Turtle Islands Survey 2012

About

The purpose of the Turtle Islands Survey was to collect baseline measures on key indicators of poverty across the domains of health, education, and standard of living. The Multidimensional Poverty Index (MPI)\(^1\) provided the guiding framework and was expanded to include additional indicators of interest. To date, the MPI has been used to measure critical dimensions of poverty in 109 developing countries, including Sierra Leone. The use of the MPI was to facilitate comparisons both within Sierra Leone and across other developing countries. The Turtle Islands Survey was further supplemented with a set of open-ended questions to explore community perceptions of development.

The survey was carried out on the islands of Yele, Sei and Baki, from 14-21 April, 2012. Community meetings were held on each island prior to beginning the survey, to explain the purpose of the project and to receive community consent for the survey. Community members who chose to participate were then interviewed in groups of approximately ten individuals, separated by gender. All questions were translated from English into Sherbro (the local dialect), or into Krio and Mende as needed.

Information for children on each of the three islands was also included in the survey. Name, birth date, height, weight, vaccination status and caregiver name were recorded for each child.

Comparisons are made between the MPI findings of this survey and the national results reported by the Oxford Poverty and Human Development Initiative (OPHI) report from December 2011\(^2\). Reports from the 2008 Sierra Leone Demographic and Health Survey (SLDHS)\(^3\) are also included to facilitate specific comparisons of key indicators with a nationally representative sample. The SLDHS was conducted by Statistics Sierra Leone in conjunction with the Ministry of Health and Sanitation. It was the first survey of demographic and health indices in Sierra Leone and included a sample of 7,347 women (aged 15-49) and 3,280 men (aged 15-59).

Multidimensional Poverty Index (MPI)

“The MPI reflects both the incidence or headcount ratio (H) of poverty – the proportion of the population that is multidimensionally poor – and the average intensity (A) of their poverty – the average proportion of indicators in which poor people are deprived. The MPI is calculated by multiplying the incidence of poverty by the average intensity across the poor (H*A). A person is identified as poor if he or she is deprived in at least one third of the weighted indicators. Those identified as in “Severe Poverty” are deprived in over 50% of indicators.”\(^2\)

The MPI includes 10 indicators that assess poverty across three domains: education, health, and standard of living. The three domains are weighted equally, with indicators weighted equally within each domain.
The MPI domains and indicators are as follows:

**Education** (each indicator is weighted equally at 1/6)
- **Years of schooling**: deprived if no household member has completed 5 years of schooling
- **Child enrolment**: deprived if any school-aged child is not attending school in years 1 to 8

**Health** (each indicator is weighted equally at 1/6)
- **Child mortality**: deprived if any child has died in the family
- **Nutrition**: deprived if any adult or child for whom there is nutritional information is malnourished

**Standard of Living** (each indicator is weighted equally at 1/18)
- **Electricity**: deprived if the household has no electricity
- **Drinking water**: deprived if the household does not have access to clean drinking water or clean water is more than a 30 minute walk from home
- **Sanitation**: deprived if they do not have an improved toilet or if their toilet is shared
- **Flooring**: deprived if the household has dirt, sand, or dung floor
- **Cooking fuel**: deprived if they cook with wood, charcoal, or dung
- **Assets**: deprived if the household does not own more than one of: radio, TV, telephone, bike, or motorbikes, and do not own a car or tractor (*supplemented with boat for Turtle Islands*)

**Summary of key findings**

Every adult who participated in the Turtle Islands Survey was MPI poor and 99.1% were living in “severe poverty”, as highlighted in the table below. By comparison, using data from the DHS survey, the OPHI country briefing reported an incidence of poverty of 77.0% for Sierra Leone, with 53.2% of the population living in “severe poverty”. Regional rates from the OPHI report are also provided for further information in the table below. The average intensity of poverty was significantly higher on the Turtle Islands compared to the rest of Sierra Leone. Whereas people in poverty were deprived on average on 57.0% of indicators, people on the Turtle Islands were deprived on average on 80.8% of indicators. Of the 109 developing countries assessed, Sierra Leone ranked 97 in terms of the percentage of people who were MPI poor. The Turtle Islands represent a severely marginalised community within one of the most deprived developing countries.

