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MULTIDIMENSIONAL POVERTY INDEX AND POLICIES FOR TACKLING INTERLOCKING DEPRIVATIONS IN THE ARAB STATES

Abdel-Hameed Nawar



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ABSTRACT

The research on multidimensional poverty has gathered momentum in the last half-decade and more remarkably in the aftermath of the global food and financial crises of 2007-2008. It has gathered further momentum since the UNDP-OPHI launched the 2010 Human Development Report (HDR) and more recently as part of the continuing debate on the global development agenda post-2015. Availability of very large and rich datasets on households and individuals from micro surveys and the advances in survey data analysis have transformed research in multidimensional poverty. This not only raises new policy questions but it also suggests new policy instruments. Multidimensional Poverty theories have been vigorously advocated by some of the most thoughtful and hard-working economists. The Alkire-Forster Multidimensional Poverty Index (MPI) measures overlapping multiple deprivations people simultaneously face, is MDGs-compatible, and has the advantage that it does distil those multiple indicators dashboard into a single score. While the standardized global MPI model allows for international comparisons to be made for different countries, numerous caveats exist when using it nationally “as is”. Individual countries can refine the global MPI model to make it more applicable to their own conditions by expanding the scope for incorporating national - or subnational - specific dimensions, indicators, weights and cutoffs.

This paper analyzes the 2013 round of the multidimensional poverty and inequality results for Arab States at the national and sub-national levels using the results from the OPHI’s standardized global MPI model of Alkire and Forster. It also explores how some countries in the Arab region can use the MPI as a tool to develop targeted policies aimed at tackling the “hard core of poverty” at a national and sub national level. Analyses show that the Arab Region has 21.5 million people vulnerable or at risk of multidimensional (MD) poverty and 18.8 million people in “Severe” MD poverty representing respectively 9.3 per cent and 7.9 per cent of a total population of 231.1 million people in 12 Arab States in 2010. Within the Arab Region, data shows that vulnerability rates are high and less heterogeneous across the sub-regions while in Arab LDCs very high rate of severe MD poverty prevail. Urban-rural comparisons make the multidimensional inequality obvious. The MPI at sub-national levels reveals that high social deprivations – and therefore low resilience - are inflicting much suffering on ordinary citizens in rural and certain geographic areas within the Arab States. Moreover, it is shown that income poverty and multidimensional poverty measures typically do not co- move, as the relations between income inequality and multidimensional poverty measures are spherical. Hence, if income poverty alone is used for policymaking, poverty mapping and targeting a large proportion of the poor people will remain overlooked. Hence, the poverty and inequality in the Arab States have been on a trajectory that is unsustainable.

The development of the MPI model for public policymaking is still at a very preliminary stage in the Arab States, but various international experiences reviewed and assessed in this paper - namely Mexico, Colombia and Brazil- substantiate the success of using the MPI in policy making process. While, of course, there are common threads running through all of the MPIs, it is shown that in the case of Mexico-MPI incorporates both income and non-income aspects whereas elsewhere, the country-specific MPI complements income measurement. Lessons learned from international experiences suggest that a change in paradigm is needed to open the door to opportunities whereby successes can be replicated in the Arab States. In conclusion, it is argued that when multidimensional deprivations serve as a framework within which all sorts of policies are conducted, Arab States will start to bend the staggering cost curve of poverty and inequality and will cease to look ahead to more lost decades for development.

Key Words: Multidimensional Poverty, Inequality, MDGs, Arab States

JEL Classification Codes: I3, I32, D63, O1

1. INTRODUCTION

To fight poverty, we must be able to define it and be able to measure it. The process always starts with choosing a space in which it will be defined. The space can be uni-dimensional when it is defined by only one variable— usually income or consumption—or multidimensional when it is defined by several variables. In a pioneering contribution, the Nobel Laureate Amartya Sen (1976) regarded the poverty measurement problem as involving two exercises: (i) the identification of the poor and (ii) aggregation of the characteristics of the poor into an overall index that quantifies the extent of poverty. The first problem is solved by specifying a cut-off representing the threshold for insufficient well-being (income) or social achievement (education, health, housing, clothing, provision of public goods etc.), whereby persons below the cutoff value are counted as poor. They are then averaged to express the incidence and intensity of poverty. Also, in his 1999 book “Development as Freedom,” Sen explains that poverty is more broadly seen as the deprivation of capabilities, that is the lack of opportunities and resources that would enable people to live the life they value.

The multidimensional (MD) approach to poverty has been a popular topic in development economics. Early contributions to multidimensional poverty research from micro survey data date back to the work of Peter Townsend (1979)¹ who studied poverty in the United Kingdom. Since then, there has been much progress made in proposing various theoretical frameworks of multidimensional (MD) poverty measures from survey data on households and individuals. Several MD poverty indices take full account of survey designs by including the appropriate dimensions. These MD poverty indices include, among others, the Chakravarty et al (1998) index², the Tsui (2002) index, the Bourguignon and Chakravarty (2003) index³ and the Alkire and Foster (2007) index⁴. These indices are relatively easy to apply, and each one satisfies some or all basic axioms for a good index, including focus, decomposability, replication invariance, and symmetry, which are discussed in Sen (1976).

In practice, a turning point came with the UN Millennium Development Goals and targets, which were based on the Millennium Declaration signed in September 2000 by 189 countries, including 147 heads of State and Government, and from further agreement by member states at the 2005 World Summit. The global goals and targets are interrelated and integrated into a uniform dashboard for eliminating multidimensional poverty. Efforts were made to convert the Millennium Development Goals and targets into a national tool for inclusive development that reflects consistent possibilities for the whole population with particular attention paid to those social groups facing harsh conditions. A number of countries including Mexico, Colombia, Brazil, China, Malaysia and Bhutan have officially applied a multidimensional approach to poverty, both at the national and sub-national levels, and adapted it for national development planning in terms of defining priorities, allocating public resources, and guiding sector policies (education, health, employment, social protection etc.).

1 Townsend (1979)

2 Chakravarty, Mukherjee and Renade (1998)

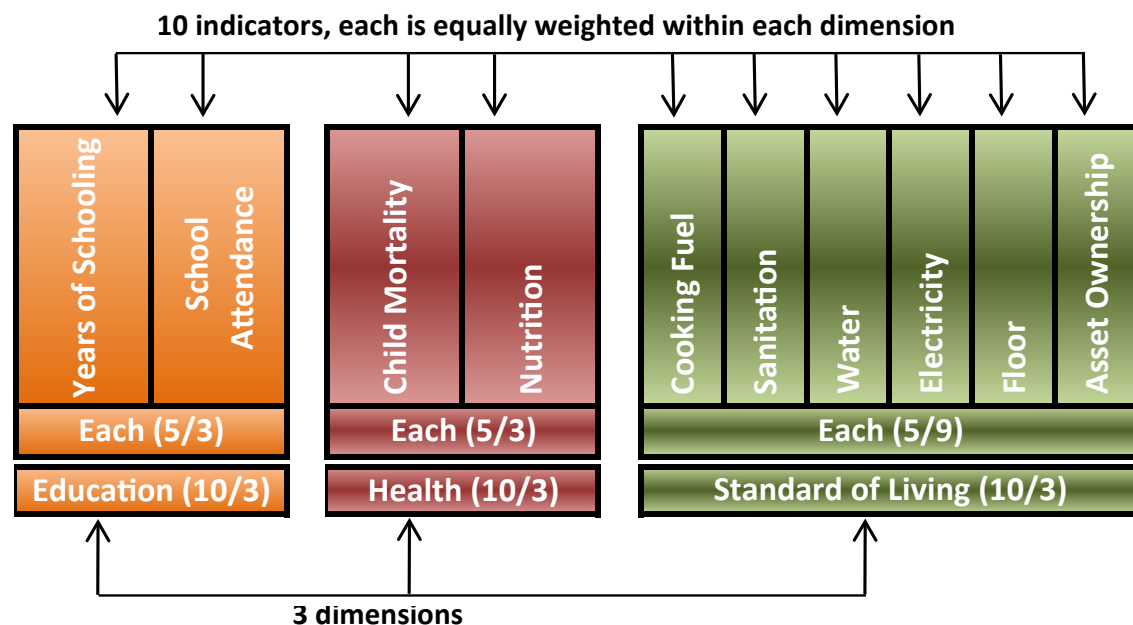
3 Bourguignon and Chakravarty (2003)

4 Alkire and Foster (2007) and Alkire and Santos (2009) for a simple introduction

Another turning point came with the successful introduction of the Alkire and Foster (2007) Multidimensional Poverty Index (MPI) by the Oxford Poverty & Human Development Initiative (OPHI) and the United Nations Development Programme (UNDP) in the 2010's global Human Development Report (HDR), which marked its 20th anniversary, titled “The Real Wealth of Nations: Pathways to Human Development.” It supplants the macroeconomic Human Poverty Index (HPI) which was previously used in the 1997-2009 HDRs but suffered from several shortcomings, in particular being unable to identify people who suffer multiple deprivations jointly. Indeed, the Alkire and Foster (2007) MPI methodology has become a tradition of research and has been pushing the frontiers in measurement and enriched policy analysis and debate a great deal. Innovations in the measurements of human deprivation are being operationalized to provide measures that are as accurate and up to date as possible against the reality on the ground. The 2011 global HDR titled “**Sustainability and Equity: A Better Future for All**” backed up the global MPI results with further empirical data and a new way of thinking about and measuring poverty and identified policies on the national and global levels. In the 2013 global Human Development Report titled “**The Rise of the South: Human Progress in a Diverse World**”, OPHI along with UNDP support introduced new measures of vulnerability and severity of multidimensional poverty and analyzed successful social policy innovation and antipoverty programs that are now emulated worldwide, e.g. in Mexico, Columbia and Brazil.

The AF's MPI uses micro survey data to reflect the combination of overlapping deprivations that strike a household in three areas—education, health and living conditions— with 10 indicators shown in the Figure (1) below. Each dimension is equally weighted (10/3) and each indicator within a dimension is also equally weighted.

FIGURE 1: COMPONENTS OF THE MULTIDIMENSIONAL POVERTY INDEX



SOURCE: Prepared by the author based on Alkire and Foster (2007)

The dimensions are further explained below. For each, deprivation is indicated if:

1. Health:

1.1 **Child Mortality:** If a child of any age has died in the household.

1.2 **Nutrition:** If any adult or child in the household is malnourished⁵.

2. Education:

2.1 **Years of Schooling:** If no household member has completed 5 years of schooling.

2.2 **Child Enrolment:** If any school-aged child is out of school in years 1 to 8.

3. Standard of Living:

3.1 **Electricity:** If the household has no electricity.

3.2 **Drinking water:** If the household does not have access to clean drinking water, or clean water is more than 30 minutes walking from home (MDG definition).

3.3 **Sanitation:** If the household's sanitation facility is not improved (according to the MDG guidelines), or it is improved but shared with other households.

3.4 **Flooring:** If the household has dirt, sand or dung floor.

3.5 **Cooking Fuel:** If the household cooks with wood, charcoal or dung.

3.6 **Assets:** If the household does not own more than one of: radio, TV, telephone, bike, or motorbike, and does not own a car or tractor.

The MPI neatly reflects both the incidence or headcount ratio (H) of poverty, defined as the proportion of the population that is multidimensionally poor, and the average intensity (A) of their poverty, defined as the average proportion of indicators in which poor people are deprived. It is calculated by multiplying the incidence of poverty by the average intensity across the poor:

$$MPI=H\times A.$$

A person is identified as “poor” if s/he is deprived in at least one third of the weighted indicators. A person is identified as “Vulnerable to Poverty” if s/he is deprived in 20 -33 per cent of the weighted indicators and is identified as in “Severe Poverty” if s/he is deprived in 50 per cent or more.

Despite being in operation for many years, the MPI is still facing a number of challenges. For example, the MPI uses normative weights and no information on prices. Additionally, it uses no information on age, functionality or quality of assets.

Moreover, since the end of 2010, the world has significantly changed. Progress towards the MDGs has slowed down or even reversed. It suffices to consider the uprisings that shocked some Arab States and the world starting in 2011 as part of a revolutionary process that has at its core social justice. Certainly, the meaning and demands of social justice before 2011 are different from the meaning and demands of social justice after 2011. People's expectations have risen high. There is now need for the right policymaking framework, with more evidence and more harmonious indicators, that sends the right signals and tells what is right to promote social justice.

The remainder of this paper is organized as follows. The next section reviews and analyzes the results of OPHI's 2010 and 2013 rounds of measurement of poverty and inequality in the Arab States through the lens of the multidimensional non-income space. Section 3 reviews and analyzes poverty and inequality through the lens of income space. Section 4 explains the advantages of using the MPI as a national tool for inclusive development and poverty reduction strategies. Section 5 looks at some successful country experiences in constructing a nationally-tailored MPI and using it as an instrumental tool in national and sub-national policymaking; Section 6 explores the rethinking about the MPI, the MDGs and the new post-2015 Development Agenda. Section 7 concludes and conveys a set of key messages for policymaking in the Arab States.

5 For adults a weight-for-height index is used and for children a weight-for-age index

2. POVERTY AND INEQUALITY THROUGH THE LENS OF THE MULTIDIMENSIONAL NON-INCOME SPACE

This section reports the global results of the MPI and provides a closer look at the results of the Arab Region.

The MPI's first round in 2010 was empirically applicable to 104 countries across the globe, including 13 countries from the Arab Region. Following the League of Arab States (LAS), the member states of the Arab Region will be classified into four groups, of which countries excluded from the MPI's measurement rounds are underlined below:

- a. **LDC's:** Somalia, Comoros, Mauritania, Djibouti, Yemen, and Sudan.
- b. **Maghreb:** Algeria, Libya, Morocco and Tunisia.
- c. **Mashreq:** Egypt, Iraq, Jordan, Lebanon, Palestine and Syria.
- d. **GCC:** Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

2.1 Results of Measuring the MPI: the 2010 Round

Globally, most of the data comes from the Demographic and Health Surveys (DHS), followed by the Multiple Indicator Cluster Surveys (MICS). For the Arab Region the reverse is true, as the data source for eight out of thirteen countries comes from MICS.

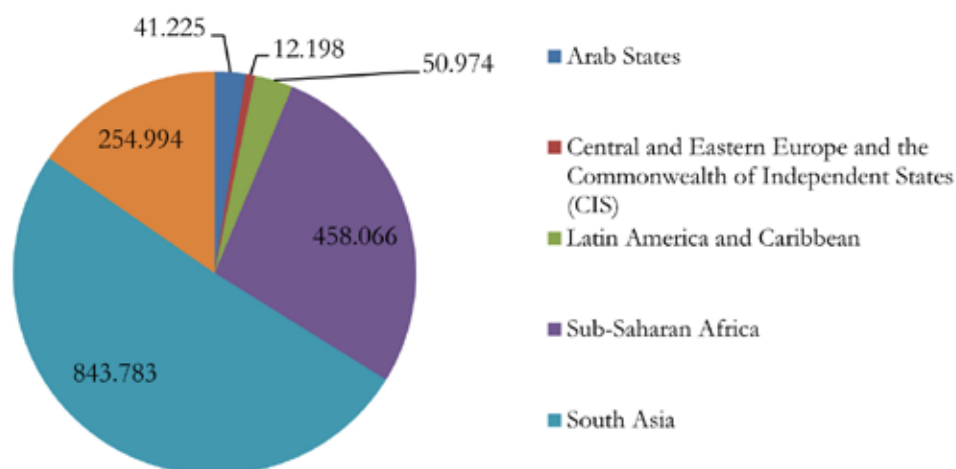
According to the MPI results, for $k=3$ weight-points deprivation, there are 1.7 billion people in the 104 countries covered – a third of their entire population – who live in MD poverty. This exceeds the 1.3 billion people⁶ estimated to live in those same countries on or below 2005 PPP \$1.25 a day; the international measure of 'extreme' poverty.

