Food and Agriculture Organization of the United Nations

FAO Statistics Working Paper Series

Issue 24-42

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FAO Statistics Working Paper Series / 24-42

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Food and Agriculture Organization of the United Nations
Rome, 2024

Required citation:
Vollmer, F., Chaudhary, N., Granger, A. & Boero, V. 2024. *The rural multidimensional poverty index applied to Small Islands Developing States*. FAO Statistics Working Paper Series, No. 24-42. Rome, FAO. https://doi.org/10.4060/cd3038en

ISBN 978-92-5-139303-1

Abstract

This paper presents the technical summary and country results of the first application of the Rural Multidimensional Poverty Index (R-MPI) to two Small Islands Developing States (SIDS) in the Pacific Community, Kiribati and the Marshall Islands. The R-MPI was jointly developed by the Food and Agriculture Organization of the United Nations (FAO) and the Oxford Poverty and Human Development Initiative (OPHI) and launched in 2022. The R-MPI was designed as a modification of the global Multidimensional Poverty Index (global MPI), first designed in 2010 by the United Nations Development Programme (UNDP) and OPHI. The global MPI encompasses three dimensions of education, health and living standards, and was designed to measure absolute poverty across rural and urban areas. To adjust for the specific challenges and hardships faced by rural communities, the R-MPI replaced the health dimension with food security and nutrition and added two crucial dimensions that rural dwellers are particularly vulnerable and exposed to: rural livelihoods and resources (or a lack thereof), and exposure to risks. After some methodological adjustments to available data, the R-MPI was applied to the two SIDS. Results show that the incidence of rural multidimensional poverty according to the R-MPI is 53.1 percent in Kiribati and 42.3 percent in the Marshall Islands while the intensity of poverty is 41.5 percent and 41.4 percent, respectively. The R-MPI has a value of 0.220 in Kiribati and 0.175 in the Marshall Islands, meaning that the multidimensionally poor in these countries experience respectively 22 percent and 17.5 percent of the total possible deprivations that would be experienced if everyone were fully deprived in all indicators. In both countries, results show a greater degree of rural multidimensional poverty in the adjusted headcount ratio than in the global MPI, with similar levels of average intensities of multidimensional poverty experienced by the rural poor people but greater prevalence of poverty. These differences are driven by indicators in the explicitly rural dimensions. Findings have important implications for policy debates for SIDS.

Contents

Acknowledgements

The authors gratefully acknowledge the financial support from the FAO Office of Small Island Developing States (SIDS), Least Developed Countries (LDCs) and Landlocked Developing Countries (LLDCs). They would like to thank Carola Fabi, Guy Oswald Obama, Priti Rajagopalan and Piero Conforti (FAO) for their helpful comments and collaboration, alongside Fanni Kovesdi (OPHI) and Christian Oldiges (United Nations Economic and Social Commission for Western Asia) for providing comments and suggestions on an earlier draft that helped improve this manuscript. Thanks also go to the Pacific Community (SPC) for providing the data. All errors remain our own.

1 Introduction

The Rural Multidimensional Poverty Index (R-MPI) fills an important research gap on accurate poverty measurement. Based on the international acceptance of multidimensional poverty measures as important tools to complement unidimensional metrics, such as monetary poverty measures, the R-MPI highlights that the world's poor live predominately in rural and remote areas that require an accurate and specifically tailored rural multidimensional measure to capture the full spectrum of deprivations faced by rural communities (FAO and OPHI, 2022).

Based on a thorough literature review, a large comparative data inventory of 29 surveys, vast statistical analysis, an expert consultation, and a participatory field test in Malawi, the R-MPI was designed as a modification of the global Multidimensional Poverty Index (global MPI), first designed in 2010 by UNDP and OPHI. The global MPI encompasses the three dimensions of health, education and living standards, and was designed to measure absolute poverty across rural and urban areas. To adjust for the specific challenges and hardships faced by rural communities, the R-MPI replaced the health dimension with food security and nutrition and added two crucial dimensions that rural dwellers are particularly vulnerable and exposed to: rural livelihoods and resources (or a lack thereof), and exposure to risks. In doing so, the R-MPI includes innovative indicators on the adequacy of agricultural assets ownership, low pay rates, rural social protection and risk exposure, and uses innovations in the field of multidimensional poverty measurement by combining household survey with geospatial and village-level data to capture risks of climate shocks.

The R-MPI was empirically tested using data from four household surveys conducted in Ethiopia (Ethiopia Socioeconomic Survey [wave 3]), Malawi (Integrated Household Survey), the Niger (National Survey on Household Living Conditions and Agriculture) and Nigeria (General Household Survey), which were harmonized within the Rural Livelihoods Information System (RuLIS) by the social and economic statistics team in the FAO Statistics Division. Results demonstrated that the R-MPI complements other measures of poverty by adding detailed rural poverty profiles in the four countries in which it was applied. For instance, food insecurity showed a higher incidence of deprivation in Malawi, whereas child malnutrition is more prominent in the Niger. While a lack of access to electricity and deprivation of assets ownership were less frequent in Nigeria, the only middle-income country where the R-MPI was tested, deprivations related to the adequacy of agricultural assets indicator were similar to deprivations found in the other three low-income countries. This demonstrated the added value of incorporating a direct measure of the adequate endowment (or lack thereof) with agricultural productive assets for farmers, pastoralists, forest dependent people and fisherfolks as a standalone indicator. Further comparisons demonstrated cases in which being deprived in a number of indicators – such as agricultural assets adequacy, or the risk of climate shocks in the case of Nigeria, for instance – did not befall only the multidimensionally poor, but also rural people who can be considered food secure, sufficiently educated, or having reached an acceptable living standard in housing and asset ownership, or having access to clean water and sanitation. The R-MPI thus provides a clear picture of the idiosyncrasies of rural hardship.

Despite the challenges posed by limited data availability and the need for standardized information across various survey types, the 2022 launch and subsequent impact of the R-MPI were generally seen as successful. There is a strong case for expanding it to additional countries and regions, provided that modifications are made for data availability and dimensional comparability can be upheld (across the five dimensions of the R-MPI). The large and harmonized data collection exercises, such as those promoted by the Agricultural Integrated Survey Programme (AGRISurvey) and the 50x2030 Initiative, will improve the measurement of metrics through exercises like the proposed R-MPI.

In this context, the R-MPI is first applied to two Small Islands Developing States: Kiribati and the Marshall Islands. These countries are classified as lower- and upper-middle-income countries, respectively, with low to moderate levels of monetary and multidimensional poverty as measured through existing metrics. The results presented in this report are the first application of the R-MPI to countries in the Pacific Community, and the first empirical application of the R-MPI methodology to two household income and expenditure surveys (HIES). After an initial data inventory, it was determined that the R-MPI could be calculated with minor adjustments to the indicator definitions and weights to capture the specific socioecological characteristics of the countries, while maintaining dimensional comparability. In particular, the index accounts for slow but steady onset events such as rising sea levels, which pose an existential risk to remote and rural communities in SIDS because of the global climate emergency.

The rest of the paper is structured as follows. Section 2 presents a technical summary of the R-MPI and the adjustments made to compute the R-MPI for Kiribati and the Marshall Islands. Two detailed country reports follow in Section 3, which presents the headline figures and partial indices that complement existing country profiles such as the Poverty and Equity Briefs series of the World Bank, and the OPHI Global MPI Country Briefing series.

2 Technical summary and adjustments

The R-MPI uses the Alkire–Foster (AF) method, a counting-based approach that allows poverty to be measured using a choice of dimensions, indicators and weights to reflect context and normative decisions (Alkire and Foster, 2011). The method involves the counting of simultaneous weighted deprivations across indicators that each person or household experiences, and the application of a cross-dimensional poverty threshold to determine the critical mass of deprivations reached to deem a person or a household multidimensionally poor. For example, in the global MPI a person or household is deemed poor if it is deprived in a weighted sum of 33.3 percent or more of the ten indicators across the three equally weighted dimensions of health, education and living standards.

The main headline figures of the AF method are the MPI value, or the adjusted headcount ratio defined as $\mathrm{MPI} = \mathrm{H} \times \mathrm{A}$, where H is the incidence or headcount ratio, referring to the proportion of people identified as multidimensionally poor, and A is the intensity or average deprivation share, calculated as the average share of (weighted) deprivations faced by the multidimensionally poor. The uncensored headcount ratio aggregates the deprivations of the poor and non-poor to show the proportion of the entire population deprived in each indicator, while the censored headcount ratio presents the percentage of people who are poor and deprived in each component indicator, and the weighted sum of the censored headcount ratios makes up the MPI. The percentage contribution of each indicator to the MPI reflects the censored headcount ratio and the weight assigned to each indicator, showing the relative value of each component to the MPI.

The R-MPI, like most multidimensional poverty measures, uses the household as the unit of identification, meaning that the deprivation and poverty status are defined and measured at the household level, i.e. all individuals that live in a deprived or poor household are considered deprived or poor (see UNDP and OPHI, 2019).

