MULTI-DIMENSIONAL POVERTY INDEX

AND TACKLING INTERLOCKING DEPRIVATIONS

IN THE ARAB STATES

Abdel-Hameed Nawar
Faculty of Economics and Political Science,
Cairo University

Policy International

Centre for Inclusive Growth

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Abdel-Hameed Nawar*

ABSTRACT

Research into multidimensional poverty has gathered momentum in the last half decade, most notably in the aftermath of the global food and financial crises of 2007–2008. It has gained further momentum since the UNDP-OPHI launched the *2010 Human Development Report* (HDR) and more recently as part of the continuing debate on the post-2015 global development agenda. The availability of very large and rich datasets on households and individuals from micro surveys and the advances in survey data analysis have transformed the research. Not only does this raise 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-Foster Multidimensional Poverty Index (MPI) measures overlapping multiple deprivations that people face simultaneously. It is compatible with the Millennium Development Goals and has the advantage that it distils this of multiple indicators into a single score. While the standardised 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 cut-offs.

This paper analyses the 2013 round of the multidimensional poverty and inequality results for Arab States at the national and subnational levels using the results from the OPHI's Alkire-Foster standardised global MPI model. 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 subnational level.

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* Associate Professor of Economics, Economics Department, Faculty of Economics and Political Science, Cairo University, Egypt 12613, Egypt. E-mail: anawar@feps.edu.ego. The author benefited from several valuable comments from Samah Hammoud from the Arab Human Development Report (AHDR) Project, UNDP Regional Bureau for Arab States, Beirut, Lebanon.

Analyses show that the Arab region has 21.5 million people vulnerable to or at risk of multidimensional poverty and 18.8 million people in 'severe' multidimensional 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 show that the vulnerability rates are high and less heterogeneous across the subregions, while in Arab Least Developed Countries very high rates of severe multidimensional poverty prevail. Comparisons between urban and rural areas make the multidimensional inequality obvious. The MPI at the subnational level reveals that significant social deprivations — and, therefore, low resilience — are inflicting huge suffering on ordinary citizens in rural and certain geographic areas within the Arab region. Moreover, it appears that income poverty and multidimensional poverty measures typically do not move together. The relationship between income inequality and multidimensional poverty measures is spherical. Hence, if income poverty alone is used for policymaking, poverty mapping and targeting, it leads to overlooking a large proportion of poor people. Hence, 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 study — namely, Mexico, Colombia and Brazil — substantiate the success of using the MPI in the policymaking process. While, of course, there are common threads running through all of the MPIs, it is shown that in the case of Mexico it incorporates both income and non-income aspects, whereas elsewhere the country-specific MPI complements the income measurement. Lessons learned from international experiences suggest that a change in paradigm is needed, as are windows of opportunity so that 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 implemented, Arab States will start to bend the staggering cost curve of poverty and inequality and will cease to face further decades of lost development.

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

JEL Classification Codes: I3, I32, D63, O1

1 INTRODUCTION

In a pioneering contribution, the Nobel Laureate Amartya Sen (1976) regarded the problem of measuring poverty 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.). Persons below the cut-off 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 the capabilities — i.e. the lack of opportunities and resources — that would enable people to live the life they value.

The multidimensional approach to poverty has been a popular topic in development economics. Early contributions to multidimensional poverty research from micro survey data dates back to the work of Peter Townsend (1979), who studied poverty in the United Kingdom. Since then, there has been much progress made in proposing various theoretical frameworks of multidimensional poverty measures from survey data on households and individuals. Several multidimensional poverty indices take full account of survey design by including the appropriate dimensions. These multidimensional poverty indices include, among others, those from Chakravarty, Mukherjee and Renade (1998), Tsui (2002), Bourguignon and Chakravarty (2003) and Alkire and Foster (2007). These indices are relatively easy to apply. Each index also 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 United Nations Millennium Development Goals (MDGs) and targets which were based on the Millennium Declaration signed by 189 countries, including 147 heads of State and Government, in September 2000 and from further agreement by Member States at the 2005 World Summit. The global goals and targets are interrelated and a whole integrated dashboard for eliminating multidimensional poverty. Efforts were made to convert the MDGs 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 Bhutan, Brazil, China, Colombia, Malaysia and Mexico, have officially applied a multidimensional approach to poverty at the national and subnational levels and have adapted it for national development planning, in terms of defining priorities, allocation of public resources and guiding sector policies (education, health, employment, social protection etc.).

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 global *Human Development Report* (HDR), entitled 'The Real Wealth of Nations: Pathways to Human Development', which marked its 20th anniversary. It supplants the **macroeconomic** Human Poverty Index (HPI), which was previously used in the HDRs from 1997 to 2009 but suffered from several shortcomings, in particular being unable to identify people who suffer multiple deprivations jointly. Indeed, the Alkire and Foster MPI methodology has become a tradition of research and has been pushing forward the frontiers in measurement and enriched policy analysis and debate a great deal. Innovations in measurements of human deprivation are being operationalised to keep the measure as accurate against reality on the ground and as up to date as possible.

The 2011 global HDR, entitled '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 at the national and global levels. In the 2013 global HDR, entitled '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 analysed successful social policy innovation and antipoverty programmes that are now emulated worldwide — for example, in Brazil, Colombia and Mexico.

The Alkire-Foster 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 Figure 1. Each dimension is equally weighted, and each indicator within a dimension is also equally weighted.

FIGURE 1

Components of the Multidimensional Poverty Index
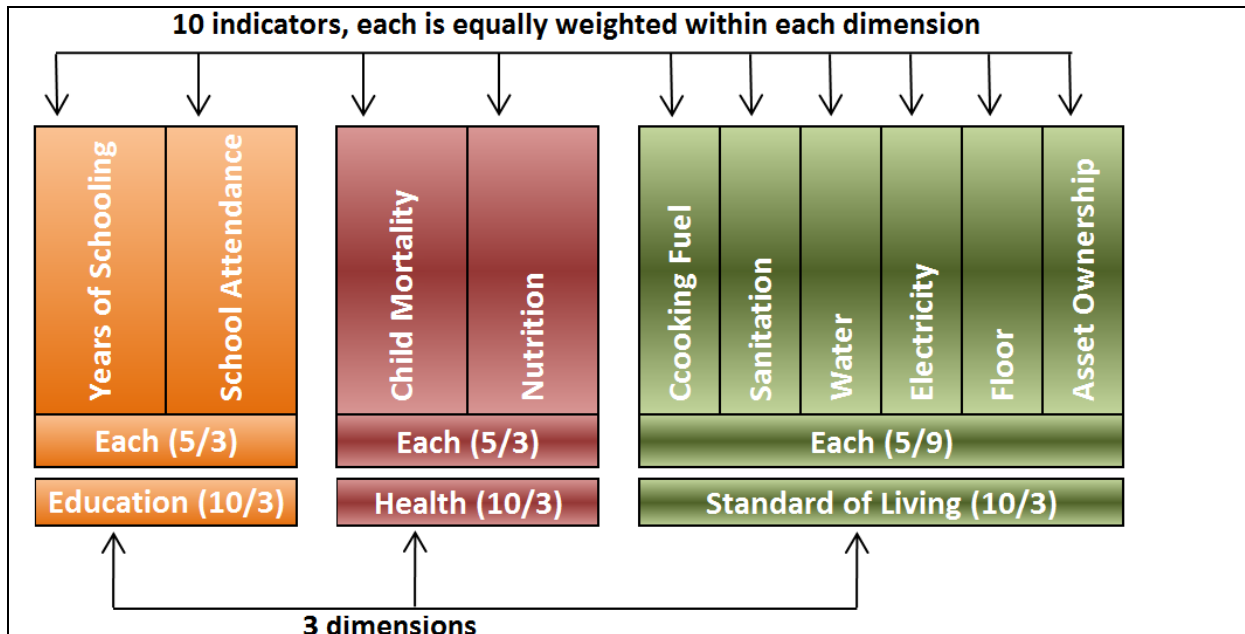
The dimensions are further explained below. For each, deprivation is indicated if:

HEALTH:

Child mortality: If a child of any age has died in the household.

Nutrition: If any adult or child in the household is malnourished.[1]

EDUCATION:

Years of schooling: If no household member has completed five years of schooling.

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

STANDARD OF LIVING:

Electricity: If the household has no electricity.

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

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

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

Cooking fuel: If the household cooks with wood, charcoal or dung.

Assets: If the household does not own more than one of: radio, TV, telephone, bicycle 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 population:

$$MPI = H \times A.$$

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 per cent to 33 per cent of 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, it 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 changed significantly. 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 social justice at its core. 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. There is now a need for the right policymaking framework, with more evidence and more harmonious indicators, that sends the right signals and demonstrates what is right to promote social justice.

The remainder of this paper is organised as follows. The next section reviews and analyses 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 analyses 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 subnational 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.

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 are classified into four groups, with countries excluded from the MPI's measurement rounds underlined below:

a. **Least Developed Countries** (LDCs): <u>Comoros</u>, Djibouti, Mauritania, Somalia, <u>Sudan</u> and Yemen.

b. **Maghreb**: <u>Algeria</u>, <u>Libya</u>, Morocco and Tunisia.

    c. **Mashreq**: Egypt, Iraq, Jordan, <u>Lebanon</u>, State of Palestine and Syria.

    d. **Gulf Cooperation Council** (GCC): <u>Bahrain</u>, <u>Kuwait</u>, <u>Oman</u>, <u>Qatar</u>, <u>Saudi Arabia</u> and United Arab Emirates.

2.1 RESULTS OF MEASURING THE MPI: THE 2010 ROUND

Globally, most of the data come from Demographic and Health Surveys (DHS), followed by Multiple Indicator Cluster Surveys (MICS). For the Arab region the reverse is true: the data for eight out of 13 countries come 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 — living in multidimensional poverty. This exceeds the 1.3 billion people[2] in those same countries estimated to live on or below $1.25 per day at 2005 purchasing power parity (PPP), the international measure of 'extreme' poverty.

Figure 2 shows the regional distribution of the multidimensionally poor population in millions for $k = 3$ weighted points of deprivation. Of the 1.7 billion people worldwide defined by the MPI as living in multidimensional poverty, 2.5 per cent live in the Arab States, which means that 41.225 million people are multidimensionally poor in this region. Approximately half of the world's multidimensional poor people 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 live in China. Interestingly, less than 1 per cent of multidimensionally poor people live in Central and Eastern Europe and the Commonwealth of Independent States (CIS) and 3.1 per cent in Latin America and the 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: on average it is 50.9 per cent in the Arab region.