Figure (2) shows the regional distribution of the MD poor population, in millions, for $k=3$ weighted points of deprivation. Amongst the 1.7 billion people worldwide defined by the MPI as living in MD poverty, 2.5 per cent of them live in Arab States, which means 41.225 million people are MD poor in this region of the world. Approximately half of the world's MD poor live in South Asia (51 per cent or 844 million people), over one quarter in Africa (28 per cent or 458 million), and 15 per cent or 255 million people in East Asia and the Pacific - of whom 165.8 million of them live in China. Interestingly, less than 1 per cent of MD poor live in Central and Eastern Europe and the Commonwealth of Independent States (CIS), and 3.1 per cent in Latin America and Caribbean.

Looking at the average intensity of deprivation, we find that it ranges from 40.3 per cent in Mashreq to 57.3 per cent in LDCs, while in the Maghreb it is 48.5 per cent. However, it is clear from Figure (3), that the variation in the average intensity of deprivation is much less than that of headcounts, and is on average 50.9 per cent in the Arab region.

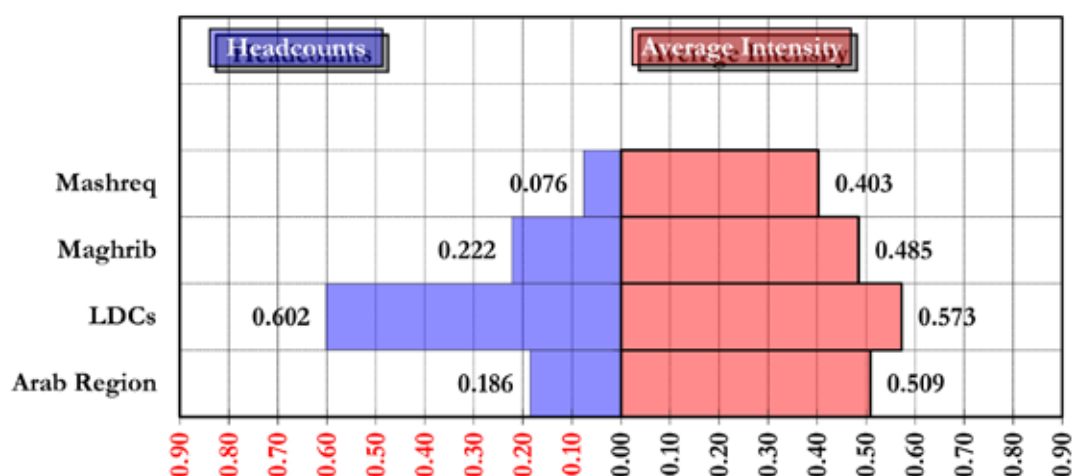
6 More remarks on the MPI will come in the following sections

FIGURE 2: REGIONAL DISTRIBUTION OF MD POOR POPULATIONS (MILLIONS)



SOURCE: Author's estimates based on Alkire and Santos ((2010) and data extracted from OPHI (2010)

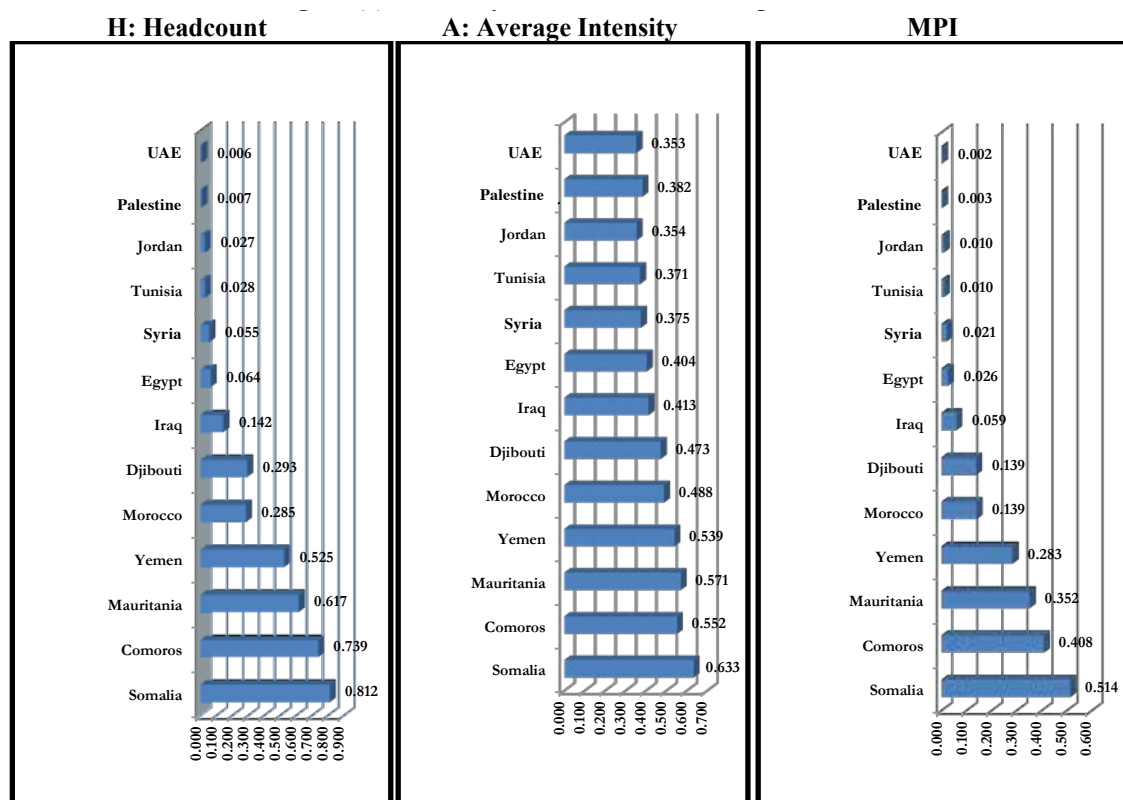
FIGURE (3) : COMPONENTS OF THE MPI, IN THE ARAB REGION



SOURCE: Alkire and Santos ((2010) and data extracted from OPHI (2010)

On the country level, the LDCs; Somalia, Comoros and Mauritania in particular, are the highest contributors of poverty in the Arab Region as shown in Figure (4) (and additional details are reported in the Annex Tables (B-1) and (B-2)).

FIGURE 4: COUNTRY LEVEL MPI AND ITS COMPONENTS



SOURCE: Alkire and Santos ((2010) and data extracted from OPHI (2010)

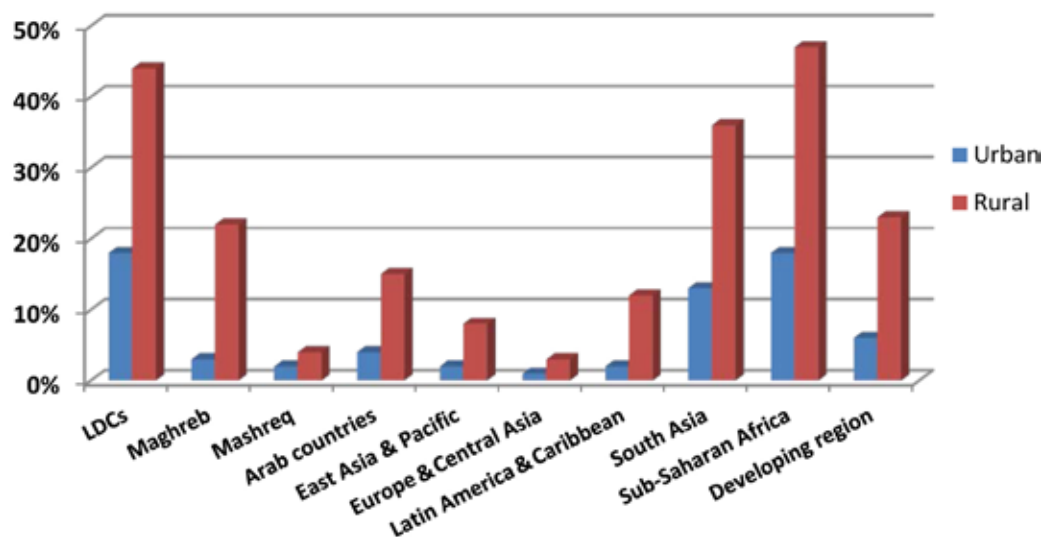
On the country level, the LDCs; Somalia, Comoros and Mauritania in particular, are the highest contributors of poverty in the Arab Region as shown in Figure (4) (and additional details are reported in the Annex Tables (B-1) and (B-2)).

The UAE, Palestine, Jordan, Tunisia, Syria, and Egypt have MPI headcounts below 7 per cent. Somalia has the highest MPI value (51 per cent), followed by Comoros (41 per cent), Mauritania (35 per cent), and Yemen (28 per cent) and an average deprivation share not less than 47 per cent (between 47 and 63 per cent). However, despite the low value of the MPI (which is a minimum of 0.2 per cent in the UAE, the average intensity of deprivation is not low (between about 35 and 40 per cent)⁷. Unexpectedly, we notice that both Djibouti and Morocco have the same MPI value. The population in Djibouti is very small (0.8 million) compared to that of Morocco (31.2 million), however, the headcounts for both are very close (28.5 per cent for Morocco, and 29.3 per cent for Djibouti) while Djibouti's average intensity of deprivation (47.3 per cent) is lower than that of Morocco (48.8 per cent) so that they nearly have the same MPI value (14 per cent).

Inequality in human deprivation has generally received far less attention than inequality in income distribution or consumption expenditure. To extend multidimensional poverty to multidimensional inequality, Nawar (2013) considered the ratio of MPI in rural areas to MPI in urban areas. Figure (5) shows that Arab countries seem to have a higher level of inequality between rural and urban areas relative to other country groups globally.

⁷ The UAE data shows that there is no deprivation in health due to the availability of better health care services. Yet, it is highly deprived in education, where the percentage contribution of education to overall MPI stood at 94 per cent.

FIGURE 5: RURAL AND URBAN MPI, BY REGION

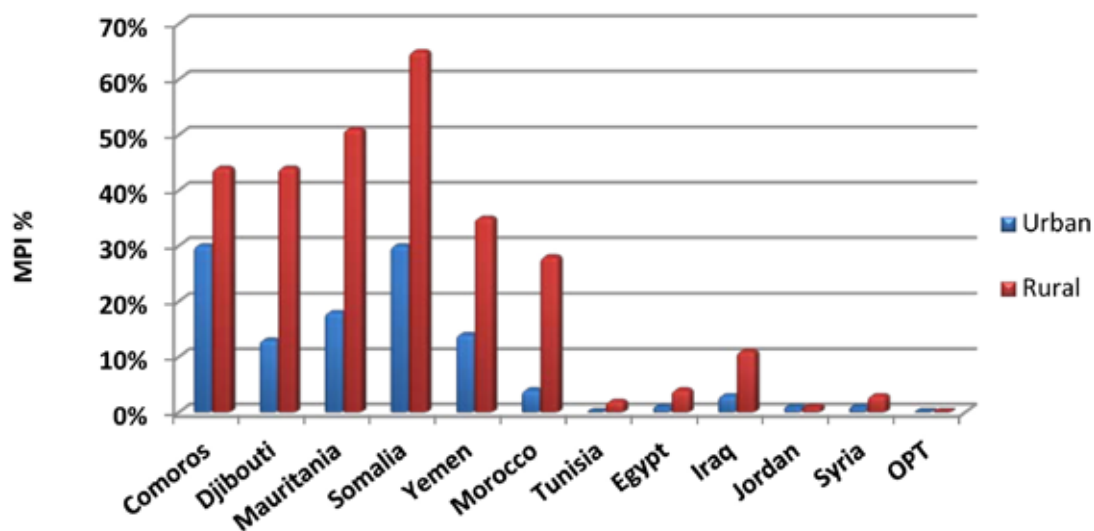


SOURCE: Source: Alkire and Santos ((2010) and data extracted from OPHI (2010)

The Arab region is shown to have a higher ratio of rural to urban poverty (3.5) than all other developing regions, with the notable exception of Latin America and the Caribbean.

At the country level, Figure (6) shows heterogeneity in levels and relative measures of inequality. Morocco has the highest level of Rural-urban inequality (7.86) followed by Tunisia (4.17), Egypt (3.5) and Djibouti (3.46), respectively.

FIGURE 6: RURAL AND URBAN MPI IN ARAB COUNTRIES



SOURCE: Alkire and Santos ((2010) and data extracted from OPHI (2010)

On the dimension-by-dimension basis, Table (B-4) shows that the highest inequality in the Arab region lies in Floor (8.57), followed by Electricity (6.62), Sanitation (6.57), Drinking Water (6.5), Cooking

(6.06), Assets (5.68), Schooling (4.12), Child enrollment (3.39), Nutrition (2.57) and Mortality (2.12). Thus, the highest incidence of multidimensional inequality is in the living conditions, followed by education and health. Huge variations exist within the Arab Region, where the Maghreb countries are not only the worst sub-region in each dimension. Defining inequality as relative poverty, Nawar (2013) finds that the incidence of multidimensional rural-urban inequality is unthinkable large and the worst globally. Moreover, residence-based discrimination in national development planning remains a major issue in the global economy in general and in the Arab Region in particular.