All dimensions in the R-MPI are assigned equal weights, and all indicators in each dimension are equally weighted, with the exception of credit denial, which received a lower weight due to its subjective component. Following the global MPI, the R-MPI defines a person as poor if they belong to a household deprived in at least one-third of the weighted indicators. In other words, the poverty cutoff for the R-MPI is 33.3 percent (the same as in the global MPI). The individuals in rural households deprived in 20 to 33.3 percent of the weighted indicators are classified as "vulnerable to poverty", whereas individuals belonging to households deprived in at least 50 percent of the weighted indicators are classified as in "severe poverty". The poverty cutoffs used for the R-MPI were found to be robust to reasonable alternatives, and the adoption of the same thresholds as the global MPI allows both measures to complement each other (FAO and OPHI, 2022). The R-MPI is computed for rural areas using the national definitions of rural areas endorsed by the national statistical agencies.

The complete R-MPI consists of 18 indicators across five dimensions. Details on dimensions, indicators, deprivation thresholds and weights of the R-MPI are presented in Table 1.

Table 1. Dimensions, indicators and weights proposed for the R-MPI

Dimension	Indicator	Deprived if:	Weight (%)
Food security and nutrition	Food insecurity	The household's probability of being severely food insecure exceeds 50 percent.[1]	10
	Child malnutrition	At least one child (aged 6–60 months) of the household is underweight and/or stunted.[2]	10
Education	Years of schooling	No household member of schooling age has completed 6 years of schooling.[3]	10
	School attendance	At least one household member of schooling age (age at which they would complete class 8) does not attend school.	10
Living standards	Cooking fuel	The household uses non-clean fuels for cooking.[4]	3.3
	Improved sanitation	The household's sanitation facility is not improved (according to SDG guidelines).[5]	3.3
	Drinking water	The household does not have access to safe drinking water, or safe drinking water is at least a 30-minute walk (round trip) from home.[6]	3.3
	Electricity	The household has no electricity/solar energy.	3.3
	Housing	The household has inadequate housing: either the floor, roof or walls are made of rudimentary or natural, inadequate materials.[7]	3.3
	Assets	The household does not own more than one of the following assets: television, radio, telephone/mobile phone, refrigerator, bicycle, motorbike, computer or oxcart, and does not own a vehicle.	3.3

[1] Severe food insecurity implies a high probability of reduced food intake and can therefore lead to more severe forms of undernutrition, including hunger. The probability of being severely food insecure is based on FAO's Food Insecurity Experience Scale (FIES).

[2] Underweight: weight for age < –2 standard deviation (SD) of the World Health Organization (WHO) Child Growth Standards median. Stunting: height for age < –2 SD of the WHO Child Growth Standards median.

[3] The age cutoff is country-specific and based on the official school entrance age to primary school and on the year (previous versus current) for which information on school attendance is available. The age threshold is 14 years in Kiribati and the Marshall Islands.

[4] The list of non-clean cooking fuels is country-specific. In Kiribati and the Marshall Islands, these are: collected firewood, charcoal, leaves and husks.

[5] A household is considered to have access to improved sanitation if it has some type of flush toilet or latrine, or ventilated improved pit or composting toilet.

[6] The following water sources are considered as safe drinking water: piped water, public tap, borehole or pump, protected well, and protected spring or rainwater.

[7] Natural inadequate materials are soil/sand, dirt, dung (floor); dirt, stones with mud, wood/straw, grass, stabilized earth, semi-solid and other undefined materials (walls); hides/skins, grass, plastic sheeting, wood, dirt/soil, straw (roof).

Dimension	Indicator	Deprived if:	Weight (%)
Rural livelihoods and resources	Agricultural assets adequacy	The household's share of income from agriculture (excluding agricultural wages) is equal to or above 30 percent and the amount of either land or livestock owned or operated falls in the bottom 40 percent of the cumulative distribution of operated land size (ha)/livestock ownership (TLU[8]).	4
	Low pay rate	At least one household member is a low-paid employee in either (a) agriculture, (b) mining, quarrying, manufacturing or construction, (c) services, or (d) any other unspecified sector.[9]	4
	Social protection	No member of the household has enrolled in any pension, insurance or other social programme.	4
	Child labour	At least one household member under the age of 11 years is employed.[10]	4
	Extension services	No one in the household has access to any extension service.	4
Risk	Credit denial	If the household was turned down in all its attempts to seek credit, or the household did not borrow because it did not seek credit due to non-adequate reasons, such as (a) believing the credit would be refused, (b) the credit was too expensive, (c) inadequate collateral, or (d) did not know any lenders.	5
	Risk exposure and coping strategies	The household suffered from covariate shocks or suffered from a shock but had no access to formalized coping strategies such as support from the government or a non-governmental organization.[11]	7.5
	Risk of climate shocks	The household's probability of experiencing drought, floods or temperatures above 35 degrees Celsius is greater than the respective median probability.[12]	7.5

Source: Authors' own elaboration based on FAO and OPHI (2022).

[8] Tropical livestock unit.

[9] Low-paid employees in a given sector are defined by the International Labour Organization (ILO) as receiving a wage that is less than two-thirds (66 percent) of the median annual wage of all employees working in that sector.

[10] The age threshold is country specific, depending on data availability.

[11] The following are considered as covariate shocks: droughts, floods, unusually high levels of crop pests, unusually high levels of livestock disease, irregular rains, unusually high costs for agricultural inputs, unusually low prices for agricultural outputs, unusually high prices for food outputs. Non-adequate/non-formal coping strategies can include selling household assets (such as agricultural land or durables), changing eating patterns, and working more or being obliged to work.

[12] To implement the indicator, the R-MPI uses territorial data to assess the probability of each household to experience drought or floods – floods in Kiribati and the Marshall Islands in the critical period of fishery production, i.e. the entire year – vis-à-vis the respective median probability in each country. Probabilities are computed on the basis of the standardized precipitation index (SPI) by taking into account the different lengths of the agricultural rainy seasons. The assessment of the SPI is country-specific (SPI-12 for Kiribati and the Marshall Islands), as it depends on the distribution of the events and temperature patterns, with probabilities computed on historical temperature and precipitation data combined with the location of the household.

2.1 Rationale of the R-MPI and its application to SIDS

The rationale for the design and application of the R-MPI is that poverty is largely a rural phenomenon in need of a tailored MPI that accounts specifically for rural hardship. While rurality is dynamic and official administrative definitions of rural areas are strictly not comparable across countries (FAO and OPHI, 2022), the existing monetary and multidimensional poverty metrics show that poverty is more prevalent in rural areas. For example, in all four countries that first applied the R-MPI (Ethiopia, Malawi, the Niger and Nigeria), rural poverty was more pronounced by existing monetary and multidimensional measures, such as the USD 2.15/day threshold or the global MPI. Rurality defined by administrative definitions in SIDS shares most of the same challenges to capture the changing dynamics of rural and remote areas. Still, by using these official administrative definitions, existing metrics show that poverty in rural areas (including remote islands and atolls) is more pronounced in Kiribati, the Marshall Islands and other countries of the Pacific Community. In Kiribati, which consists of 33 islands (of which 21 are inhabited), rural poverty is 28.9 percent, thus higher than urban poverty (at 12.0 percent), according to the global MPI (OPHI, 2024). Living standards were also found to be higher in urban areas: the percentage of households using improved sanitation was higher in urban areas (74.2 percent) than in rural areas (44.8 percent), and the percentage of households using improved sources of drinking water was 96.5 percent in urban areas compared to 65.8 percent in rural areas (KNSO, FAO and SPC, 2021).

Based on national poverty standards, out of the five regions in Kiribati, three that are classified as rural (Line and Phoenix Group, Northern Gilbert and Southern Gilbert) exhibit a higher poverty rate, ranging from 24.6 percent in the Line and Phoenix Group to 31.5 percent in Southern Gilbert, compared to the urban region of South Tarawa, which has a poverty rate of 19.5 percent (World Bank, 2024a). The World Bank also highlights that one of the characteristics associated with poverty in the Marshall Islands is being in rural areas (World Bank, 2024b), which is significant since out of the 19 inhabited atolls, only two are classified as urban, including the capital Majuro. Three-quarters of the population live in urban areas, and 56 percent of the urban population live in Majuro (EPPSO, FAO and SPC, 2021).

Additionally, Samoa's national MPI, jointly prepared by the Samoa Bureau of Statistics (SBS) and UNDP with technical assistance and support provided by OPHI, showed that poverty in rural areas was 28.1 percent, higher than in urban areas (11.4 percent) (Samoa Bureau of Statistics, 2022).

In summary, the same rationale that motivated the development of the R-MPI also applies to SIDS, even if in some cases, such as the Marshall Islands, the urban population share is larger (Table 2).

Table 2. National representative surveys used to compute the R-MPI

Country	Survey name	Year	Sample size			Population share (%)	
			Rural	Urban	Total	Rural	Urban
Kiribati	HIES	2019	1 584	598	2 182	54.1	45.9
Marshall Islands	HIES	2019	322	551	873	24.3	75.7

Source: Authors' own elaboration.

