

The Challenges of Poverty Measurement in the Arab Region

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Definition of Poverty:

There are many definitions of poverty, according to how it is viewed. Encyclopedia Encarta, defines poverty as the condition of having insufficient resources or income. In its most extreme form, poverty is a lack of basic human needs to sustain as useful and working efficiency such as adequate and nutritious food, clothing, housing, clean water and health services.

According to the Unitpoverty ed Nations Human Development Report, (1998), poverty is defined as a complex phenomenon that generally refers to inadequacy of resources and deprivation of choices that would enable people to enjoy decent living conditions. While Professor Muhammad Yunus (1994) defines it as the denial of human rights relating to the fulfillment of basic human needs.

It is a multifaceted concept, which includes social, economic, and political elements. 1

United Nations: Fundamentally, poverty is the inability of getting choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to, not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation.2

World Bank: Poverty is pronounced deprivation in well-being, and comprises many dimensions. It includes low incomes and the inability to acquire the basic goods and services necessary for survival with dignity. Poverty also encompasses low levels of health and education, poor access to clean water and sanitation, inadequate physical security, lack of voice, and insufficient capacity and opportunity to better one's life. ³ Copenhagen Declaration: Absolute poverty is a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to social services.⁴ The term 'absolute poverty' is sometimes synonymously referred to as 'extreme poverty.'⁵

Poverty Cycle:

Ruby K. Payne, author of A Framework for Understanding Poverty, distinguishes between situational poverty, which can generally be traced to a specific incident within the lifetimes of the person or family members in poverty, and generational poverty, which is a cycle that passes from generation to generation, and goes on to argue that generational poverty has its own distinct culture and belief patterns.⁶

The cycle of poverty has been defined as a phenomenon where poor families become impoverished for at least three generations, i.e. for enough time that the family includes no surviving ancestors who possess and can transmit the intellectual, social, and cultural capital necessary to stay out of or change their impoverished condition. In calculations of expected generation length and ancestor lifespan, the lower median age of parents in these families is offset by the shorter lifespans in many of these groups.

One place where the cycle of poverty is clearly defined is in a book on rural education by Jonathan Sher (1977) in which a focus is on the cycle by which education and employment at the community and individual level interact to create a spiral of disinvestment and decline, while in advancing communities the same factors contribute to growth and well being. For example, at the community level, a lack of employment opportunities leads to outmigration, closing retail stores, and declining local tax revenues, which leads to deterioration of the schools, which leads to poorly trained workers, leading firms not to be able to utilize cutting edge technology and to the inability to recruit new firms to the area, which leads back to a greater lack of employment. This cycle also repeats itself at the individual level. The lack of employment leads to lack of consumption and spending due to inadequate incomes, and to inadequate savings, which means that individuals can not invest in training, and individuals also lack the ability to invest in businesses or to start their own businesses, which leads to lack of expansion, erosion of markets, and disinvestment, all of which contribute back to more inadequate community opportunities. Health problems and the inability to afford preventive medicine, a good diet, and a healthy living environments become reasons the poor fall further behind. The cycle of poverty also means that 14 people who lack ample income fail to invest in their children's education, the children do not learn as well in poor quality schools and they fall further behind when they go to get jobs. They also are vulnerable to illness and poor medical care. A third level of the cycle of poverty is the perspective that individual lack of jobs and

income leads to deteriorating self-confidence, weak motivation, and depression. The psychological problems of individuals are reinforced by association with other individuals, leading to a culture of despair, perhaps a culture of poverty under some circumstances. In rural communities this culture of despair affects leaders as well, generating a sense of hopelessness and fatalism among community leaders.