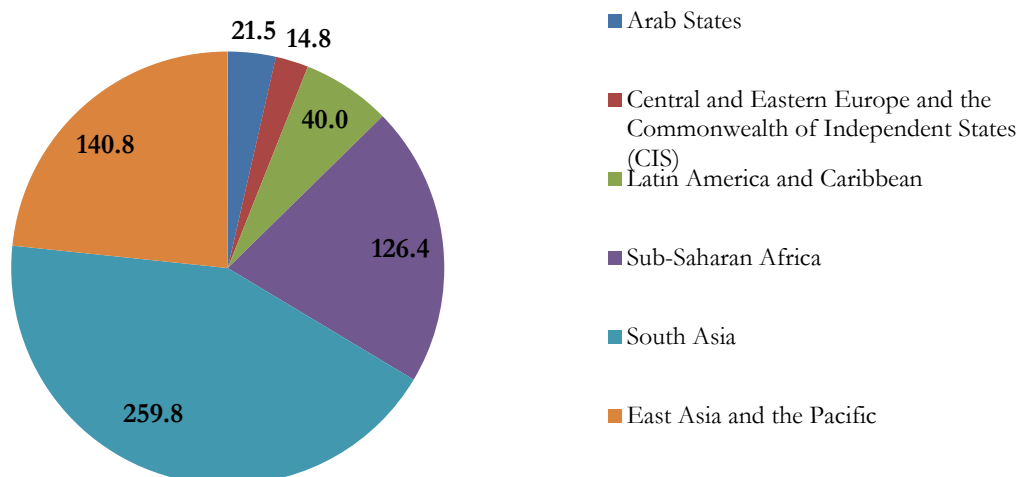
2.2 Results of Measuring the MPI: the 2013 Round

The 2012 round of the global MPI included five more countries in addition to the original 104 countries, namely Bhutan, Maldives, Timor-Leste, Uganda and Vanuatu. In the Arab States, results for Morocco and Palestine were updated. In the recent available round of the global MPI in 2013, five other countries were excluded, namely Angola, the Central African Republic, Comoros, Gabon, and Myanmar.

However, before analyzing the results of the 2013 round of global MPI, the most immediate question that presents itself is why several Arab countries remain excluded from OPHI's MPI measurement. The answer lies in the data trap, as data is either not available or outdated. The latest available Multiple Indicator Cluster Survey (MICS) for Comoros and Sudan is MICS2, all of which date back to 2000. Libya has MICS2 conducted in 2003 but the dataset was not made available. Similarly for Algeria and Lebanon, where MICS3 was conducted in 2006 and 2009 respectively, the dataset was not made available. Additionally, between 2007 and 2013, and in cooperation with international organizations, several Arab states, especially GCC countries, conducted the World Health Survey (WHS), MICS and the Demographic and Health Survey (DHS). Indeed, Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates, as well as Yemen and Iraq have conducted DHS. Qatar even recently concluded MICS4 (2013). However despite it being instrumental in monitoring progress toward the measurement of multidimensional poverty and inequality, no up-to-date data gathered through nationally representative surveys is available for the region as a whole.

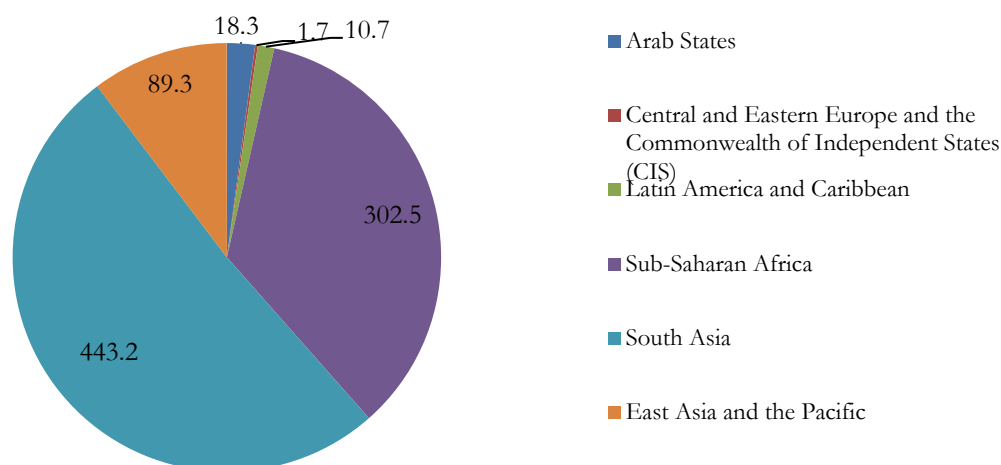
The major results of the 2013 round of global MPI were adding sub-national analyses and differentiating between the "Vulnerable to Poverty", i.e. those at risk of poverty and deprived in 20 - 33 per cent of weighted indicators, and "Severe Poor", those deprived in 50 per cent or more. This section will look at these results in order to analyze the MD inequality. Figures (7) and (8) show the regional distribution of vulnerable and severe MD poor populations. The Arab Region has 21.5 million people vulnerable or at risk of MD Poverty, and 18.8 million "Severe poor" representing respectively 9.3 per cent and 7.9 per cent of a total population of 231.1 million people in 2010. These ratios are better than those prevailing in South Asia (16.3 per cent, 27.7 per cent) and Sub-Saharan Africa (16.6 per cent, 39.8 per cent) but they are worse than those prevailing in East Asia and the Pacific (7.6 per cent, 4.8 per cent), Europe and Central Asia (3.7 per cent, 0.4 per cent) and Latin America and the Caribbean (7.9 per cent, 2.1 per cent).

FIGURE 7: REGIONAL DISTRIBUTION OF POPULATIONS VULNERABLE TO MD POVERTY (MILLIONS)



SOURCE: Author's estimates based on data extracted from OPHI (2013a)

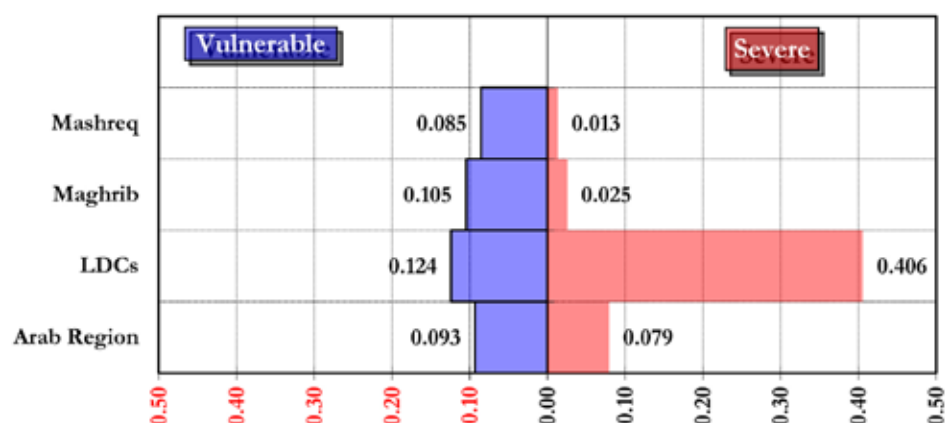
FIGURE 8: REGIONAL DISTRIBUTION OF POPULATIONS IN SEVERE MD POVERTY (MILLIONS)



SOURCE: Author's estimates based on data extracted from OPHI (2013a)

The Arab sub-regional averages for vulnerability to MD poverty were 12.4 per cent for the LDCs, 10.5 per cent for the Maghreb countries and 8.5 per cent for the Mashreq countries. The sub-regional averages for severe MD poverty were 41.1 per cent, 2.5 per cent and 1.3 per cent for the same respective regions. The averages for the Arab region as a whole were 9.3 per cent MD vulnerability and 8.0 per cent severity. Thus, within the Arab Region, data represented in Figure (9) shows that vulnerability rates are high and less heterogeneous across the sub-regions while Arab LDCs have a very high rate of severe MD poverty.

FIGURE 9: VULNERABLE AND SEVERE MD POVERTY RATES IN THE ARAB REGION

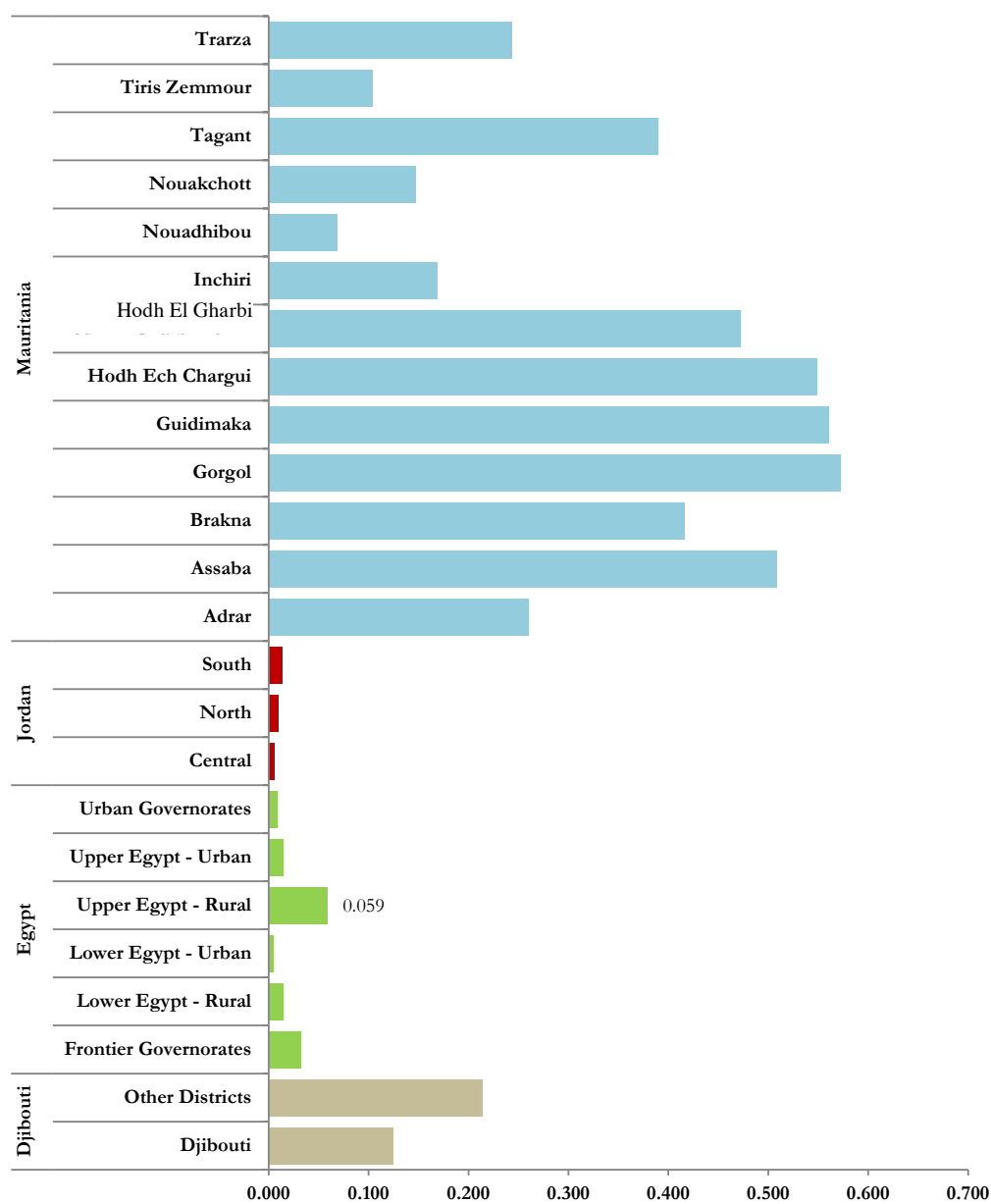


SOURCE: Author's estimates based on data extracted from OPHI (2013a)

Figure (10) plots the sub-national MPI for the Arab countries for which these results were obtained in the 2013 round of the global MPI. A more detailed set of results is reported in Table (B-5). The sub-national analysis was conducted only for Egypt and Jordan from the Mashreq countries and Mauritania and Djibouti from the LDCs. As evident from the micro data analysis, MD inequality not only exists between different Arab countries, but also significantly within a given Arab country.

When considering the same set of dimensions, indicators, cut-offs and weights – which is obviously not fair for enough comparison as one size does not fit all – the MPI is much higher in Mauritania than in Egypt. The inequality is also very high within both Egypt and Mauritania. In particular, rural Upper Egypt has an MPI of 5.9 per cent while it is almost zero in urban Lower Egypt.

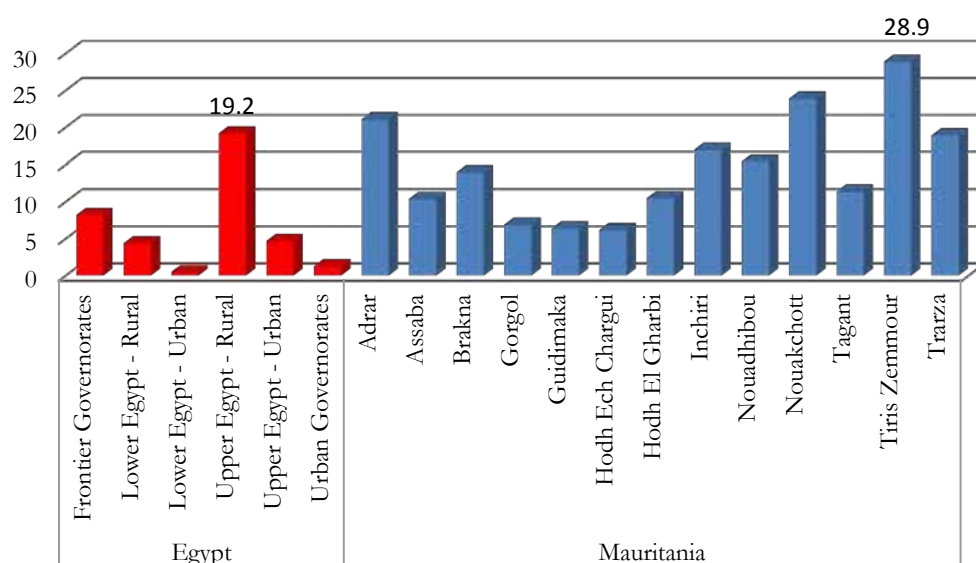
FIGURE 10: MULTIDIMENSIONAL POVERTY INDEX BY SUBNATIONAL REGION, ARAB STATES



SOURCE: Author's estimates based on data extracted from OPHI (2013a)

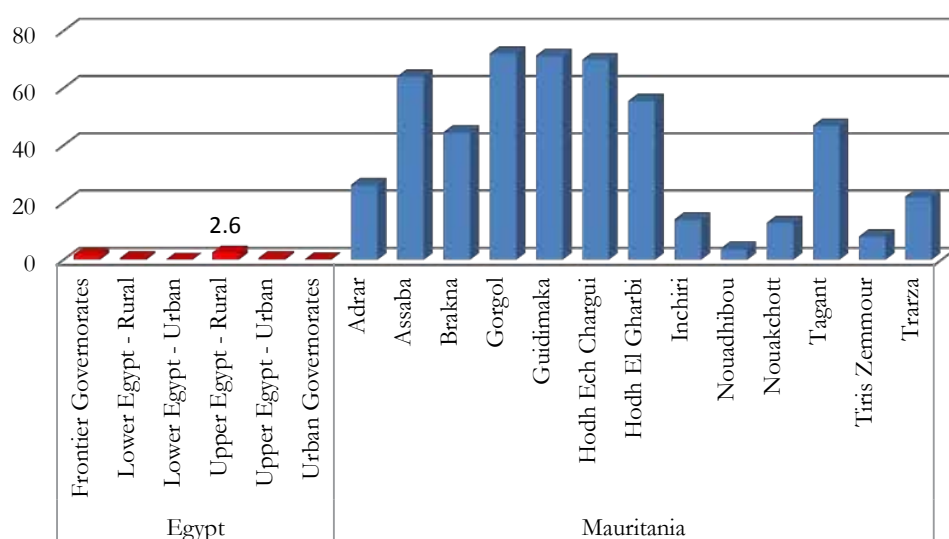
To place this inequality in focus, Figures (11) and (12) show, respectively, the percentage of population vulnerable to MD poverty (i.e. experiencing intensity between 20–32.9 per cent) and the percentage of population in severe poverty (i.e. experiencing intensity higher than 50 per cent) in both Egypt and Mauritania. The inequality between urban Lower Egypt and the rest of the sub-national regions is substantiated with almost one-fifth of the population vulnerable to MD poverty and 2.6 per cent of the population in severe MD poverty. Urban-rural comparisons and Lower-Upper Egypt comparisons make the inequality obvious. In Mauritania, the percentage of population in severe MD poverty is lowest in Nouakchott but highest in Gorgol, Guidimaka and Hodh Ech Chargui and Hodh El Gharbi.