Both countries used a two-stage stratified sampling strategy to select the households for the survey. The first step involved a random selection of enumeration areas (EA), which were the primary sampling unit (PSU), according to size. The second step was the random selection of 12 households (and 6 replacements) in each selected EA. In Kiribati, the HIES survey covers households from all 21 inhabited islands. Similarly, in the Marshall Islands, the HIES survey covers all 19 inhabited atolls. Both surveys are representative at the national level, urban/rural level, and strata level (geographical division).[13]

2.2 Adjustments due to data availability and SIDS characteristics

The main challenge in applying the R-MPI methodology to SIDS was addressing the data requirements of the R-MPI, which consists of up to 18 indicators across five dimensions, across different (non-harmonized) survey types; furthermore, to maintain dimensional comparability, each dimension should consist of at least two indicators. Another challenge was adapting certain indicators to the unique socioecological traits of SIDS. The first one involved factoring in fishing, a primary activity in Pacific islands, within the "rural livelihood and resources" dimension. The second one was incorporating sea level rise within the "risk" dimension, as it poses an existential threat to SIDS.

Due to data limitations in HIES, three indicators were excluded from the R-MPI. In the "rural livelihood and resources" dimension, child labour could not be computed due to lack of data on labour for children aged 5–11. Information on extension services was also missing from the household survey. In the "risk" dimension, the indicator on risk exposure and coping strategies could not be replicated at the household level, as information on formalized coping strategies such as support from the government or non-governmental organizations was lacking. On the other hand, credit denial was retained and adjusted to the questions in the surveys, which differed in wording from previous surveys. The indicator now reads: "A household is considered deprived if the household was turned down in all its attempts to borrow, or the household did not borrow from a bank nor another financial institution".

While ownership of fishing equipment such as boats was low in the first four African countries computed with the R-MPI (less than 0.5 percent in Nigeria and 1.2 percent in Malawi), the share was a reasonable size in the two SIDS (about 10 percent of households operated a boat in Kiribati, and 7 percent in the Marshall Islands, as seen in Table 3). The principle behind the indicator was applied (FAO and OPHI, 2022), stating that a household specializing in primary activities, including fisheries, should be endowed with productive assets crucial to that activity (for fisherfolks, having a boat or canoe with or without motor). Therefore, the indicator now reads: "The household's share of income from agriculture (excluding agricultural wages, but including crop production, livestock-keeping, fisheries and forestry activities) is equal to or above 30 percent, and the household does not operate a boat, or the amount of either land or livestock owned or operated falls in the bottom 40 percent of the cumulative distribution of operated land size (parcels)/livestock ownership."

[13] The results for the Marshall Islands reported by strata should be treated with caution, particularly for the rural strata as the sample size is very small.

Table 3. Agricultural assets adequacy (percent)

	Kiribati	Marshall Islands
Farm households with on-farm income ≥ 30 percent of total annual income	23.8	13.0
Share of households whose total operated land (parcels) falls in the bottom 40 percent of cumulative distribution	71.2	90.7
Share of households whose total livestock holding falls in the bottom 40 percent of cumulative distribution	65.8	82.8
Households that operate a boat	9.9	6.9

Source: Authors' own elaboration.

Finally, rising sea levels is one of the main risks the two countries face. Expert feedback concluded that village-level surveys, which included questions on sea level rise, could effectively capture slow onset events like this. The climate risk indicator stated: "The household's probability of experiencing drought, floods or temperatures above 35 degrees Celsius is greater than the respective median probability, or the household is located in a village that experienced an increase in the sea level in the past ten years".

This adaptation is justifiable, because the islands and atolls are very low (with an average elevation of 2 metres in the Marshall Islands for example), and over time, this indicator captures an environmental situation that is worsening (or not through policy action). Sea level rise is a covariate shock that will affect all households in a village, and as a village-level indicator, it overlaps both in content and unit of measurement with the risk of climate shocks indicator.

2.3 Adaptation to weighting structure

To compensate for the absence of the three excluded indicators, the R-MPI methodology was applied by revising the weighting structure of indicators in the two new dimensions (see Table 4). This maintains dimensional comparability. Credit denial continues to be assigned a lower weight of 5 percent since the indicator was adjusted to questions in the HIES. Table 4 presents the adjusted R-MPI that was used to compute results presented in Section 3, which consists of 15 indicators across five dimensions.

Table 4. Dimensions, indicators and weights proposed for the R-MPI applied in SIDS

Dimension	Indicator	Deprived if:	Weight (%)
Food security and nutrition	Food insecurity	The household's probability of being severely food insecure exceeds 50 percent.[14]	10
	Child malnutrition	At least one child (aged 6–60 months) of the household is underweight and/or stunted.	10
Education	Years of schooling	No household member of schooling age has completed 6 years of schooling.	10
	School attendance	At least one household member of schooling age (age at which he or she would complete class 8) does not attend school.	10
Living standards	Cooking fuel	The household uses non-clean fuels for cooking.	3.3
	Improved sanitation	The household's sanitation facility is not improved (according to SDG guidelines).	3.3
	Drinking water	The household does not have access to safe drinking water, or safe drinking water is at least a 30-minute walk (round trip) from home.	3.3
	Electricity	The household has no electricity/solar energy.	3.3
	Housing	The household has inadequate housing: either the floor, roof or walls are made of rudimentary or natural, inadequate materials.	3.3
	Assets	The household does not own more than one of the following assets: television, radio, telephone/mobile phone, refrigerator, bicycle, motorbike, computer or oxcart, and does not own a vehicle.	3.3
Rural livelihoods and resources	Agricultural assets adequacy	The household's share of income from agriculture (excluding agricultural wages, but including crop production, livestock-keeping, fisheries and forestry activities) is equal to or above 30 percent, and the household does not operate a boat, or the amount of either land or livestock owned or operated falls in the bottom 40 percent of the cumulative distribution of operated land size (parcels)/livestock ownership (TLU).	6.6
	Low pay rate	At least one household member is a low-paid employee in either (a) agriculture, (b) mining, quarrying, manufacturing or construction, (c) services, or (d) any other unspecified sector.	6.6
	Social protection	No member of the household has enrolled in any pension, insurance or other social programme.	6.6

[14] For each indicator, see the corresponding note in Table 1.

Dimension	Indicator	Deprived if:	Weight (%)
Risk	Credit denial	If the household was turned down in all its attempts to borrow, or the household did not borrow from a bank nor another financial institution.	5
	Risk of climate shocks	The household's probability of experiencing drought, floods or temperatures above 35 degrees Celsius is greater than the respective median probability, or the household is located in a village that experienced an increase in the sea level in the past 10 years.[15]	15

Source: Authors' own elaboration.

2.4 Implications of adjustments

The main implication of the adjustments is that the highest individual weight of the entire R-MPI is assigned to the risk of climate shocks indicator. It is higher than food security or schooling, for example, and is therefore likely to be one of the main drivers of the poverty estimates in SIDS. This seems *normatively* justified however for middle-income countries in Oceania, which demonstrated great achievements in human capital accumulation such as access to health and education but face an imminent existential threat from the global climate emergency. Even households located in villages further inland that have not experienced an increase of sea level in the past decade, are affected by rising sea levels directly as they have to cope with population relocations or dwindling freshwater supplies and availability due to inundation.

To balance the analysis, the country profiles show both the percentage contribution to the R-MPI value (calculated as the censored headcount ratio multiplied by the indicator's weight) and the normalized contribution of each indicator, defined as "in excess of its weights". For instance, if the "years of schooling" contributes 10 percent to the R-MPI with a 10 percent weight, the excess contribution is 0 percent. If it contributes 20 percent with a 10 percent weight, the excess is 100 percent or double. Indicators that exceed their weights add significant value to the metric, highlighting their relevance for rural poverty.

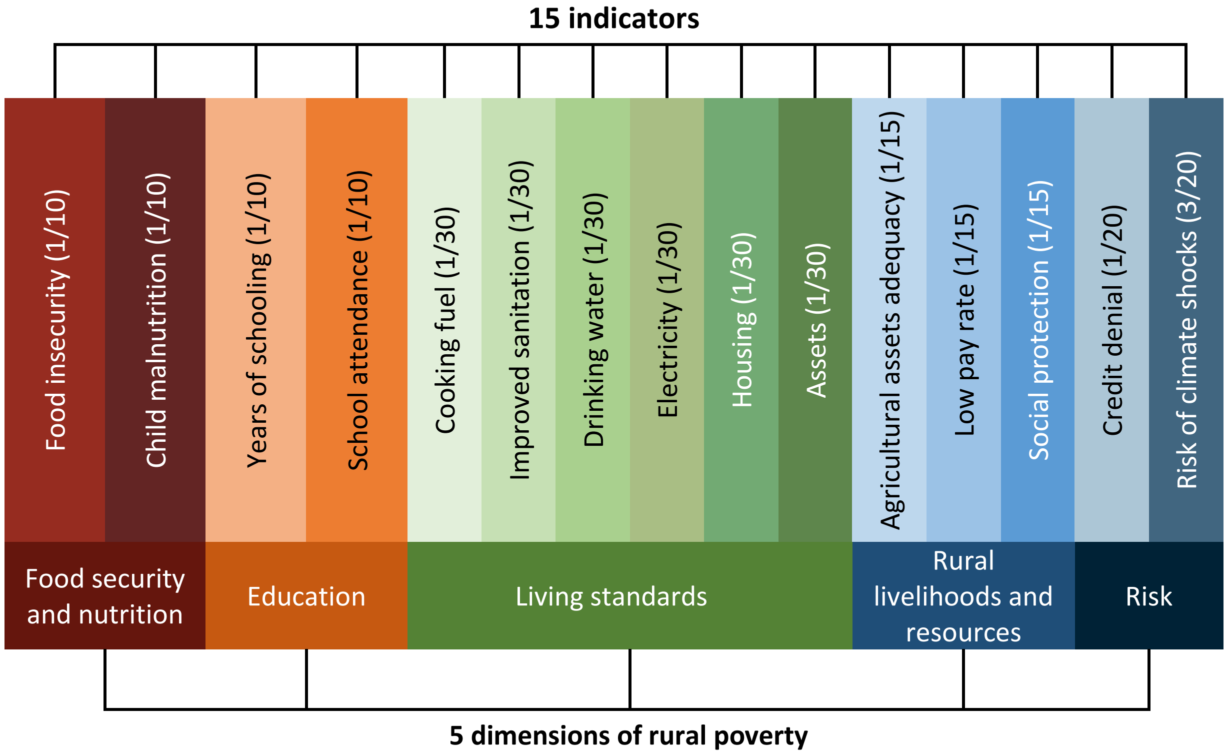
In summary, the inclusion of SIDS in the R-MPI pool of countries was deemed *possible* and *desirable* with the proposed adjustments to the dimensional and indicator structure that fits the rationale of the R-MPI. The main shortcoming remains in the risk dimension, which does not have a household-level indicator on coping with shocks. In the detailed country reports, a poverty profile highlights the continued need to overcome challenges in rural poverty alleviation in SIDS.

