years and above) has completed 10 years of schooling	10.0%
	Access to internet	the household does not have access to internet or IT assets (computer, laptop/ tablet)	10.0%
Employment	Youth not in education, employment, or training (NEET)	any youth member (18-35 years) is not engaged in education, employment or training	10.0%
	No formal work or no employment in the household	no member is employed in a formal job or is not working for income	10.0%
Health	Chronic condition	the household has more than 1 member with a chronic health condition	10.0%
	Hospitalisation of household member	the household has more than 1 member admitted in the hospital in the past 12 months	10.0%
Housing	Overcrowding	the household has more than 3 persons per sleeping room	10.0%
	Quality of housing	the quality of housing is basic (old, very basic furniture, repairs needed) or has bad housing material for either roof, floor, walls	10.0%
Basic services	Access to sanitation	the household does not have access to sewerage system established by the government or shares the toilet (even within established system) with another household	10.0%
	Safe drinking water	the household does not use a safe source of drinking water	10.0%

6. Key Results

The results from this assessment reveal that at the Republic level, 29% of the population are multidimensionally vulnerable to poverty (H). In addition, they are vulnerable in close to half of the weighted sum of indicators (A). The overall MVI, calculated as the product of the percentage of the population that is vulnerable and the average share of deprivations experienced by the vulnerable population, is 0.140.

Table 1.2: Incidence, Intensity and Multidimensional Vulnerability Index for Maldives, HIES 2019

| Vulnerability Cut-off (k)	Index	Value	Confidence Interval (95%)	
	MVI	0.140	0.128	0.153
k value=31%	Incidence (H, %)	29.4%	26.9%	32.0%
	Intensity (A, %)	47.6%	47.1%	48.2%

Source: Household Income and Expenditure Survey, 2019

Accounting for the current pandemic context, it is expected that vulnerability to poverty will (if it hasn't yet) increase. Therefore, it is important to look at the composition of multidimensional vulnerability to poverty in the country, in order to inform the development of specific interventions needed for recovery planning.

Figure 1.1 shows the indicators in which the vulnerable population faces the highest levels of deprivations - through censored headcount ratios. The censored headcount ratios measure the percentage of the population who is both multidimensionally vulnerable and deprived in each indicator. The result shows that a large percentage of the population is multidimensionally vulnerable and also deprived in access to safe drinking water (23.5%) and in youth NEET (19.6%). These deprivations are followed by the lack of access to improved sanitation, where 18.9% of the population is multidimensionally vulnerable and deprived in that indicator. In addition, 17.1% of individuals are multidimensionally vulnerable and live in a household where there is no access to internet or IT assets. A reduction in any of the censored headcount ratios is expected to reduce the MVI and improve the lives of the most vulnerable during the pandemic.

Figure 1.1: Censored Headcount Ratios, HIES 2019
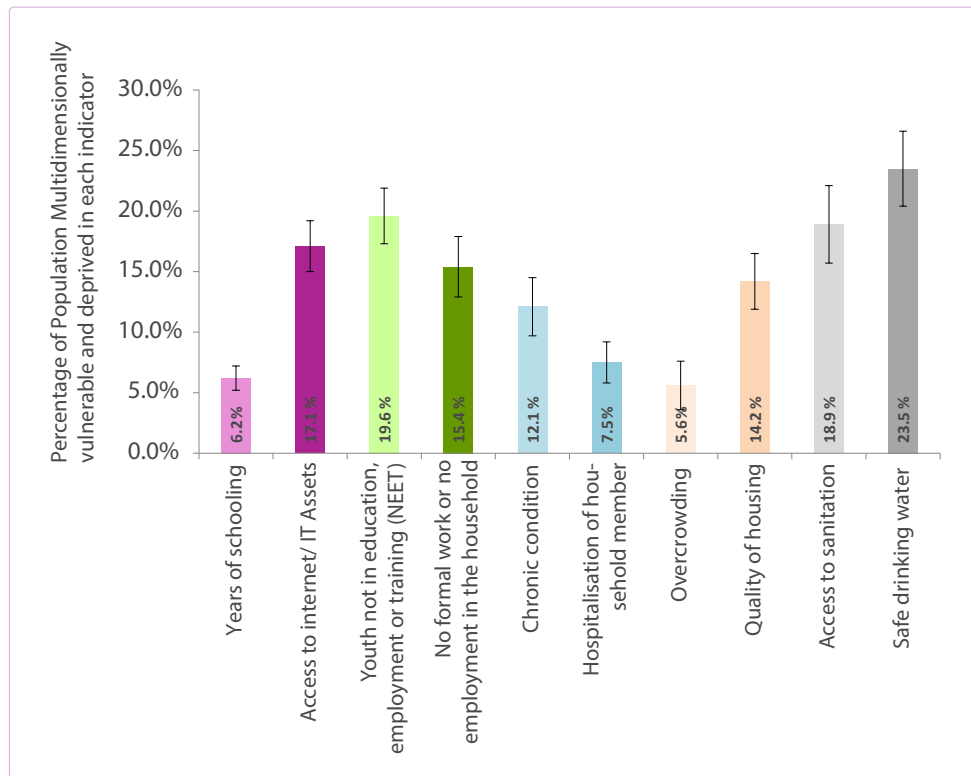
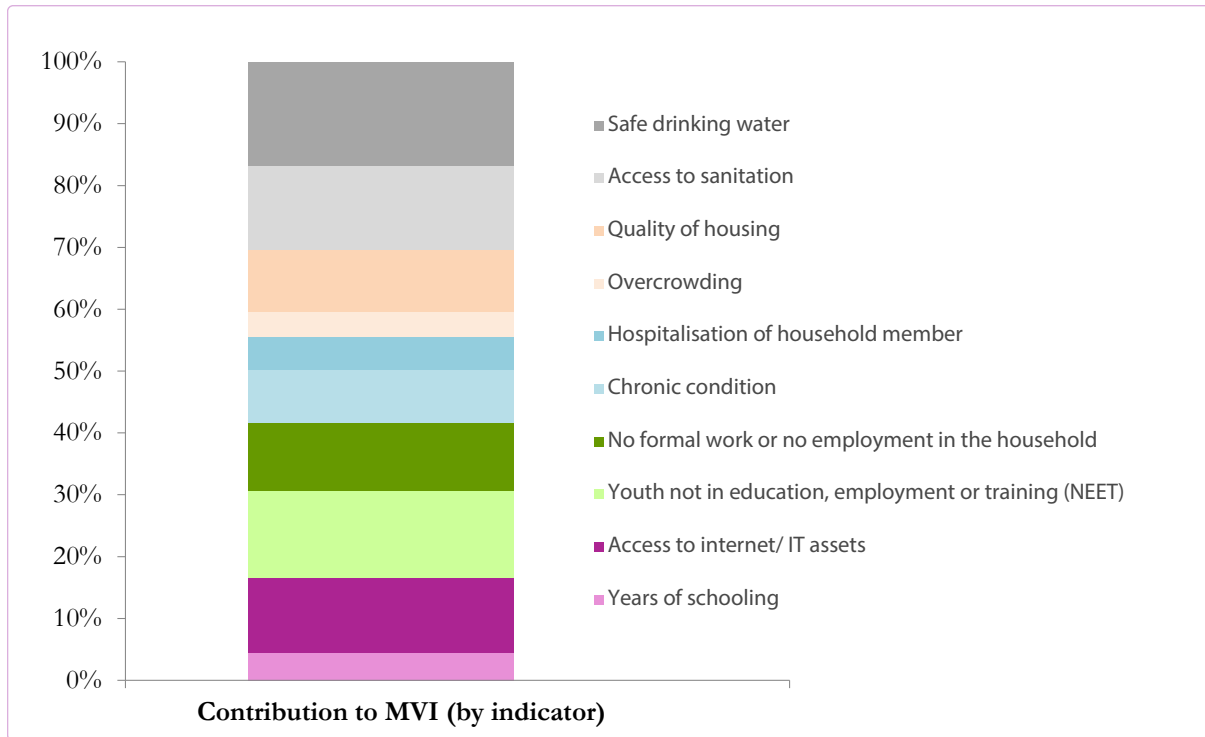
Source: Household Income and Expenditure Survey, 2019