FIGURE 11: % POPULATIONS VULNERABLE TO MD POVERTY BY REGION IN SELECTED ARAB STATES



SOURCE: Author's estimates based on data extracted from OPHI (2013a)

FIGURE 12: % POPULATIONS IN SEVERE MD POVERTY BY REGION IN SELECTED ARAB STATES



SOURCE: Author's estimates based on data extracted from OPHI (2013a)

3. POVERTY AND INEQUALITY THROUGH THE LENS OF THE INCOME SPACE

The current common measure of poverty accounts only for people living on less than \$1.25 PPP a day, which is the average poverty line among the world's 15 poorest countries. There are also other money-metric poverty lines to assess income poverty at the national and sub-national levels. The basic underlying assumption is that income solely encapsulates both direct and indirect factors that affect the ability to meet basic needs. However, the money-metric poverty lines alone are really poor tools for poverty measurement. What does it really mean to reduce, by half, extreme income poverty if two thirds of the world's population are multidimensionally poor?

In fact, the World Bank did harm to poverty conceptualization by reducing it to the \$1.25 PPP a day. Several development economists, e.g. Nawar (2007)⁸, are skeptical of the income dimension as it distracts attention away from many human-relevant factors. In particular, the unidimensional income poverty concept has a problem related to private and public goods. Having money does not necessarily imply that people have access to the private and public goods that they need. Conversely, not having money does not necessarily imply that people do not have access to private and public goods they need. A person may be above the income poverty line but live in a rural area or urban slum where it is very hard to send children to school, and suffer such deprivations that are important to child development as access to safe water and access to safe sanitation. This suggests that the “hard core of poverty” is the non-income multidimensional space; therefore the eradication of extreme income poverty as such may not be sufficient to eradicate extreme poverty. Alkire has put it simply, “A focus on an income-poverty target alone” is “a step back.”⁹

Income and multidimensional poverty measures typically do not co-move, otherwise one of them would be redundant. Regular mismatches between income and multidimensional poverty are also often observed. According to the 2013 global MPI empirical results, 1.7 billion people live in multidimensional poverty in 104 countries compared to 1.4 billion people in those 104 countries estimated to live on \$1.25 PPP or less per day. The scatter diagrams of the MPI, the Headcount Ratio and Average Intensity with the \$1.25 PPP, \$2.00 PPP and the National Poverty Lines (NPL) in 93 countries, for which all the data is available, substantiate this idea as shown in Figure (13). Putting together the income and non-income space, it is evident that no strong simultaneous regularity exists either between income poverty and the overall MPI or component-wise.

Indeed, conceptually, poverty is a multidimensional phenomenon; that is why the MDGs are eight goals rather than the single Goal 1.A.: “Halve, between 1990 and 2015, the proportion of people whose alone is used for policymaking, as well as poverty mapping and targeting, it leads to overlooking a large proportion of the poor people, namely both Groups B and C which represent targeting errors.

TABLE 1: MATRIX OF SOCIAL AND ECONOMIC WELL-BEING

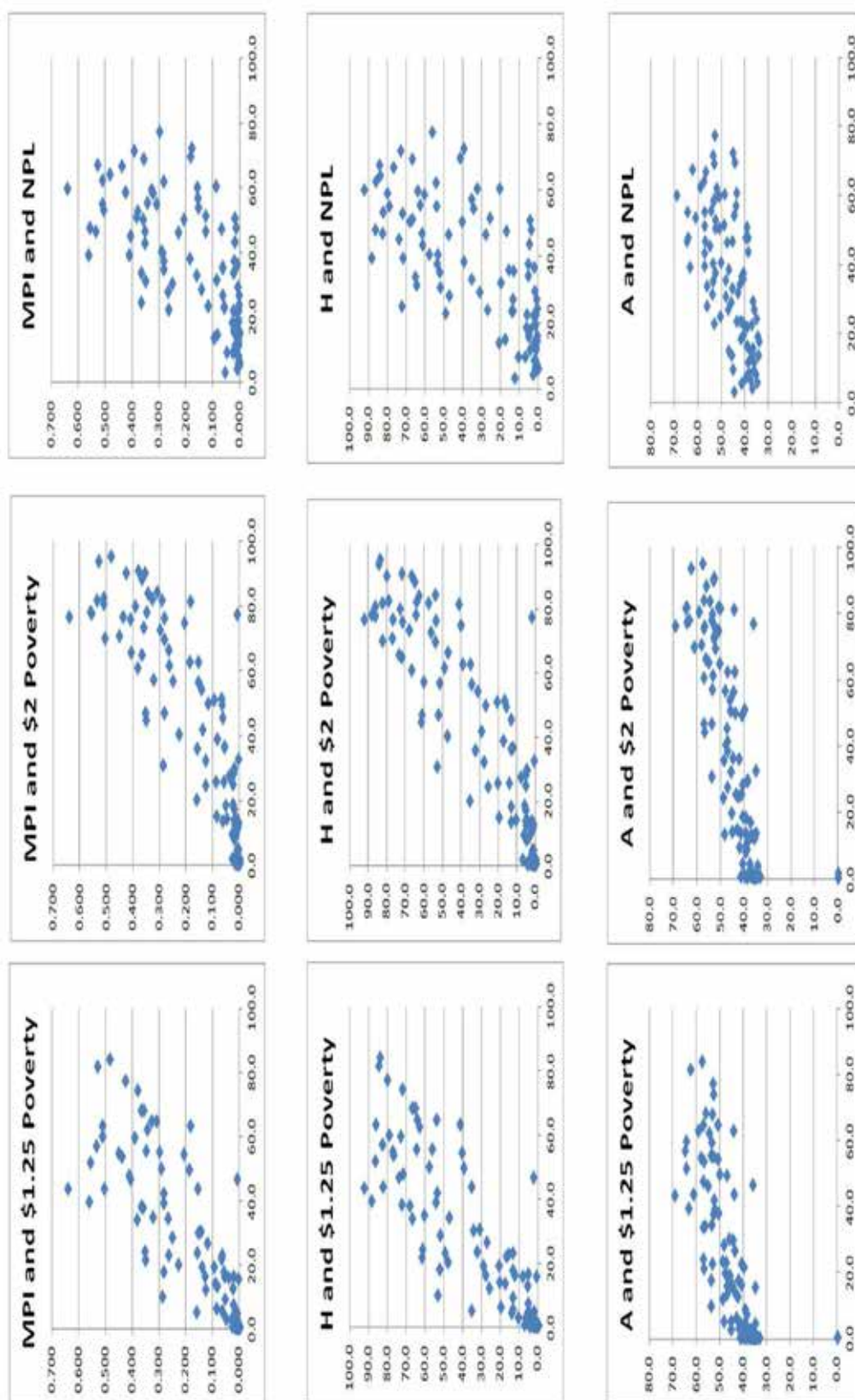
		Social (multidimensional non-income) Well-being	
		p^s	NP^s
Economic (income)	p'	Group A	Group B (I)
Well-being	NP'	Group C (II)	Group D

SOURCE: Nawar (2007)

⁸ See Nawar (2007).

⁹ see <http://www.developmentprogress.org/blog/2013/05/29/why-poorest-poor-need-mpi-20>

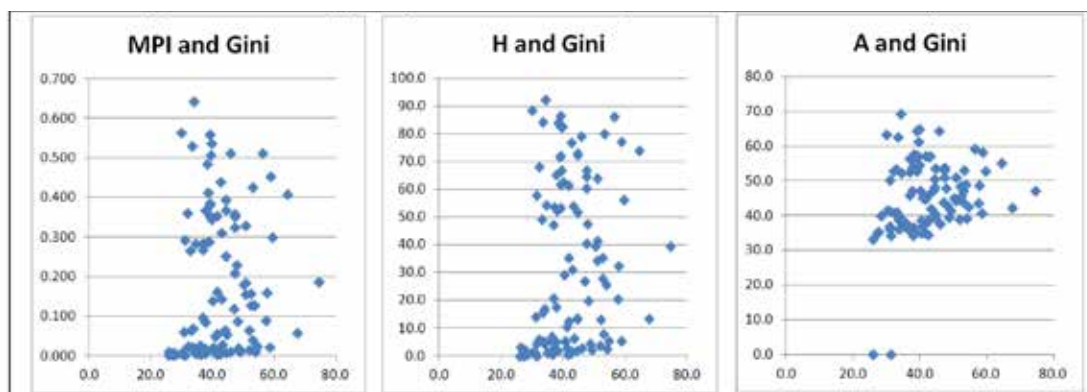
FIGURE 13: MPI AND INCOME POVERTY INDICES



SOURCE: Author's estimates based on data extracted from OPHI (2013a)

Turning to the inequality in the income and non-Income space, it is shown from the scatter diagrams in Figure (14) that the relationship is spherical.

FIGURE 14: INEQUALITY IN THE INCOME SPACE AND NON-INCOME SPACE



SOURCE: Author's estimates based on data extracted from OPHI (2013a)

4. THE ADVANTAGES OF USING THE MPI AS A NATIONAL TOOL FOR INCLUSIVE DEVELOPMENT AND POVERTY REDUCTION STRATEGIES

The MPI model is MDGs-compatible in the sense that it focuses on similar issues such as access to health and sanitation, access to education, and child mortality, etc. It can be used as a tool in:

- **Effective allocation of resources:** With the multidimensional poverty methodology, policymakers can identify the poorest people as well as the aspects in which they are most deprived. This information is vital for investing resources which are likely to be most effective at reducing poverty.
- **Policy design:** Policymakers can identify which deprivations constitute poverty, and which are most common among and within groups, so that policies can be designed to address particular needs.
- **Identifying interconnections among deprivations:** The multidimensional measure integrates a dashboard of many different aspects of poverty into a single measure, reflecting interconnections among deprivations and helping identify poverty traps. With the MPI decomposed, i.e. into a dashboard, policymakers can clearly map the inequalities among different social groups or between different sub-national areas. Using their deprivation profiles, policy makers can step forward with proper informed interventions.
- **Showing impact over time.** Trend analysis of the MPI can quicker reflect the effects of policy changes on areas other than income alone. For example, if a new social programme aimed at strengthening the quality of education is introduced in an area, it would take a long time before any positive benefit in returns from education are reflected on income measures. In contrast, a multidimensional poverty measure which includes child enrolment and achievement could reflect a reduction in this aspect of poverty relatively quicker because it measures it directly. In fact, in many Latin American countries, the Conditional Cash Transfer (CCT) programs encompass dual objectives of short-term poverty alleviation as well as the long-term development of human capital.
- **Flexibility:** The MPI has a very general methodology. It is up to those who implement it to choose the dimensions, indicators of each dimension, cut-offs and weights. These are all *normative* issues, and different dimensions, indicators and cut-offs can be used to create measures tailored to specific uses, situations and societies. These can be chosen through participatory processes. The method can be used to create poverty measures, to target poor people as beneficiaries of Conditional Cash Transfers (CCT) or services, and for the monitoring and evaluation of programmes. Indeed, except for international comparison purposes, the MPI model does not impose restrictions on the number or type of attributes that constitute the poverty phenomenon and capture the true aspirations of people living in poverty in varying contexts.

- **Complementing other metrics:** Multidimensional measures can complement other measures of poverty such as income. Alternatively, they can incorporate income as one of several dimensions within a multidimensional measure.

TABLE 2: THE 10 DIMENSIONS OF THE MULTIDIMENSIONAL POVERTY INDEX

Dimension	Indicator	Deprived if...	Related to...	Relative Weight, w_i
Education	Years of Schooling	No household member has completed five years of schooling	MDG2	16.60%
	Child Enrolment	Any school-aged child is not attending school in years 1 to 8	MDG2	16.60%
Health	Mortality	Any child has died in the household	MDG4	16.60%
	Nutrition	Any adult or child for whom there is nutritional information is malnourished*	MDG1	16.60%
Standard of Living	Electricity	The household has no electricity	MDG7	5.60%
	Sanitation	The household's sanitation facility is not improved (according to the MDG guidelines), or it is improved but shared with other households	MDG7	5.60%
	Water	The household does not have access to clean drinking water (according to the MDG guidelines) or clean water is more than 30 minutes walking from home.	MDG7	5.60%
	Floor	The household has dirt, sand or dung floor		5.60%
	Cooking	Fuel The household cooks with dung, wood or charcoal.	MDG7	5.60%
	Assets	The household does not own more than one of: radio, TV, telephone, bike, or motorbike, and do not own a car or tractor	MDG8	5.60%
Sum of weights				100%

SOURCE: Alkire and Santos (2010)

There has been little improvement in addressing poverty in those Arab countries included in the OPHI's MPI measurements since 2010. It is a pity that statistics and mapping agencies in the Arab States, such as CAPMAS in Egypt, ignore the multidimensional concepts and theories of poverty and continue to carry out poverty mapping **exclusively** on the basis of lack of income, which hides the real problems of multidimensional poverty and inequality and especially the economic opportunities for the people in Egypt. Additionally, one reason why such poverty reduction interventions such as Conditional Cash Transfer (CCT) programmes would not perform successfully in the part of a country that is left behind, e.g. rural Egypt, is the issue of **complementarity**, where interventions rely heavily on the existence of public infrastructure such as schools and health facilities.

5. MPI AS INSTRUMENTAL FOR NATIONAL AND SUB-NATIONAL POLICYMAKING; SOME COUNTRY EXPERIENCES

This Section explores how some countries could use the MPI to help achieve poverty reduction and attain social equity by integrating it in the policy making cycle. A number of Latin American countries - namely Brazil, Colombia, and Mexico - have officially adopted the MPI model on both national and sub-national levels of policy making strategies and recommendations. These countries set good examples of focusing on the “hard core of poverty.”

