Poverty in the Arab Region: A Selective Review*

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Abstract*

The paper provides a stock taking of our current knowledge on poverty in five Arab countries: Egypt, Jordan, Morocco and Tunisia, representing middle income countries; and Yemen, representing low income countries. It draws on the most recent results on poverty based on high quality data. For all countries, except for Jordan, it is noted that the cost of basic needs approach to the estimation of poverty lines is used including the estimation of the non-food component by Engel curves; and except for Jordan, such an approach gave rise to lower and upper poverty lines. The paper also notes that for almost all countries an attempt has been made to decompose observed changes in poverty over time using the conventional Datt-Ravallion method. On the basis of the review tha paper concludes that our knowledge base about poverty in the region is fairly decent, despite conflicting results and sometimes incomplete information.

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I. Introduction:

This paper is written in the context of a research project on "public policy and poverty reduction in the Arab region". The recent resurgence of interest in matters relating to poverty reduction is due to the articulation of the Millennium Development Goals (MDGs) by the United Nations in the context of its Millennium Summit held in New York 2000. Prior to the Millennium Summit poverty reduction goals were articulated by the OECD in the form of the International Development Goals (IDGs). In this respect, and in a foreword to the report titled "A Better World for All", the representatives of the international community declared that poverty "in all its forms is the greatest challenge to the international community. Of special concern are 1.2 billion people living on less than $1 a day and the additional 1.6 billion living on less than $2 a day. Setting goals to reduce poverty is an essential part of the way forward". The "foreword" is signed by Mr. Kofi Annan, the Secretary-General of the United Nations (UN); Mr. Donald J. Johnston, the Secretary-General of the Organization for Economic Co-Operation and Development (OECD); Mr. Horst Kohler, the Managing Director of the International Monetary Fund (IMF); and Mr. James D. Wolfenson, the President of the World Bank Group (see the website: www.paris21.org/betterworld).

According to the United Nations (2002: 8) the "development goals set out in the Millennium Declaration express the resolve of the world's political leaders to free their fellow men, women and children from the abject and dehumanizing conditions of extreme poverty, to make the right to development a reality for everyone, and to free the entire human race from want"[1]. In the UN analysis the world is divided in such a way that one sixth of humanity has achieved levels of well-being that are very affluent by any standard. At the other extreme, another one sixth of humanity "struggles for daily survival, in a life-and-death battle against disease, hunger and environmental catastrophe". An estimated four billion people live in between these two extremes of affluence and poverty, but their standards of living are judged to be relatively far below those enjoyed by the affluent group of countries.

In addition to the reduction of the proportion of people living below one US$ a day per person by half by the year 2015, five broad goals for social development have been identified. These include: the attainment of "universal primary education in all countries by 2015"; elimination of "gender disparity in primary and secondary education by 2005"; "the death rates for infants and children under five years should be reduced in each developing country by two thirds between 1990 and 2015"; "the rate of maternal mortality should be reduced by three quarters between 1990 and 2015"; and, "access should be available through the primary healthcare system for all individuals of appropriate ages, no later than 2015".

[1] See UN (2002), Implementation of the United Nations Millennium Declaration: Report of the Secretary-General; report no. A/57/270; page 8; www.un.org.

A seventh goal on environmental sustainability requires that "there should be a current national strategy for sustainable development, in the process of implementation, in every country by 2005, so as to ensure that the current trends in the loss of environmental resources are effectively reversed at both global and national levels by 2015". A final MDG is formulated for forging a global partnership for development.

The $1 and $2 a day per person noted by the representatives of the international community are known, in the dominant approach to the measurement of poverty, as the international poverty lines. The 1.2 and 1.6 billion people express the incidence of poverty in terms of the number of poor people. As a proportion of total population these numbers become the poverty head-count ratio. The goals under social development have to do with looking at poverty as capability deprivation; and all the goals taken together have to do with the quality of human lives. Section (II) of this chapter will present a brief review of the various approaches to the measurement of poverty with emphasis on the dominant methodology.

Section (III) presents evidence on the diversity of Arab countries and notes that, in the context of the dominant methodology to the measurement of poverty, the six Gulf Cooperation countries are not likely to have a poverty problem to speak of. The remainder of Arab countries comprise middle, and low, income countries where poverty could present a development problem that needs addressing by public policy. Six of these countries have been identified for study under this project: Egypt, Jordan, Morocco and Tunisia, representing middle income countries; and, Sudan and Yemen, representing low income countries.

Section (IV) deals with issues relating to inequality in the distribution of income in the Arab region. On average, and compared to other regions of the developing world, it is shown that the Arab region boasts a degree of inequality in the medium range. Over time, however, the evidence shows a declining trend in inequality in the region. Section (v) presents the evidence on poverty on the basis of international estimates of poverty in the Arab region. According to these estimates the region boasts the lowest degree of incidence of poverty. These estimates, it is noted, do not seem to conform of casual observations.