<table>
<thead>
<tr>
<th>Survey</th>
<th>MPI ((H \times A))</th>
<th>Incidence of Poverty ((H))</th>
<th>Average Intensity Across the Poor ((A))</th>
<th>Percentage of Population in Severe Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turtle Islands 2012</td>
<td>.808</td>
<td>100%</td>
<td>80.8%</td>
<td>99.1%</td>
</tr>
<tr>
<td>DHS 2008</td>
<td>.439</td>
<td>77.0%</td>
<td>57.0%</td>
<td>53.2%</td>
</tr>
<tr>
<td><strong>By Region</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern</td>
<td>.454</td>
<td>80.4%</td>
<td>56.4%</td>
<td>55.4%</td>
</tr>
<tr>
<td>Northern</td>
<td>.519</td>
<td>86.9%</td>
<td>59.8%</td>
<td>65.8%</td>
</tr>
<tr>
<td>Southern</td>
<td>.474</td>
<td>83.6%</td>
<td>56.7%</td>
<td>58.9%</td>
</tr>
<tr>
<td>Western</td>
<td>.192</td>
<td>42.2%</td>
<td>45.4%</td>
<td>14.1%</td>
</tr>
</tbody>
</table>
The chart below reports the proportion of people who were deprived on each indicator of the MPI for those who were poor on the Turtle Islands compared to those who were poor on the OPHI report for Sierra Leone\(^2\). Because all people were MPI poor on the Turtle Islands, this represents the entire sample surveyed. National rates are for the 77% who were MPI poor and do not include deprivation of non-poor people.

### Percentage of population who are MPI poor and deprived in each indicator

<table>
<thead>
<tr>
<th>Key Indicator</th>
<th>Turtle Islands 2012</th>
<th>SLDHS 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Education</td>
<td>12%</td>
<td>33%</td>
</tr>
<tr>
<td>Child Education</td>
<td>29%</td>
<td>50%</td>
</tr>
<tr>
<td>Child Mortality</td>
<td>33%</td>
<td>45%</td>
</tr>
<tr>
<td>Malnourishment</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Electricity</td>
<td>17.0 years</td>
<td>19.3 years</td>
</tr>
<tr>
<td>Drinking Water</td>
<td>15.0 years</td>
<td>17.0 years</td>
</tr>
<tr>
<td>Sanitation</td>
<td>17.0 years</td>
<td>24.5 years</td>
</tr>
<tr>
<td>Floor</td>
<td>10% (ever used)</td>
<td>8% (current use)</td>
</tr>
<tr>
<td>Cooking Fuel</td>
<td>340 in 1,000 live births</td>
<td>140 in 1,000 live births</td>
</tr>
<tr>
<td>Household occupancy</td>
<td>8.5 occupants</td>
<td>5.9 occupants</td>
</tr>
<tr>
<td>Improved toilet facilities</td>
<td>0%</td>
<td>6% rural; 21% urban</td>
</tr>
<tr>
<td>Electricity</td>
<td>0%</td>
<td>1% rural; 33% urban</td>
</tr>
<tr>
<td>Ownership: Radio</td>
<td>19%</td>
<td>55%</td>
</tr>
<tr>
<td>Ownership: Mobile</td>
<td>8%</td>
<td>10%</td>
</tr>
</tbody>
</table>

The table below summarises reports on key indicators of poverty for the Turtle Islands compared to the national survey results of the SLDHS\(^3\). Further detail on these measures and other measures are reported at length below.
Participants

A total of 341 adults were interviewed, including 167 men (49%) and 174 women (51%). One hundred and ninety-one adults participated on Yele (88 men; 103 women), 99 on Sei (48 men; 51 women) and 51 on Baki (31 men; 20 women). The average age was 34 years and 80% of all respondents were married. Overall, 73% of adults had been born on one of the Turtle Islands, with the majority of others born in neighbouring chiefdoms.

Information was recorded for a total of 348 children, including 175 boys (50%) and 173 girls (50%). One hundred and eighty-four children participated from Yele (84 boys; 55 girls), 81 from Sei (45 boys; 36 girls), and 83 (46 boys; 37 girls) on Baki. The average age of children was 5 years and 2 months, ranging from 1 day to 18 years, with a median age of 4 years.

Demographic information

The age of adult participants ranged from 15 to 80 years of age. Only 16 (5%) individuals reported having a birth certificate, including 10 (6%) men and 6 (3%) women. Nearly a third (29%) of adults reported that they did not know their age, with a significantly higher proportion of women (46%) reporting age unknown than men (11%).