FIGURE 2

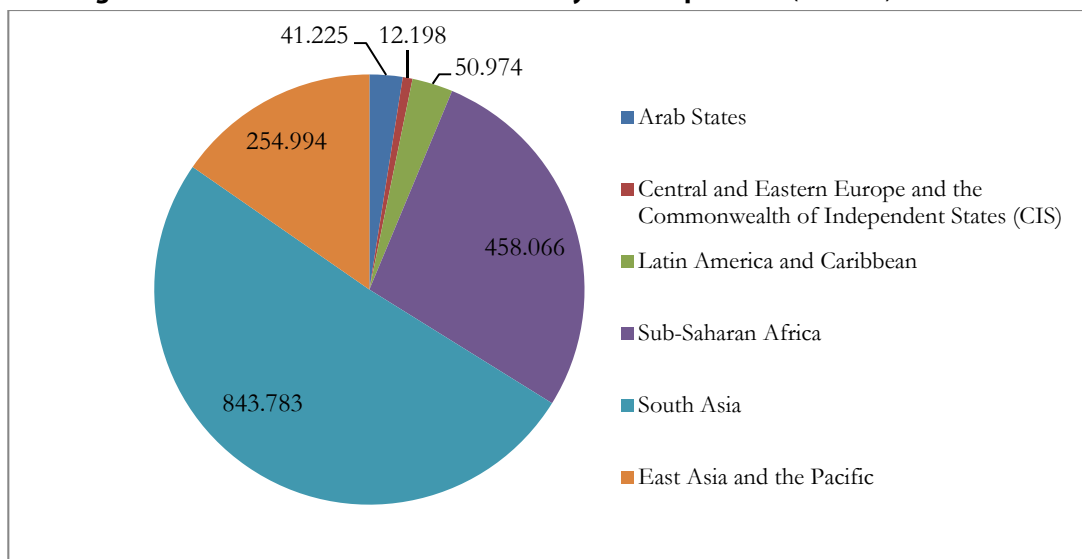**Regional Distribution of Multidimensioanlly Poor Population** (millions)

FIGURE 3

Components of the MPI in the Arab Region

FIGURE 3 chart showing Headcounts and Average Intensity:

Region	Headcounts	Average Intensity
Mashreq	0.076	0.403
Maghreb	0.222	0.485
LDCs	0.602	0.573
Arab Region	0.186	0.509
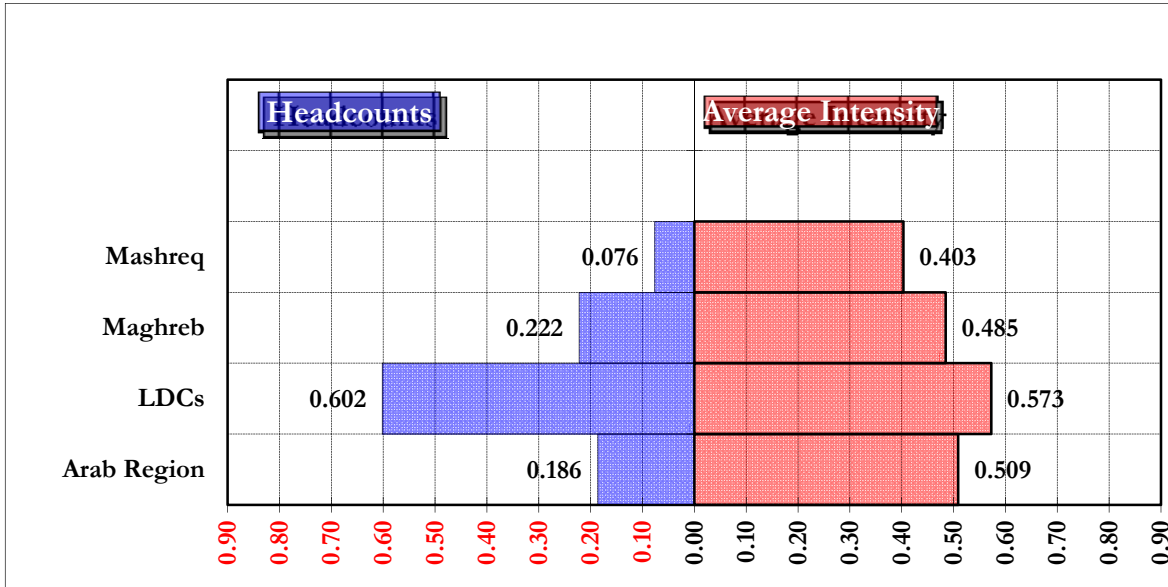
At the country level, the LDCs — and Somalia, Comoros and Mauritania in particular — are the highest contributors of poverty in the Arab region, as shown in Figure 4. Additional details are reported in the Annex Tables B-1 and B-2.

FIGURE 4

Country-level MPI and its Components

H: Headcount

Country	Value
United Arab Emirates	0.006
Occupied Palestinian Territories	0.007
Jordan	0.027
Tunisia	0.028
Syrian Arab Republic	0.055
Egypt	0.064
Iraq	0.142
Djibouti	0.293
Morocco	0.285
Yemen	0.525
Mauritania	0.617
Comoros	0.739
Somalia	0.812

A: Average intensity

Country	Value
United Arab Emirates	0.353
Occupied Palestinian…	0.382
Jordan	0.354
Tunisia	0.371
Syrian Arab Republic	0.375
Egypt	0.404
Iraq	0.413
Djibouti	0.473
Morocco	0.488
Yemen	0.539
Mauritania	0.571
Comoros	0.552
Somalia	0.633

MPI

Country	Value
United Arab Emirates	0.002
Occupied Palestinian Territories	0.003
Jordan	0.010
Tunisia	0.010
Syrian Arab Republic	0.021
Egypt	0.026
Iraq	0.059
Djibouti	0.139
Morocco	0.139
Yemen	0.283
Mauritania	0.352
Comoros	0.408
Somalia	0.514

The UAE, State of 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 per cent 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 per cent and 40 per cent).[3] Unexpectedly, we notice that both Djibouti and Morocco have the same MPI value. The population of Djibouti is very small (0.8 million) compared with 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)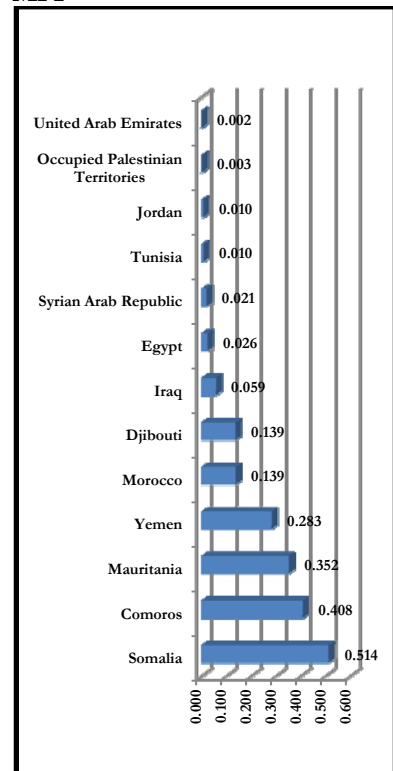, while Djibouti's average intensity of deprivation (47.3 per cent) is lower than Morocco's (48.8 per cent), so that they have nearly the same MPI value (14 per cent).

Inequality in human deprivation has generally received far less attention than inequality in the distribution of income 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 than other country groups globally.

FIGURE 5

Rural and Urban MPI, by Region
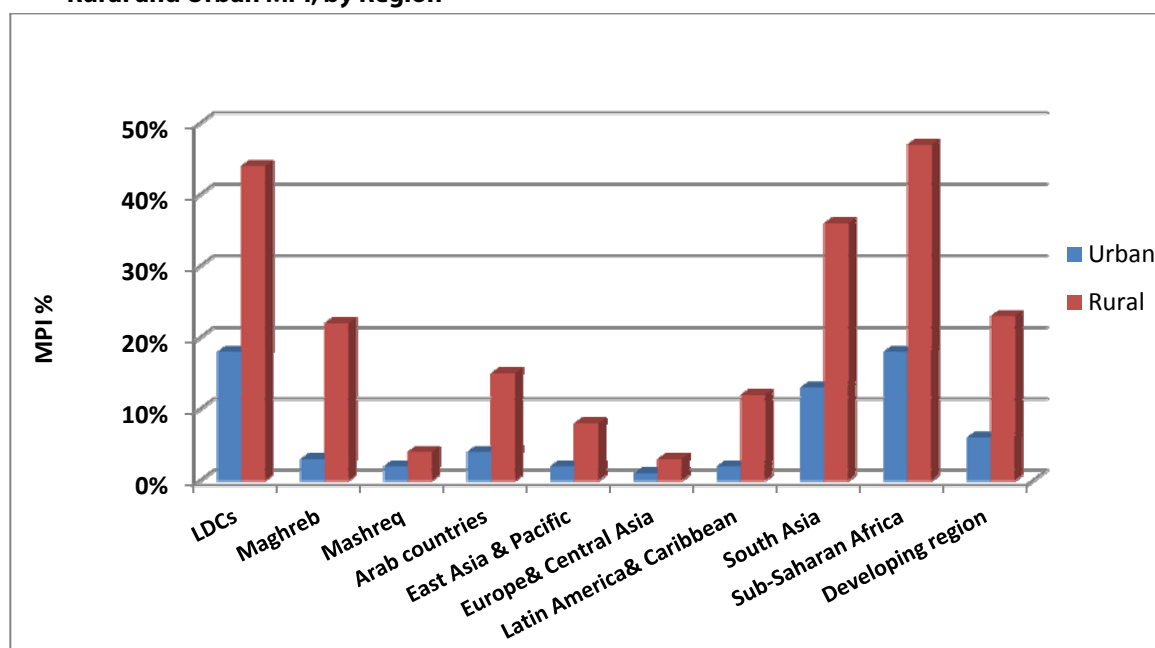
The Arab region is shown to have a higher ratio of rural to urban poverty (3.5) than all other developing regions, with the notable exception of Latin America and Caribbean. At the country level, Figure 6 shows heterogeneity in levels and relative measures of inequality. Morocco has the highest level of inequality between rural and urban areas (7.86), followed by Tunisia (4.17), Egypt (3.5) and Djibouti (3.46).

