Background Note on
Rethinking Multi-dimensional Poverty Index (MPI) for Arab Region

Poverty is not only the result of low income below a threshold level, but also a deprivation of other capabilities, including achievements in social and political dimensions. Global discussions to establish and monitor a pluralistic measure of poverty in any post-2015 agenda suggest that policy making processes at national and global level have started recognizing the importance of meeting the challenge of poverty in all its different manifestations. Social welfare approaches have traditionally considered a plurality of indicators to describe the quality of life of individuals and households, which goes beyond the income-based poverty measure. However, a more complete and comprehensive conceptual thinking to understand and empirically measure multi-dimensional poverty is explained by the capability and functioning framework propounded by the noble laureate Amartya Sen (1985). Sen explains that functioning deals with what a person can do and capabilities indicate a person’s freedom with respect to functioning or what a person can be in life. Therefore, poverty is regarded as a problem of capability failure. Measuring such a concept holistically is difficult as the indicators include both quantitative and qualitative aspects of human life such as the joy of choices, opportunities and others which are most basic to human development such as literacy and life expectancy. A measure of poverty that takes into account these aspects can paint quite different pictures of the poverty situation, than income poverty, in any given country.

The human poverty index (HPI 1 and HPI 2), produced by UNDP (1997), provided measures of multi-dimensional aspects of poverty or deprivation for a large number of countries in the world. The construction of HPI combines life expectancy, education and health. Unlike the popularity of the human development index (HDI), which combines income, health and education dimensions, and applies simple weighting mechanism for aggregation of the three dimensions, the HPI was far less successful in gaining attention of countries for policy dialogues. It also received severe criticism because of the arbitrary weighting scheme in aggregation of the index and leaving out income dimension completely. In 2010, UNDP substituted the HPI measures with a new multi-dimensional poverty index (MPI), which was constructed by Oxford Poverty and Human Development Initiative (OPHI). The MPI takes into account deprivation in health, education and living standard aspects – the same three dimensions of HDI, but instead of income it measures basic standards of living of households which are a set of indicators that income can buy. The MPI has successfully highlighted the gap between achievements in income-based poverty and the multi-dimensional poverty even in countries that are doing well in terms of

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2 See the discussion on identification of poor in the pioneering contribution by Sen 1976.
3 Alkire 2002
4 Booysen, 2002.
5 Alkire and Foster 2011; Alkire and Santos 2010.
growth of income, such as in case of Egypt and Morocco among the Arab countries.\textsuperscript{6} Since its inception, the MPI has caught attention of many countries globally as a policy tool, especially as it is based on similar conceptual foundations of human development and it relies on simple weighting scheme for aggregation of the index.

Based on its success at the global level, the MPI might seem as the right methodology for achieving realistic figures about multi-dimensional poverty in the Arab region as well, but a close examination of the index shows that it fails to adequately capture the reality of poverty. For example, for Egypt and Tunisia, the 2013 report indicated that MPI poor is only at 6 per cent and 2.8 per cent respectively\textsuperscript{7} (Figure 1). Such low MPI is highly questionable given the situation in these countries. Abu-Ismail et al 2011 argued that the use of the standard global MPI is of limited relevance for the Arab countries. The methodology of MPI is designed mainly to capture extreme poverty, which is more applicable to LDCs.

Figure 1: Multi-dimensionally poor by global MPI

\begin{figure}
\centering
\includegraphics[width=\textwidth]{fig1.png}
\caption{Multi-dimensionally poor by global MPI}
\end{figure}

Source: Based on UNDP 2013.

Selecting some indicators of MPI for a few countries in the region, in what might be called a deprivation to standard of living index, as a pilot exercise,\textsuperscript{8} indicates a stark contrast to the results of the standard MPI.\textsuperscript{9} This exercise applies the methodology to the entire population at the aggregate level as well as to different social classes such as the poor, vulnerable, middle class and affluent (Abu-Ismail and Sarangi 2013). The results suggest that the incidence of non-

\textsuperscript{6} UNDP 2010.
\textsuperscript{7} The reported calculations are based on 2008 data for Egypt and 2003 survey data for Tunisia (UNDP 2013).
\textsuperscript{8} The exercise is based on household expenditure survey data.
\textsuperscript{9} See Abu-Ismail and Sarangi 2013 for classification of population groups and description of indexing exercise. The poor and vulnerable groups are based on lower and upper poverty line respectively.
income deprivation is highest among the income poor, followed by the vulnerable and the middle class. The incidence of non-income deprivations for the middle class is higher in the LDCs than in many of the middle income and upper middle income countries. The middle class in conflict-ridden countries, such as Iraq (middle-income country), reflects a similar incidence of deprivations as in Sudan (LDC). Overall, the incidence of deprivation in Egypt, for example, is 16.7 per cent, compared with the global MPI result of only 6 per cent (figure 1). This simple exercise suggests a need for re-examining the methodology of multi-dimensional poverty, with a specific focus on elements that could highlight deprivation in middle-income countries.