5.1. Mexico-MPI in 2009

Mexico has been looking at the issue of multidimensional poverty since 2007. Poverty is measured and analyzed by mandate of law, the General Law for Social Development, approved in 2004, which established the National Council for the Evaluation of Social Development Policy (CONEVAL) with two objectives: the evaluation of social development policy and programmes as well as measurement of poverty in a multidimensional way. The law established the main characteristics that poverty measurement should comply with:

1. Make visible the link between social programmes and poverty measurement for public policy purposes.
2. It should be defined both in the space of social rights (constitutional guarantees) and economic wellbeing (the old income dimension).
3. It includes eight dimensions: income per capita, educational gap, access to health services, access to social security, quality of living space, housing access to basic services, access to food and the degree of social cohesion.
4. Measurement should be made every 2 years at the national level and every 5 years at the municipal level.

This social rights approach in building the multidimensional poverty methodology aligns poverty measurement with the normative regulations of the Mexican government in evaluation and targeting. It also solves the weighting problem (all indicators have the same weight) and thresholds (set by the regulations).

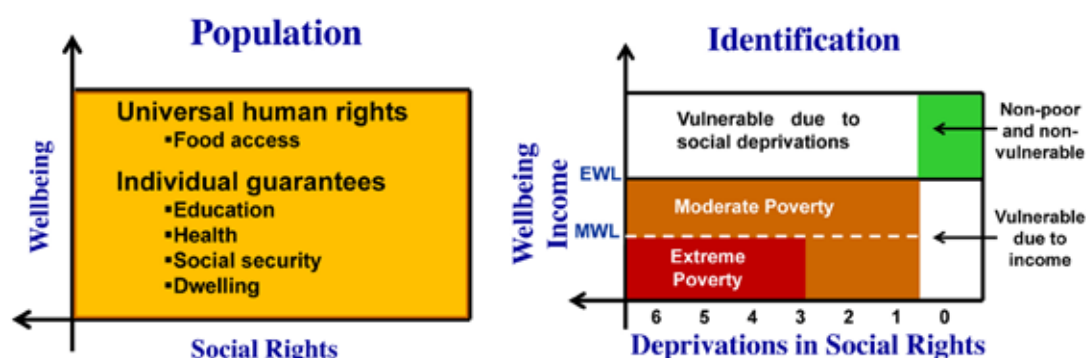
CONEVAL created a multidimensional poverty measure, which considered seven social rights:

1. Income per capita
2. Educational gap
3. Access to Health services
4. Access to Social Security
5. Housing (quality of living space)
6. Basic services
7. Access to Food

People are identified by their income, known as the economic wellbeing dimension, which measures available resources to satisfy basic needs. Two economic wellbeing lines are applied: (1) the **economic wellbeing line** (EWL) and the **minimum wellbeing line** (MWL). Non-income factors such as access to health, social security, etc., are all equally weighted as universal social rights.

Figure (15) depicts the idea of the MPI in Mexico. In **economic well-being**, represented by the vertical axis, a distinction is made between people living above the national (food and non-food) poverty line; also called the Economic Wellbeing Line (EWL), and people living below it. Another way of cutoff is to identify those people who have more deprivations; hence, there the minimum wellbeing line (MWL). In social deprivations, represented by the horizontal axis, a distinction is made between people without any **social deprivation**, those with at least one social deprivation, and those with more than **three**; the severe poverty line for social deprivations.

FIGURE 15: THE CONCEPT OF MEXICO-MPI



SOURCE: Prepared by the author based on CONEVAL

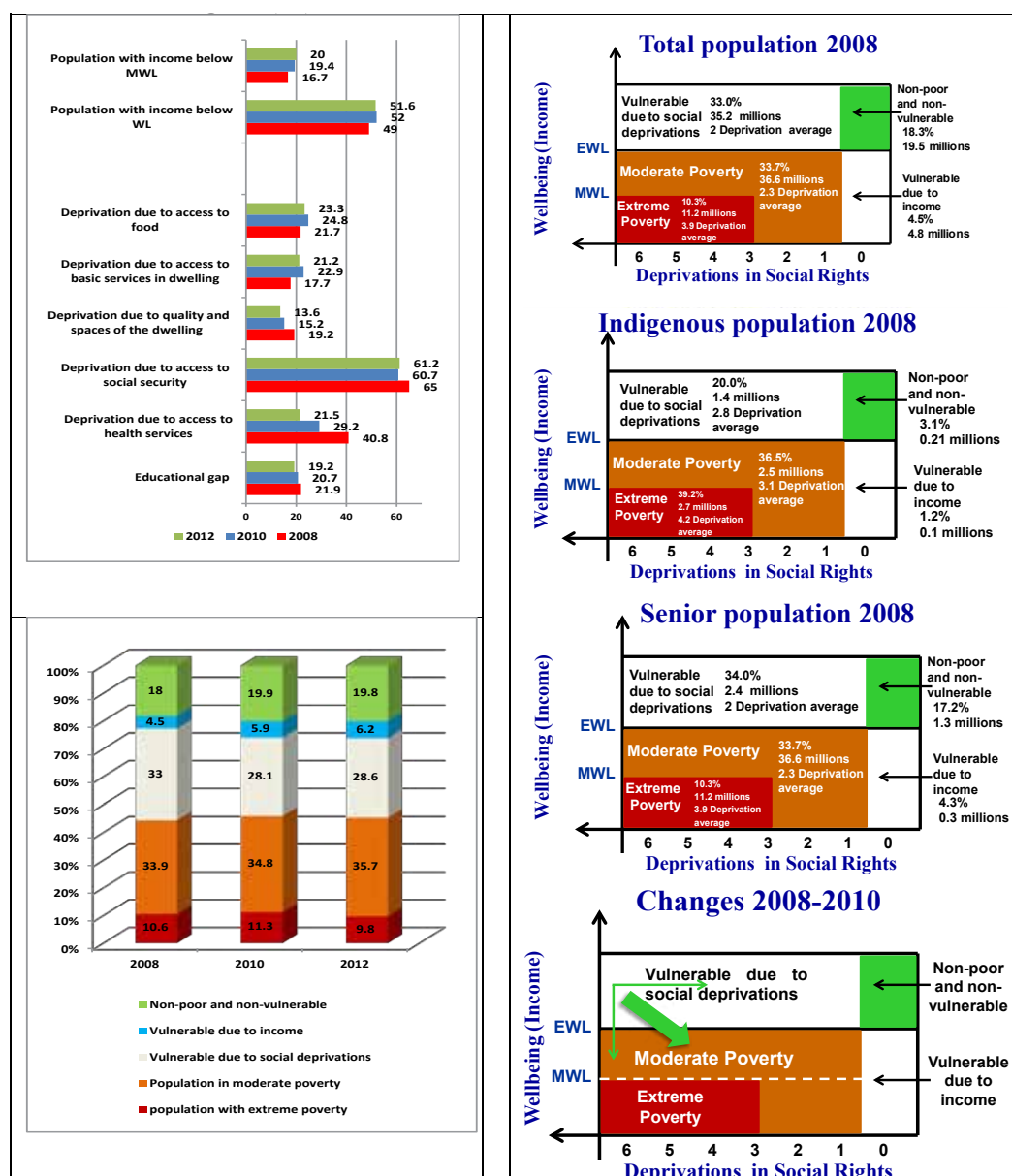
Thus the entire population is grouped as follows:

1. **Non-poor-non-vulnerable**: population without social deprivation and with enough level of economic well-being (above the EWL);
2. **Vulnerable by income only**: population below the EWL;
3. **Vulnerable by social deprivation only**: population with enough income but has at least one social deprivation;
4. **Multidimensional poor**: population with at least one social deprivation and below the EWL. Those were grouped into:
 - a. **Moderate Multidimensional poor**: those with at least one social deprivation and are below the EWL;
 - b. **Extreme Multidimensional poor**: those with at least three social deprivations and are below the MWL.

The usual headcount ratio $H=q/n$ and intensity of poverty, i.e. the average number of deprivations (A), are applied to the individual level in general. The measurement is conducted for various social groups and age groups: senior people, youth and children, and for the first time, for indigenous and non-indigenous people. It is further decomposed by State and by dimension, etc.

Some selected results are highlighted in the following graphs, which show that poverty had significantly gone up in Mexico between 2008 and 2010 but has been relatively mitigated in 2012. That is not difficult to understand because Mexico is a border country to the USA where the housing market crash transmitted external shocks overseas causing a global financial crisis and pushing the global economy into a recession. The weakened US economy and tougher Mexico-US border enforcement measures are among the additional factors that have contributed to the multidimensional poverty plunge in Mexico. Access to social security seems the worst dimension followed by access to health.

FIGURE 16: SELECTED RESULTS OF MEXICO-MPI, 2008-2012



SOURCE: Aparicio, Ricardo (2013) "Social Inclusion within the Framework of the Multidimensional Measurement of Poverty in Mexico," CONEVAL, March, 2013 CONEVAL online database and presentations available at: www.coneval.gob.mx

Now, how can measuring the MPI be linked to public policy in Mexico? Mexico's nationally-owned MPI methodology and research activities produce evidence which can be used to inform policymaking and catalyze actions. To improve the living conditions of poor and extremely poor people, targeted policies should combine two types: economic policies that include economic growth and job creation, and social policies that include health, education and housing. Ministries, other than the Ministry of Social Development, thus better understand their role in reducing poverty in Mexico in different social groups of the population; social programmes are being evaluated ex post and ex ante using this approach and are changing the way their beneficiaries are identified. The multidimensionally poorer municipalities (e.g. Chiapas) are using this methodology to target their programmes. By linking social deprivations to poverty, policy recommendations are strengthened. It is now possible to evaluate the effect of social policy not only on income poverty – where there is a tendency to focus on cash transfers when poverty is measured as such – but also on specific social deprivations. However, there is always the possibility that a group within the population is above the threshold of one dimension but below the threshold of another. Thus social policies for overcoming poverty should also aim to universally guarantee social rights.

5.2. Colombia-MPI in 2011

Aimed at closing the country's poverty gaps, Colombia's Ministry of Planning (MoP) officially devised the very first poverty reduction plan that uses the Alkire Foster (AF) method for measuring Multidimensional poverty in August 2011¹⁰. The Colombia-MPI uses an innovative adaptation of the AF method, customizing the dimensions and indicators to the country's specific needs and public policy priorities.

Building on the flexibility inherent in the AF methodology, the Colombia-MPI assesses broader social and health-related aspects of poverty across five dimensions:

1. Household education conditions
2. Childhood and youth conditions
3. Employment
4. Health
5. Access to household utilities and living conditions

The five dimensions are equally weighted and use 15 indicators.

The Colombian government set firm targets in the national plans to reduce multidimensional poverty by 13 per cent, down from 35 per cent of the entire population in 2008 to 22 per cent in 2014. The measure is used twice: first to set the targets and second to track progress towards them. This approach powerfully shows the way this method can be used to tackle poverty in the most effective ways.

The case of Colombia shows that in practice, the measure is a powerful monitoring and evaluation tool, as well as a flexible measure of poverty or wellbeing.

¹⁰ This Subsection draws on Carlos et al. (2013).

Table 3 presents the details inside Colombia's multidimensional poverty reduction strategy. The Colombia-MPI includes the multidimensional Headcount ratio (H) within the indicators used to track multidimensional poverty and average intensity (A). The National Development Plan (NDP 2010-2014) set a goal to reduce the population living in multidimensional poverty from 35 per cent (2008) to 22.5 per cent (2014), a 12.5 per cent reduction in poverty over 6 years. Targets were set for each of the 15 indicators based on a national plan (2011-2015) which started a political process at a senior level of government to monitor and evaluate progress towards achieving each of the 15 targets. There is a goal for the overall poverty reduction if all these targets are met in each of the five dimensions.

At the municipal level, a proxy of the national Colombia-MPI was constructed using Census data from 2005. The municipal MPI allowed poverty maps to be created and updated using the new multidimensional approach and assessment tools. The exercise is a rich source of information for geographic targeting purposes.

In Colombia, the main public policy initiative to reduce extreme poverty and introduce substantial social improvement is the Network for Overcoming Extreme Poverty (UNIDOS). This network combines the efforts of several governmental agencies and affected households with the goal of enhancing the income-generating abilities and the living conditions of these households. This intervention is by nature transitory; once a household no longer lives in extreme multidimensional poverty, the household graduates from the programme. The MPI-Colombia is now being used alongside income poverty measures as a condition for graduating households from the UNIDOS programme. That means households classified as non-multidimensionally poor (using the **H** headcount ratio with cut-off **k=5**) and non-income poor will be graduated from the programme.

TABLE 3: COLOMBIA'S MULTIDIMENSIONAL POVERTY REDUCTION STRATEGY

MPI Dimension (weight in brackets)	MPI Variable (weight in brackets)	MPI Indicator	Indicator National Development Plan	Baseline NDP 2008 (%)	Data for 2010 (%)	Goal NDP 2014 (%)
Education conditions (for households) (0.2)	Educational achievement (0.1)	Average education level for people 15 and older living in a household	Low educational achievement at the household level	58.8	55.4	52.8
	Literacy (0.1)	Percentage of people living in a household 15 and older who can read and write	Illiteracy rate for population 15 and older	14.2	13.2	12.0
Childhood and youth conditions (0.2)	School attendance (0.05)	Percentage of children between the ages of 6 and 16 that attend school	Non-assistance rate for population from 6 to 16	5.4	4.6	3.5
	No 'school lag' (children older than the average age in a given school year) (0.05)	Percentage of children and youths (7-17 years old) within the household not subject to school lag (according to the national norm)	School lag for population from 7 to 17	33.4	35.1	33.1
	Access to child care services (0.05)	Percentage of children between the ages of 0 and 5 who simultaneously have access to health, nutrition and education	Barrier to access of child care services	11.2	10.8	9.2
	Children not working(0.05)	Percentage of children not working (i.e. subject to child labour)	Child work for children from 12 to 17 years old	8.2	6.8	5.6
Employment (0.2)	No one in long-term unemployment (0.1)	Percentage of household members from the economically active population (EAP) who don't face long-term unemployment (more than 12 months)	Long term unemployment rate	9.6	9.9	9.3
	Formal employment (0.1)	Percentage of household members from the economically active population (EAP) employed and affiliated to a pension fund (this indicator is used as a proxy for whether people are formally or informally employed)	Informality rate	80.6	80.9	74.7

Health (0.2)	Health insurance (0.1)	Percentage of household members over the age of 5 that are insured by the Social Security Health System	No health insurance	24.2	21.0	0.5
	Access to health services (0.1)	Percentage of people within the household that have access to a health institution in case of need	Access barriers to health services	8.9	6.9	2.4
Access to public utilities and housing conditions (0.2)	Access to water source (0.04)	Urban household: considered deprived if lacking public water system. Rural household: considered deprived when the water used for the preparation of food is obtained from wells, rainwater, spring source, water tank, water carrier or other sources	Low coverage of pipe water	12.9	11.6	10.9
	Adequate elimination of sewer waste (0.04)	Urban household: considered deprived if lacking public sewer system. Rural household: considered deprived if uses a toilet without a sewer connection, a latrine or simply does not have a sewage system	Low coverage of sewer waste	14.1	12.0	11.3
	Adequate floors (0.04)	Lacking materials (dirt floors)	Inadequate floors	7.5	6.3	5.6
	Adequate external walls (0.04)	An urban household is considered deprived when the exterior walls are built of untreated wood, boards, planks, guadua or other vegetable, zinc, cloth, cardboard, waste material or when no exterior walls exist. A rural household is considered deprived when exterior walls are built of guadua or another vegetable, zinc, cloth, cardboard, waste materials or if no exterior walls exist	Inadequate walls	3.1	3.0	2.1

SOURCE: CARLOS ET AL. (2013) AND OPHI (2013C)

5.3 Brazil: “Travessia” and the MPI

Poverty reduction has been a central political issue since the launch of the “Zero Hunger” strategy in 2001. In 2004, the federal government implemented a Conditional Cash Transfer (CCT) program called Bolsa Familia with an intricate multidimensional poverty design combining both aspects of income (cash transfer) and non-income conditionality (targeting children’s human capital through better education and health). In 2011, President-elect Rousseff launched the “Brazil without Extreme Poverty” strategy (PBSM) to eradicate extreme poverty by 2014, targeting 15 million extremely poor Brazilians.