[15] Probabilities are calculated based on the standardized precipitation index (SPI-n) taking into account the different lengths of the agricultural rainy seasons. Hence, the use of the SPI is country-specific. Kiribati and the Marshall Islands use SPI-6.

3 Detailed results

The rural multidimensional poverty index (R-MPI) applied to the two SIDS is composed of 15 indicators distributed across five dimensions (see Figure 1) and classifies a person or household as poor if the weighted deprivation score is equal to or higher than 33.3 percent.

Figure 1. Composition of the R-MPI



Source: Authors' own elaboration.

The computation of the R-MPI uses data from the household income and expenditure survey, which contains almost all the information needed for the computation of the R-MPI indicators. Within the food security and nutrition dimension, the indicator on food insecurity was estimated using the Food Insecurity Experience Scale (FIES), while child malnutrition was estimated using anthropometric data. Under the FIES, severe food insecurity implies that a person or household has a high probability of reduced food intake, while children under 5 years of age are considered malnourished if their z-score of either height-for-age (stunting) or weight-for-age (underweight) is below -2 standard deviations of the median of the reference population.

In both countries, the official primary school entrance age is 6 years, and since the indicator describes as deprived any individual who has completed fewer than 6 years of education, the eligible population for the indicator on years of schooling is 12 years or older. Similarly, the eligible population for the indicator on school attendance is any individual studying in the eighth class or below, which in the case of Kiribati and the Marshall Islands includes all children between the ages of 6 and 14 years.

The indicators in the living standards dimension have specific conditions for these two countries that are important to classify households as deprived or non-deprived. For example, non-clean cooking fuels include collected firewood, charcoal, leaves and husks. Similarly, non-improved sanitation includes improved facilities that are shared (such as flush or pour flush toilets to sewer systems, septic tanks or pit latrines, ventilated improved pit latrines, pit latrines with a slab and composting toilets) and cases where there are no toilet facilities. Non-safe drinking water includes unprotected wells or shallow ground waters, unprotected springs, tanker trucks, surface water (such as rivers or lakes) and carts with small tanks. Furthermore, non-adequate materials for housing are dirt, sand and gravel for the floor; natural or rudimentary materials such as thatch, wire/net or aluminium for the walls; and wood or wood shillings and thatched roofing and others for the roof.

In the rural livelihoods and resources dimension, the indicator measuring access to social protection covers a wide range of national social assistance programmes, such as the Provident Fund, insurance coverage, social transfers and elderly citizen benefits in Kiribati, or the social security, pension fund and insurance coverage in the Marshall Islands.

In the risk dimension, the indicator on risk of climate shocks is based on geospatial and historical weather (temperature and precipitation) data, as well as village-level information on sea level rise. It gauges the degree to which households are exposed to weather-related shocks and slow onset events caused by the climate emergency (such as sea-level rise) that characterize rural poverty. The indicator classifies a household as deprived if it is in a locality with either the probability of drought, flooding or temperatures above 35 degrees Celsius is greater than the respective median probability, or if the household is located in a village that has experienced a rising sea level in the last decade.

3.1 Kiribati

3.1.1 Main results of the R-MPI

Table 5 presents the main results for the R-MPI computed for Kiribati using the household income and expenditure survey of 2019 and compares them against two other multidimensional measures and monetary poverty levels:

- the original global MPI, computed for the entire population and the rural population in Kiribati using the multiple indicator cluster surveys for 2018–2019.
- due to comparability issues from using different surveys, indicators, and weightings, a proxy global MPI (PG-MPI) comprising the first three dimensions of the R-MPI, calculated using the same survey as the R-MPI.

The incidence of rural multidimensional poverty according to the R-MPI is 53.1 percent. The intensity of poverty is 41.5 percent, meaning that the rural multidimensionally poor face, on average, deprivations in nearly half of the dimensions included. The value of the R-MPI is 0.220, meaning that the multidimensionally poor in the country experience 22 percent of the total possible deprivations that would be experienced if everyone were fully deprived in all indicators.

The results show higher rural multidimensional poverty in the adjusted headcount ratio (0.220) than in rural areas as measured by the global MPI (0.118) and the PG-MPI (0.087). With similar levels of average intensities of multidimensional poverty experienced by the rural poor people in all multidimensional measures (around 40 percent), the difference between the R-MPI value and the global MPI value for rural areas is driven by the greater prevalence of poverty, at 53.1 percent.

Table 5. Main results for Kiribati

	H × A	Headcount ratio (H) (%)	Average intensity of poverty (A) (%)	Vulnerable to poverty (%)	Severe poverty (%)	Population share (%)
R-MPI	0.220	53.1	41.5	39.0	6.8	54.1
Global MPI (rural, 2018–2019)	0.118	28.9	40.8	42.0	5.3	46.1
Global MPI (national, 2018–2019)	0.080	19.8	40.5	30.2	3.5	100.0
PG-MPI (rural, 2019)	0.087	21.8	39.7	39.9	2.5	54.1
PG-MPI (national, 2019)	0.098	24.5	40.0	39.1	3.1	100.0
National poverty line (2020)		21.9				
International poverty line (2019)		1.7				
Lower-middle-income class poverty line (2019)		19.5				

Note: The value for the international poverty line is USD 2.15 (2017 PPP) per capita per day and USD 3.65 (2017 PPP) per capita per day for the lower-middle-income class poverty line.

Source: Authors' own elaboration based on OPHI (2024) and World Bank (2024c).

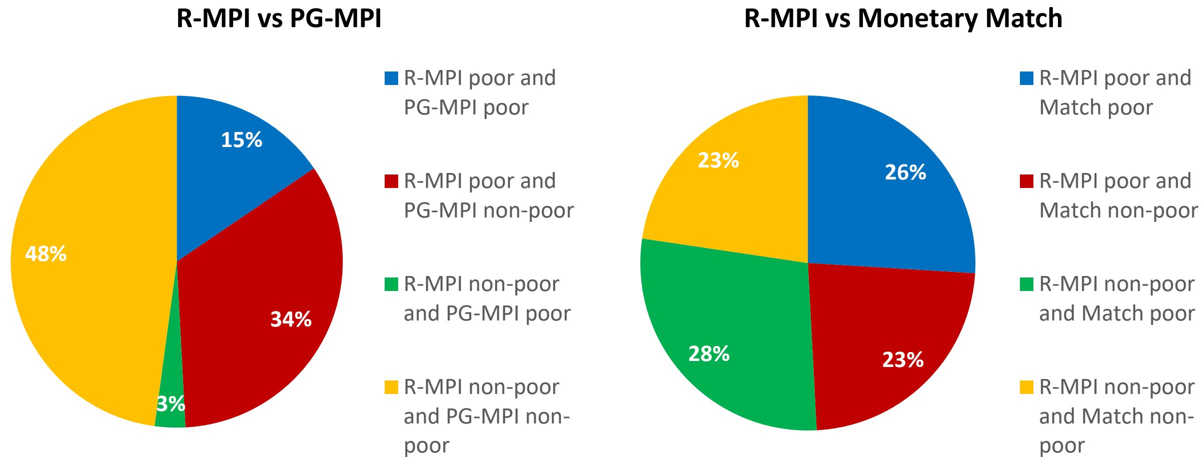
Thirty-nine percent of the rural population is in a situation of vulnerability, meaning that only 7.9 percent of the rural population are neither poor nor at risk of falling into poverty. Severe rural poverty is relatively low, at 6.8 percent.

Overall, the national PG-MPI shows a similar incidence of poverty (24.5 percent) to that found in the global MPI (19.8 percent) (OPHI, 2024), the one based on the national poverty line (21.9 percent) and the lower-middle-income class poverty line (19.4 percent). The R-MPI shows a higher incidence of poverty in the rural population (53.1 percent) than the global MPI (28.9 percent) for rural areas. Results are driven by indicators in the explicitly rural dimensions, as demonstrated in the analysis of the uncensored and censored headcount ratios, and the percentage contributions of indicators to the R-MPI value (see Section 3.1.2).