The Causes and Impact of Poverty:

Global poverty is caused by an international institutional architecture that is shaped by a limited number of countries and large corporations that make the rules regulating trade and finance. These rules are made in their own favor. Poor nations are powerless against these external influences, which results in unequal rules of trade. Discrimination has been found to be a cause of poverty and a barrier to alleviating it.⁷

The International Food Study Institute had a brief on a collection of extensive studies that analyzed the causes of poverty, analyzing household data and reviewing empirical research in 20 countries. They found that some of the major causes of poverty were the inability of poor households to invest in property and education, limited access to credit, in some cases these instances produce more poverty via inherited poverty. The systematic exclusion of ethnic minorities, scheduled castes, tribes, women and people with disabilities and health issues. Persistence of poverty is partially attributed to these classes not having access to institutions and markets.8

War and violence are some of the primary causes of poverty. Political violence and organized crime have affected 39 countries since 2000, in those countries the poverty level is twice that of non-violent countries. These two items, poverty and violence may also feed themselves. When asked why young people joined gangs and rebel groups in half a dozen countries, two thirds of the respondents said that unemployment was their main reason, only one tenth cited a belief in the cause. 9

The Arab countries differ among themselves in many aspects, economically and socially. Important differences are the sectors' structure of the gross domestic product (GDP), per capita income and the population size. Will those differences affect the type of poverty, its main causes and the policy measures applied to combat it? Theoretically, poverty is associated with low income per capita and unequal income distribution. However, with the estimation of poverty level and income distribution in Arab region, it has been found that there is a direct relation between poverty and income per capita, but opposite relation may exist between poverty and income distribution. As has been shown above, income distribution is the worse in Bahrain, where no absolute poverty exists, as compared to Yemen and Egypt that suffer from absolute poverty. This means that the low income per capita is one of the causes of poverty, but it is not necessarily one of the factors affecting the equality or inequality of income distribution. Also, in addition to the low income per capita as one of the causes of poverty, there are other factors which are responsible of poverty in absolute or relative terms. 10

Poverty measurement:

Three ingredients are required in computing a poverty measure. First, one has to choose the relevant dimension and indicator of well-being. Second, one has to select a poverty line, that is, a threshold below which a given household or individual will be classified as poor. Finally, one has to select a poverty measure to be used for reporting for the population as a whole or for a population subgroup only.

A. Defining indicators of well-being

Indicators of well-being include monetary and non-monetary dimensions:

Monetary indicators of poverty:

When estimating poverty using monetary measures, one may have a choice between using income or consumption as the indicator of wellbeing. Most analysts argue that, provided the information on consumption obtained from a household survey is detailed enough, consumption will be a better indicator of poverty measurement than income for the following reasons:

- **Consumption is a better outcome indicator than income**. Actual consumption is more closely related to a person's wellbeing in the sense defined above, that is, of having enough to meet current basic needs. On the other hand, income is only one of the elements that will allow consumption of goods; others include questions of access and availability.
- Consumption may be better measured than income. In poor agrarian economies, incomes for rural households may fluctuate

during the year, according to the harvest cycle. In urban economies with large informal sectors, income flows also may be erratic. This implies a potential difficulty for households in correctly recalling their income, in which case the information on income derived from the survey may be of low quality. In estimating agrarian income, an additional difficulty in estimating income consists in excluding the inputs purchased for agricultural production from the farmer's revenues. Finally, large shares of income are not monetized if households consume their own production or exchange it for other goods, and it might be difficult to price these. Estimating consumption has its own difficulties, but it may be more reliable if the consumption module in the household survey is well designed.

 Consumption may better reflect a household's actual standard of living and ability to meet basic needs.
Consumption expenditures reflect not only the goods and services that a household can command based on its current income, but also whether that household can access credit markets or household savings at times when current income is low or even negative, perhaps because of seasonal variation, harvest failure, or other circumstances that cause income to fluctuate widely.

Nonmonetary indicators of poverty:

Although poverty has been traditionally measured in monetary terms, it has many other dimensions. Poverty is associated not only with insufficient income or consumption but also with insufficient outcomes with respect to health, nutrition, and literacy, and with deficient social relations, insecurity, and low self-esteem and powerlessness. In some cases it is feasible to apply the tools that have been developed for monetary poverty measurement to nonmonetary indicators of well-being. Applying the tools of poverty measurement to nonmonetary indicators requires the feasibility of comparing the value of the nonmonetary indicator for a given individual or household to a threshold, or "poverty line," under which it can be said that the individual or household is not able to meet basic needs.