Based on the 2006 National Demographic and Health Survey (PNDS), Brazil’s MPI has been 1.1 per cent with a headcount (H) of 2.7 per cent and intensity of deprivation among the poor (A) of 39.3. Multidimensionally poor people were 5.075 million out of 187.958 million people in the country the year of the survey. While this seems too low at the country level, disparities exist at the subnational level, and this is at the forefront of public policies to combat poverty and social inequality in Brazil.

Travessia is the poverty reduction programme that the State of Minas Gerais in Brazil established to utilize the AF MPI methodology beginning in 2007. The objective of the programme is to ‘Promote social and economic inclusion of the poorest and most vulnerable populations through the articulation of territorial public policies.’ “**Travessia**”, which means “the crossing,” has the ultimate goal of helping the poorest and most vulnerable populations to permanently cross from their current conditions of poverty and deprivation.

Travessia uses a **two-step** process for the selection of participants into its poverty reduction programme. **First**, municipalities are selected based on their Human Development Index (HDI) score. **Second**, questionnaires are administered and analyzed to determine who is multidimensionally poor and to coordinate targeted social services.

Once a municipality is chosen using the HDI, the programme officers visit the municipalities and train locals to administer the questionnaires in every household of the chosen municipality. The programme does conduct sample surveys, rather a full census of the municipality. This phase of the program is called **Door to Door (Porta a Porta)**. The indicators used in the survey are the same as those in the Global MPI; however, they are undergoing a process of review and modification.

Based on the results of the questionnaire, each household is ranked by its MPI score, and the results are transferred to a map down to the household level. This data is then taken to the state-level Secretariats that are part of this programme to use for targeting actions under the Travessia programme. Each Secretariat is responsible for its outreach programme to the chosen municipalities based on their MPI.

Each Secretariat looks at complementary data it has from other sources on dimensions related to its work. This helps enrich the map of deprivations in the municipality. Each Secretariat

also works in other municipalities not covered by its local MPI. Therefore, it integrates the local MPI results into the information data that it has for each municipality.

The implementation of **Travessia** programme using the MPI as a public policy design tool has been a success in targeting efforts. The success comes from coordination among the different State-level Secretariats shown in Table 2 below. A formal meeting of the secretaries is called every two months to plan, coordinate and review results of the MPI. The deputy secretaries in each Secretariat are in turn part of an on-going technical committee.

But, essential to this whole process is a small, central technical unit that is the motor behind the programme. The Governor's deputy heads this unit, and is the coordinator and facilitator of multidimensional poverty work in the state. The unit has six professionals; one is in charge of the data analysis and the process that determines the MPI scores for each household while the others keep in constant contact with the different Secretariats to ensure the programme is moving ahead. They are in charge of modifications to the questionnaires or to any part of the system that has been put in place. They also conduct periodic evaluations and monitoring of the programme and keep up international dialogue on multidimensional poverty with OPHI and others. They have been instrumental in the transfer of this technology to other municipalities within Brazil.

TABLE 4: SECRETARIATS RESPONSIBLE FOR JOINT ACTION AND MPI OUTREACH PROGRAMMES	
Secretary of Social Development (Coordinator)	Secretary of Work and Employment
Secretary of Government	Secretary of Education
Secretary of Institutional Relations	Secretary of Sports and Youth
Secretary of Planning and Management	Secretary of Regional Development and Urban Politics
Secretary of Social Defense	Secretary of Transportation and Public Works
Secretary of Health	Secretary of Development of the Jequitinhonha and Mucuri Valleys and the North of Minas Gerais
Secretary of Land Regularization	COPASA (Minas Gerais Water and Sanitation Company)
Secretary of Supply, Agriculture and Livestock	CEMIG (Minas Gerais Electricity Company)
Social Articulation, Partnership and Participation Advisory Body	COPANOR (Minas Gerais North and Northeast Water and Sanitation Company)

SOURCE: OPHI (2013b). 'Minas Gerais, Brazil: Collecting data door to door', OPHI website at: <<http://www.ophi.org.uk/policy/national-policy/brazil-mpi>>

By early 2013, the Travessia program had enrolled 266,114 households in 132 cities and spent approximately US\$1.3 million in research. The results showed that 25.88 per cent of the households are multidimensionally poor; 22.48 per cent are vulnerable to poverty, while

9.73 per cent of the households researched could be classified as severe poor. Considering the contribution of each dimension to the index, it was found that education accounted for 66.42 per cent of the MPI rank, followed by child mortality and sanitation, which together accounted for 14.41 per cent of the MPI.

Recently, the State of Minas Gerais has taken a place of prominence and recognition on the international stage due to its ground breaking experience with the use of MPI in effective policies that tackle and reduce poverty at the sub-national level.

5.4 Iraq-MPI in 2013

Several attempts have been made to construct nationally-tailored MPI's in some Arab States. Those attempts suggest an increasing awareness of the problems of the currently adopted mono-dimensional approach to poverty metrics. The case of Iraq is an exceptionally noteworthy one.

The Iraq Household Socio-Economic Survey 2007 (IHSES-1) indicated that the income poverty headcount ratio was 22.9 per cent (39.3 per cent for rural 16.1 per cent for urban areas) which means that about seven million of the total population of Iraq in 2007 lived in poverty and spent less than IQD 77,000 per person per month, or USD2.2 per person per day. The preliminary results of the Iraq Household Socio-Economic Survey 2012 (IHSES-2) show that the percentage of poverty in Iraq decreased to about 20 per cent in 2012.

The Government of Iraq has been experimenting with the 2007 IHSES-1 data and in 2013 developed a nationally-tailored MPI which depended on a special survey known as the "Iraq Knowledge Network (IKN) survey, 2011." This massive survey was internationally funded and covered a wide array of indicators ranging from essential services and food security to labour force and governance. The Government of Iraq, in cooperation with the UNDP and the Inter-Agency Information and Analysis Unit (IAU), has shown a growing interest in further developing the country's national poverty measures to adequately capture poverty. There was a consensus that multidimensional poverty analysis is of key importance to the Government as well as the UN Agencies, Funds and Programs working there¹¹. []

The Iraqi MPI-2013 consists of five equally weighted dimensions: Education, standard of living, basic services, nutrition and health and employment. It is constructed from 21 indicators as shown in table 3.

11 Joint Analysis Unit (2011) "Poverty Measurement in Iraq: Findings from Poverty Measurement," Technical Report available online at: www.jauiraq.org/documents/1591/Microsoft%20Word%20-%20Poverty_Report_FP.pdf
Shlash (2013) "Multidimensional Poverty Index for Iraq," Iraq Central Statics Office, Kurdistan Region Statistics Office and Inter-Agency Information and Analysis Unit, presented at the Multidimensional Poverty Peer Network launch Event, 6-7 June 2013, Oxford, UK, available online at: <http://www.ophi.org.uk/wp-content/uploads/Iraq-Dr-Amal-Shlash-General-Director-Department-of-Economic-Studies-Iraq.pdf?3f40f1>

TABLE 5: DIMENSIONS USED IN THE IRAQI MULTIDIMENSIONAL POVERTY INDEX 2013

Dimension	Dimension Weight	Indicator	Indicator Weight
Education	0.2	Primary Education Males	0.05
		Primary Education Female	0.05
		Illiteracy Male	0.05
		Illiteracy Female	0.05
Standard of Living	0.2	Income	0.10
		Housing	0.05
		Crowding	0.05
Basic Services	0.2	Water	0.05
		Sanitation	0.05
		Garbage Collection	0.05
		Electricity	0.05
Nutrition and Health	0.2	Balanced Diet	0.05
		Calories Intake	0.05
		Poor Health Services	0.05
		Distant Health Services	0.05
Employment	0.2	Unemployed Male	0.05
		Unemployed Female	0.05
		Underemployed Male	0.025
		Underemployed Female	0.025
		Unprotected Job Male	0.025
		Unprotected Job Female	0.025

SOURCE: Joint Analysis Unit (2011)

The dimensions are further explained below. For each, deprivation is indicated if:

1. Education & Knowledge:

- (a) **Illiteracy:** An individual (Male/Female) is deprived if no adult member in the household can read;
- (b) **Educational Attainment:** An individual (Male/Female) is deprived if no adult member in the household has completed primary education, which in this case translates to 6 years of basic education;

2. Standard of Living:

- (a) **Monetary Poverty:** An individual is deprived if the real per-capita expenditure (pce) of the household is less than the lowest expenditure quintile at the national level (equivalent to IQD 91,116 per person per month, or USD 78 per person per month);
- (b) **Housing unit:** An individual is deprived if the housing unit is made of clay, is a tent or caravan, and others, or if the exterior walls are made of blocks from the turnkey construction, clay/stone and clay, metal plates, wooden plates, and others;

- (c) **Crowding:** An individual is deprived if more than three persons live per room in the household or the bedroom is shared with members from other households;

3. Basic Services:

- (a) **Drinking water:** A household is deprived of drinking water if the source of drinking water is not General Network and close well-spring (MDG definition);
- (b) **Sanitation:** A household is deprived if the sanitation facility is not public network, septic tank or covered canal (Outside), or the toilet is shared;
- (c) **Electricity:** An individual is deprived if the total connection of electricity to the household from a public network, community generator and private generator is less than 12 hours per day.
- (d) **Garbage Collection:** An individual is deprived if the garbage is burnt out / buried, thrown in open areas, and others (this indicator is calculated only for urban areas).

4. Nutrition & Health

- (a) **Balanced Diet:** An individual is deprived in nutritional intake if he/she does not consume enough of one of the three macro nutrients (protein, carbohydrate, fat) and one of the three micro nutrients (iron, folic acid, and vitamin A) (FAO Method).
- (b) **Calories intake:** The individual is deprived if the calorie intake is less than a particular required level (2,330 cals/day).
- (c) **Quality of health services:** The individual is deprived if he/she perceives/assesses the health services as bad or very bad.
- (d) **Distant Health Services:** The individual is deprived if he/she needs more than 30 minutes to reach the closest health service provider among; Primary Health Care, Public Hospital, Clinic/Government Health Centre, Clinic/Government Health Centre Complex, and Pharmacy.

5. Employment

- (a) **Unemployment:** An individual (Male/ Female) is deprived if any member of his/her household in the labour force is unemployed.
- (b) **Underemployment:** An individual (Male/Female) is deprived if any working member of his/her household is underemployed.
- (c) **Job Security:** An individual (Male/Female) is deprived if no employed member of his/her household works for the government/public sector, or has a secure job in the private sector (work contract and job benefits).

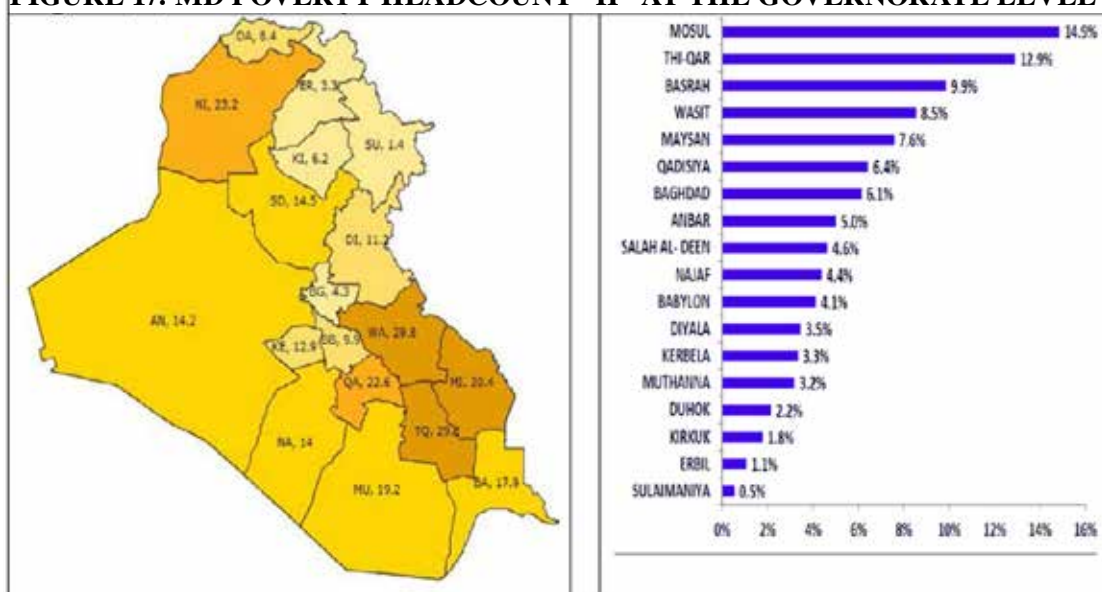
The following table presents the results of Iraq MPI in 2013 at the national and sub-national levels.

TABLE 6: RESULTS OF IRAQ'S MPI IN 2013				
	MPI Results (K=33%)			Low income (Lowest quintile)
	<i>H</i>	<i>A</i>	<i>MPI=H×A</i>	
Iraq	0.133	0.448	0.0596	0.200
Sulaimaniya	0.014	0.408	0.0055	0.025
Erbil	0.033	0.393	0.0128	0.046
Baghdad	0.043	0.434	0.0185	0.069
Kirkuk	0.062	0.426	0.0263	0.094
Duhok	0.084	0.414	0.0347	0.152
Babylon	0.099	0.436	0.0434	0.185
Diyala	0.112	0.407	0.0457	0.236
Kerbela	0.129	0.462	0.0598	0.174
Anbar	0.142	0.430	0.0610	0.236
Salah Al-Deen	0.145	0.433	0.0628	0.156
Najaf	0.140	0.463	0.0650	0.152
Basra	0.179	0.450	0.0808	0.293
Muthanna	0.192	0.430	0.0825	0.424
Mosul	0.232	0.453	0.1053	0.370
Qadisiya	0.226	0.479	0.1082	0.326
Thi-qar	0.298	0.448	0.1337	0.511
Wasit	0.298	0.451	0.1344	0.291
Maysan	0.304	0.489	0.1486	0.246

SOURCE: Joint Analysis Unit (2011)

Figure (17) shows the MD poverty headcount “H” ratio at the Governorate level and the economy-wide poverty map based on the MPI. It is worth mentioning that Iraq still follows the 2010–2014 National Strategy for Poverty Reduction. However, the 2015–2019 Strategy is expected to utilize this nationally tailored MPI (Table 4).