Figure 2 presents a comparison between the R-MPI and the PG-MPI in the left panel, and between the R-MPI and a "Monetary Match" in the right panel. The Monetary Match is a calculated measure of monetary poverty using a poverty line (based on daily per capita consumption) that aligns the proportion of monetarily poor households with those identified as poor by the R-MPI (FAO and OPHI, 2022).

For the mismatch analysis, the households are partitioned into four groups: those identified as poor by both the R-MPI and the PG-MPI/Monetary Match (group 1); those identified as poor by the R-MPI but identified as non-poor by the PG-MPI/Monetary Match (group 2); those identified as non-poor by the R-MPI but identified as poor by the PG-MPI/Monetary Match (group 3); and those identified as non-poor by both the R-MPI and the PG-MPI/Monetary Match (group 4).

Figure 2. Mismatch analysis of monetary and multidimensional poverty levels in rural areas in Kiribati



Source: Authors' own elaboration.

The proportion of people sharing the same poverty status under the R-MPI and the PG-MPI (63.4 percent, adding groups 1 and 4 on the left panel) is higher than the proportion of people sharing the same poverty status under the R-MPI and the Monetary Match (48.7 percent, adding groups 1 and 4 on the right panel), indicating a greater overlap between the two multidimensional measures. The mismatches (adding groups 2 and 3) are therefore higher between R-MPI and the Monetary Match (51.4 percent) than between the R-MPI and the PG-MPI (36.7 percent). Furthermore, the percentage of people identified as poor only by the R-MPI (33.7 percent, group 2 on the left panel) is higher than the percentage of people identified as poor only by the PG-MPI (3 percent, group 3 on the left panel). In other words, the mismatches between the two multidimensional poverty measures are mostly explained by the proportion of the rural population that is identified as poor only by the R-MPI, highlighting the added value of the new dimensions.

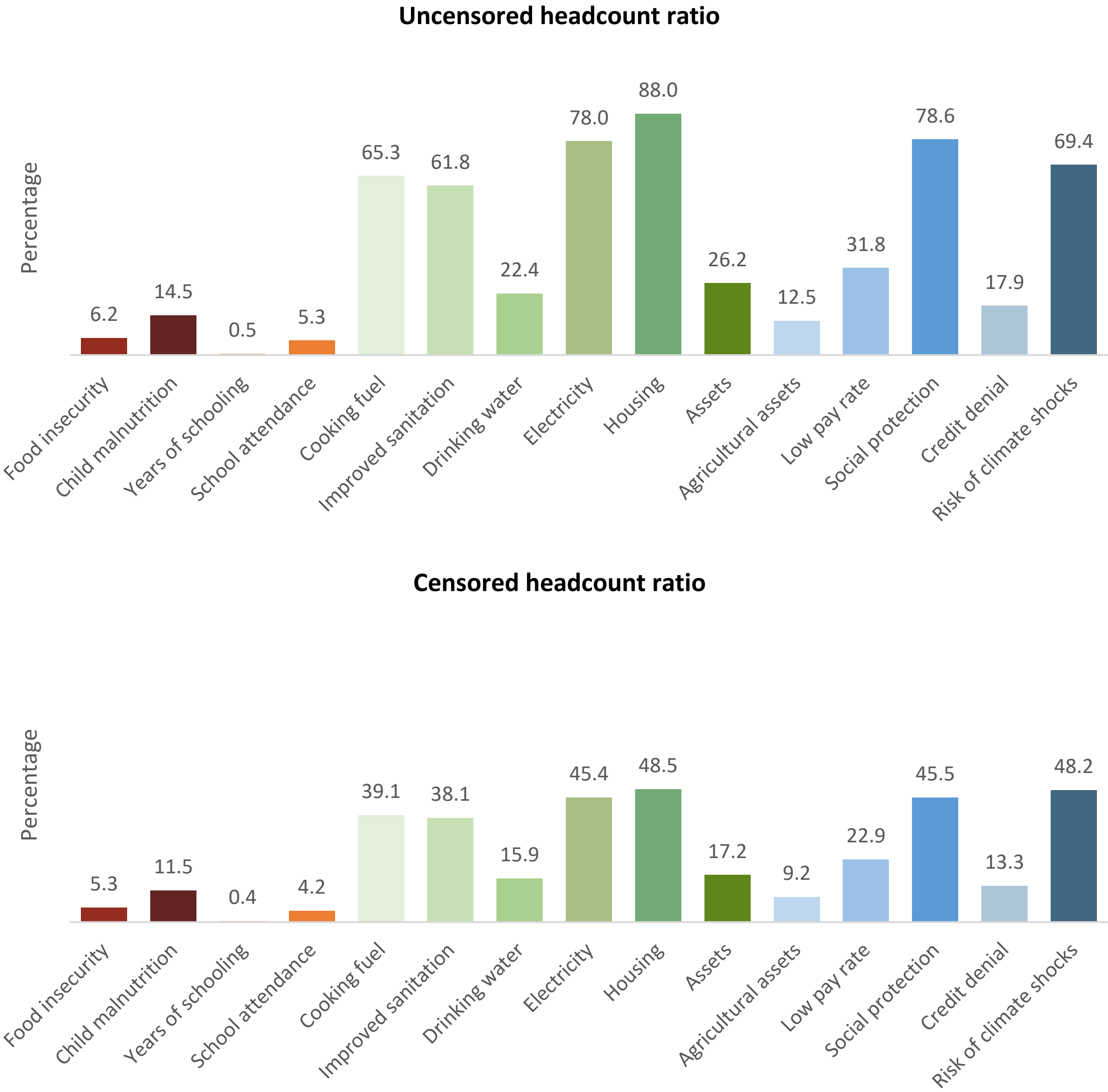
3.1.2 Composition of the R-MPI

Figure 3 shows the R-MPI uncensored and censored headcount ratios of multidimensional poverty in Kiribati. The uncensored headcount ratio of an indicator is the proportion of the population deprived in the specific indicator, whereas the censored one is the share of the population that is multidimensionally poor and deprived in that indicator. The censored headcount ratios will always be lower than or equal to the uncensored headcount ratios as the non-poor are censored. A low difference between the two ratios shows that the poor predominantly suffer from the deprivation. At high censoring, the deprivations also affect largely the non-poor.

Kiribati presents high levels of deprivation in the entire rural population in indicators related to the living standards dimension. Except for drinking water and assets, more than 60 percent of the rural population show deprivations in housing, electricity, cooking fuel and improved sanitation. Similarly, indicators such as the risk of climate shocks (69.4 percent) and social protection (78.6 percent) show that around 70 percent or more of the population live in households that suffered from covariate shocks – including rising sea levels – or lacked social protection.

The same deprivations characterize the rural multidimensionally poor. Hence, the indicators mentioned above play an important role in determining whether the population is multidimensionally poor. However, the high censoring in housing, electricity or risk of climate shocks implies that many non-poor also suffer from deprivations in these indicators. On the other hand, the low censoring in agricultural assets adequacy reveals that nearly all those deprived in that indicator (12.5 percent) are also multidimensionally poor (9.2 percent). A similar pattern can also be observed for food insecurity, child malnutrition, years of schooling and school attendance.

Figure 3. Deprivation by indicator and censored/uncensored headcount in Kiribati



Source: Authors' own elaboration.

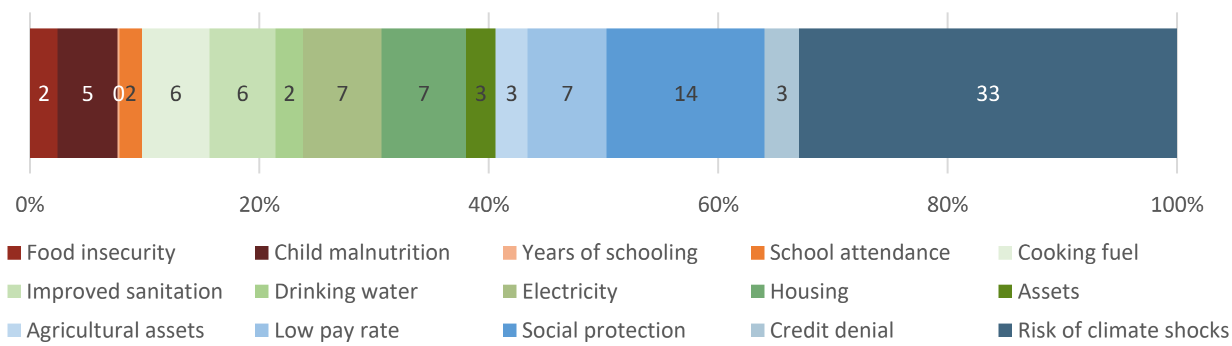
Despite high achievement levels in rural areas in education as measured with the years of schooling and school attendance, the pay rates of wage employees in sectors such as agriculture, construction or manufacturing are still below the minimum acceptable threshold as set by the International Labour

Organization for approximately 32 percent of the total population, with 23 percent of the total population identified as multidimensionally poor and earning low wages.