The percentage contribution of each of these indicators to the MVI, presented in Figure 1.2, provides insight for the recovery efforts during this crucial time. Access to safe drinking water is the indicator with the largest contribution to the MVI, followed by youth NEET, access to sanitation, access to internet or IT assets, no formal work or no employment in the household. In turn, the indicators that contribute the least to the MVI are overcrowding, years of schooling and hospitalisation of more than one household member.

At the dimension level, basic services and employment are the ones with the largest contribution. The pandemic has resulted in loss of income for many, especially for those working in the tourism sectors and in informal jobs. These economic factors result in low household income; it is not possible for them to stay at home since they are forced to seek employment opportunities. Contribution by access to internet/IT assets is also significant. Due to COVID-19, education has progress into online schooling. Those already facing deprivations in access to internet will be affected mostly as they would require consistent access to internet and computers. Ministry of Education currently provides data packages for students who face internet issues in attending online classes and additional assistance for most vulnerable students by providing dongles, printed copies of work, food packages, among other materials.[4]

However, during the recovery, long-term strategies will result in the increased resilience of households.

Figure 1.2: Percentage contribution of indicators to the national MVI at Republic, HIES 2019

Source: Household Income and Expenditure Survey, 2019

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4   A total of 18,447 students were provided data packages in February 2021 for (Gr 1 to 12 of Greater Male' region 16 schools, GDh. Thinadhoo 3 schools, Fuvahmulah 4 schools, Addu atoll 9 schools).

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Regional disaggregation

The results by Male' and Atolls are presented in Table 1.3. While 7% of the population is multidimensionally vulnerable in Male', close to half of the population in the Atolls are vulnerable. In addition, the intensity of multidimensional vulnerability is also higher in the Atolls, with 48.4% as the average number of deprivations that the vulnerable population face. The difference in the intensity is statistically significant as the confidence intervals do not overlap. It is also important to note that, despite the relatively low incidence of multidimensional vulnerability in Male', the intensity of vulnerability to poverty is high, showing that the vulnerable population face a large number of overlapping deprivations. More precisely, a vulnerable person in Male' experiences, on average, 41.9% of the weighted sum of deprivations. The overall MVI for Male is 0.031 while it is 0.239 for the Atolls, showing a statistically significant difference.

The impact of COVID-19 is expected to have a lasting effect on the population living in the island. The loss of jobs and income, inter-island mobility restrictions, unable to sell locally produced and rising prices in basic consumer goods is expected to erode their coping ability and increase household vulnerability.

Table 1.3: Incidence, Intensity and Multidimensional Vulnerability Index (MVI) for Male' and Atolls, HIES 2019

Index	Population Share (in %)	Male'			Population Share (in %)	Atolls		
		Value	Confidence Interval (95%)			Value	Confidence Interval (95%)	
MPI	47.5%	0.031	0.021	0.044	53%	0.239	0.224	0.255
Incidence (H, %)		7.3%	5.1%	10.5%		49.4%	46.4%	52.3%
Intensity (A, %)		41.9%	40.7%	43.1%		48.4%	47.9%	49.0%

Source: Household Income and Expenditure Survey, 2019

The censored headcount ratios represented in Figure 1.3, reflect significant regional differences in the percentage of people who are multidimensionally vulnerable and also deprived in each indicator among Male' and the Atolls. In the Atolls, a large percentage of individuals who are multidimensionally vulnerable are also deprived in access to safe drinking water (44%), access to safe sanitation (35%) and youth NEET (32%). By contrast, in Male' 6% of the population is deprived in youth NEET and also multidimensionally vulnerable. This percentage is followed by 5% of the population being multidimensionally vulnerable and deprived in chronic health condition, and 5% being multidimensionally vulnerable and living in overcrowded condition. The current pandemic context and the contention measures put in place could play a role in exacerbating these deprivations.

Chronic condition is a deprivation that is likely to increase the morbidity and mortality if infected by COVID-19. Since the percentage of the population who is both multidimensionally vulnerable and deprived in chronic condition is significantly higher in Male' than in the Atolls, the risk of morbidity and/or mortality might be higher in the capital city. A look at the number of COVID-19 cases in the country shows

that number of positive cases and hospitalisation is high among population with co-morbid conditions. Simultaneously, the different measures implemented to content the health crisis, are likely to increase the deprivations in the indicator of youth NEET and overcrowding, among others. Therefore, if these are the highest deprivations faced by the multidimensionally vulnerable population in Male', actions should be put in place towards reducing them, particularly in the capital. As we are experiencing the third wave of the

pandemic, such measures are important to reduce the burden of health facilities.