FIGURE 6

Rural and Urban MPI in Arab Countries
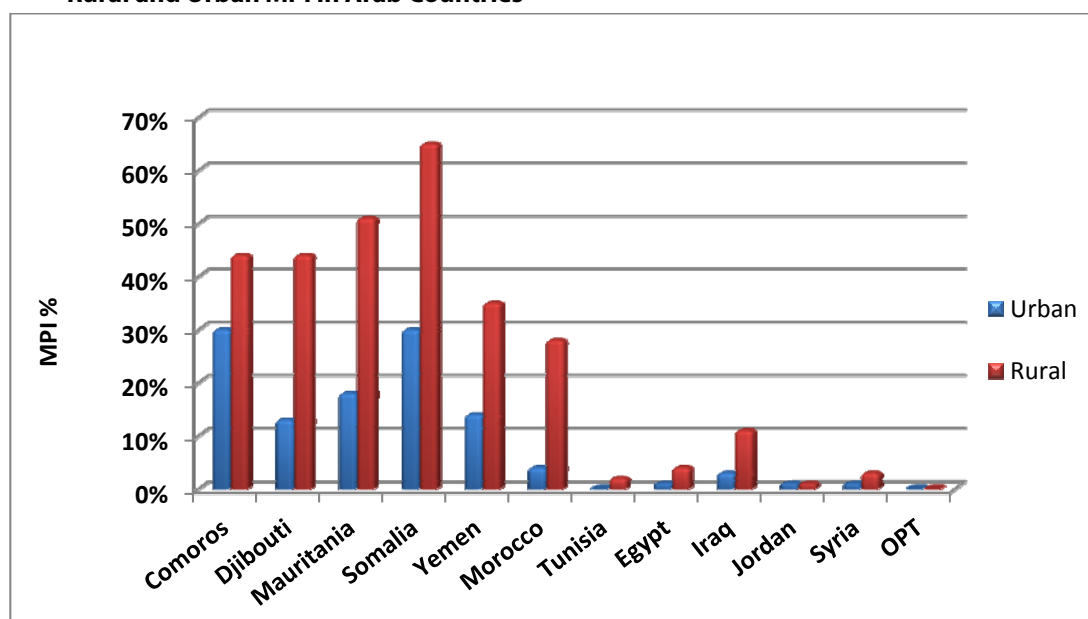
Looking at each dimension in turn, Table B-4 in the Annex shows that the highest inequality in the Arab region lies in Floor (8.57), followed by Electricity (6.62), Sanitation (6.57), Drinking Water (6.5), Cooking (6.06), Assets (5.68), Schooling (4.12), Child Enrolment (3.39), Nutrition (2.57) and Mortality (2.12). Thus, the highest incidence of multidimensional inequality is in living conditions. The second highest is in education and then in health. Huge variations exist within the Arab region, with the Maghreb countries the worst subregion in each dimension. Defining inequality as relative poverty, Nawar (2013) finds that the incidence of multidimensional rural to urban inequality is sufficiently large to be the worst in the world 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. Regarding the Arab States, results for Morocco and State of Palestine were updated. In the recently available round of the global MPI in 2013, five other countries were excluded —namely, Angola, Central African Republic, Comoros, Gabon and Myanmar.

However, before analysing 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: data are either not available or outdated. The latest available MICS for Comoros and Sudan is MICS2, which date back to 2000. Libya conducted MICS2 in 2003, but the dataset was not made available, as was the case for Algeria and Lebanon, where MICS3 was conducted in 2006 and 2009, respectively.

Additionally, between 2007 and 2013, in cooperation with international organisations, several Arab States, especially the GCC countries, conducted the World Health Survey (WHS), MICS and the DHS. Indeed, Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab

Emirates (GCC), as well as Yemen and Iraq have conducted DHS. Qatar recently concluded MICS4 (2013). Although they are instrumental in monitoring progress toward the measurement of multidimensional poverty and inequality, no up-to-date data gathered through nationally representative surveys are available for the region as a whole.

The major results of the 2013 round of global MPI were adding subnational analyses and differentiating between the 'vulnerable to poverty' — i.e. those at risk of poverty and deprived in 20 per cent to 33 per cent of weighted indicators — and the 'severely poor' — those deprived in 50 per cent or more. This section will look at these results to analyse the multidimensional inequality. Figures 7 and 8 show the regional distribution of the vulnerable and severely multidimensionally poor population. The Arab region has 21.5 million people vulnerable or at risk of multidimensional poverty and 18.8 million 'severely' multidimensionally poor people — 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 and 27.7 per cent) and Sub-Saharan Africa (16.6 per cent and 39.8 per cent), but they are worse than those prevailing in East Asia and the Pacific (7.6 per cent and 4.8 per cent), Eastern Europe and Central Asia (3.7 per cent and 0.4 per cent) and Latin America and Caribbean (7.9 per cent and 2.1 per cent).

FIGURE 7
Regional Distribution of Vulnerable to Multidimensional Poverty (millions)
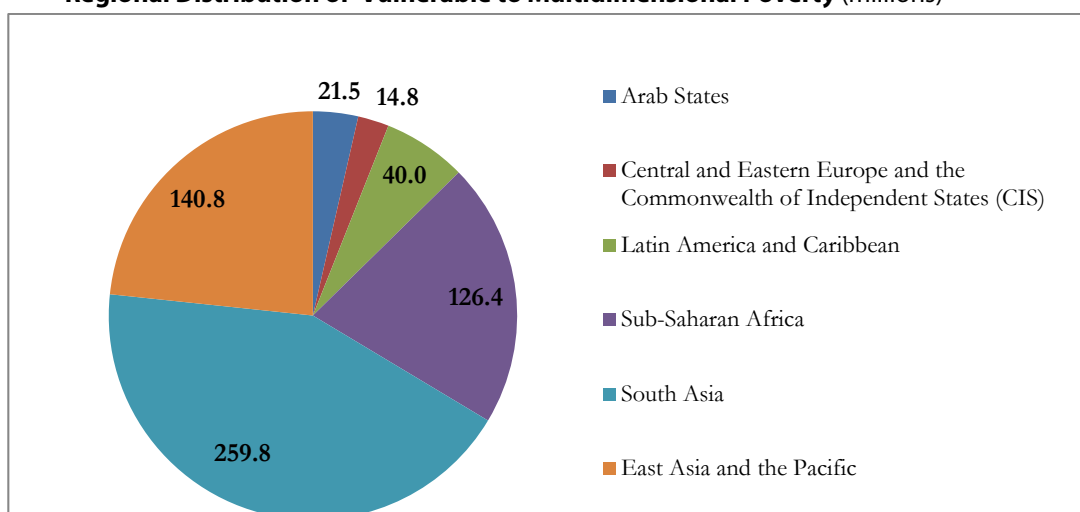
The Arab subregional averages for vulnerability to multidimensional poverty were 12.4 per cent for the LDCs, 10.5 per cent for the Maghreb countries and 8.5 per cent for the Mashreq countries. The subregional averages for severe multidimensional poverty were 41.1 per cent, 2.5 per cent and 1.3 per cent for the same respective regions. The averages for the Arab region as a whole were 9.3 per cent multidimensional vulnerability and 8.0 per cent severity. Thus, within the Arab region, data represented in Figure 9 show that the vulnerability rates are high and less heterogeneous across the subregions, with Arab LDCs having a very high rate of severe multidimensional poverty.

FIGURE 8

Regional Distribution of Population in Severe Multidimensional Poverty (millions)
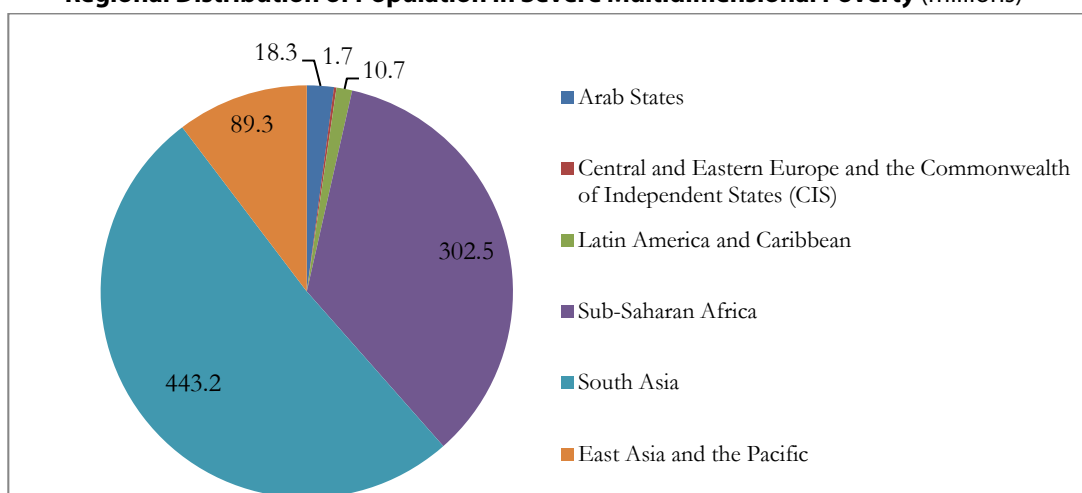
FIGURE 9

Vulnerable and Severe Multidimensional Poverty Rates in the Arab Region
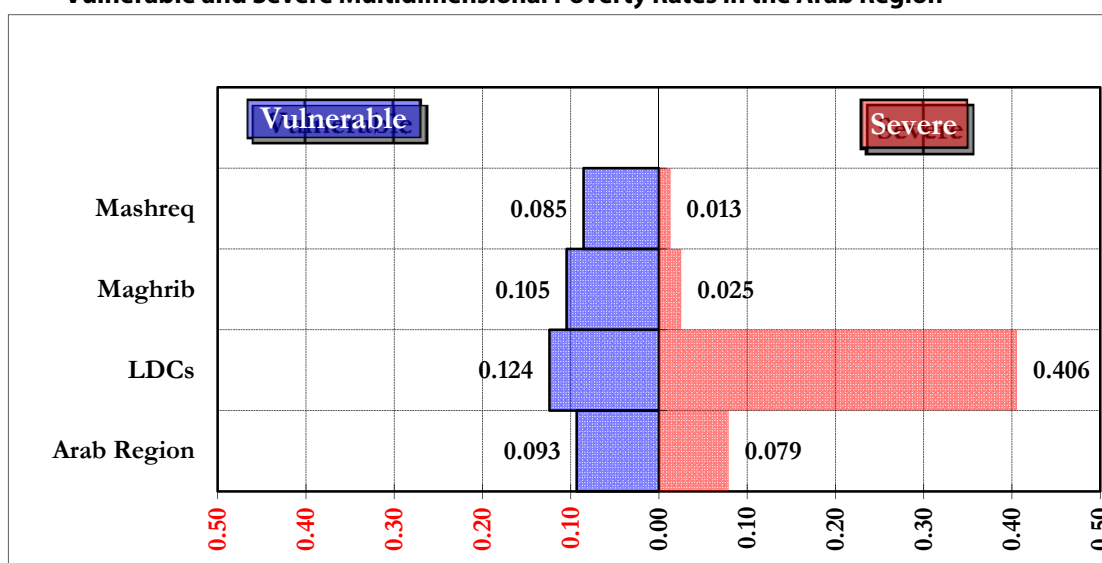
Figure 10 plots the subnational MPI for the Arab States for which these results were obtained in the 2013 round of the global MPI. A more detailed set of results is reported in Table B-5 in the Annex. The subnational analysis was conducted only for Egypt and Jordan from the Mashreq countries and Mauritania and Djibouti from the Arab LDCs. As evident from the micro data analysis, multidimensional inequality not only between and between different Arab countries but also within a given Arab country seems significant.