The censored headcount ratio shows the percentage of the population that is poor and deprived in a given condition but does not reflect the relative importance of the indicators. Two indicators may have the same censored headcount ratios but a different contribution to overall poverty because the contribution depends on the censored headcount ratio *and* on the weight assigned to each indicator. As such, the percentage contribution of each indicator to overall multidimensional poverty also needs to be analysed.

Figure 4 shows that in Kiribati, the risk of climate shocks indicator is the main contributor, with 33 percent, to the R-MPI, followed by social protection (14 percent). The risk dimension has the highest total weight (36 percent), followed by living standards (31 percent) and rural livelihood and resources (24 percent).

Figure 4. Contribution of indicators to the R-MPI in Kiribati (percentage)



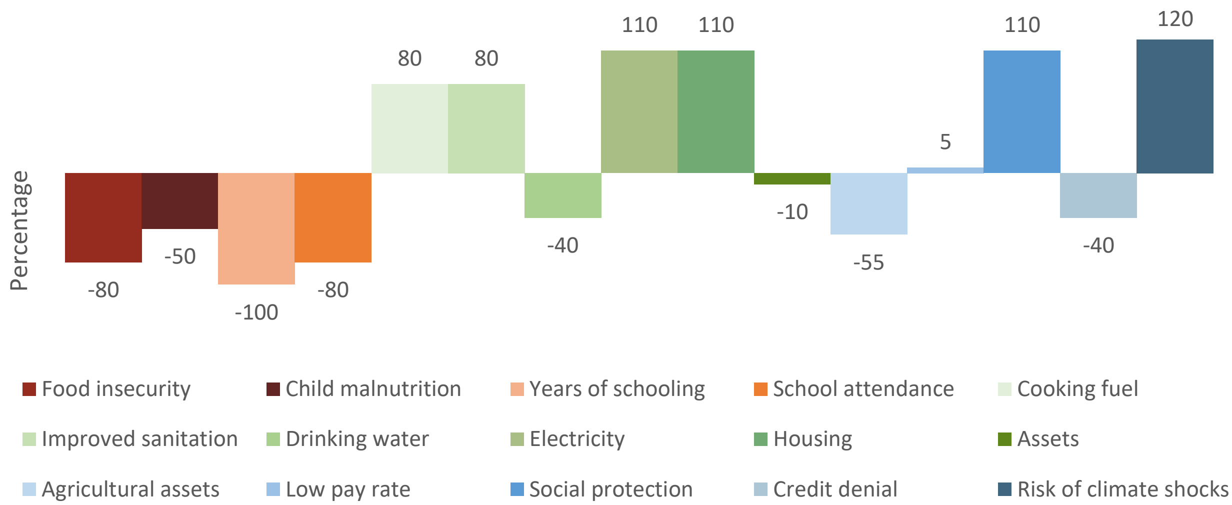
Source: Authors' own elaboration.

Figure 5 presents contributions "in excess of its weight" for each indicator and confirms the findings of Figure 3. The indicators that reported high censored headcount ratios and contributions to the R-MPI, particularly the social protection and risk of climate shocks indicators, contribute both to the R-MPI in "excess of their weights", at slightly more than twice their weight. This highlights their relevance in rural multidimensional poverty measurement.

On the other hand, large negative values are observed for the "contributions in excess of their weights" of indicators such as food security (−80 percent), years of schooling (−100 percent) and school attendance (−80 percent). In other words, these indicators contribute up to 100 percent (for years of schooling) less than their weights. This is consistent with their low censored headcount ratios and indicates that in a more tailored *national* rural MPI in Kiribati, the thresholds of these indicators could be adjusted to more moderate deprivation levels. For example, the years of schooling could be increased to eight years, and food security could also account for moderate levels of food insecurity. This would ensure that a more tailored metric specific to Kiribati best reflects the specific challenges the country faces at its current development stage as a lower middle-income country.

The global MPI and R-MPI indicators measure absolute forms of poverty (e.g. extreme food insecurity) to compare poverty globally, and to compare poverty in rural areas globally. The negative values of indicators in "excess of their weights" can certainly be expected to be smaller in lower-income countries that continue to struggle with achievements in health, food security and education.

Figure 5. Contribution of indicators to the R-MPI in "excess of its weight" (percentage)



Source: Authors' own elaboration.

The decomposed results by the four rural divisions of Kiribati, including their confidence intervals, are shown in Table 6. The rural population in Northern Gilbert is the poorest, as measured by the headcount ratio (67.4 percent), the average intensity of poverty and the R-MPI (0.283). The headcount ratio for Central Gilbert is higher than Southern Gilbert and the Line and Phoenix islands and lower than Northern Gilbert, the differences being statistically significant. However, the average intensity of poverty in Central Gilbert is significantly lower than in Southern Gilbert and similar to the Line and Phoenix islands' one.

Table 6. Main results by region: Kiribati

<table>
<tr><th></th><th>Region</th><th>Estimate</th><th>Standard deviation</th><th>Standard error</th><th>Lower bound</th><th>Upper bound</th><th>Share of rural households (%)</th></tr>
<tr><td rowspan="4">Headcount ratio (H)</td><td>Northern Gilbert</td><td>67.4</td><td>46.9</td><td>1.01</td><td>65.4</td><td>69.4</td><td>100.0</td></tr>
<tr><td>Central Gilbert</td><td>48.3</td><td>50.0</td><td>1.28</td><td>45.8</td><td>50.9</td><td>100.0</td></tr>
<tr><td>Southern Gilbert</td><td>42.1</td><td>49.4</td><td>0.98</td><td>40.2</td><td>44.0</td><td>100.0</td></tr>
<tr><td>Line and Phoenix islands</td><td>43.0</td><td>49.5</td><td>1.07</td><td>40.9</td><td>45.1</td><td>100.0</td></tr>
<tr><td rowspan="4">Average intensity of poverty (A)</td><td>Northern Gilbert</td><td>41.9</td><td>6.2</td><td>0.16</td><td>41.6</td><td>42.3</td><td>100.0</td></tr>
<tr><td>Central Gilbert</td><td>40.3</td><td>6.0</td><td>0.21</td><td>39.9</td><td>40.7</td><td>100.0</td></tr>
<tr><td>Southern Gilbert</td><td>41.8</td><td>6.8</td><td>0.21</td><td>41.4</td><td>42.2</td><td>100.0</td></tr>
<tr><td>Line and Phoenix islands</td><td>40.5</td><td>6.2</td><td>0.20</td><td>40.2</td><td>40.9</td><td>100.0</td></tr>
<tr><td rowspan="4">R-MPI (H x A)</td><td>Northern Gilbert</td><td>0.283</td><td>0.082</td><td>0.002</td><td>0.274</td><td>0.291</td><td>100.0</td></tr>
<tr><td>Central Gilbert</td><td>0.195</td><td>0.105</td><td>0.003</td><td>0.184</td><td>0.205</td><td>100.0</td></tr>
<tr><td>Southern Gilbert</td><td>0.176</td><td>0.115</td><td>0.002</td><td>0.168</td><td>0.184</td><td>100.0</td></tr>
<tr><td>Line and Phoenix islands</td><td>0.174</td><td>0.105</td><td>0.002</td><td>0.166</td><td>0.183</td><td>100.0</td></tr>
</table>

Note: Southern Tarawa has a 100 percent urban share and is therefore not included.

Source: Authors' own elaboration.

3.2 Marshall Islands

3.2.1 Main results of the R-MPI

Following the same approach as in Section 3.1.1, Table 7 presents the main results for the R-MPI computed using the 2019 household income and expenditure survey and compares it against a proxy global MPI (PG-MPI). The PG-MPI is composed of the first three dimensions of the R-MPI but, unlike for Kiribati, it is computed using the same survey as for the R-MPI. Monetary poverty levels are also shown, while the global MPI is not computed for the Marshall Islands.

The incidence of rural multidimensional poverty according to the R-MPI is 42.3 percent and the average intensity of poverty is 41.4 percent. Therefore, the rural multidimensionally poor face, on average, deprivations in more than one-third of the dimensions included in the R-MPI. The R-MPI value of 0.175 means that the multidimensionally poor in the population experience 17.5 percent of the total deprivations that would be experienced if everyone were fully deprived in all indicators.

The results show a greater degree of rural multidimensional poverty in the adjusted headcount ratio (0.175) than in the PG-MPI for rural areas (0.070). With similar levels of average intensities of multidimensional poverty experienced by the rural poor people in both multidimensional measures (41.4 percent compared to 37.5 percent), the difference between the R-MPI and the rural PG-MPI is driven by the greater prevalence of poverty, at 42.3 percent for the R-MPI compared to 18.6 percent for the PG-MPI.

About 42 percent of the rural population is in a situation of vulnerability to poverty, leaving less than 20 percent of the rural population neither poor nor at risk of falling into poverty. Severe rural poverty is very low (5.8 percent).

Table 7. Main results for the Marshall Islands

	H × A	Headcount ratio (H) (%)	Average intensity of poverty (A) (%)	Vulnerable to poverty (%)	Severe poverty (%)	Population share (%)
R-MPI	0.175	42.3	41.4	41.9	5.8	24.3
Global MPI (rural, 2018–2019)	NA	NA	NA	NA	NA	NA
Global MPI (national, 2018–2019)	NA	NA	NA	NA	NA	NA
PG-MPI (rural, 2019)	0.070	18.6	37.5	25.6	1.2	24.3
PG-MPI (national, 2019)	0.080	20.7	38.7	23.4	2.0	100.0
National poverty line (2019)		7.2				
International poverty line (2019)		0.9				
Upper-middle-income class poverty line (2019)		31.5				

Note: The value for the international poverty line is USD 2.15 (2017 PPP) per capita per day and USD 6.85 (2017 PPP) per capita per day for the upper-middle-income class poverty line.