In terms of vulnerability dimensions, Figure 1.4 shows that the basic services dimension contributes more in the Atolls to overall multidimensional vulnerability, whereas health indicators are the ones with some of the largest contributions in the capital city. It would thus be important to address these gaps and prioritize actions accordingly.

Figure 1.3: Censored headcount ratios for Male' & Atolls, HIES 2019
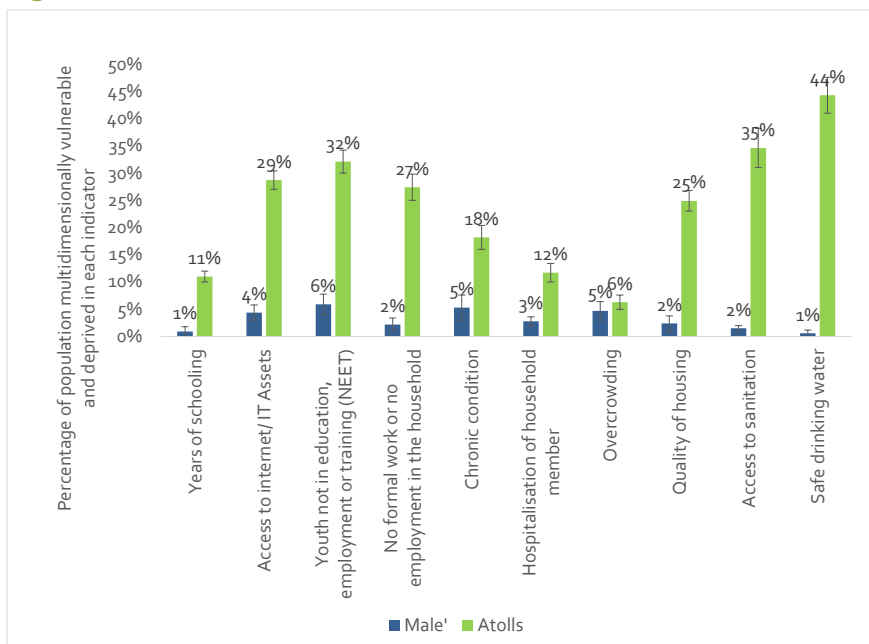
Source: Household Income and Expenditure Survey, 2019

Figure 1.4: Percentage contribution of each indicator to MVI for Male' and Atolls, HIES 2019
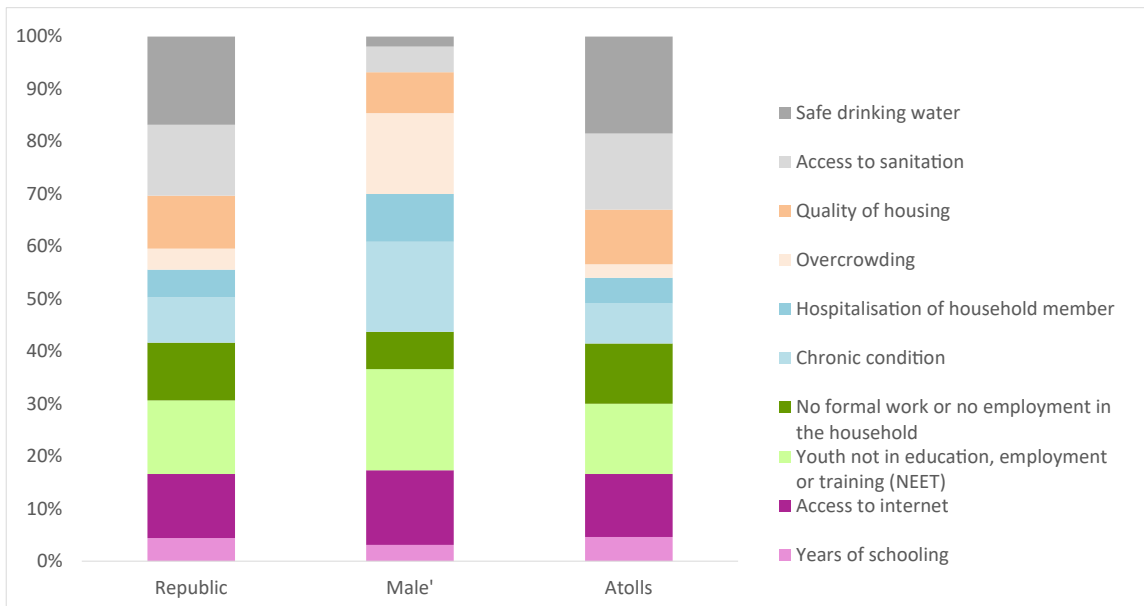
Source: Household Income and Expenditure Survey, 2019

MVI by Atoll:

The MVI gives us the opportunity to look at the geographic distribution of the vulnerable population. The following maps present the distribution of vulnerable population across Atolls, where multidimensional vulnerability is shown in terms of percentage of population and number of people. The highest incidence of multidimensional vulnerability is found in F (59.9%), GDh (57.9%), and Lh Atoll (55.4%). In terms of the actual number of people, most of the vulnerable people are in Male' (15,659), HDh (13,629) and Addu City (S) (12,435). The results show that the largest incidence of multidimensional vulnerability, as well as the largest number of multidimensional vulnerable people are found in bigger Atolls (Addu City, HDh, GDh) in the country, despite having access to transport, health and education facilities within these Atolls.