A few examples of dimensions of well-being for which the techniques could be used include the following:

• Health and nutrition poverty. The health status of household members can be taken as an important indicator of well-being. Analysts could focus on the nutritional status of children as a

measure of outcome as well as the incidence of specific diseases (diarrhea, malaria, respiratory diseases) or life expectancy for different groups within the population. If data on such health outcomes are unavailable, input proxies could be used, such as the number of visits an individual makes to hospitals and health centers, access to specific medical services (such as pre- and postnatal care), or the extent to which children receive vaccinations in time as an input for their future health status.

- Education poverty. In the field of education, one could use the level of literacy as the defining characteristic and some level judged to represent the threshold for illiteracy as the poverty line. In countries where literacy is nearly universal, one might opt for specific test scores in schools as the relevant outcome indicator to distinguish among different population groups. Another alternative would be to compare the number of years of education completed to the expected number of years that, in principle, should be completed.
- Composite indexes of wealth. An alternative to using a single dimension of poverty could be to combine the information on different aspects of poverty. One possibility is to create a measure that takes into account income, health, assets, and education. It is also possible that information on income is unavailable though other dimensions are covered. Describing the various techniques available goes beyond the scope of this chapter, but technical note A.14 describes the use of Demographic and Health Surveys. It is important to note that a major limitation of composite indexes is the difficulty of defining a poverty line. Analysis by quintile or other percentile remains possible, however, and offers important insights into the profile of poverty.

B-Choosing and estimating a poverty line:

Once an aggregate income, consumption, or nonmonetary measure is defined at the household or individual level, the next step is to define one or more poverty lines. Poverty lines are cutoff points separating the poor from the nonpoor. They can be monetary (for example, a certain level of consumption) or nonmonetary (for instance, a certain level of literacy). The use of multiple lines can help in distinguishing among different levels of poverty. There are two main ways of setting poverty lines relative and absolute.

- **Relative poverty lines:** These are defined in relation to the overall distribution of income or consumption in a country; for example, the poverty line could be set at 50 percent of the country's mean income or consumption.
- **Absolute poverty lines:** These are anchored in some absolute • standard of what households should be able to count on in order to meet their basic needs. For monetary measures, these absolute poverty lines are often based on estimates of the cost of basic food needs, that is, the cost of a nutritional basket considered minimal for the health of a typical family, to which a provision is added for nonfood needs. Considering that large parts of the populations of developing countries survive with the bare minimum or less, reliance on an absolute rather than a relative poverty line often proves to be more relevant. Alternative poverty lines are also sometimes used. They can be set on the basis of subjective or selfreported measures of poverty (see box 1.2). Moreover, absolute and relative poverty lines can be combined. This technique allows for taking into account inequality and the relative position of households while recognizing the importance of an absolute minimum below which livelihood is not possible. When deciding on the weight to give to the two lines when combining them, one can use information contained in the consumption or income data and information from qualitative data (if the qualitative data show that people consider a specific good to be a basic need, the elasticity of ownership of that good to income can be used.

The choice of a poverty line is ultimately arbitrary. In order to ensure wide understanding and wide acceptance of a poverty line, it is important that the poverty line chosen resonate with social norms, with the common understanding of what represents a minimum. For example, in some countries it might make sense to use the minimum wage or the value of some existing benefit that is widely known and recognized as representing a minimum. Using qualitative data could also prove beneficial in deciding what goods would go in the basket of basic needs for use in constructing an absolute poverty line.

C-Choosing and estimating a poverty measure:

The poverty measure itself is a statistical function that translates the comparison of the indicator of household well-being and the chosen poverty line into one aggregate number for the population as a whole or a population subgroup. Many alternative measures exist, but the following three measures are the most commonly used:

Incidence of poverty (headcount index)

This is the share of the population whose income or consumption is below the poverty line, that is, the share of the population that cannot afford to buy a basic basket of goods. An analyst using several poverty lines, say, one for poverty and one for extreme poverty, can estimate the incidence of both poverty and extreme poverty. Similarly, for nonmonetary indicators the incidence of poverty measures the share of the population that does not reach the defined threshold (for instance, the percentage of the population with less than three years of education).

- Depth of poverty (poverty gap).