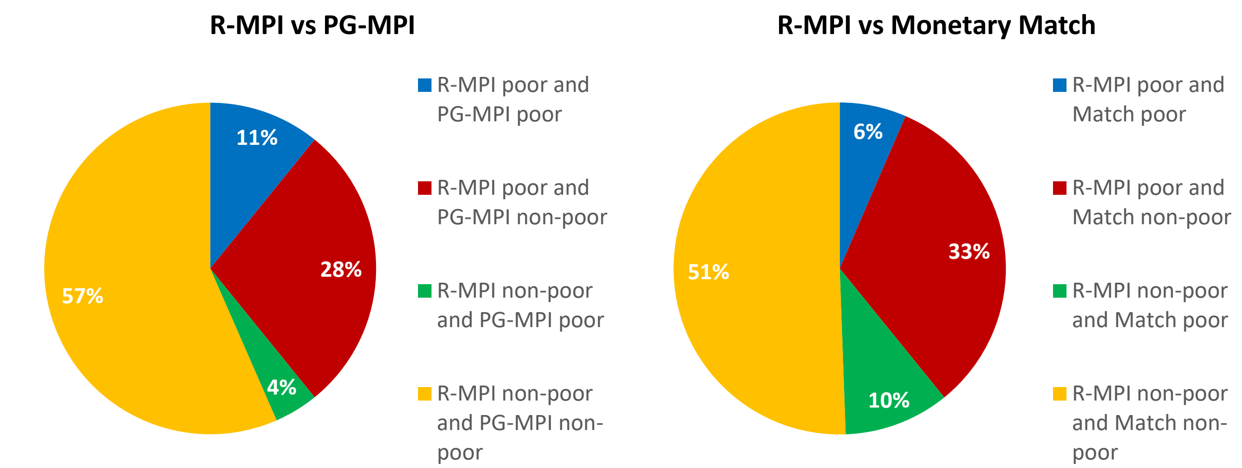
Source: Authors' own elaboration based on World Bank (2024c).

The R-MPI shows levels of poverty (42.3 percent) that are even higher than the national results using the upper-middle-income class poverty line (31.5 percent). Results are driven by indicators in the explicitly rural dimensions, as demonstrated in the analysis of the uncensored, censored headcount rations, and the percentage contributions of indicators to the R-MPI value (see Section 3.2.2).

Figure 6 presents the mismatch analysis between the R-MPI and the PG-MPI, and between the R-MPI and a Monetary Match. The PG-MPI was computed using only the first three dimensions of the R-MPI (food security and nutrition, education and living standards) and the same microdata as the R-MPI.

The proportion of people sharing the same poverty status under the R-MPI and the PG-MPI (67.4 percent, adding groups 1 and 4 on the left panel) is higher than the proportion of people sharing the same poverty status under the R-MPI and the Monetary Match (57.1 percent, adding groups 1 and 4 on the right panel), indicating a greater overlap between the two multidimensional measures. Hence, the mismatches (adding groups 2 and 3) are higher between the R-MPI and the Monetary Match (43 percent) than between the R-MPI and PG-MPI (32.6 percent). Furthermore, the percentage of people identified as poor only by the R-MPI (28.3%, group 2 on the left panel) is higher than the percentage of people identified as poor by the PG-MPI (4.3%, group 3 on the left panel): the mismatches between the two multidimensional poverty measures are mostly explained by the proportion of the rural population that is identified as poor only by the R-MPI, highlighting the added value of the new dimensions.

Figure 6. Mismatch analysis of monetary and multidimensional poverty levels in rural areas in the Marshall Islands



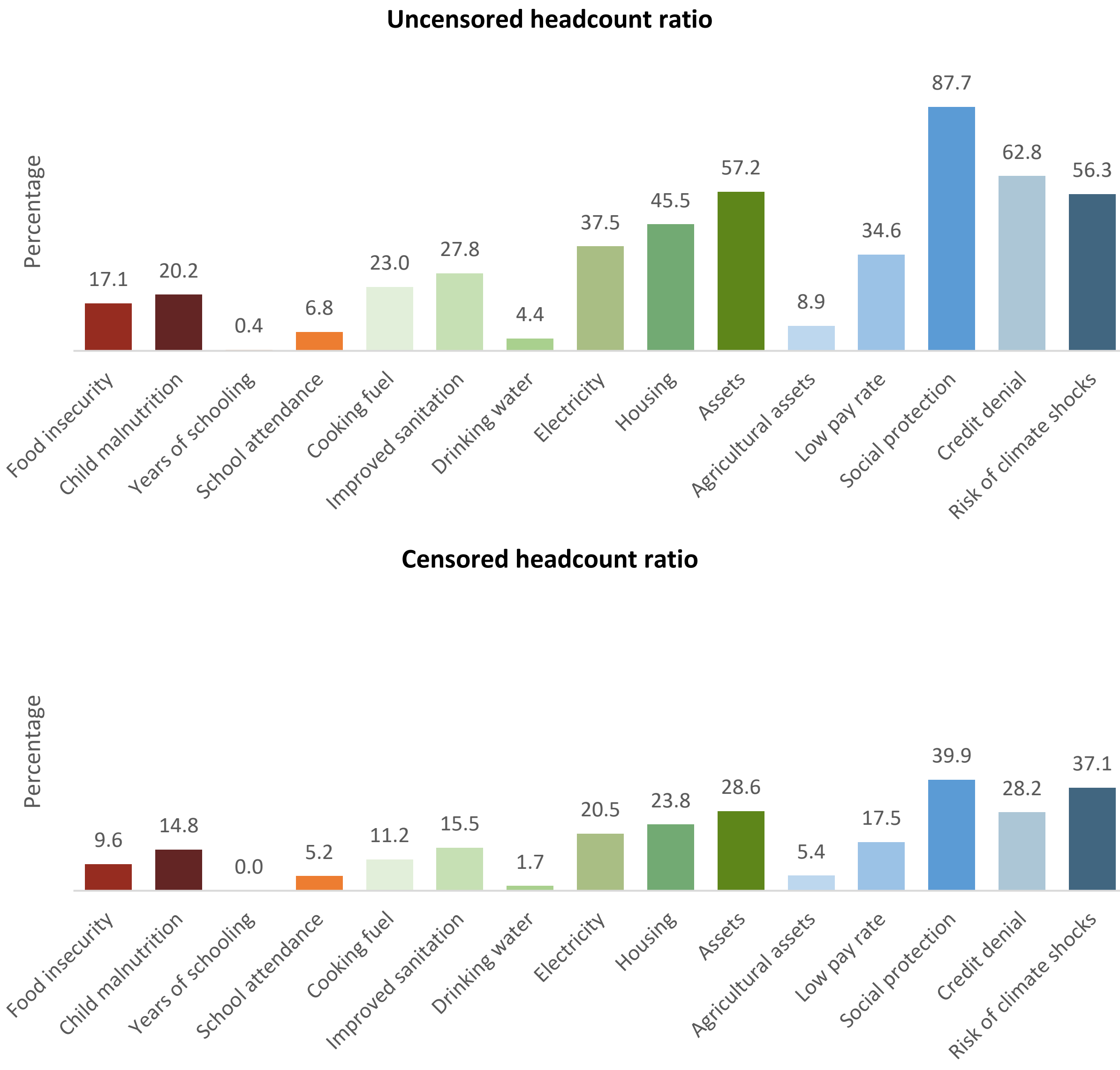
Source: Authors' own elaboration.

3.2.2 Composition of the R-MPI

Figure 7 shows that the Marshall Islands present high levels of deprivation in the entire rural population in indicators related to social protection, credit denial, risk of climate shocks, and assets. However, the high censoring, particularly in social protection and risk of climate shocks, implies that many *non-poor* also suffer from deprivations in these indicators. On the other hand, the indicators on years of schooling (0.4 percent) and drinking water (4.4 percent) show low levels of deprivation across the rural population.

The same deprivations characterize the rural multidimensionally poor. Hence, the indicators mentioned above play an important role in determining whether the population is multidimensionally poor.

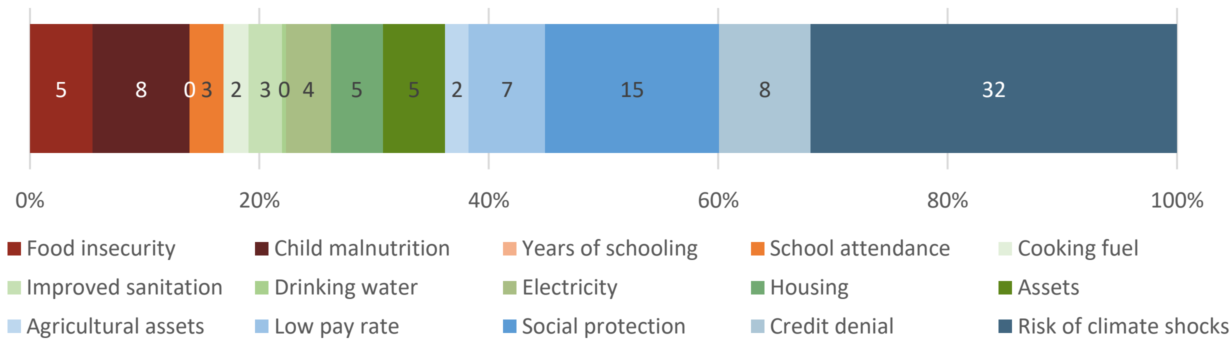
Figure 7. Deprivation by indicator and censored/uncensored headcount in the Marshall Islands



Source: Authors' own elaboration.