When considering the same set of dimensions, indicators, cut-offs and weights — which is, obviously, rather unfair for comparison as one size does not fit all — the MPI is much higher in Mauritania than in Egypt. 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
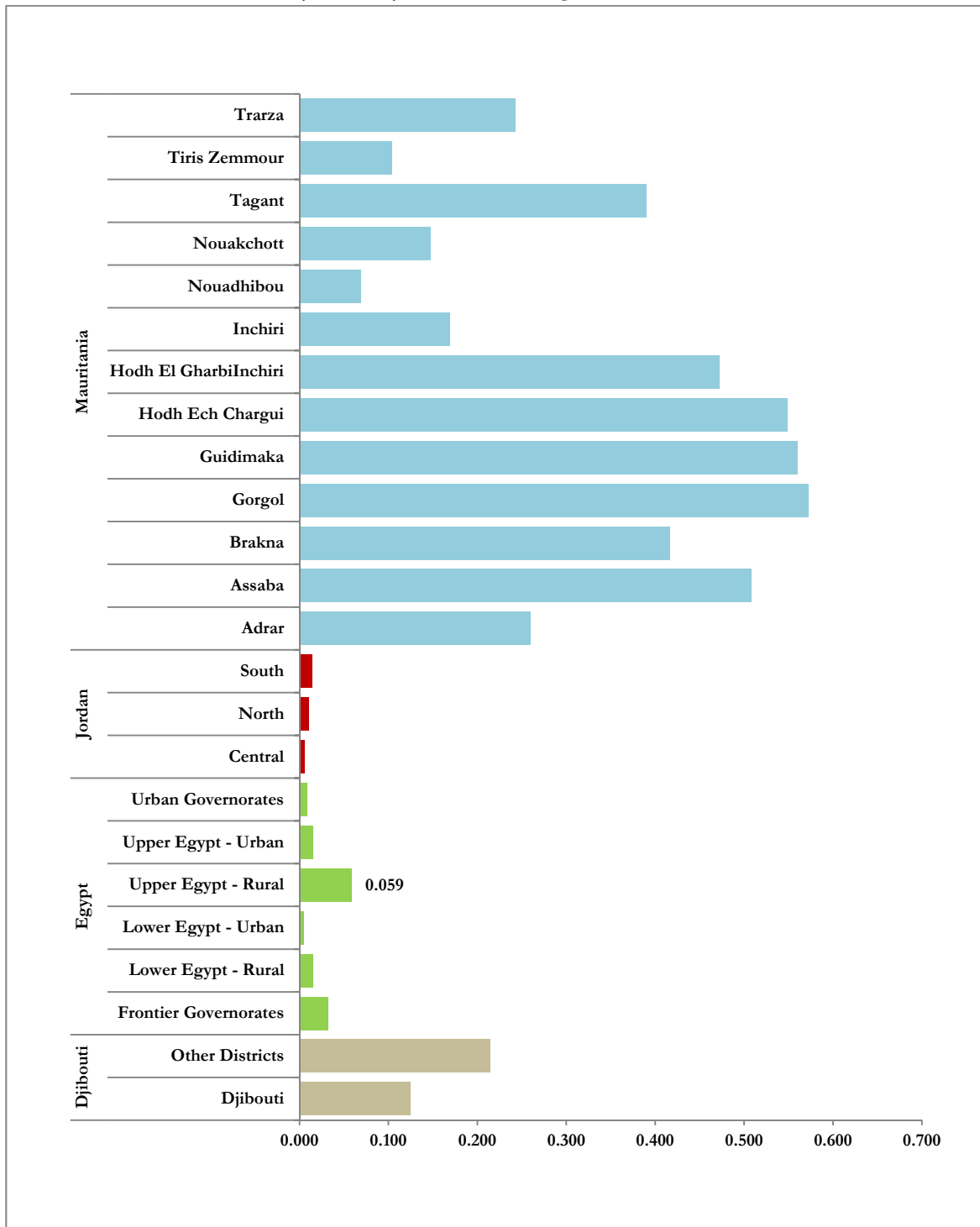
To place this inequality in focus, Figures 11 and 12 show, respectively, the percentage of the population vulnerable to multidimensional poverty (i.e. experiencing intensity between 20 per cent and 32.9 per cent) and the percentage of population in severe poverty (i.e. experiencing intensity higher than 50 per cent) in both Egypt and Mauritania. The inequality between urban Lower Egypt and the rest of the subnational regions is substantiated with almost one fifth of the population vulnerable to multidimensional poverty and 2.6 per cent of the population in severe multidimensional poverty. The comparisons between urban and rural and Lower and Upper Egypt make the inequality obvious. In Mauritania, the percentage of the population in severe multidimensional poverty is lowest in Nouakchott but highest in Gorgol, Guidimaka, Hodh Ech Chargui and Hodh El Gharbi.

FIGURE 11

Percentage of Population Vulnerable to Multidimensional Poverty by Region in Selected Arab States

FIGURE 12

Percentage of Population in Severe Multidimensional Poverty by Region in Selected Arab States

3 POVERTY AND INEQUALITY THROUGH THE LENS OF THE INCOME SPACE

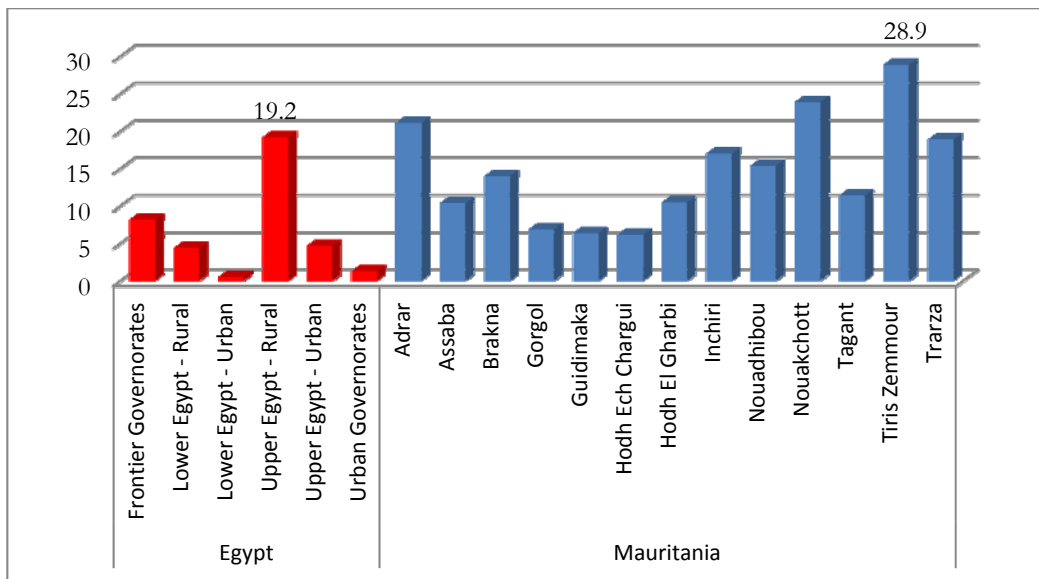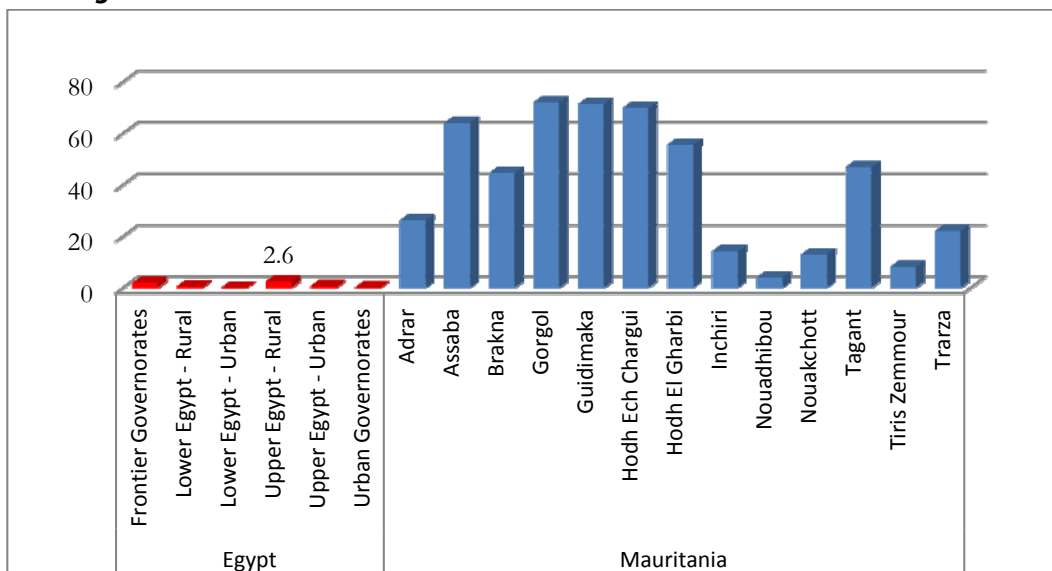The current common measure of poverty accounts only for people living on less than $1.25 PPP per day, which is the average poverty line among the world's 15 poorest countries. There are also other money-metric poverty lines to assess income poverty at the national and subnational level. The basic underlying 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 measuring poverty. What does it really mean to reduce extreme income poverty by half if two thirds of the world's population are multidimensionally poor?