The dimensions of the MPI are another area for improvement in the context of Arab countries. A recent study on MPI in the Arab region suggests including unemployment dimension into the global MPI for improving the results for the Arab countries. In addition, several countries in the region, such as Syria and Yemen, are facing crisis situations, but there is a lack of recent survey data, which could show the impact of the crises on income or multi-dimensional poverty. However, conflicts and distressed economic situation in these countries have contributed to the bulk of the increase in poverty and also those more vulnerable to poverty among the lower middle class population. The challenges faced by children, mothers, youth and elderly are evident during conflict situations and revolutions and are not captured by the existing MPI. Therefore, there is need for a discussion on more context-specific approaches to measuring multi-dimensional poverty in the Arab region that would provide more accurate data and be more relevant for informing policy.

Again, the on-going global and regional discussion on the successor of the MDGs framework, the post-2015 agenda or the sustainable development goals, focuses on multi-dimensional wellbeing rather than just concentrating on reducing income poverty. Income growth should be accompanied by quality education, good health and a decent standard of living along with socio-political empowerment, jointly leading to a higher quality of lives. People and countries today have higher aspirations than they did decades ago when the MDGs were adopted as a set of quantitative goals to be achieved for meeting basic needs. Taking these discussions and a possible future course of action into account, the rethinking of the multi-dimensional poverty in a way that would enable it to be used as a tool for anchoring any agenda for the post-2015 goals and targets is crucial for the Arab region. Some countries, such as Mexico and Columbia, have already adopted multi-dimensional poverty as the basis for their policy formulation and monitoring with regard to development outcomes. There are also many countries around the world that are tailoring the global MPI to their national context to be better able to capture poverty and thus inform national and regional policy.

In summary, the state of knowledge and understanding about poverty and inequality, including income and multi-dimensional poverty, its determinants and dynamics, remains rudimentary in the Arab region compared to the best practices in rest of the world. Availability and access to survey data, the quality of data collection and consistency across countries, as well as systematic research on poverty and inequality have been very limited. The global threshold references:

11 Nawar 2013.
12 Presentation by Adriana Conconi, OPHI
whether the 1.25 $PPP measure or the MPI for income poverty and multi-dimensional poverty respectively, may be useful to understand the prevalence of extreme poverty in the LDCs in the region, such as Sudan and Somalia, but their assessments for the middle income countries in the region, such as Egypt, Morocco, and Iraq, or even for the high-income countries in the GCCs are far from reality. The national poverty lines of these countries significantly differ from the international measures. Thus, the available knowledge on poverty and inequality in Arab countries is not adequate to help contribute in a meaningful way to the discussions about the current critical issues confronting policy making in the region.

Therefore, the objective of the exercise is to help countries and intellectual community understand the problems related to multi-dimensional poverty measurement for the Arab region by producing a revised multi-dimensional poverty methodology, which takes into consideration concerns of middle-income countries with a specific focus on the Arab countries. In order to do that, there is a need for revisiting the cut off thresholds of the indicators as well as to take into consideration possibility of adding dimensions or indicators that capture deprivation aspects of households in middle income countries. A weighting pattern for aggregation and the cut-off threshold for poverty are other issues that need to be discussed in the indexing exercise as well.

ESCWA, in collaboration with League of Arab States (LAS), has led the work on rethinking the MPI for Arab region and organised two brainstorming consultations in 2014 that involved participation of experts from Oxford Poverty and Human Development Initiative (OPHI), UNICEF Regional Office for the Middle East and North Africa, DIFI of Qatar Foundation and academia to arrive at an agreement on a methodology for MPI which is more relevant to the Arab countries and which is doable given the data available from existing household surveys. ESCWA has also undertaken pilot exercise of three countries to arrive at indicators that are computable in a comparable regional perspective using MICS, PAPFAM and DHS data sources, which are relevant for multi-dimensional poverty analysis.

There is an overall agreement among the experts for rethinking the measurement of multi-dimensional poverty by taking into account the diversity of the Arab region and also different age-group of population. Suggestions included additional dimensions and relevant indicators which can be included in the Arab regional MPI while adopting the methodology of global MPI. The global MPI may represent the situation of the LDCs, but higher cut-off levels to the indicators of deprivation can be imposed to calculate MPI2 for the middle income countries and, similarly further higher cut-offs can be applied to calculate MPI3 for the high income countries. The brainstorming sessions contributed to discussion on a variety of issues in terms of relevance of the indicators, reliability of data on such indicators, possible alternate indicators, robustness of methodology and the overall framework of measuring multi-dimensional poverty. The end of different technical sessions contributed to finalising the indicators matrix, as presented below.