Figure 8 shows that in the Marshall Islands, just like in Kiribati, the risk of climate shocks indicator is the main contributor, with 32 percent, to the R-MPI, followed by social protection (15 percent). The risk dimension has by far the highest total weight (40 percent), followed by rural livelihood and resources (24 percent) and living standards (19 percent). The contributions "in excess of its weight" for each indicator in Figure 9 confirm the findings of Figure 7. Similar to what was found in Kiribati, the indicators that reported high censored headcounts ratios and contributions to the R-MPI, particularly the social protection and risk of climate shocks indicators, contribute both to the R-MPI in "excess of their weights", at more than twice their weight.

Figure 8. Contribution of indicators to the R-MPI in the Marshall Islands (percentage)

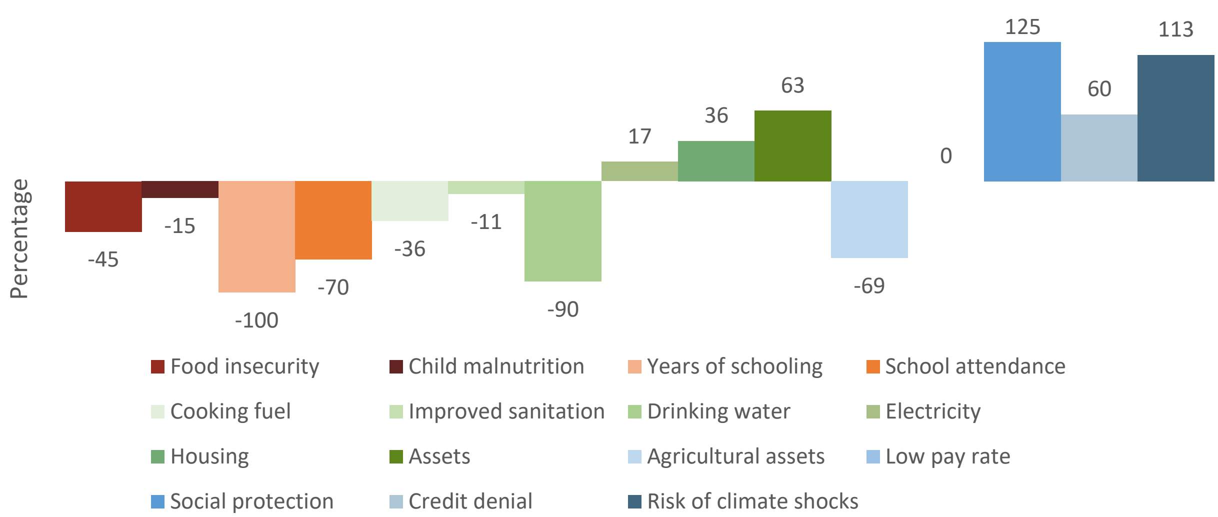


Source: Authors' own elaboration.

The large negative values for the contributions in "excess of their weights" of indicators such as the years of schooling (−100 percent), drinking water (−90 percent) and school attendance (−70 percent) mean that these indicators contribute up to 100 percent (years of schooling) less than their weights, which is consistent with their low censored headcount ratios. In a more tailored national rural MPI for the Marshall Islands, the thresholds of these indicators could be adjusted to more moderate deprivation levels. For example, years of schooling could be increased to eight years. This would ensure that a more tailored metric specific to the Marshall Islands best reflects the challenges the country faces at its current development stage as an upper middle-income country.

As mentioned in Section 3.1.2, the global MPI and R-MPI indicators measure absolute forms of poverty to compare poverty globally. The negative values of indicators in "excess of their weights" can therefore be expected to be less in lower-income countries that continue to struggle with achievements in health, food security and education.

Figure 9. Contribution of indicators to the R-MPI in "excess of its weight" (percentage)



Source: Authors' own elaboration.

The decomposed results by atoll groups, including their confidence intervals are presented in Table 8. Atolls in rural region 2 (composed of the Jaluit and Wotje atolls) are the poorest, however only by the headcount ratio (65.2 percent), as the confidence intervals overlap in the other measures. Atolls in rural region 1 (composed of the Arno and Aur atolls) are the least poor with a headcount ratio of only 10.9 percent and a value of the R-MPI of 0.046. The R-MPI value in rural region 4 is statistically significantly lower as compared to rural regions 2 and 3.

Table 8. Main results by region: Marshall Islands

	Region	Estimate	Standard deviation	Standard error	Lower bound	Upper bound	Share of rural households (%)
Headcount ratio (H)	Rural 1	10.9	31.3	3.00	5.0	16.8	100.0
	Rural 2	65.2	47.8	4.10	56.9	73.4	100.0
	Rural 3	52.4	50.0	2.10	48.3	56.5	100.0
	Rural 4	46.4	49.9	1.90	52.6	50.1	100.0
Average intensity of poverty (A)	Rural 1	42.7	7.4	1.80	38.9	46.5	100.0
	Rural 2	38.7	4.2	0.50	37.8	39.6	100.0
	Rural 3	41.3	7.5	0.40	40.4	42.1	100.0
	Rural 4	42.1	6.5	0.30	41.4	42.7	100.0
R-MPI (H x A)	Rural 1	0.046	0.106	0.013	0.021	0.072	100.0
	Rural 2	0.252	0.064	0.016	0.220	0.285	100.0
	Rural 3	0.216	0.112	0.009	0.199	0.234	100.0
	Rural 4	0.195	0.108	0.008	0.179	0.211	100.0

Note: Rural 1 (peri-urban: Arno, Aur atolls), Rural 2 (high level of schools and hospitals: Jaluit, Wotje atolls), Rural 3 (atolls receiving US Government benefits associated with nuclear testing: Enewatak, Kili, Utirik) and Rural 4 (other atolls: Ailinglaplap, Ailuk, Ebon, Lib, Likiep, Maloelap, Mejit, Namdrik, Namu and Ujae).

Source: Authors' own elaboration.

4 Conclusion

This paper presented the first application of the rural multidimensional poverty index (R-MPI) to two SIDS in Oceania, Kiribati and the Marshall Islands. Due to constraints on data availability and to specific socioecological features of the two SIDS, three indicators in the original R-MPI were removed, fishing was included in some indicators and sea level rise was included in the risk dimension. The resulting R-MPI included 15 indicators across five dimensions: food security and nutrition, education, living standards, rural livelihoods and resources, and risk.

The main source of data was the household income and expenditure survey (HIES) of 2019, which contained almost all the information needed. Geospatial and historical weather (temperature and precipitation) data were used for the indicator on the risk of climate shocks, as well as village-level information on sea level rise.

In both countries, the R-MPI shows a greater degree of rural multidimensional poverty than the global MPI. The percentage of rural population living in multidimensional poverty according to the R-MPI was 53.1 percent in Kiribati and 42.3 percent in the Marshall Islands, nearly twice as much as according to the global MPI (28.9 percent and 18.6 percent). The two methods give similar results for the intensity of poverty but show important differences for the adjusted headcount ratio.

By addressing specific challenges and hardships faced by rural communities, unlike other poverty measures, the R-MPI identifies more individuals as poor. This population, which is invisible by the existing monetary and multidimensional poverty metrics, experiences multiple deprivations in variables of the explicitly rural dimensions: multidimensionally poor people in Kiribati and Marshall Islands experience respectively 22 percent and 17.5 percent of the total possible deprivations that would be experienced if everyone were fully deprived in all indicators.

The analysis showed that the indicators with the highest contribution to the R-MPI in both countries are the risk of climate shocks and social protection. Other indicators with an important contribution are related to living standards: more than half of rural population in Kiribati is deprived in cooking fuel, improved sanitation, electricity or housing, while assets are the main challenge in terms of living standards in the Marshall Islands. Even though indicators on food insecurity, child malnutrition and education exhibit low deprivation levels, future analyses could use more demanding thresholds (for example, increasing the years of schooling to eight years and accounting for moderate levels of food insecurity).

The added value of the R-MPI is that it provides a more accurate multidimensional rural measure designed to capture the full range of deprivations faced by rural communities, which is relevant since most of the poor people in Kiribati and the Marshall Islands (as in the rest of the world) are living in rural areas. The analysis of deprivations by indicators (censored and uncensored), as well as the composition of the R-MPI, provide an input to government entities, the private sector, international agencies and researchers for public policy design, monitoring and evaluation, and for budget allocation aimed at overcoming rural multidimensional poverty in these two countries.

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ISBN 978-92-5-139303-1

9 789251 393031

CD3038EN/1/11.24