In fact, the World Bank harmed the conceptualisation of poverty by reducing it to the $1.25 PPP per day indicator. Several development economists, such as Nawar (2007), are sceptical of the income dimension, as it diverts attention away from the many social 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 they need. Conversely, not having money does not necessarily imply that people do not have access to the private and public goods they need. A person may be above the income poverty line but live in a rural area or an urban slum where it is very hard to send children to school or where they suffer such deprivations that are important to a child's development such as access to safe water and sanitation. This suggests that the 'hard core of poverty' is the non-income multidimensional space; the eradication of extreme income poverty as such may not be sufficient to eradicate extreme poverty. Alkaire (2013) has put it simply: "A focus on an income-poverty target alone" is "a step back."

Income and multidimensional poverty measures typically do not move together; 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 are available are shown in Figure 13, which substantiates this idea. Putting together the income space and non-income space, it is evident that no strong simultaneous regularity exists between income poverty and either the overall MPI or its components.

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 income is less than $1.25 PPP a day." As the two-way matrix in Table 1 shows, if income poverty alone is used for policymaking, poverty mapping and targeting, it leads to overlooking a large proportion of poor people — namely, both Group B and Group C represent targeting errors.

TABLE 1

Matrix of Social and Economic Well-being

		Social (multidimensional non-income) well-being	
		P^S	NP^S
Economic (income) well-being	P^I	Group A	Group B (I)
	NP^I	Group C (II)	Group D

FIGURE 13

MPI and Income Poverty Indices
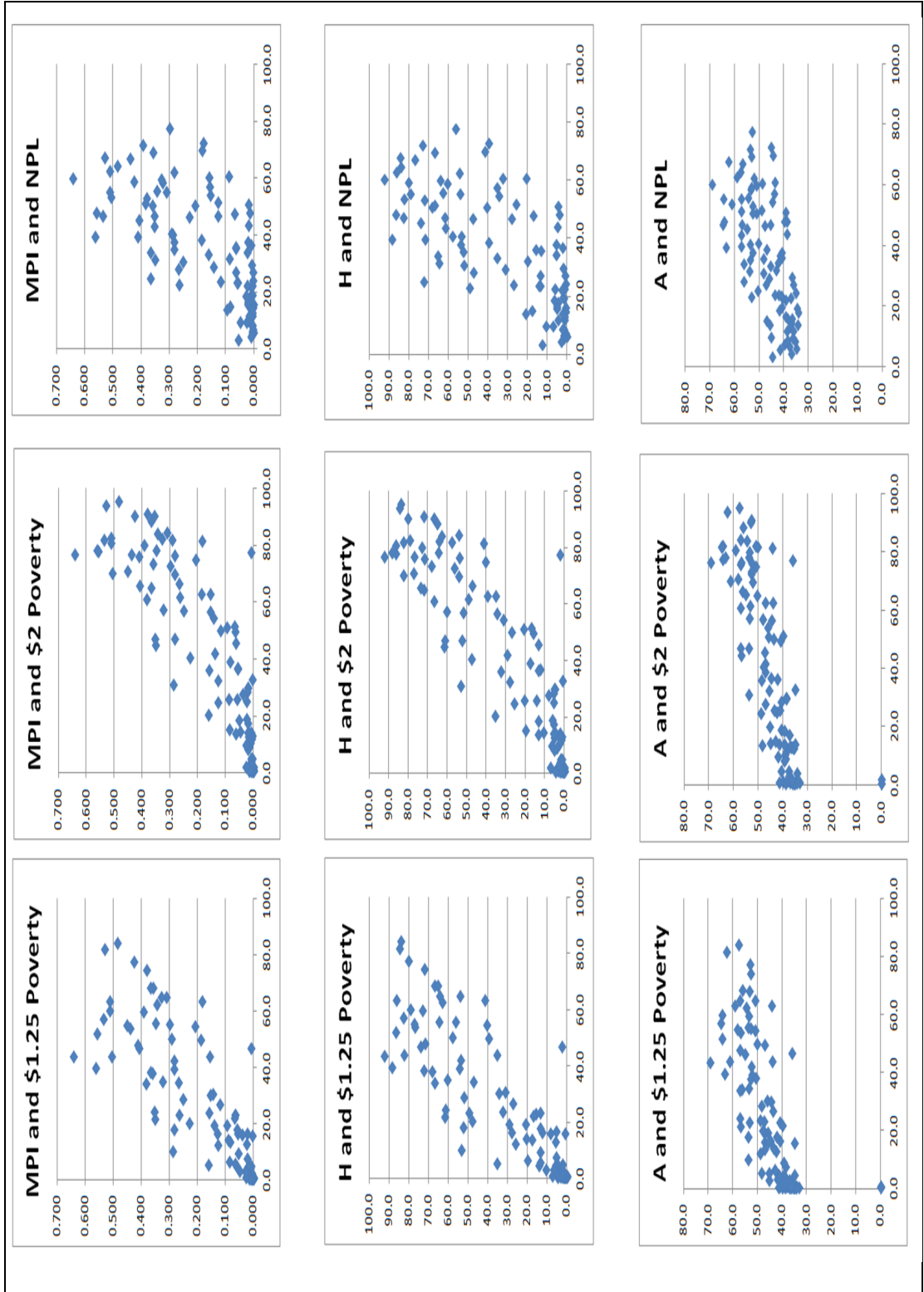
Turning to inequality in the income space and the non-income space, the scatter diagrams in Figure 14show that the relationship is spherical.

FIGURE 14

Inequality in the Income Space and Non-income Space
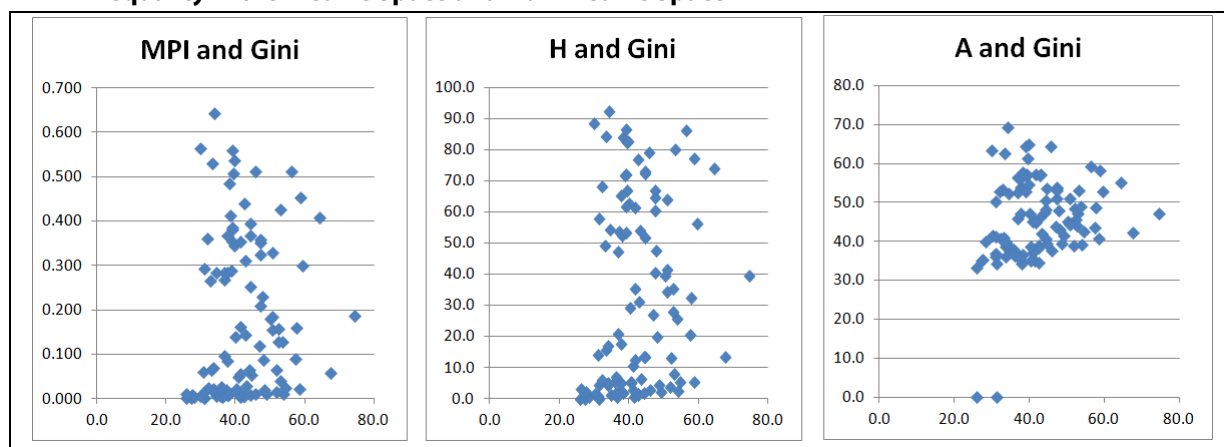
4 THE ADVANTAGES OF USING THE MPI AS A NATIONAL TOOL FOR INCLUSIVE DEVELOPMENT AND POVERTY REDUCTION STRATEGIES

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

- **Effective allocation of resources:** With the multidimensional poverty methodology, policymakers can identify the poorest people and the aspects in which they are most deprived. This information is vital to investing resources where they 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 to 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 subnational areas. Using deprivation profiles, policymakers can step forward with appropriate, informed interventions.

- **Showing impacts over time:** Trend analysis of the MPI can quickly reflect the effects of changes in policies on indicators other than income alone. For example, if a new social programme aimed at increasing good-quality education is introduced to an area, it would be a long time before any positive benefit in returns from education were reflected in income measures. In contrast, a multidimensional poverty measure that includes child enrolment and achievement could reflect a reduction in this aspect of poverty relatively quickly,

because it is measuring it directly. In fact, in many Latin American countries, the conditional cash transfer programmes encompass dual objectives of short-term poverty alleviation and long-term development of human capital.

- **Flexibility:** 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. 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 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 dimension of several within a multidimensional measure.

TABLE 2

The 10 Dimensions of the Multidimensional Poverty Index

Dimension	Indicator	Deprived if…	Related to…	Relative Weight, w_j
Education	Years of schooling	No household member has completed five years of schooling	MDG2	16.60%
	Child enrolment	Any school-age 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' walk from home	MDG7	5.60%
	Floor	The household has a 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, bicycle or motorbike, and does not own a car or tractor	MDG8	5.60%
Sum of weights				**100%**

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, ignore the multidimensional concepts and theories of poverty and continue to carry out the 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 of Egyptians. Additionally, one reason why such poverty reduction interventions as conditional cash transfer programmes would not perform successfully in the part of a country that is left behind — for example, rural Egypt — is **complementarity**, where interventions rely heavily on the existence of public infrastructure such as schools and health facilities.

5 MPI AS INSTRUMENTAL FOR NATIONAL AND SUBNATIONAL 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 policymaking cycle. A number of Latin American countries — namely, Brazil, Colombia and Mexico — have officially adopted the MPI model at both national and subnational levels of policymaking strategies and recommendations. These countries set good examples of focusing on the 'hard core of poverty'.

5.1 MEXICO'S MPI IN 2009

Mexico has been looking at the issue of multidimensional poverty since 2007. Poverty is measured and analysed 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 porgrammes and measuring poverty multidimensionally. The law established the main criteria that poverty measurement should meet, as follows:

1. It should 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 well-being (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 spaces, housing access to basic services, access to food and the degree of social cohesion.

4. Measurement should be made every years years at the national level and every five years at the municipal level.

This approach to building the multidimensional poverty methodology, based on social rights, 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 the following seven social rights:

- income per capita;

- educational gap;

- access to health services;

- access to social security;

- housing (quality of living space);

- basic services; and

- access to food.