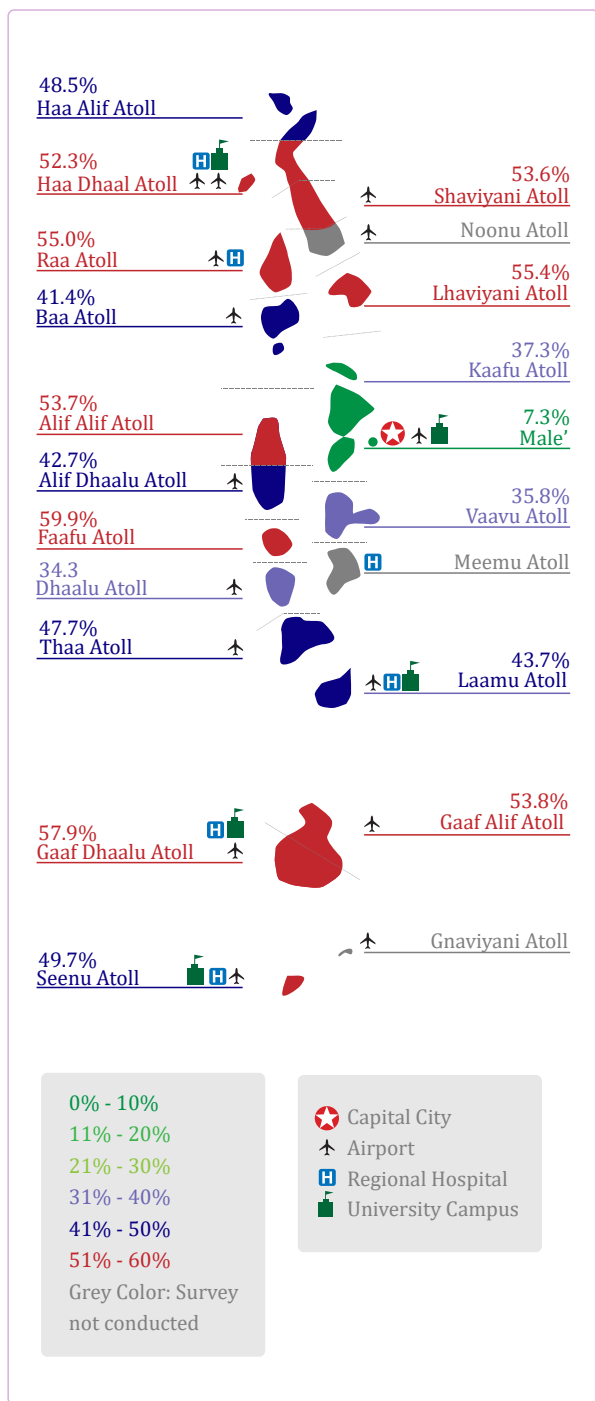## Figure 1.5: Map of Maldives by Incidence of multidimensional vulnerability

48.5%
Haa Alif Atoll

52.3%
Haa Dhaal Atoll

55.0%
Raa Atoll

41.4%
Baa Atoll

53.7%
Alif Alif Atoll

42.7%
Alif Dhaalu Atoll

59.9%
Faafu Atoll

34.3
Dhaalu Atoll

47.7%
Thaa Atoll

57.9%
Gaaf Dhaalu Atoll

49.7%
Seenu Atoll

53.6%
Shaviyani Atoll

Noonu Atoll

55.4%
Lhaviyani Atoll

37.3%
Kaafu Atoll

7.3%
Male'

35.8%
Vaavu Atoll

Meemu Atoll

43.7%
Laamu Atoll

53.8%
Gaaf Alif Atoll

Gnaviyani Atoll

0% - 10%	⊗ Capital City
11% - 20%	✈ Airport
21% - 30%	Ⓗ Regional Hospital
31% - 40%	▪ University Campus
41% - 50%	
51% - 60%	
Grey Color: Survey not conducted	

Figure 1.6: Map of Maldives by number of vulnerable people

8,863
Haa Alif Atoll

13,629
Haa Dhaal Atoll

10,928
Raa Atoll

5,484
Baa Atoll

4,239
Alif Alif Atoll

4,536
Alif Dhaalu Atoll

3,565
Faafu Atoll

3,014
Dhaalu Atoll

6,421
Thaa Atoll

10,159
Gaaf Dhaalu Atoll

12,435
Seenu Atoll

9,906
Shaviyani Atoll

Noonu Atoll

5,328
Lhaviyani Atoll

5,080
Kaafu Atoll

15,659
Male'

673
Vaavu Atoll

Meemu Atoll

6,719
Laamu Atoll

6,142
Gaaf Alif Atoll

Gnaviyani Atoll

0 - 2,000	⊗ Capital City
2,001 - 4,000	✈ Airport
4,001 - 6,000	Ⓗ Regional Hospital
6,001 - 8,000	▪ University Campus
8,001 - 10,000	
More than 10,001	
Grey Color: Survey not conducted	

Source: Household Income and Expenditure Survey, 2019

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As depicted by the censored headcount ratios presented in Annex A2, the indicators with the largest censored headcount ratios (percentage of people deprived in one indicator and also multidimensional vulnerable) in the Atolls are access to safe drinking water and access to sanitation. A significant proportion are also deprived in youth NEET and access to internet/IT assets. Furthermore, it is relevant to underline the differences between Atolls in the percentage of population who is multidimensionally vulnerable and live in a household where there is no member employed in the formal sector or working for income. For instance, in R and GDh atolls this represents almost 40% of the population, while in V and Dh atolls it's around 15%. HDh and Addu City are the largest Atolls in terms of population, and it is important to understand what drives vulnerability in these Atolls. In HDh Atoll, the multidimensionally vulnerable population are mostly deprived in access to safe drinking water and having a youth NEET in the household. In Addu city, the multidimensionally vulnerable are deprived in access to sanitation and access to safe drinking water.

Breakdown of vulnerability by indicator (Figure 1.7) mapped together with the existing services and facilities in the Atolls provides valuable information for addressing deprivations resulting during the pandemic. The dimension of basic services is contributing the most to multidimensional vulnerability to poverty in the bigger Atolls in terms of population share (Addu, HDh, GDh), whereas this is the dimension that contributes the least in Male'. In Raa Atoll, the contribution from employment indicators is higher than in other Atolls and in Male'. In Dh, HA, ADh and K Atolls, the indicator of youth NEET is contributing more than in any other Atoll. Youth remains a vulnerable population in the labour market, due to skill shortage and unable to find a desired job within their island. However, the contribution of this indicator is larger in Male' than in the Atolls. Concern for youth NEET is at national level and this might become a permanent status due to the pandemic and to substantial economic cost for the government.