The objective of the roundtable is to discuss:

- Further suggestions on the relevance of the indicators/missing indicators relevant for middle income countries
- Weighting pattern for the indicators/dimensions
- Cut-off threshold for arriving at MPI poor
### List of MPI Indicators/dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Indicators</th>
<th>Level 1 (MPI)</th>
<th>Level 2 (MPI 2)</th>
<th>Level 3 (MPI 3)</th>
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</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
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<tr>
<td>Years of schooling</td>
<td>Deprived if no adult household member has completed 5 years of schooling</td>
<td>Deprived if no adult household member has completed 8 years of schooling</td>
<td>Deprived if no adult household member has completed 12 years of schooling</td>
<td></td>
</tr>
<tr>
<td>School attendance</td>
<td>Deprived if any school age (7 to 15) child is not attending school in grades 1 to 8 of school</td>
<td>Deprived if any child age (7 to 17) is not attending school</td>
<td>Deprived if any child age (7 to 17) is not attending school or If any child 7 to 17 years is two years or more behind in the right school grade (papfam to suggest)</td>
<td></td>
</tr>
<tr>
<td><strong>Health</strong></td>
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<tr>
<td>Infant and child mortality</td>
<td>Deprived if any child (age 0-5) has died in the family</td>
<td>Deprived if any child (age 0-5) has died in the family</td>
<td>Deprived if any child (age 0-5) has died in the family</td>
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<tr>
<td>Nutrition</td>
<td>Deprived if any adult or child for whom there is nutritional information is malnourished (child’s weight-for-age is below minus two standard deviations from the international median, adult BMI less than 18.5)</td>
<td>Deprived if any child (0-4 years) is moderately or severely underweight (child’s weight-for-age) stunted ( or height for age) is below minus two standard deviations from the international median deviations (WHO Child Growth Standards) or adult BMI less than 18.5</td>
<td>Deprived if first or second level of deprivation Or. or the child is obese (Weight for height is above 2 SD of the international median or adult BMI is 30 or above</td>
<td></td>
</tr>
<tr>
<td>Immunization</td>
<td></td>
<td>Deprived if any child 12-23 months or (country specific age) f is not fully immunized against BCG, DPT, polio and measles (or all antigens considered at country level for full immunization e.g. pentavalent) by their first birthday.</td>
<td>If any child 12-23 months not fully immunized or If any child months not fully immunized and did not receive HiB and Hepatitis B vaccines.</td>
<td></td>
</tr>
<tr>
<td>Female health</td>
<td>Age of first pregnancy less than 18 years</td>
<td>Age of first pregnancy less than 18 years</td>
<td>Deprived if beating is justified (check data)</td>
<td>Deprived if beating is justified (check data)</td>
</tr>
<tr>
<td>Housing and Assets</td>
<td>Electricity (MPI)</td>
<td>Deprived if no electricity</td>
<td>Deprived if no electricity</td>
<td>Deprived if no electricity</td>
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<tr>
<td>Drinking water (MPI)</td>
<td>Deprived if the HH does not have access to clean water (used surface water) within 30 minutes walk</td>
<td>Deprived if HH don’t have well with pump or public tap</td>
<td>Deprived If HH don’t have piped water to house</td>
<td></td>
</tr>
<tr>
<td>Sanitation (MPI)</td>
<td>Deprived if household toilet is shared with others who are not members of their household or used unimproved toilet</td>
<td>(find an improved version such as toilet within household, connection to sewage system, septic tanks so on???) check data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flooring (MPI)</td>
<td>Deprived if “earth, sand, dung”</td>
<td>Deprived if natural flooring (earth, sand, dung) or “rudimentary flooring”(wood planks/bamboo)</td>
<td>“”</td>
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</tr>
<tr>
<td>Cooking fuel (MPI)</td>
<td>Deprived if HH cooks with wood, charcoal or dung (may drop it)</td>
<td>Deprived if the household cooks with wood, charcoal or dung and does not have a designated space for cooking (may drop it)</td>
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<tr>
<td>Assets ownership (MPI)</td>
<td>If a household does not own more than one; radio, TV, telephone, bike, motorbike or refrigerator, and does not own a car or tractor it is considered deprived</td>
<td>If a household does not own one asset of each group or a car</td>
<td>If a household does not own one asset of each group or a car</td>
<td></td>
</tr>
<tr>
<td>Communication: radio, TV, telephone (fixed/mobile), internet, computer, ipad, tablets</td>
<td>Transportation: bike, motorbike, car, tractor</td>
<td>Communication: radio, TV, telephone (fixed/mobile), internet, computer, ipad, tablets</td>
<td>Communication: radio, TV, telephone (fixed/mobile), internet, computer, ipad, tablets</td>
<td></td>
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<tr>
<td>Appliances: refrigerator, AC, Micro oven, heater</td>
<td></td>
<td>Transportation: bike, motorbike, car, tractor</td>
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</tbody>
</table>

Crowding: number of HH members per room

- 4 persons or more per room used for sleeping room (UN HABITAT)
- 3 persons or more per room used for sleeping (UN HABITAT)
References