People are identified by their income, which is called the economic well-being dimension and measures available resources to satisfy basic needs. Two economic well-being lines are applied: the **economic well-being line** (EWL) and the **minimum well-being 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. On the **economic well-being** (vertical) axis a distinction is made between people above the national (food and non-food) poverty line, which is also called the EWL, and people below it. Another way to designate a cut-off is to identify those people who have more deprivations; hence there is an MWL. On the **social deprivations** (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's MPI
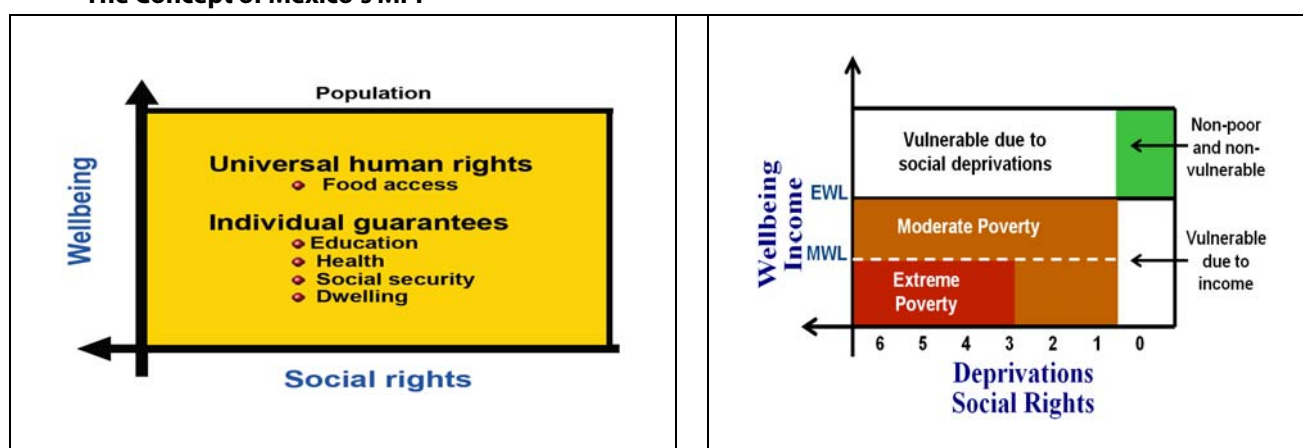
Thus the entire population is grouped as follows:

1. **Non-poor, non-vulnerable**: population without social deprivation and with enough 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 with at least one social deprivation;

4. **Multidimensional poor**: population with at least one social deprivation and below the EWL. These were grouped into:

   a. **Moderately multidimensionally poor**: those with at least one social deprivation and below the EWL; and

   b. **Extremely multidimensionally poor**: those with at least three social deprivations and 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: elderly people, youth and children and, for the first time, indigenous and non-indigenous people. It is further decomposed by state and by dimension etc.

Some selected results are highlighted in Figure 16, which shows that poverty increased significantly in Mexico between 2008 and 2010 but was relatively well 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 are among the additional factors that contributed to the increase in multidimensional poverty in Mexico. Access to social security seems the worst dimension, followed by access to health.

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 to catalyse actions. To move poor and extremely poor people out of poverty, targeted policies should combine two types of policies: **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, understand better 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. Social programmes are changing the way they identify their beneficiaries — for example, the strategy for multidimensionally poorer municipalities (e.g. Chiapas) is using the 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 but also on specific social deprivations. There is a tendency to focus on cash transfers when poverty is measured only with income. However, there is always the possibility that some of the population is above the threshold of one dimension but below the threshold of another. Social policies for overcoming poverty should also pursue universally guarantee social rights.

FIGURE 16

Selected Results from Mexico's MPI, 2008–2012
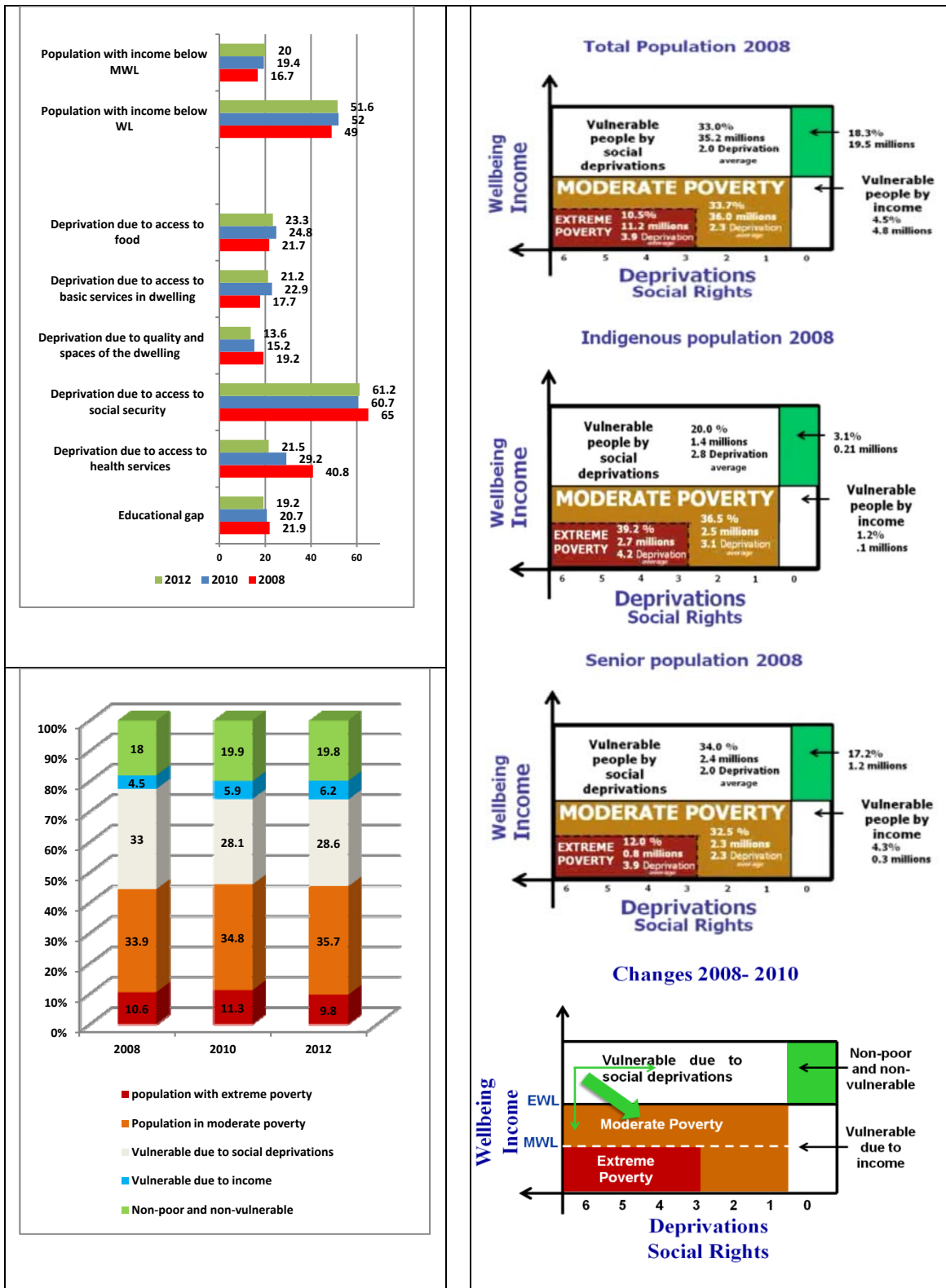
Source: Aparicio, R. (2013). Social Inclusion within the Framework of the Multidimensional Measurement of Poverty in Mexico. Mexico, CONEVAL.

CONEVAL online database and presentations are available at: <www.coneval.gob.mx>.

5.2 COLOMBIA'S MPI IN 2011

Aiming at closing the country's poverty gaps, in August 2011 Colombia's Ministry of Planning officially devised the very first poverty reduction plan that uses the Alkire-Foster method for measuring multidimensional poverty.[4] The Colombian MPI uses an innovative adaptation of the Alkire-Foster method, customising the dimensions and indicators to the country's specific needs and public policy priorities.

Building on the flexibility inherent in the Alkire-Foster methodology, the Colombian MPI assesses broader social and health-related aspects of poverty in the following five dimensions, which are equally weighted and use 15 indicators:

- household education conditions;

- childhood and youth conditions;

- employment;

- health; and

- access to household utilities and living conditions.

The Colombian government has set firm targets in the national plans to reduce multidimensional poverty by 13 per cent — from 35 per cent of the entire population in 2008 to 22 percent in 2014. The measure is being used twice: once to set the targets and a second time to track progress towards them. This approach clearly shows the way the method can be used to tackle poverty most effectively. 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 well-being.

Table 3 presents the details of Colombia's multidimensional poverty reduction strategy. The Colombian MPI includes the multidimensional Headcount ratio (H) within the indicators used to track multidimensional poverty and average intensity (A). The National Development Plan (2010–2014) set a goal to reduce the population living in multidimensional poverty from 35 per cent in 2008 to 22.5 per cent in 2014 — a reduction in poverty of 12.5 percentage points over six 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 overall poverty reduction if all these targets are met in each of the five dimensions.

At the municipal level, a proxy of the national Colombian 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 households' income-generating abilities and quality of life. This intervention is by nature transitory; once a household no longer lives in extreme multidimensional poverty, the household graduates from the programme. The Colombian MPI 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 cutoff **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 in National Development Plan	Baseline NDP 2008 (%)	Data for 2010 (%)	Goal NDP 2014 (%)
Educational 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 who 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 do not 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

→

(...) **Access to public utilities and housing conditions** (0.2)	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

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 programme 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 educational and health). In 2011, President-elect Rousseff launched the 'Brazil without Extreme Poverty' (PBSM) strategy 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 per cent. There were 5.075 million multidimensionally poor people out of 187.958 million people in the country in the year of the survey. While this seems too low at the country level, disparities exist at the subnational level. 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 utilise the Alkire-Foster 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 poverty and deprivation conditions into a better standard of living.

Travessia uses a **two-step** process for the selection of participants in its poverty reduction programme. First, municipalities are selected based on their Human Development Index (HDI) score. Second, questionnaires are administered and analysed 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 municipality and train locals to administer the questionnaires in every household. The programme does not do a sample survey but, rather, a full census of the municipality. This phase of the programme 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. This is then transferred to a map down to the household level. These data are then taken to the state-level Secretariats that are part of this programme, for them to use for targeting actions under the Travessia programme. Each Secretariat is responsible for its outreach programme to the municipalities chosen for the MPI.