Figure 1.7: Percentage contributions of each indicator to multidimensional vulnerability by Atoll, HIES 2019
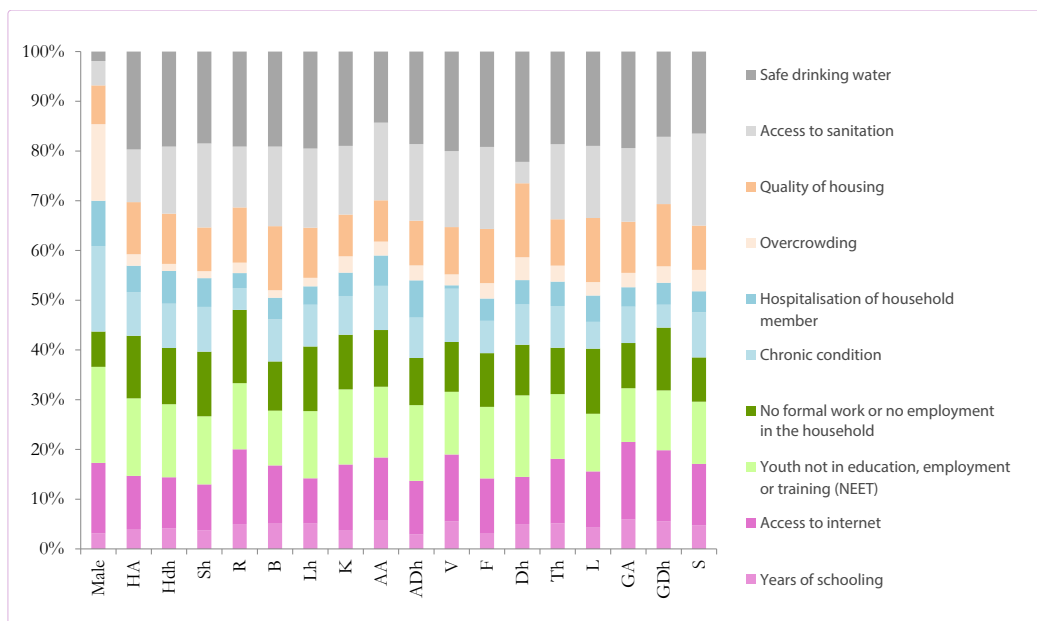
Source: Household Income and Expenditure Survey, 2019

Disaggregation by household characteristics

The MVI can also be used to look at different household characteristics that may be risk factors for vulnerability to poverty because of the pandemic. This includes vulnerability across different age groups, members with disability in the household and household headship.

Breakdown of vulnerability by demographic composition is presented in Table 1.4. The results present those individuals aged 65 years and above, experience greater vulnerability compared to other age groups (39.4%). The average household size in Maldives is 5.4, and individuals 65 years and older are 7% of the population. The intensity of vulnerability is higher among this group (48.8%) compared to other age groups (although it is only significantly higher than the 18-35 population (47.2%)) and their MVI is 0.192. People aged 65 years and above are in higher risk because they have higher morbidity and mortality.[5] Out of the total 171 deaths up to the end of May 2021, 110 COVID deaths are of those aged 65 years and above. Close to one in three children (0-17 years) also experience multidimensional vulnerability (31.2%). Although they might be less likely to be affected by the virus, they are likely to be affected by school closures, staying home in confine spaces and shocks to other members of the household (such as loss of job for those working in informal jobs).[6] Thus, results underline larger risk impacting children and individuals 65 years and older by the current context of the pandemic, the disruption of services and the economic slowdown.

Table 1.4: MVI, incidence and intensity of vulnerability by age group, HIES 2019

Age group	Population Share (%)	MVI	Confidence Interval		Incidence	Confidence Interval		Intensity	Confidence Interval	
0-17	36.1%	0.149	0.134	0.165	31.2%	28.2%	34.4%	47.7%	47.1%	48.3%
18-35	29.2%	0.132	0.120	0.144	27.9%	25.4%	30.5%	47.2%	46.6%	47.8%
36-64	27.5%	0.130	0.118	0.142	27.2%	24.7%	29.7%	47.7%	47.2%	48.3%
65+	7.2%	0.192	0.172	0.215	39.4%	35.1%	43.8%	48.8%	47.9%	49.6%

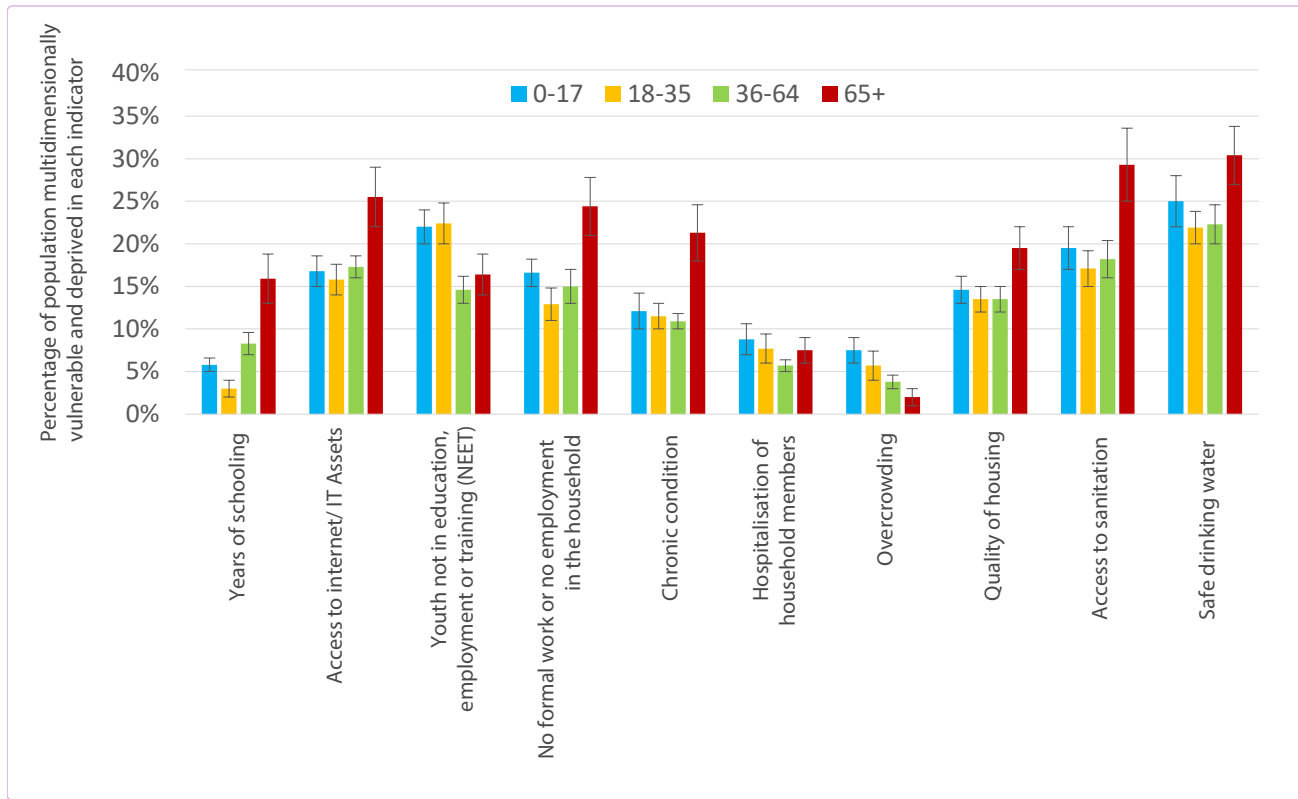*Source: Household Income and Expenditure Survey, 2019*

The censored headcount ratios presented in Figure 1 8, show significant differences in the composition of multidimensional vulnerability across age groups. The percentage of population who is multidimensionally vulnerable and deprived in each of the indicator is higher among individuals 65 years and over, except for the indicators of overcrowding and youth NEET, where vulnerable children and individuals aged 18-35 years experience higher levels of deprivation. Additionally, children who are in multidimensionally vulnerability face highest deprivations in access to safe drinking water and in having a youth NEET in the household, while the vulnerable elderly population experiences highest levels of deprivation in both indicators of the basic services dimension (access to sanitation and safe drinking water) and in access to internet/IT assets.