This provides information regarding how far off households are from the poverty line. This measure captures the mean aggregate income or consumption shortfall relative to the poverty line across the whole population. It is obtained by adding up all the shortfalls of the poor (assuming that the nonpoor have a shortfall of zero) and dividing the total by the population. In other words, it estimates the total resources needed to bring all the poor to the level of the poverty line (divided by the number of individuals in the population). This measure can also be used for nonmonetary indicators, provided that the measure of the distance is meaningful. The poverty gap in education could be the number of years of education needed or required to reach a defined threshold (see technical note A.6 for a discussion of this and other examples of the application of poverty measurement tools to nonmonetary indicators). In some cases, though, the measure does not make sense or is not quantifiable (for example, when indicators are binary, such as literacy, in which case only the concept of the headcount can be used). Note also that, as discussed in technical note A.1, the poverty gap can be used as a measure of the minimum amount of resources necessary to eradicate poverty, that is, the amount that one would have to transfer to the poor under perfect targeting (that is, each poor person getting exactly the amount he/she needs to be lifted out of poverty) to bring them all out of poverty.

- Poverty severity (squared poverty gap).

This takes into account not only the distance separating the poor from the poverty line (the poverty gap), but also the inequality among the poor. That is, a higher weight is placed on those households further away from the poverty line. As for the poverty gap measure, limitations apply for some of the nonmonetary indicators.

All of these measures can be calculated on a household basis, that is, by assessing the share of households that are below the poverty line in the case of the headcount index. However, it might be better to estimate the measures on a population basis—in terms of individuals—in order to take into account the number of individuals within each household.

The measures of depth and severity of poverty are important complements of the incidence of poverty. It might be the case that some groups have a high poverty incidence but low poverty gap (when numerous members are just below the poverty line), while other groups have a low poverty incidence but a high poverty gap for those who are poor (when relatively few members are below the poverty line but with extremely low levels of consumption or income). According to the headcount, unskilled workers show the third highest poverty rate, while this group ranks fifth in poverty severity. Comparing them with the herders shows that they have a higher risk of being in poverty but that their poverty tends to be less severe or deep. The types of interventions needed to help the two groups are therefore likely to be different.

Depth and severity might be particularly important for the evaluation of programs and policies. A program might be very effective at reducing the number of poor (the incidence of poverty) but might do so only by lifting those who were closest to the poverty line out of poverty (low impact on the poverty gap). Other interventions might better address the situation of the very poor but have a low impact on the overall incidence (if it brings the very poor closer to the poverty line but not above it).11

Overview of progress of the Arab region:

The region as a whole and all sub-regions are on track with respect to halving the proportion of people below \$1.25-a-day4. It should be noted at the outset that an accurate and up to date assessment of expenditurebased poverty for the Arab region is very difficult to attain, due to the paucity of data and other constraints. However, and despite data limitations, there is sufficient evidence to suggest that poverty has declined (when using the \$1.25 per day measure).

Progress has been achieved in all sub-regions: most notably In the Mashreq, which is close to achieving

Target 1A (Figure 1.1A). It is the Arab LDCs, however, that recorded the most remarkable reductions. These can be mainly attributed to poverty reduction efforts in Yemen and Mauritania up to 2006 (Figure 1.1B). Figure 1.1A also reports the poverty rate for the Arab region based on the \$1.25 poverty line, which was just below 4% before the crisis. This is very low compared to other developing regions. This is corroborated by Figure 1.2 where the region ranks, along with the Transition Economies of Eastern Europe and Central Asia (EE&CIS), as the lowest in the world.

The Arab region has had some success in reducing the proportion of the poorest of the poor. However, this is dependent on the poverty measure5. When using a higher poverty base line, the region's poverty rate dramatically increases from 4 percent to 17 percent. This indicates that poverty – as measured by the international poverty lines – is very shallow in the Arab region, i.e a significantly higher share of the population is clustered not far above the \$1.25 line, making it more vulnerable to economic shocks and other crises. Thus, poverty trends are not homogenous across different poverty lines, as the remarkable progress in poverty reduction observed based on the \$1.25 line is not observed with the \$2.00 and \$2.75. This implies that the Arab region has been successful in reducing the proportion of the poorest of the poor only. However, one has to interpret these results with caution particularly in light of the impact of the rise in food prices since 2006 on LDCs, which is expected to have engulfed the bulk of the poverty reduction gained since 1990.