FIGURE 17: MD POVERTY HEADCOUNT “H” AT THE GOVERNORATE LEVEL



SOURCE: Shlash, A. (2013)

There are some creative features in the Iraqi MPI that are clearly and obviously different from the other MPIs around.

- Basically, there are 16 unique deprivation indicators, 5 of which are measured by gender (Male/Female). This choice is a well-thought-out proposition and has some sort of legitimacy for Iraq given the gender issues in society.
- It combines income and non-income indicators, similar to the case of Mexico;
- It distinguishes between employment and underemployment as well as having job security;
- It distinguishes between standard of living and basic services;
- It distinguishes between availability and quality in health services.

More interestingly, the matrix of headcount well-being and social deprivation in Iraq is estimated in this MPI exercise.

TABLE 7: MATRIX OF HEADCOUNT WELL-BEING AND SOCIAL DEPRIVATION IN IRAQ

		Social (multidimensional non-Income) Well-being	
		p^s	NP^s
Economic (income)	p^I	10%	10% (I)
Well-being	NP^I	3% (II)	77%

SOURCE: Prepared by the author based on Shlash (2013)

This matrix shows that 77 per cent of multidimensionally poor households in Iraq are low income while only 23 per cent are not. Meanwhile 50 per cent of those who are income poor are multidimensionally deprived.

6. RETHINKING THE MPI, THE MDGS AND POST-2015 DEVELOPMENT AGENDA

There have been several critiques to improve the global MPI, especially as part of the post 2015 MDGs discussions and initiatives. Indeed, OPHI's comparative country analysis uses the same databases for the countries involved, and the same definitions, dimensions, set of indicators, thresholds, and weighting in order to make the figures comparable across the countries. Obviously, this has drawbacks if the need is to go to the country level where a specific context requires different dimensions, indicators, thresholds, etc. As shown in Section 2 of this paper, some thresholds for countries like Egypt or Tunisia would not make a lot of sense for countries like Somalia or Mauritania.

On the other hand, national aggregates of poverty in the MDGs framework are broken down by eight goals as a dashboard. Sometimes, they are even more unpacked or broken down by geographic region (i.e. sub-national), gender, or other grouping to see where people are poor and how policy can reflect inequalities and the need to look at the poorest of the poor. While it is possible to combine in a single index, what is completely missing from the measurement tools of the current dashboard practice of the MDGs framework is measuring overlapping multiple deprivations people simultaneously face and different intensities of poverty. We know the \$1.25 PPP poverty headcount ratio; we know the percentage of children who are under nourished; we know the percentage of children who are out of school; we know the percentage of households which do not have clean water; we know the percentage of households which do not have safe sanitation etc. We DO NOT know, at the current practice of the MDGs, which households experience simultaneously all these deprivations. Are the same people income-poor and multidimensionally poor? Indeed, this question is not yet answered within the current framework of the MDGs or the OPHI's MPI.

Of course one important reason for this highly constrained situation is data. That is why the high panel report on the post-2015 development agenda, which was released in May 2013, called for a “**data revolution.**” A data revolution is needed because data for 50 per cent of the Arab States is not available for the MPI. In addition, survey data available is old and frequency of data to monitor and evaluate inter-temporal change is not available etc. Some Arab States have recently developed nationally created models of MPI based on the same theory but slightly differ from the global model. For example, the Egyptian attempts to construct a national MPI model include caloric deficiency, access to health services, flush toilets versus ‘adequate’ sanitation etc. In Syria and Yemen, attempts have included stunting instead of underweight, etc. These attempts are still unofficial, very limited to the standardized dimensions and not linked to policy. However, further upgrades require government decisions on data concerns and limitations, including the type of information that needs to be collected, the procedures for data collection, data dissemination and the type of analysis that is required to highlight the different dimensions¹².

12 MPI, being dependent on MICS, DHS and WHS data, has clear bias against males and elder people and generally the composition of the households.

For the post-2015 MDGs, a new version or next generation MPI 2.0 is proposed. It is suggested that instead of having one global set of deprivations cut-offs for all countries, that at least two can be used:

- (a) for countries of acute poverty;
- (b) for countries that are more developed.

Such measures would be highly policy relevant post-2015.

This is a way to link the global MPI to national MPIs and how it can fit the national contexts.

Countries are also suggested to have two levels of the MPI similar to money-metric poverty measurements where there are **national** income poverty lines and indicators as well as **international** income poverty lines and indicators at the \$1.25 PPP and \$2.0 PPP a day. Namely, countries can develop:

- (i) **Their own national MPI** to reflect the socio-economic and political priorities, the data specificities and the voices of the poor.
- (ii) **An international MPI** that would look across countries and how quickly countries have changed on the core set of MPI indicators which are being globally compared.

The first level (i) provides incentives for governments to support better measures with the right dimensions, indicators, weights and cut-offs at the national and sub-national levels tailor-made to reflect the true voices of the poor and marginalized and drive policy decisions. The second level (ii) with unified multidimensional criteria provides national governments measurable results that can be benchmarked worldwide and provides international organizations the tools needed to support programs that will be aligned with the Post-2015 Development Agenda.

7. CONCLUSIONS AND KEY MESSAGES FOR POLICYMAKING

This paper analyzed the 2013 round of the multidimensional poverty and inequality results for Arab States, at the national and sub-national levels, using the results of OPHI's standardized global MPI model of Alkire and Foster with the objective of leveraging the debate in the public sphere to inform policymaking about moving beyond the income poverty measures especially in light of the pressing demands for social equity.

At this crossroad and time of transition, countries of the Arab Region are facing sizeable economic, social and political challenges. The adoption of programs, legislations and policies of social justice that are based on multidimensional poverty - with the right dimensions, indicators, weights and cut-offs at the national and sub-national levels tailor-made to reflect the true voices of the poor and marginalized - will support the governments' efforts to rebuild trust between the state and citizens, a very important social capital, and accelerate progress to attain the Development Goals post-2015.

As previously mentioned, several Arab states have attempted to construct nationally-tailored MPIs, which suggests an increasing awareness of the problems of the currently adopted mono-dimensional approach to poverty metrics. Institutionally, those attempts are not up to the level of international experiences discussed above. On one hand, there is a de facto challenge in expanding the set of global MPI indicators and dimensions since that would mean that no single survey can capture the entire nationally-tailored set. Multiple Indicator Cluster Survey (MICS), Household Income Survey, Expenditure and Consumption Survey (HIECS) and Demographic and Health Survey (DHS) cannot achieve this task separately.

One window of opportunity, however, is the League of Arab States' Pan-Arab Project for Family Health (PAPFAM) Survey. This survey provides a viable tool and has the advantage that its data is fully endorsed by each country's government. Recently, it has been or is being conducted in several Arab States¹³. So far, this window of opportunity remains to be explored and further developed. On the other hand, there is no clear or explicit translation of those attempts in terms of a relationship between multidimensional poverty measurement and national development planning and hence public policy. Another window of opportunity is to defragment the international aid going to micro-surveys such as DHS and MICS¹⁴ in order to better allocate those funds. In fact, this would be rewarding since it would save expenses by avoiding the duplication of efforts.

13 Based on communication with PAPFAM office of LAS in Cairo, Egypt, the latest surveys are Syria (2009), Libya (2014), Iraq (2011), Djibouti (2011), Morocco (2010), Yemen (2013) and Sudan (2014).

14 The questionnaire of the fifth round of the Multiple Indicator Cluster Surveys (MICS5) has been already developed through consultations with experts from UN organizations, inter-agency monitoring groups and other global household survey programmes. MICS5 is scheduled for 2012-2014 and results from participating countries will be available early in 2014. See <http://www.childinfo.org/mics5.html>

In conclusion, this paper proposes a set of key messages for policymaking in the Arab States. The key messages are:

- Message 1.** The issue of poverty and inequality cannot be restricted to only one indicator. Namely, poverty cannot be restricted to merely lack of income. If successfully achieved, ending income poverty would be a perfectly positive outcome, but it would not end poverty. Poverty, therefore, is not a “finished business” but rather a business in progress.
- Message 2.** Complementing the \$1.25 PPP, \$2.0 PPP a day or other national income poverty criterion with measures in the non-income multidimensional space will better serve socio-economic development policy and rebuild trust between the state and its citizens. In particular, integrating multidimensional aspects of poverty into mapping in the Arab States means realistic assessments of the social deprivations and allows addressing key social issues and introducing reforms that strengthen the community’s cohesion and lead to social justice.
- Message 3.** The solutions to eliminating poverty and inequality must be multidimensional and focus on targeted interventions on parts of the country that are left behind, e.g. the rural areas in the case of Egypt. Investments in multidimensional solutions that target the reality of impoverished lives and curb the multidimensional rural-urban inequality will mean social inclusion, participation and of course improvement of the quality of life. This should mobilize society’s developmental capability and smooth the progress towards “changing the value systems and attitudes of the people so they no longer feel helpless and homeless- so they begin to feel that they are living in their own country, with their institutions, their government and their leadership.”¹⁵
- Message 4.** Taking stock from Latin American Conditional Cash Transfer (CCT) programs, transfers are associated with public provision of goods and services to build capabilities and human and social capital of the poor.
- Message 5.** Unpacking an overall single index into a dashboard (many indicators as in the case of the MDGs) and packing a dashboard into an overall single index can go together.
- Message 6.** Improving and augmenting the global MPI Dimensions and indicators. For example, unemployment could have been added to the existing dimensions in the global MPI since its inception round in 2010. In fact unemployment has already been included in goal 1 in the revised MDG framework of 2008. However, countries were not required to monitor it by setting certain targets or any pertaining (e.g. total, gender, age, etc.) obligations in that context. Finding the ‘best’ dimensions and indicators is experimental.

15 Lewis (1998)

Message 7. Data revolution is absolutely needed for a national MPI with broader and pertinent public policy scope and for timely monitoring and evaluation of multidimensional poverty dynamics.

Message 8. In addition to the data revolution, there is a need to break the deadlock in current institutional settings of socio-economic policymaking for poverty reduction in the Arab States. The typical current setting is one where there is one ministry or more in the government (such as the Ministry of Social Affairs, Ministry of Supply or the like) responsible for many poverty reduction related activities and programmes which are mostly run separately rather than jointly as a multi-sectorial cluster. Hence, restructuring can start from somewhere, in the short term, and then gradually move toward the desired setting on the basis of the gap from the planned critical institutional reforms needed for the multidimensional approach. The presence of a strong ‘political will’ does boost critical institutional reforms, e.g. creating an institutional focal point as a mechanism to coordinate the various branches of government, to prevent any conflict that may exist within the involved government bodies and to ensure good governance.

It cannot be emphasized enough that when multidimensional deprivations serve as a framework within which national development planning and all sorts of policies are conducted, Arab States will start to bend the staggering cost curve of poverty and inequality and will cease to look ahead to more lost decades for development.

Appendix (A) ADDITIVE MULTIDIMENSIONAL POVERTY INDICES IN THE LITERATURE

The general form of an additive multidimensional poverty index is:

$$p(X, Z) = \frac{\sum_{i=1}^n w_i p(X_i, Z)}{\sum_{i=1}^n w_i}$$

Where $p(X_i, Z)$ is individual i 's poverty function (with vector of attributes $x_i = (x_{i,1}, \dots, x_{i,j})$) and vector of poverty lines $Z = (z_1, \dots, z_j)$, determining i 's contribution to total poverty $P(X, Z)$.

[1] Multiplicative extended FGT index (1984)

$$p(X_i, Z) = \prod_{j=1}^J \left(\frac{z_j - x_{i,j}}{z_j} \right)_+^{\alpha_j}$$

[2] Chakravarty et al index (1998)

$$p(X_i, Z) = \sum_{j=1}^J a_j \left(\frac{z_j - x_{i,j}}{z_j} \right)_+^{\alpha}$$

[3] Tsui index (2002)

$$p(X_i, Z) = \prod_{j=1}^J \left(\frac{z_j}{\min(z_j; x_{i,j})} \right)^{b_j} - 1$$

[4] Bourguignon and Chakravarty two-dimensional index (2003)

$$p(X_i, Z) = \left[C_1 + \beta^{\gamma/\alpha} C_2 \right]^{\alpha/\gamma}$$

where:

$$C_1 = \left(\frac{z_1 - x_{i,1}}{z_1} \right)_+^{\gamma}$$

and

$$C_2 = \left(\frac{z_2 - x_{i,2}}{z_2} \right)_+^{\gamma}$$

[5] Extended Watts index (2005).

$$p(X_i, Z) = \sum_{j=1}^J a_j \ln \left(\frac{z_j}{\min(z_j; x_{i,j})} \right)$$

[6] Alkair and Foster (2007) Multidimensional Poverty Index

$$\begin{aligned} & \dots M = H.A \\ & \dots H = \frac{q}{n} = \sum_{i=1}^n \frac{p_k(X_i, Z_i)}{n} \end{aligned}$$

where Z_j for $j = 1, 2, \dots, d$ is a j -dimension-specific cutoff, k is a multidimensional cutoff that reflects the minimum deprivation count out of d required for an individual to be considered MD poor satisfying $0 < k \leq d$ with $d > 2$ the number of dimensions under consideration.

$$\dots A = \frac{\sum_{i=1}^q c_i(k)}{qd}$$

where $c_i(k)$ is the censored deprivation counts suffered by person i .