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5   Highest death rate reported for this age group (https://covid19.health.gov.mv/dashboard/?c=0)

6   Ministry of Education also attended to cases regarding children in absenteeism, conflict with the law, mental health disorders, and children who have been abused or neglected during lockdown. Students with mental health issues were assisted with psychological support.

Figure 1 8: Censored headcount ratios by age group, HIES 2019

Source: Household Income and Expenditure Survey, 2019

Gender norms and gender equality is of importance when analysing vulnerability. Table 1.5 shows that female-headed households have higher levels of multi-dimensional vulnerability; however, this result is not significant at 5%. This emphasises that women and girls should not be overlooked as they face the highest risk of suffering devastating losses from the pandem-ic. Lockdown and restricted movement have results in increased household chores for women and violence against women. This has increased the livelihood gap in the islands and female-headed households are more likely to bear the brunt of the pandemic and at the risk of facing increasing deprivation at household level.

## Table 1.5: MVI, incidence and intensity by Household Headship, HIES 2019

Household Headship	Population Share (%)	MVI	Confidence Interval		Incidence	Confidence Interval		Intensity	Confidence Interval	
Female-headed	41.8%	0.155	0.134	0.179	32.1%	27.8%	36.8%	48.3%	47.4%	49.1%
Male-headed	58.2%	0.129	0.116	0.144	27.4%	24.6%	30.5%	47.1%	46.4%	47.9%

Source: Household Income and Expenditure Survey, 2019

Accordingly, the censored headcount ratios by headship presented in Figure 1 9, show that the composition of multidimensional vulnerability is similar across female and male-headed households. The percentage of population who is multidimensionally vulnerable and deprived in each of the indicators is higher (although not statistically significant) in female-headed households, except for the deprivation of living in an overcrowded household, which is higher in households with a male household head. The deprivations in which we can observe higher discrepancies between the sex of the household head and where these figures are higher for female-headed households (although not statistically significant) are in the dimensions of basic services and employment: youth NEET (22% vs. 18%), no formal work or no employment (18% vs. 14%) and access to sanitation (22% vs. 17%).

Figure 1.9: Censored headcount ratios by household headship, HIES 2019
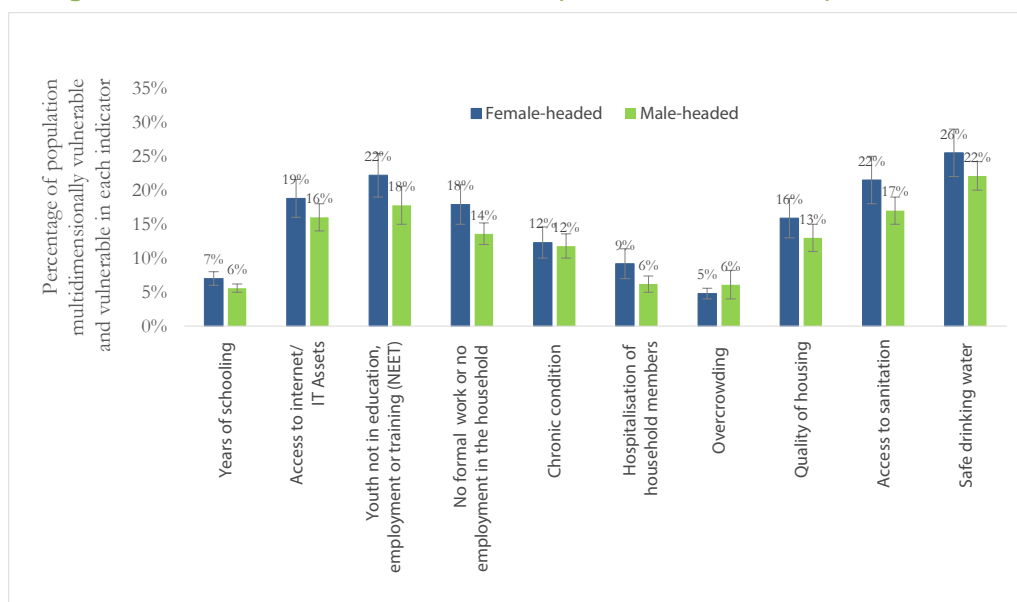
Source: Household Income and Expenditure Survey, 2019

HIES 2019 measured disability using Washington Group Short set of questions (WG-SS). A person living with a disability has been defined as 'those with at least one domain that is coded as a lot of difficulty or cannot do it at all'. For the purpose of this analysis, if any member of the household has a disability, a household is considered as a household with a member living with disabilities. The results are shown in Table 1.6 and reveal that households with any member living with disabilities experience a significantly higher level of multidimensional vulnerability. More precisely, 37.5% of the population who live in a household with any member living with disabilities is multidimensionally vulnerable, while this incidence is of 24.6% in households with no member living with disabilities. Although there is no statistically significant difference in the average intensity of vulnerability between both groups, the MVI is significantly higher in households with at least one member living with disabilities.

### Table 1.6: MVI, incidence and intensity by disability status, HIES 2019

Disability status	Population Share (%)	MVI	Confidence Interval		Incidence	Confidence Interval		Intensity	Confidence Interval	
Household without any member living with disabilities	86.7%	0.117	0.105	0.130	24.6%	22.2%	27.2%	47.5%	46.8%	48.2%
Household with any member living with disabilities	13.3%	0.179	0.160	0.200	37.5%	33.4%	41.9%	47.8%	46.9%	48.6%

Source: Household Income and Expenditure Survey, 2019

The pandemic has affected the lives of many and persons living with disabilities face higher health challenges, and socio-economic exclusion. The percentage of population who is multidimensionally vulnerable and deprived in each of the indicators is higher among households with any member living with disabilities (Figure 1.10). Striking differences are observed in the share of the population who is multidimensionally vulnerable and deprived in the indicators of the health and basic services dimensions and in the indicator of youth NEET, among households with and without any member living with disabilities. The indicator of chronic condition can be considered as a risk factor and take precedent over others in the context of COVID-19, as households with any member living with disabilities are more likely to suffer the burden of disease and are more likely to experience extreme condition of vulnerability.