Each Secretariat looks at complementary data that it has from other sources on dimensions related to its work. This helps to 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 that it has for each municipality.

The implementation of the Travessia programme using the MPI as a public policy design tool has helped improve targeting efforts. The success comes from coordination among the different state-level secretariats shown in Table 4. A formal meeting of the Secretaries is called every two months to plan, coordinate and review MPI results. The Deputy Secretaries in each Secretariat are in turn part of an ongoing technical committee.

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

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 of the process that determines the MPI scores for each household. 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 carry out 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.

By early 2013, Travessia had enrolled 266,114 households in 132 cities and spent approximately US$1.3 million on research. The results showed that 25.88 per cent of the households are multidimensionally poor; 22.48 per cent are vulnerable to poverty, and 9.73 per cent of the households researched could be classified as severely multidimensionally 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 experience with the use of MPI in effective policies to tackle and reduce poverty.

5.4 IRAQ'S MPI IN 2013

Several attempts have been made to construct nationally tailored MPIs in some Arab States. Those attempts suggest an increasing awareness of the problems of the currently adopted one-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 areas and 16.1 per cent for urban areas), which means that about 7 million people lived in poverty and spent less than IQD77,000 per person per month, or US$2.2 per person per day, in 2007. The preliminary results of the Iraq Household Socio-Economic Survey 2012 (IHSES-2) show that the level of poverty in Iraq had decreased to about 20 per cent of the population 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 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 United Nations agencies, funds and programmes working there (Joint Analysis Unit, 2011).

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 5.

TABLE 5

Dimension used in the Iraqi Multidimensional Poverty Index 2013

Dimension	Dimension weight	Indicator	Indicator weight
Education	**0.2**	Primary education, male	0.05
		Primary education, female	0.05
		Illiteracy, male	0.05
		Illiteracy, female	0.05
Standard of living	**0.2**	Income	0.1
		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
		Calorie 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

EDUCATION AND KNOWLEDGE

Illiteracy: An individual (male/female) is deprived if no adult member in the household can read.

Educational attainment: An individual (male/female) is deprived if no adult member in the household has completed primary education, which in this case translates as six years of basic education.

STANDARD OF LIVING

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 IQD91,116, or US$78, per person per month).

Housing unit: An individual is deprived if the type of housing unit is a clay house, tent, caravan or others, or if the exterior walls are made of blocks from the turnkey construction, clay/stone and clay, metal plates, wooden plates and other materials.

Crowding: An individual is deprived if more than three persons live per room in the household or the bedroom is shared with members from another household.

BASIC SERVICES

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).

Sanitation: A household is deprived if the sanitation facility is not public network, septic tank or covered canal (outside) or the toilet is shared.

Electricity: An individual is deprived if the total connection of electricity to the household from public network, community generator and private generator is less than 12 hours per day.

Garbage collection: An individual is deprived if the garbage is burnt, buried or thrown in open areas, and others (this indicator is calculated only for urban areas).

NUTRITION AND HEALTH

Balanced diet: An individual is deprived in nutritional intake if s/he 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).

Calorie intake: An individual is deprived if his/her calorie intake is less than a particular required level (2330 calories/day).

Quality of health services: An individual is deprived if s/he perceives/assesses the health services as bad or very bad.

Distant health services: An individual is deprived if s/he needs 50 per cent more than 30 minutes to reach the 40 per cent closest health service among primary health care, public hospital, clinic/government health centre, clinic/government health centre complex, and pharmacy.

EMPLOYMENT

Unemployment: An individual (male/female) is deprived if any member of his/her household in the labour force is unemployed.

Underemployment: An individual (male/female) is deprived if any working member of his/her household is underemployed.

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).

TABLE 6

Results of Iraq's MPI in 2013

	MPI results (k=33%)			Low income (Lowest quintile)
	H	*A*	$MPI = H \times A$	
Iraq	**0.133**	**0.448**	**0.0596**	**0.2**
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	0.43	0.061	0.236
Salah Al-Deen	0.145	0.433	0.0628	0.156
Najaf	0.14	0.463	0.065	0.152
Basrah	0.179	0.45	0.0808	0.293
Muthanna	0.192	0.43	0.0825	0.424
Mosul	0.232	0.453	0.1053	0.37
Qadisiya	0.226	0.479	0.1082	0.326
Thi-qar	0.298	0.448	0.1337	0.511
Was it	0.298	0.451	0.1344	0.291
Maysan	0.304	0.489	0.1486	0.246

Figure 17 shows the multidimensional 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 utilise this nationally tailored MPI.

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, five 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 its gender issues; and

- it combines income and non-income indicators, similar to the MPI for Mexico;

- it distinguishes between employment and underemployment as well as job security;

- it distinguishes between standard of living and basic services; and

- it distinguishes between availability and quality of health services.

More interestingly, the matrix of headcount well-being and social deprivation in Iraq is estimated (see Table 7).

FIGURE 17

Multidimensional Poverty Headcount 'H' at the Governorate Level
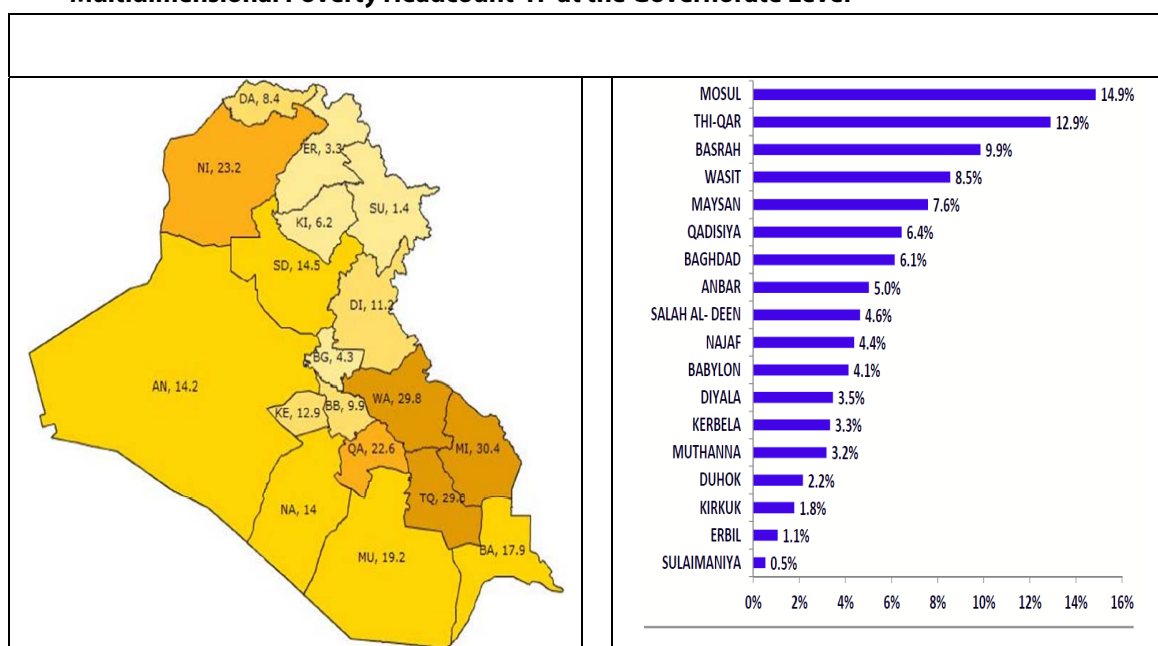
TABLE 7

Matrix of Headcount Well-being and Social Deprivation in Iraq

		Social (multidimensional non-income) well-being	
		p^S	NP^S
Economic (income) well-being	p^I	10%	10% **(I)**
	NP^I	3% **(II)**	77%

This matrix shows that 77 per cent of multidimensionally poor households in Iraq have a low income, while only 23 per cent do not have a low income. Meanwhile, 50 per cent of those who have a low income face multidimensional deprivations.

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

There have been several critiques to improve global MPIs, 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, the same definitions, dimensions, the same set of indicators, thresholds and the same weighting to make the figures comparable across countries. Obviously this has drawbacks if the need is to go to the country level where the specific context requires different dimensions, indicators, thresholds etc. As shown in Section 2 in this paper, some thresholds for a country such as Egypt or Tunisia would not make a lot of sense for a country such as 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. subnational), by gender or other groupings to see where people are poor and how policy can reflect inequalities and the need to look at the very poorest populations. While it is possible to combine it in a single index, what is totally missing from the measurement tools of the current dashboard of the MDGs framework is the measurement of overlapping multiple deprivations that people face simultaneously, and different intensities of poverty. We know the $1.25 PPP poverty headcount ratio; we know the percentage of children who are undernourished; 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, using the current practice of the MDGs, which households experience all of these deprivations simultaneously. Are the same people income-poor and multidimensionally poor? Indeed, this question is not yet being 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-Level 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 are not available for the MPI. In addition, available survey data are old, and data to monitor and evaluate intertemporal change are not available frequently enough etc. Some Arab States have recently developed nationally created models of MPI based on the same theory but slightly different from the global model. For example, the Egyptian attempts to construct a national MPI model include calorie deficiency, access to health services, flush toilets versus 'adequate' sanitation etc. In Syria and Yemen attempts include stunting instead of underweight etc. The attempts are still unofficial, very limited to the standardised dimensions and not linked to policy. However, further upgrades requires 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 dimensions.[5]

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

- one for countries with acute poverty; and
- one for countries that are more developed.

Such measures would be highly policy relevant in the post-2015 context. This is a way to link global MPI to national MPI so that it can fit specific national circumstances.

Countries are also recommended to have two levels of the MPI, which is similar to how money-metric poverty is addressed, where there are **national** income poverty lines and indicators as well as **international** income poverty lines and indicators of $1.25 PPP and $2.00 PPP per day. Namely, it is suggested that countries develop:

(i)   **their own national MPI** to reflect the socio-economic and political priorities, the data specificities and the voices of the poor population; and

(ii)   **an international MPI** that would look across countries to measure how quickly countries have changed on the core set of MPI indicators which are being globally compared.

The first level provides incentives to governments to support better measures with the right dimensions, indicators, weights and cut-offs at the national and subnational levels tailor-made for purposes and reflecting the true voices of the poor and marginalised members of society and driving policy decisions. The second level, with unified multidimensional criteria, provides national governments with measurable results that can be benchmarked worldwide and provides international organisations with the tools needed to support programmes that will be aligned with the post-2015 development agenda.