[7] Intersection headcount index

$$\dots p(X_i, Z) = \prod_{j=1}^J I(z_j > x_{i,j})$$

[8] Union headcount index

$$\dots p(X_i, Z) = 1 - \prod_{j=1}^J I(z_j < x_{i,j})$$

Appendix (B)

TABLE (B-1): MULTIDIMENSIONAL POVERTY IN THE ARAB STATES

Multidimension al poverty index (MPI)			Population in MD poverty			% of people deprived			Contribution of each dimension (%)			Population 'at risk' (%)	
Country	Survey	Year	MPI (%)	Rank	Headcount (%)	Intensity of deprivation (k=3) (% of deprivations)	Standard of living			Education	Health	Standard of living	Deprived in at least two indicator (k=2)
							2000-2008	2000-2008	2000-2008				
UAE	WHS	2003	0.20	6	0.57	0.353	0.569	5.418	0.000	94.39	0.37	5.25	2.58
Palestine	MICS	2006	0.27	8	0.69	0.382	14.612	2.750	0.759	62.14	20.93	16.93	3.13
Jordan	DHS	2007	0.96	25	2.70	0.354	10.644	11.872	0.187	34.49	59.19	6.32	9.38
Tunisia	WHS	2003	1.05	26	2.82	0.371	1.060	13.060	6.922	25.05	47.31	27.64	7.01
Syria	MICS	2006	2.07	34	5.53	0.375	20.367	13.618	1.322	45.43	42.73	11.84	13.17
Egypt	DHS	2008	2.59	36	6.41	0.404	17.960	16.905	0.936	48.40	37.16	14.44	17.74
Iraq	MICS	2006	5.88	45	14.25	0.413	32.016	19.988	5.154	47.53	32.12	20.35	28.55
Djibouti	MICS	2006	13.85	55	29.32	0.473	39.307	25.630	28.140	38.30	24.57	37.13	39.87
Morocco	DHS	2004	13.92	56	28.50	0.488	36.252	31.519	21.417	38.70	27.09	34.21	45.41
Yemen	MICS	2006	28.32	71	52.51	0.539	54.489	34.378	38.237	27.04	40.51	32.45	78.39
Mauritania	MICS	2007	35.20	83	61.68	0.571	55.303	44.128	66.840	31.96	21.58	46.46	79.24
Somalia	MICS	2006	40.85	99	81.16	0.633	74.511	47.596	86.683	34.16	18.63	47.21	90.63
Comoros	MICS	2000	51.37	89	73.93	0.552	60.070	45.716	90.283	32.13	22.10	45.76	85.17
Arab Region							27.940	21.756	13.317	43.34	34.91	21.75	

SOURCE: Alkire and Santos (2010)

SOURCE: Alkire and Santos (2010)

TABLE (B-2): DETAILS OF HEADCOUNT RATIOS OF MULTIDIMENSIONAL POVERTY IN THE ARAB STATES

Country	Survey	Year	Education		Health		Living Standard					MPI Rank	
			Years of Schooling	Child Enrolment	Mortality (any age)	Nutrition	Electricity	Sanitation	Drinking Water	Floor	Cooking Fuel		Asset Ownership
UAE	WHS	2003	0.006		0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	6
Palestine	MICS	2006	0.004	0.006	0.000	0.003	0.000	0.000	0.000	0.005	0.000	0.002	8
Jordan	DHS	2007	0.002	0.017	0.016	0.018	0.002	0.003	0.004	0.000	0.001	0.002	25
Tunisia	WHS	2003	0.008		0.018	0.012	0.002	0.014	0.012	0.004	0.005	0.015	26
Syria	MICS	2006	0.013	0.044	0.032	0.021	0.002	0.010	0.017	0.010	0.001	0.005	34
Egypt	DHS	2008	0.027	0.049	0.040	0.018	0.002	0.011	0.004	0.024		0.015	36
Iraq	MICS	2006	0.049	0.119	0.076	0.038	0.010	0.051	0.064	0.040	0.027	0.024	45
Djibouti	MICS	2006	0.135	0.183	0.098	0.106	0.204	0.163	0.067	0.178	0.088	0.226	55
Morocco	DHS	2004	0.176	0.147	0.130	0.096	0.161	0.159	0.159	0.142	0.080	0.156	56
Yemen	MICS	2006	0.125	0.335	0.344		0.312	0.257	0.319	0.208	0.284	0.274	71
Mauritania	MICS	2007	0.360	0.315	0.266	0.190	0.530	0.545	0.454	0.449	0.534	0.432	83
Somalia	MICS	2006	0.618	0.435	0.274	0.300	0.758	0.691	0.700	0.644	0.810	0.762	99
Comoros	MICS	2000	0.308	0.479	0.270	0.272	0.543	0.728	0.450	0.283	0.723	0.637	89

SOURCE: Alkire and Santos (2010)

SOURCE: Alkire and Santos (2010)

TABLE (B-3): RESULTS OF INCOME POVERTY AND INEQUALITY

Country	Data source for MPI	Income poverty ^d						Other income indicators			
		1.25\$a day (% of population)		\$2 a day (% of population)		National poverty line (% of population)		Income category	GNI per capita 2010	Gini Index ^g	
		Value	Year	Value	Year	Value	Year				
Survey	Year	Value	Year	Value	Year	Value	Year	Value	Year	Value	Year
		%Population		%Population		%Population		(PPP 2008 \$)		Range 0 to 1	
UAE	WHS	2003						HI	40,760		
Palestine	PAPFAM	07/2006	0.0	2009	0.3	2009	21.9	LMI	1,250	35.5	2009
Jordan	DHS	2009	0.1	2010	1.6	2010	13.3	UMI	4,380	35.4	2010
Tunisia	WHS	2003	1.4	2005	8.1	2005	3.8	UMI	4,070	41.4	2005
Syria	MICS	2006	1.7	2004	16.9	2004		LMI	2,750	35.8	2004
Egypt	DHS	2008	1.7	2008	15.4	2008	22.0	LMI	2,600	30.8	2008
Morocco	LSMS	2007	2.5	2007	14.0	2007	9.0	LMI	2,970	40.9	2007
Mauritania	MICS	2007	23.4	2008	47.7	2008	42.0	LI	1,000	40.5	2008
Iraq	MICS	2006	2.8	2007	21.4	2007	22.9	LMI	2,640	30.9	2007
Djibouti	MICS	2006	18.8	2002	41.2	2002		LMI	1,270	40.0	2002
Yemen	MICS	2006	17.5	2005	46.6	2005	34.8	LMI	1,070	37.7	2005
Somalia	MICS	2006						LI	150		

SOURCE: OPHI (2013a)

POPULATIONS IN THE ARAB REGION MULTIDimensionALLY POOR; VULNERABLE TO MD POVERTY; SEVERE POOR

Country	MPI data source	Multidimensional poverty					Population vulnerable to poverty (who experience 20-33.32% intensity of deprivations)		Population in severe poverty (with intensity higher than 50%)	Population In the Year of the survey	Number of MPI poor people in the Year of the survey	Indicators included in the MPI	
		Multidimensional Poverty Index (MPI = H*A)	Headcount ratio: Population in multidimensional poverty (H)	Intensity of deprivation among the poor (A)	Average % of weighted deprivations	% Population	% Population	% Population				Total number of indicators included (out of ten)	Indicator(s) missing
Survey	Year												
UAE	WHS 2003	0.002	0.6	35.3	35.3	2.0	0.0	0.0	0.0	3,401	20	9	Child School Attendance
Palestine	PAPFAM 07/2006	0.005	1.4	37.3	37.3	8.8	0.1	0.1	0.1	3,728	52	10	None
Jordan	DHS 2009	0.008	2.4	34.4	34.4	1.3	0.1	0.1	0.1	6,026	145	10	None
Tunisia	WHS 2003	0.010	2.8	37.1	37.1	4.9	0.2	0.2	0.2	9,722	272	9	Child School Attendance
Syria	MICS 2006	0.021	5.5	37.5	37.5	7.1	0.5	0.5	0.5	18,921	1,041	10	None
Egypt	DHS 2008	0.024	6.0	40.7	40.7	7.2	1.0	1.0	1.0	78,323	4,699	9	Cooking Fuel
Morocco	LSMS 2007	0.048	10.6	45.3	45.3	12.3	3.3	3.3	3.3	31,011	3,287	8	Child Mortality&Floor
Iraq	MICS 2006	0.059	14.2	41.3	41.3	14.3	3.1	3.1	3.1	28,141	3,996	10	None
Djibouti	MICS 2006	0.139	29.3	47.3	47.3	16.1	12.5	12.5	12.5	824	241	10	None
Yemen	MICS 2006	0.283	52.5	53.9	53.9	13.0	31.9	31.9	31.9	21,288	11,176	9	Nutrition
Somalia	MICS 2006	0.514	81.2	63.3	63.3	9.5	65.6	65.6	65.6	8,547	6,940	10	None
Mauritania	MICS 2007	0.352	61.7	57.1	57.1	15.1	40.7	40.7	40.7				

SOURCE: OPHI (2013a)

TABLE (B-5): CENSORED HEADCOUNTS TO MPI WITH K=0.2 AS THE POVERTY CUTOFF

Country	Proportion of people who are poor and deprived in...											
	Education			Health			Living standards					
	Years of Schooling	Child School Attendance	Child Mortality	Nutrition	Electricity	Improved Sanitation	Drinking Water	Flooring	Cooking Fuel	Asset Ownership		
	% Population	% Population	% Population	% Population	% Population	% Population	% Population	% Population	% Population	% Population	% Population	% Population
UAE	0.6		0.2	1.8	0.0	0.3	2.0	0.0	0.0	0.0		
Jordan	0.4	3.0	2.1	0.7	0.3	0.4	1.0	0.1	0.0	0.2		
Tunisia	0.8		4.7	2.6	0.6	3.6	3.0	1.2	1.4	4.0		
Palestine	0.1	2.3	8.0	1.2	0.0	1.4	8.5	0.2	0.5	0.4		
Syria	2.1	7.6	4.6	3.6	0.3	3.2	6.0	2.1	0.2	0.9		
Egypt	4.3	6.5	6.1	2.4	0.3	2.8	1.1	6.7		3.9		
Morocco	8.2	10.6		4.0	10.8	12.7	10.3		8.6	9.0		
Mauritania	37.6	33.6	31.1	20.1	59.7	63.0	54.5	49.4	60.0	47.1		
Iraq	6.7	19.5	10.4	5.5	1.7	12.1	13.5	6.0	3.8	4.0		
Djibouti	15.8	23.9	12.2	12.8	25.9	25.6	8.3	23.0	10.7	31.7		
Yemen	13.1	42.0	34.4		36.9	30.2	39.8	23.7	32.7	32.2		
Somalia	62.4	45.0	29.9	30.5	80.2	73.3	73.8	66.1	90.5	80.6		

SOURCE: OPHI (2013a)

TABLE (B-6): MULTIDIMENSIONAL POVERTY INDEX BY THE SUB-NATIONAL REGION IN THE ARAB STATES

Country	Sub-national region	Survey	Year	Multidimensional Poverty of the region		Population in Vulnerable and Extreme MD Poverty		
				Multidimensional Poverty Index (MPI) of the country	Multidimensional Poverty of the region	Intensity of deprivation among the poor (A)	Population vulnerable to poverty (experiencing intensity between 20–32.9%)	Population in severe poverty (experiencing intensity higher than 50%)
Djibouti	Djibouti	MICS	2006	0.139	0.125	26.8	46.8	10.9
	Other Districts				0.214	44.0	48.7	13.6
Egypt	Frontier Governorates	DHS	2008	0.024	0.032	7.7	41.4	8.2
	Lower Egypt - Rural				0.015	4.1	37.7	4.4
	Lower Egypt - Urban				0.005	1.5	35.8	0.5
	Upper Egypt - Rural				0.059	13.8	42.7	19.2
	Upper Egypt - Urban				0.015	3.8	39.0	4.7
	Urban Governorates				0.009	2.3	36.5	1.3
Jordan	Central	DHS	2009	0.008	0.006	1.8	34.4	1.2
	North				0.010	3.1	34.1	1.8
	South				0.014	4.1	35.0	0.7
Mauritania	Adrar	MICS	2007	0.352	0.260	51.7	50.3	21.1
	Assaba				0.508	82.3	61.8	10.4
	Brakna				0.416	76.3	54.5	14.0
	Gorgol				0.572	88.5	64.7	6.9
	Guidimaka				0.560	90.8	61.7	6.4
	Hodh Ech Chargui				0.549	91.4	60.1	6.2
	Hodh El Gharbi				0.472	81.4	57.9	10.5
	Inchiri				0.169	37.4	45.3	17.0
	Nouadhibou				0.069	16.4	42.1	15.4
	Nouakchott				0.147	31.0	47.3	23.9
	Tagant				0.390	69.3	56.3	11.4
	Tiris Zemmour				0.104	22.5	46.1	28.9
	Trarza				0.243	49.2	49.4	18.9
								22.1

SOURCE: OPHI (2013a)

TABLE (B-7): DETAILS OF HEADCOUNT RATIOS OF MULTIDIMENSIONAL POVERTY IN THE ARAB STATES REGION (% POPULATION)

Country	Sub-national region	Survey	Year	Education				Health			Living Standard				
				Schooling	Child school attendance	Child mortality	Nutrition	Electricity	Improved sanitation	Drinking water	Flooring	Cooking fuel	Asset ownership		
Djibouti	Djibouti	MICS	2006	11.9	17.3	10.5	10.1	17.6	14.0	4.2	15.3	5.3	19.7		
	Other Districts			22.6	24.0	6.1	13.4	36.8	29.3	21.4	32.5	28.7	39.0		
Egypt*	Frontier Governorates	DHS	2008	3.2	6.1	4.3	2.0	0.8	1.0	3.5	1.4		2.3		
	Lower Egypt - Rural			1.8	2.9	2.6	1.3	0.0	0.3	0.3	0.6		0.2		
	Lower Egypt - Urban			0.9	1.0	0.6	0.5	0.0	0.1	0.0	0.1		0.2		
	Upper Egypt - Rural			5.3	10.5	8.9	4.1	0.6	2.9	0.7	7.7		4.5		
	Upper Egypt - Urban			1.8	2.6	2.3	1.1	0.1	0.8	0.0	1.0		1.0		
	Urban Governorates			1.7	1.6	1.2	0.3	0.0	0.4	0.0	0.1		0.3		
Jordan	Central	DHS	2009	0.2	1.7	1.3	0.4	0.1	0.0	0.2	0.0	0.0	0.1		
	North			0.2	2.9	2.4	0.8	0.1	0.0	0.1	0.0	0.0	0.0		
	South			0.4	3.7	3	1.1	0.2	0.1	0.2	0.2	0.1	0.3		
Mauritania	Adrar	MICS	2007	17.8	22.6	24.8	14.8	41.1	42.8	37.5	39.4	29.1	37.3		
	Assaba			55.6	42.1	34.7	26.8	80.4	80.6	64.3	69.5	78.4	63.5		
	Brakna			44.1	34.8	23.9	23.0	73.0	70.1	41.5	54.3	68.4	64.4		
	Gorgol			54.2	58.5	46.3	32.3	82.8	87.0	58.8	78.6	88.1	60.5		
	Guidimaka			51.5	53.8	36.9	36.5	83.3	84.2	72.7	79.7	90.4	60.7		
	Hodh Ech Chargui			60.7	38.3	35.7	25.5	88.8	87.4	80.3	83.4	89.0	79.3		
	Hodh El Gharbi			58.5	41.6	19.9	20.7	79.4	78.8	69.4	51.8	78.2	69.6		
	Inchiri			20.1	17.2	17.9	9.2	23.6	28.7	12.6	11.1	10.9	24.6		
	Nouadhibou			6.7	9.3	11.2	5.8	3.0	0.9	3.6	3.6	1.5	4.5		
	Nouakchott			11.0	17.4	17.5	9.0	12.4	19.2	27.3	12.2	18.2	10.1		
	Tagant			40.3	34.1	25.9	19.1	66.3	66.6	41.7	50.9	58.7	60.0		
	Tiris Zemmour			6.6	9.5	14.2	8.3	8.4	7.6	21.9	18.9	5.7	8.9		
	Tarza			27.8	16.6	26.3	12.2	43.3	36.2	19.8	25.5	35.2	28.3		

* The dark blank cells refer to that the indicator was not estimated from the survey data.

SOURCE: OPHI (2013a)

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