Figure 1.10: Censored headcount ratios by disability status, HIES 2019
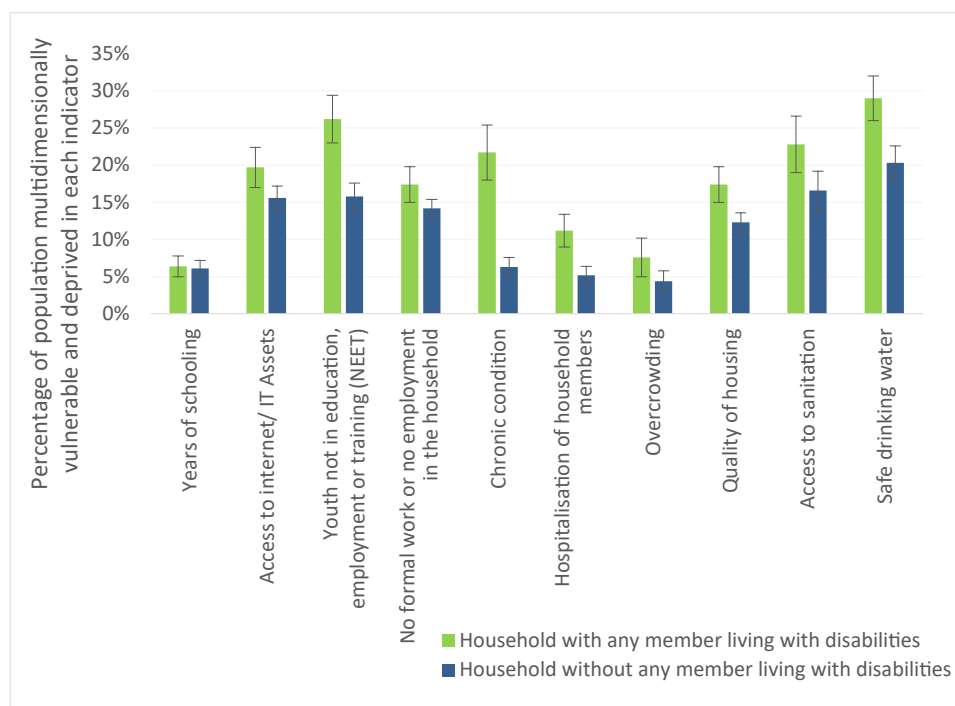
Source: Household Income and Expenditure Survey, 2019

7. Conclusion

Addressing a newly emerging pandemic is a challenging task. The uncertainty and prolonged nature of economic recovery is already taking a toll on the lives of many. Where data is not available to explore the impact of the pandemic on the population, the MVI is an important tool. It brings additional details on who the vulnerable population is, where they live, what deprivation they face and additional risk factors that might exacerbate their vulnerability during the pandemic. These finding can gauge the recovery efforts of the government and address the neediest urgently.

Thus, the main finding from the MVI analysis can be summarized as follows:

- The results reveal that 29.4% of the population is multidimensionally vulnerable to poverty and they experience, on average, close to half of the weighted deprivations (47.6%). The overall MVI, calculated as the product of the percentage of the population who is multidimensionally vulnerable (the incidence, H) and the average share of indicators in which vulnerable people are deprived (the intensity, A), is 0.140.
- Multidimensional vulnerable individuals face the highest levels of deprivation in access to safe drinking water, in living in a household with at least one youth who is not in education, employment or training (NEET) and in access to improved sanitation, followed by access to internet or IT assets. It would therefore be important to prioritize resources in order to reduce these relevant deprivations in the whole country, particularly during the current context, the disruption of services and the economic slowdown.
- Regional disaggregation reveals that 50% of the

population living in the Atolls are vulnerable, whereas the percentage is 7% among the population living in Male'. The main three deprivations faced by the vulnerable population in the Atolls are not having access to safe drinking water, access to improved sanitation and living in a household with at least one youth who is not in education, employment, or training (NEET). The multidimensionally vulnerable population in Male' also experiences higher deprivations in youth NEET and additionally in chronic health condition and in living in a household where there is more than three persons sleeping in the same room. Moreover, the dimension of basic services is the one contributing the most to overall vulnerability in the Atolls, whereas it is the one contributing the least in Male'. In the capital city, the health indicators are the ones with some of the largest contributions to multidimensional vulnerability. It would thus be important to address these gaps and prioritize actions accordingly.

- Although the percentage of people in Maldives who is both multidimensionally vulnerable and deprived in years of schooling and overcrowding is the lowest, it is important to recognize that the government should continue working on reducing these deprivations since these indicators are also at risk of increasing due to the disruption of services during the pandemic.
- Children under 18 years old and the elderly aged 65 and above are the most multidimensionally vulnerable groups within the population of the country in terms of age. Children who are in multidimensionally vulnerability face highest deprivations in access to safe drinking water and in having a youth NEET in the household, while the vulnerable elderly population experiences highest levels of deprivation

in both indicators of the basic services dimension (access to sanitation and safe drinking water) and in access to internet/IT assets.

- The characteristics by household head show that female-headed households present larger levels of multidimensional vulnerability than male-headed households, although this result is not found to be statistically significant. The dimensions in which the multidimensionally vulnerable people living in these households face the highest levels of deprivation are in basic services and employment. It is thus important to support women in economic response and recovery, protecting their jobs and increase their economic empowerment in the process.

- Households with any member living with disabilities experience significantly higher levels of multidimensional vulnerability than households without any member living with disabilities. Providing access to safe drinking water, access to improved sanitation and creating better education, training, decent jobs and employment opportunities for the youth, would need to be prioritized within the policy action in order to reduce the multidimensional vulnerability of this group of population.