Source: World Bank POVCAL datasets (in 2005 PPP) and UNDP estimates derived from HIES unit record data.

Notes: Countries included are Egypt (1990 and 2009), Lebanon (1995 and 2005), Syria (1997 and 2007) and Jordan (1990-2005) for Mashreq; Algeria (1995 and 2005), Tunisia (1995 and 2005) and Morocco (1995 and 2005) for Maghreb; and Yemen (1998 and 2006), Comoros (1995 and 2005), Djibouti (1995 and 2005) and Mauritania (1995 and 2005) for LDCs.



Figure 1-2: Proportion of people living on less than \$1.25 (A), \$2.00 (B) and \$2.75 (C) a day in Arab Countries and other Developing Regions, 1990, 1999 and 2005 (Percent)

The international poverty base lines reported above are of limited use in capturing the reality of extreme poverty in Arab countries. A more relevant measure, relates to locally informed measures of what is a poor income6 is the proportion of the population under the national lower poverty line.7 Table 1.1, based on most recent poverty assessment reports, reflects this poverty rate and its trend in twelve Arab countries (comprising almost two-thirds of the Arab population).

Income Poverty Measurement Challenges:

- 1) availability of household survey data which are used to measure welfare, poverty and inequality indicators.
- 2) consistency and accuracy in the measurement of the poverty line.

3) adjustment for household composition and for cost of living differences between geographic areas, countries and over time.

Besides the complexity of concepts involved in specifying the variables relevant for assessing poverty and inequality, one of the major issues is the limited availability of income and expenditure household surveys in the region and the lack of comparability of data across countries and over time. Data compiled for the assessment of poverty and distributional inequality patterns should not only be nationally representative, but also comparable over time and across countries. However, such consistency is hard to achieve in the case of household surveys, where sources of data and methods of collection vary within and across countries. Differences related to (i) the definition of variables used to measure living standards, (ii) the choice of the population units and ranking concept, (iii) the sampling methods and (iv) the treatment of concepts such as imputed rents of owner-occupied housing, in-kind consumption, durable goods, subsidized consumption and aggregate non food items lead to inconsistencies that are difficult to reconcile to some standard definition.

Possible Solutions & Recommendations:

While most national governments use relative measures of poverty for domestic purposes, the United States has systematically calculated poverty estimates based on an absolute poverty line (Fisher 1997). For this reason, some researchers have suggested that the U.S. experience serve as a model for updating and revising methodologies for an international poverty line.

In 1990, a Congressional committee asked the National Academy of Sciences/National Research Council to conduct a study of the official U.S. poverty line and offer recommendations for its revision. A detailed report entitled "Measuring Poverty: A New Approach" was officially submitted and published in 1995. While not all the recommendations of the study panel were implemented, the report no less continues to serve as an important guide for improving poverty statistics in the U.S. and may effectively serve the same purpose for international statistics as well.

Comprised of leading experts in the field from a cross-section of disciplines, one of the first issues tackled was the consideration of what constituted a reasonable goal for the report and for subsequent improvements in the poverty line. From the outset, the study panel decided that it was unreasonable to target a complete change in the use of an absolute poverty line based on income deprivation (although further research into more multidimensional models was encouraged for possible implementation at a later date) (Citro 1995). "Our goal is not to develop the ideal poverty measure on which everyone would agree (which surely does not exist)," the authors stated, "but to propose a measure that is a marked improvement over the current one (Citro 1995, p.22)." The same goal may equivalently be put forth for examining and improving the international poverty line.

In their deliberations, the U.S. study panel decided upon 3 guiding principles that would inform the "adoptability" of an updated poverty line: 1) public acceptability, 2) statistical defensibility, and 3) operational feasibility. These principles may also be used to effectively guide improvements in the international line.