Two hundred and seventy-three individuals reported that they were married, which included 137 (82%) men and 136 (78%) women. Age at first marriage ranged from 10 to 27 years for women and from 10 to 50 years for men. The median age of first marriage for women was 15.0 years, which is significantly younger than the median age of 20.0 years for men. The median age of first marriage is significantly younger for both women and men compared to national results from the SLDHS, which reported a median age of 17.0 years for women and 24.5 years for men.

In total, 301 (88%) participants reported having living children. The average number of living children was 4.0, ranging from 1 child to 12 children. Fertility rates reported by the SLDHS varied from an average 3.4 children in the Western Region to 5.8 children in the Northern Region. It is important to note however that this survey asked participants how many children they had who were living, rather than children in total. Given the high rate of infant mortality, it is likely that the fertility rates on the Turtle Islands are at least as high if not higher than average national rates.

Overall, 283 (83%) individuals self-identified as Muslim and 58 (17%) individuals self-identified as Christian. Religion varied by island, with Muslim being reported by 147 (77%) on Yele, 85 (86%) on Sei, and 51 (100%) on Baki. Christian was reported by 44 (23%) on Yele, 14 (14%) on Sei, and by no one on Baki.

Adult education

Of the 341 adults surveyed, 69 (20%) reported ever having attended school, including 48 men and 21 women. This represents 29% of all men and 12% of all women that were interviewed. Men had been to school for significantly more years than women, with an average of 6.8 years for men and 5.6 years for women. These rates are in striking contrast to the national education rates reported by the SLDHS,
which themselves are notably low. According to the SLDHS, one-third of women and half of men had attended formal education in Sierra Leone.

A total of 16 adults (5%) self-reported that they could read and write. Of those, only one was a woman. This represents 9% of men and less than 1% of women who were interviewed. Literacy was assessed through self-report only. It is important to bear this limitation in mind, given that it suggests a potential overestimation of literacy rates. The SLDHS reported that 26% of women and 45% of men were literate in Sierra Leone. Literacy rates and access to formal education is notably low at the national-level, such that the islands represent an acutely marginalised community in terms of access to education.

**Adult health**

A total of 243 adults reported ever having been vaccinated, including 56% of men and 86% of women. Sixteen (10%) men and 88 (51%) women reported having an immunization record.

One hundred and sixty-eight adults reported smoking (primarily cigarettes), representing 58% of men and 41% of women. There were 97 (28%) adults who reported drinking alcohol, including 61 (37%) men and 36 (21%) women.

Overall, 240 adults reported using mosquito nets, including 131 (78%) men and 109 (63%) women. Rates of mosquito net use were significantly lower on Yele, with 56% (65% of men; 49% of women) of adults using nets on Yele compared to 89% (96% of men; 82% of women) on Sei and 88% (90% of men; 85% of women) on Baki. These rates are higher than the rates reported by the SLDHS, in which one-third of households reported owning a mosquito net. It is not known however if the nets being used on the Turtle Islands were insecticide-treated, as was the requirement in the SLDHS questionnaire.

On average, adults consumed 2.2 meals per day and ate fish 5.4 times per week. Men ate fish significantly more times per week than women, with approximately 6 times per week reported by men and 5 times per week by women. Approximately 43% of women and 36% of men reported eating less than two meals per day. These rates are reported during the dry season, bearing in mind that rates decline during the rainy season when fishing becomes difficult. The rates are therefore likely to represent an overestimation.

**Child mortality**

Women reported the death of an average 2.6 children under the age of 5, ranging from the death of one child to 11 children. Together, the 126 mothers who were surveyed had lost 321 children under the age of 5. They reported a total of 623 living children. The under-5 mortality rate is therefore approximately 340 deaths in 1000 live births. This rate is significantly higher than the already high national rate. At the national level, the SLDHS reported that 140 children per 1,000 live births die before the age of 5, or about one child in seven. In the 10 years preceding the SLDHS survey, the reports ranged from 147 per 1,000 live births in the Eastern region to 180 per 1,000 live births in the Southern Region. It is important to bear in mind that the rate reported in this survey is an estimate based on lifetime reports.
**Childbirth and family planning**

At the time of the survey, there were 15 (9%) women who were pregnant and 52 (30%) women who were breastfeeding. For women, the median age at first childbirth was 17.0 years and ranged from 11 to 30 years. In comparison, the median age at first birth reported by the SLDHS was 19.3 for women aged 25 to 49.

Due to sensitivity issues, only women were asked questions concerning family planning. In total, 17 (10%) women reported ever having used a method of family planning. Of these, 10 women reported using an injection method and 7 reported using a tablet form of contraception. This is comparable to the 8% of women reported by the SLDHS who currently use a method of family planning.