8. References:

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Annex

ANNEX A1: MAP OF MALDIVES (WITH ENGLISH NAME FOR EACH ATOLL)

MALDIVES

A Multidimensional Vulnerability Index for the Maldives in Times of COVID-19
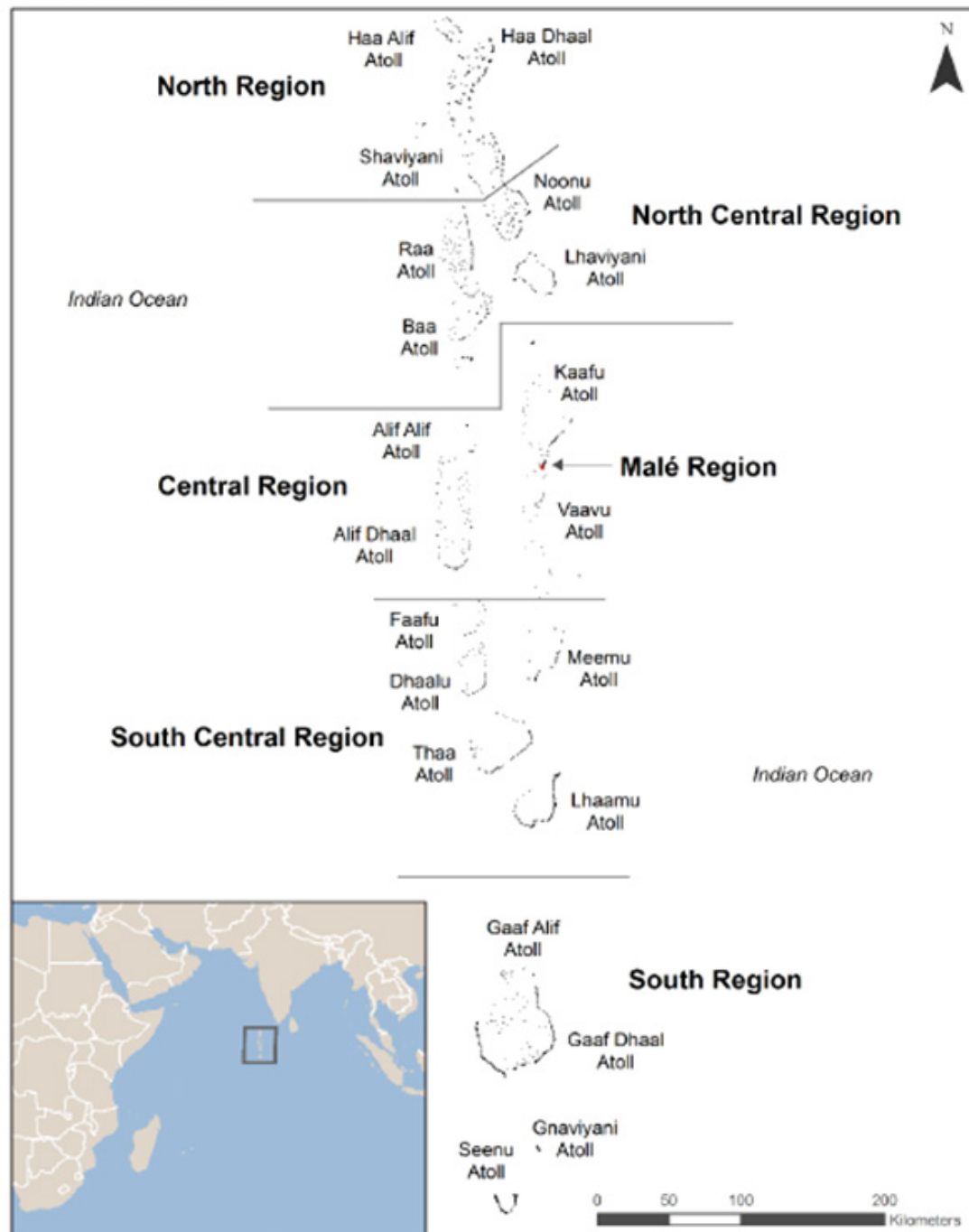
Censored Headcount ratio (%)	Male	HA	Hdh	Sh	R	B	Lh	K	AA	ADh	V	F	Dh	Th	L	GA	GDh	S
Years of schooling	0.9%	9.1%	10.2%	9.4%	13.4%	10.1%	13.7%	6.5%	15.3%	5.9%	9.3%	9.2%	7.6%	11.9%	9.4%	15.3%	16.2%	11.7%
Access to internet	4.4%	24.5%	25.9%	23.8%	39.7%	22.4%	24.2%	22.5%	33.1%	21.9%	22.7%	32.2%	14.5%	30.6%	24.2%	40.7%	42.1%	30.6%
Youth not in education, employment or training (NEET)	5.9%	35.8%	36.9%	35.3%	35.3%	21.4%	36.1%	25.8%	37.3%	30.7%	21.2%	42.1%	25.1%	30.6%	25.2%	28.4%	35.5%	31.0%
No formal work or no employment in the household	2.2%	28.7%	28.5%	33.3%	39.1%	19.2%	34.6%	18.8%	29.9%	19.2%	16.8%	31.5%	15.6%	21.9%	28.3%	23.8%	37.2%	22.0%
Chronic condition	5.3%	20.1%	22.4%	23.2%	11.7%	16.4%	22.3%	13.3%	23.3%	16.4%	18.0%	18.9%	12.4%	19.8%	11.8%	19.0%	13.7%	22.7%
Hospitalisation of household members	2.8%	12.1%	16.5%	14.8%	8.0%	8.3%	9.9%	8.0%	16.0%	15.2%	1.2%	13.1%	7.5%	11.6%	11.4%	10.2%	12.9%	10.4%
Overcrowding	4.7%	5.2%	3.6%	3.7%	5.7%	2.8%	4.6%	5.6%	7.4%	6.0%	3.6%	9.0%	7.0%	7.6%	5.8%	7.6%	9.8%	10.6%
Quality of housing	2.4%	23.9%	25.3%	22.5%	29.5%	25.1%	27.0%	14.4%	21.7%	18.2%	15.9%	32.0%	22.8%	21.8%	28.0%	26.9%	36.8%	22.1%
Access to sanitation	1.5%	24.2%	33.8%	43.5%	32.4%	31.1%	42.3%	23.5%	40.8%	31.2%	25.7%	48.4%	6.6%	35.5%	31.4%	38.7%	39.8%	45.9%
Safe drinking water	0.6%	45.1%	48.1%	47.5%	50.7%	37.1%	52.0%	32.4%	37.6%	37.7%	33.7%	56.1%	33.9%	43.8%	41.0%	50.8%	50.4%	40.8%

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