The "relativity of absolute poverty" was a concept that was recognized from the very first days of constructing an official poverty threshold in the U.S. In a January 1965 article, Mollie Orshansky, the first architect of the U.S. poverty line, wrote, "if it is not possible to state unequivocally 'how much is enough,' it should be possible to assert with confidence how much, on an average, is too little (Orshansky 1965)." In the same vein, the 1990 U.S. study panel concluded that they would not aim to determine what was "enough" for an average U.S. family, but rather would seek to establish what could be defined as inadequate to meet basic needs. In their conception, basic needs included food, clothing, and shelter. While it was agreed upon that the poor require other needs as well (e.g. healthcare, transportation), a specific set beyond that which was universally agreed upon raised too many guestions about the consideration of "necessity." To deal with this challenge, a small amount was calculated in by means of a multiplier applied to the "basic needs" of food, clothing and shelter (Citro 1995). In sum, the panel experts recommended that the updated U.S. poverty line be defined as the level of income below which the basic needs of food, clothing and shelter (in addition to a set amount for other necessities) could not be met.

Such an approach would be a marked improvement with regards to RP's first stated concern of developing an international poverty line based on a meaningful conception of poverty. By generally defining the characteristics of what may be considered basic needs (for example, food consumption measured by a certain caloric intake) for the poor while leaving open the specific identification of the commodities required (e.g. rice, wheat, etc.), the international poverty line would become a standard that engenders clear and specific meaning for those working on issues of poverty. Rather than an arbitrary line that lacks definition, the new measure would provide the public with a set of measures that means something, and the same thing, for all people in all places. Specifically, the line would be interpreted as the number of people who could not afford a certain set of basic needs for survival, defined generally to accommodate local tastes and customs (e.g. rice-eating vs. wheat-eating regions).

Having defined the characteristics of a bundle of goods necessary for subsistence, the next task would be to revise the method by which the PPP exchange rate is applied to reflect the goods most likely to be purchased by the poor. As RP point out, the overwhelming majority of goods represented by the PPP index are of no use in the exercise of determining poverty statistics (RP 2002). The poor have no access and no use for most of the luxuries included in the index nor do they reflect the prices that the poor would most likely have to pay for them. A greater effort, therefore, should be put into narrowing the scope of goods represented by the index and in collecting more accurate data as to the real consumer prices of goods relevant to the needs of the poor (RP 2002). What's more, greater attention must be paid to the problem of urban bias when constructing consumer price indices. Often, those collecting consumer price information find it difficult to access markets in rural areas and therefore are left with incomplete or insufficient data from these localities. The indices used to convert PPPs, therefore, likely do not reflect the real prices paid by the rural poor. Indeed, it is thought that the prices paid by the poor in general are much higher than those that are suggested by general consumption PPPs (RP 2002). The issue of urban bias may potentially compound this problem.

To deal with inadequacies of the current PPP exchange rate, Deaton proposes two possible solutions. The first, in line with RP's proposition, is to abandon the current method of basing poverty levels on a general PPP exchange rate, and rather to create a PPP exchange rate that applies specifically to a relevant bundle of goods that meet the needs of the poor. As such, the resulting prices would give greater meaning to the line that is established (Deaton 2000). Deaton notes, however, that this method does not necessarily address the underlying index number issues, and therefore, he also proposes a second method. Alternatively, he suggests, the 1993 poverty lines could be updated to the present and checked against national poverty counts for accuracy (Deaton 2000). In cases where the numbers are clearly questionable, the first method could be employed. Once a set of PPP poverty lines have been locally validated and adjusted as necessary, they would remain fixed over time to provide researchers with an unchanging target against which progress, or the lack of it, could be measured. This would have the clear benefit of freeing poverty estimates from the fluctuations of world commodity prices which, Deaton notes, "effectively change the definition of PPP exchange rates," and whose "shifting basis is an embarrassment, not an advantage (Deaton 2000)." While RP welcome Deaton's proposal as offering a consistent basis for assessing poverty by providing a fixed target, they emphasize the need to incorporate both of his proposals by defining an underlying conception of poverty (vis-à-vis specification of a basic needs commodities bundle) while concomitantly fixing a relevant PPP exchange rate for the purposes of comparison over time and space (RP Reply 2002)

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