7 CONCLUSIONS AND KEY MESSAGES FOR POLICYMAKING

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

At this crossroads and time of transition, countries of the Arab region are facing sizeable economic, social and political challenges. The adoption of programmes, legislation and policies of social justice that are based on multidimensional poverty — with the right dimensions, indicators, weights and cut-offs at the national and subnational levels tailor-made for each country's purpose and reflecting the true voices of poor and marginalised people — will support government efforts to rebuild trust between the State and citizens — a very important social capital — and accelerate progress to attain 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 used one-dimensional approach to poverty metrics. Institutionally, those attempts fall short of the level of international experiences discussed above. On the 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. MICS, Household Income Survey, Expenditure and Consumption Survey (HIECS) and DHS cannot achieve this task separately.

One opportunity, however, is the Pan-Arab Project for Family Health (PAPFAM) survey of the League of Arab States. This survey provides a viable tool and has the advantage that its data are fully endorsed by each country's government. Recently, it has been or is being conducted in several Arab States.[6] So far this opportunity remains to be explored and further developed. On the other hand, there is no clear or explicit translation yet of those attempts in terms of a relationship between multidimensional poverty measurement and national development planning and hence public policy. Another opportunity is to defrag the international aid going to micro surveys such as DHS and MICS[7] to better allocate those funds. In fact, this would be rewarding, since it would save expenses by avoiding the duplication of efforts.

In conclusion, this study proposes a set of key messages for policymaking in the Arab States:

Message 1.   The issue of poverty and inequality cannot be restricted to only one or another indicator. Namely, poverty cannot be restricted to merely a lack of income. If successfully achieved, ending income poverty would be a perfectly positive outcome, but it does not end poverty. Poverty, therefore, is not a 'finished business' but, rather, a business in progress.

Message 2.   Complementing the $1.25 PPP, $.2.00 PPP per day or other national income poverty criteria with measures in the non-income multidimensional space will better serve socio-economic development policy and rebuild trust between the State and citizens. In particular, integrating multidimensional aspects of poverty into mapping in the Arab States means realistic assessment of the social deprivations and allows key social issues to be addressed and the introduction of 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 the parts of the country that are left behind — for example, the rural areas in the case of Egypt. Investments in multidimensional solutions that target the reality of impoverished lives and curb the multidimensional inequality between rural and urban areas will mean social inclusion, participation and, of course, improvements in the quality of life. This should mobilise 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" (Lewis, 1998).

Message 4.   Following the example of Latin American conditional cash transfer programmes, transfers are associated with public provision of goods and services to build poor people's capabilities and human and social capital.

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.   The global MPI dimensions need to be improved and augmented. For example, unemployment could have been added to the existing dimensions in the global MPI since its inception round in 2010. In fact, unemployment was already included in Goal 1 in the revised MDG framework of 2008. However, countries were not required to monitor it by setting targets or any obligations (for example, relating to total, gender, age etc.) in that context.

Message 7.   A data revolution is essential 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 setting 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 or Ministry of Supply) responsible for many activities and programmes related to poverty reduction which are mostly run separately, rather than jointly as a multisectoral cluster. Hence, restructuring can start from somewhere, in the short or very short term, and then gradually move towards the desired setting on the basis of the gap from the planned critical institutional reforms needed for the multidimensional approach. The presence of strong 'political will' does boost critical institutional reforms — for example, by creating an institutional focal point as a mechanism to coordinate the various branches and layers of government, to prevent any conflict that may exist within the government bodies involved and to ensure good governance.

It cannot be emphasised 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. By ensuring the principle of 'leaving no one behind,' they will cease to face further decades of lost 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 $x_i = (x_{i,1}, \ldots, x_{i,j})$ and vector of poverty lines $Z = (z_1, \ldots, z_J)$), 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 bi-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] Alkire and Foster (2007) Multidimensional Poverty Index

.. $$M = H.A$$

.. $$H = \frac{q}{n} = \sum_{i=1}^{n} \frac{p_k(X_i, Z_j)}{n}$$

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

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

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

[7] Intersection headcount index

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

[8] Union headcount index

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

Table B-1
Multidimensional Poverty in the Arab States

Country	Survey	Year	Multidimensional poverty index (MPI)		Population in multidimensional poverty		% of people deprived			Contribution of each dimension (%)			Population 'at risk' (%)
			MPI (%)	Rank	Headcount (%)	Intensity of deprivation (k=3) (% of deprivations)	Education	Health	Standard of living	Education	Health	Standard of living	Deprived in at least two indicators (k=2)
			2000-2008	2000-2008	2000-2008	2000-2008	2000-2008	2000-2008	2000-2008	2000-2008	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).

Table B-2
Details of Headcounts 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	0.001	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).

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[f]	GNI per capita 2010	Gini Index[g]	
			Value	Year	Value	Year	Value	Year			Value	Year
	Survey	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	2009	LMI	1,250	35.5	2009
Jordan	DHS	2009	0.1	2010	1.6	2010	13.3	2008	UMI	4,380	35.4	2010
Tunisia	WHS	2003	1.4	2005	8.1	2005	3.8	2005	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	2008	LMI	2,600	30.8	2008
Morocco	LSMS	2007	2.5	2007	14.0	2007	9.0	2007	LMI	2,970	40.9	2007
Mauritania	MICS	2007	23.4	2008	47.7	2008	42.0	2008	LI	1,000	40.5	2008
Iraq	MICS	2006	2.8	2007	21.4	2007	22.9	2007	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	2005	LMI	1,070	37.7	2005
Somalia	MICS	2006							LI	150		

Table B-4
Multidimensionally Poor, Vulnerable and Severe Populations in the Arab States

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[a]	Number of MPI poor people in the year of the survey[b]	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)					Total number of indicators included (out of 10)	Indicator(s) missing
	Survey	Year	Range 0 to 1	% Population	Average % of weighted deprivations	% Population	% Population	000	000		
UAE	WHS	2003	0.002	0.6	35.3	2.0	0.0	3,401	20	9	Child School Attendance
Palestine	PAPFAM	/2006 07	0.005	1.4	37.3	8.8	0.1	3,728	52	10	None
Jordan	DHS	2009	0.008	2.4	34.4	1.3	0.1	6,026	145	10	None
Tunisia	WHS	2003	0.010	2.8	37.1	4.9	0.2	9,722	272	9	Child School Attendance
Syria	MICS	2006	0.021	5.5	37.5	7.1	0.5	18,921	1,041	10	None
Egypt	DHS	2008	0.024	6.0	40.7	7.2	1.0	78,323	4,699	9	Cooking Fuel
Morocco	LSMS	2007	0.048	10.6	45.3	12.3	3.3	31,011	3,287	8	Child Mortality and Floor
Iraq	MICS	2006	0.059	14.2	41.3	14.3	3.1	28,141	3,996	10	None
Djibouti	MICS	2006	0.139	29.3	47.3	16.1	12.5	824	241	10	None
Yemen	MICS	2006	0.283	52.5	53.9	13.0	31.9	21,288	11,176	9	Nutrition
Somalia	MICS	2006	0.514	81.2	63.3	9.5	65.6	8,547	6,940	10	None
Mauritania	MICS	2007	0.352	61.7	57.1	15.1	40.7				

Table B-5

Censored Headcounts to MPI with k=0.2 as the Poverty cut-off

Country	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
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

Proportion of people who are poor and deprived in…

Table B-6

Multidimensional Poverty Index by Subnational Region in the Arab States

Country	Sub-national region	Survey	Year	Multidimensional Poverty Index (MPI) of the Country	Multidimensional Poverty of the Region			Population in Vulnerable and Extreme Multidimensional Poverty	
					Multidimensional Poverty Index(MPI) in the region	Headcount (%) population in multidimensional poverty	Intensity of deprivation among the poor (A)	Population vulnerable to poverty (experiencing intensity of 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	0.2
	Other Districts				0.214	44.0	48.7	13.6	1.8
Egypt	Frontier Governorates	DHS	2008	0.024	0.032	7.7	41.4	8.2	1.9
	Lower Egypt - Rural				0.015	4.1	37.7	4.4	0.6
	Lower Egypt - Urban				0.005	1.5	35.8	0.5	0.1
	Upper Egypt - Rural				0.059	13.8	42.7	19.2	2.6
	Upper Egypt - Urban				0.015	3.8	39.0	4.7	0.7
	Urban Governorates				0.009	2.3	36.5	1.3	0.2
Jordan	Central	DHS	2009	0.008	0.006	1.8	34.4	1.2	0.1
	North				0.010	3.1	34.1	1.8	0.1
	South				0.014	4.1	35.0	0.7	0.3
Mauritania	Adrar	MICS	2007	0.352	0.260	51.7	50.3	21.1	26.2
	Assaba				0.508	82.3	61.8	10.4	64.1
	Brakna				0.416	76.3	54.5	14.0	44.6
	Gorgol				0.572	88.5	64.7	6.9	72.1
	Guidimaka				0.560	90.8	61.7	6.4	71.4
	Hodh Ech Chargui				0.549	91.4	60.1	6.2	69.9
	Hodh El Gharbi				0.472	81.4	57.9	10.5	55.6
	Inchiri				0.169	37.4	45.3	17.0	14.2
	Nouadhibou				0.069	16.4	42.1	15.4	4.0
	Nouakchott				0.147	31.0	47.3	23.9	13.0
	Tagant				0.390	69.3	56.3	11.4	46.9
	Tiris Zemmour				0.104	22.5	46.1	28.9	8.2
	Trarza				0.243	49.2	49.4	18.9	22.1

Table B-7
Details of Headcounts Ratios of Multidimensional Poverty in the Arab States (% 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	9.0	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
	Trarza			27.8	16.6	26.3	12.2	43.3	36.2	19.8	25.5	35.2	28.3

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

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NOTES

1. For adults a weight-for-height index is used, and for children a weight-for-age index.

2. There will be more remarks on the MPI in the following sections.

3. The UAE data show that there is no deprivation in health due to the availability of better health care services. Yet, it is highly deprived in education, which contributed 94 per cent to overall MPI.

4. This subsection draws on Carlos et al. (2013).

5. MPI, being dependent on MICS, DHS and WHS data, has clear bias against males and elderly people and is generally affected by the composition of the households.

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

7. The questionnaire of the fifth round of the Multiple Indicator Cluster Surveys (MICS5) has already been developed through consultations with experts from United Nations organisations, 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>.