Access to family planning methods that they trusted was reported as the most common barrier to family planning use. Approximately one third of women stated that they would use family planning if it were available. This is also similar to the 28% of women who reported an unmet need for family planning in the SLDHS.

**Child education**

As of April 2012, none of the 348 children were currently attending school.

**Child health and development**

The average BMI for children was 16.9. According to the published WHO growth standards, 106 (30%) of all children who participated in the survey had a BMI below the median standard, according to age and gender. Of those children, a fifth had BMIs in the lowest 3rd percentile.

There was a significant difference between the islands on children’s BMI. Baki had the highest average BMI at 18.1, followed by Yele at 17.0 and Sei at 15.5. On Sei, 54 children (67%) had BMIs below the WHO median standard. Of those 54 children, a third scored below the 3rd percentile. For children 2 years and under, over half (56%) of those with a BMI below the median standard scored in the lowest 3rd percentile.

Overall, 83% of children had been vaccinated, with an identical rate for boys as for girls. Rates however varied between the islands: 96% of children had been vaccinated on Baki, 93% on Sei, and 70% on Yele. Vaccination type was frequently unknown, such that it is not possible to report on the number of children who had received their full set of necessary vaccinations.

**Sanitation**

The only reported source of drinking water on the three islands was open wells. Yele was the only island with a covered water pump but it was not reported as the chosen source of drinking water. This was primarily due to the well frequently being dry and a dislike for the taste of the water.

Baki was the only island with toilet facilities. This included 3 outdoor latrines shared between all members of the community. More often the bush or beach was used, as was always the case on the
other islands. At the national-level, the rate of access to an improved toilet facility was reported as 6% in rural households and 21% of urban households.

Livelihood

The primary source of income on the islands is fishing, with 87% of men fishing to earn a living. Only 5% of men reported operating a small business as their primary source of income. Women participated in a variety of activities to earn additional income, which differed between the islands. On Yele, the largest proportion of women cut wood at 37%, followed by women who sold fish at 31%. On Sei, 30% of women sold thatch, 16% cut wood, and 10% sold fish. On Baki, 35% of women sold fish, 30% operated a small business, and 15% cut wood.

Household characteristics

The average household on the three islands included 8.5 occupants, ranging from 1 to 40 household members. By comparison, the SLDHS reported an average 5.9 household members. Total household occupancy included approximately 4 children, with reports ranging from no children to 11 children in one household.

Overall, 99% of the homes on the islands were made of sticks and mud, or sticks and palm fronds. One individual reported living in a home with walls of sticks, mud, and an outer layer of cement. Only 4% of individuals reported living in a home with cement floors. A total of 94% of adults lived in homes with a thatch roof; only 6% reported living in a home with a zinc roof. Most floors (76%) were sand, and the rest were ash, mud, or shells.

The only source of fuel for cooking was wood.

There was one fuel-powered generator between the three islands. It was owned by a household on Sei, which uses the generator primarily as a source of income by charging admission to view videos on a small television. There is no other source of power on the islands. These reports are in line with the rates reported by the SLDHS, indicating that only 1% of rural households have electricity compared to approximately one-third of urban households.

Ownership of goods

There were 153 (45%) participants who owned chickens, 40 (12%) who owned sheep, and 22 (6%) who owned goats. A total of 66 (19%) participants owned a radio, which consisted of 64 men and 2 women. This is compared to 55% of households in Sierra Leone who own a radio according to the SLDHS. Across the three islands, there were 27 (8%) participants who owned a mobile, 26 of whom were men. This rate is similar to the 10% reported by rural households in Sierra Leone, which is significantly lower than the two-thirds of urban households.

Of the 146 men who were fishermen, only 85 (57%) had nets and 78 (92%) of these nets were on loan. The rate of loaning nets varied significant between the islands, with 100% of the nets on loan on Yele, 88% on Baki, and 67% on Sei. In total, there were 92 men (61%) who had boats, half of which were on
loan. These rates again varied between with islands, with 64% on loan on Sei, 53% on loan Baki, and 45% on loan on Yele. None of the boats had an engine. There was one community boat that had been donated to the island of Baki that had a small engine.

References

3. Statistics Sierra Leone and ICF Macro. (2009). Sierra Leone Demographic and Health Survey 2008: Key Findings. Calverton, Maryland, USA: SSL and ICF Macro