Section (VI) presents estimates of poverty based on national poverty lines for the Arab countries for which such information is available. As will become clear such results are reported for all six Arab countries in the project, except Sudan for which no high quality data is as yet available due to the civil war of 1983-present. Section (VII) offers some concluding remarks in response to the question: what do we know about poverty in the Arab region?

II. Methodological Issues:

2.1. Approaches to the Study of Poverty:

Three broad approaches to the measurement, and study, of poverty can be distinguished. The most widely used approach is the quantitative, money metric, approach. This approach looks at the issue of poverty in the context of welfare comparisons where welfare is defined on income or consumption expenditure as reflecting the standard of living enjoyed by individuals. Detailed discussion of this approach will follow in sub-section (3.2) below.

The second approach is that of capability which broadens the concept of the welfare of an individual to include fundamental freedoms in addition to the commodity dimension of welfare. The third approach is one that searches for the meaning of poverty by asking the poor themselves and is known as the participatory poverty assessment approach. A few comments on these two approaches are in order.

Descriptive poverty studies make a lot of use of the aggregate correlates of poverty such as life expectancy at birth (as a proxy for health status in a society) and school enrolment ratios (as a proxy for educational achievements). The use of these aggregate measures can be justified on a theoretical basis by resorting to Professor Sen's concepts of entitlements, capabilities and achievements. In contrast to the dominant approach to the measurement of poverty, which takes per capita consumption as the relevant indicator of the standard of living, the capability approach takes various kinds of freedom as the relevant indicators of the standard of living. In a recent articulation of this approach it is noted that "in analyzing social justice, there is a strong case for judging individual advantage in terms of capabilities that a person has, that is the substantive freedoms he or she enjoys to lead the kind of life he or she has reason to value. In this perspective, poverty must be seen as the deprivation of basic capabilities rather than merely the lowness of incomes"[2]. Deprivation of elementary capabilities can be reflected in, among others, premature mortality, under-nourishment, morbidity and illiteracy. An example of applying such an approach is to be found in the Human Development Index of the UNDP.

In its relation to the dominant approach to poverty analysis, it is perhaps important to note that the capability approach does not deny that "deprivation of individual capabilities can have close links to the lowness of income, which connects in both directions: (1) low income can be a major reason for illiteracy and ill health as well as hunger and malnutrition, and (2) conversely, better education and health help in the earning of higher income"[3]. This type of relationship between the two prompted the observation that they are complementary[4].

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[2] Sen (1999:87).

[3] Sen (1999: 19).

[4] See Ravallion (1998).

Having noted the above on the capability approach to poverty analysis we can now turn to the participatory approach to the study of poverty. This approach was popularized largely by the work of development practitioners who were involved in assessing development projects at the field level[5]. The basic premise underlying this approach is that the poor know more than anybody else about their realities, priorities and most of all the remedies to get out of the poverty trap. As a result, the information collection process differs substantially from that of representative household surveys on which the money metric approach relies. Thus under this approach it is the poor who are involved in providing non-quantitative information about poverty in the selected community through graphic presentation, anecdotes, social mappings, case stories, life histories, and local history.

Perhaps the most extensive application of this approach was the study undertaken by the World Bank in preparation for the "World Development Report 2000/2001: Attacking Poverty". The study brought together experiences of over 60 thousand poor women and men from 60 countries around the world. The results of the study have been published in three volumes[6]. The results are hailed as demonstrating the multidimensional nature of poverty in the sense that "when poor people speak about well-being they speak about material, social, physical, psychological, and spiritual dimensions, in addition to security and freedom of choice and action. Conversely, poverty and ill-being are the lack of material well-being, insecurity, social isolation, psychological distress, and lack of freedom of choice and action"[7].

Despite the richness of the participatory approach to poverty assessment, however, a careful reading of the selected quotations from poor people around the world would show that material deprivation was central to the perceptions of poor people about the nature of poverty[8]. In a technical sense, therefore, the social, physical, psychological, insecurity, and lack of freedom of choice and action dimensions of poverty can be viewed as functions of the standard of living as summarized by mean per capita consumption in a given society. Thus an analytical framework based largely on the dominant money metric approach to the study, and measurement, of poverty is not likely to wildly off the mark.

[5] For the origin of the participatory approach to development see, among others, Chambers (1994 and 1997) and Blackburn and Holland (1998-a and b).

[6] See Narayan et al (2000-a and b) and Nararyan et al (1999).

[7] Narayan (2000).

[8] For a application of this approach in an Arab country see El-Issawy (1998) who applied a version of the approach to the case of Egypt.

2.2. Poverty Measurement:

We note at the outset of this sub-section that a vast technical literature that has developed[9] in the context of the dominant money-metric approach to poverty measurement. As such, therefore, the following discussion will be highly selective emphasizing a number of issues that are directly relevant to the review of the results on poverty in the Arab region.

As is well known, under the money metric approach, the first step taken towards measurement is to agree on a relevant measure for the standard of living. A relevant standard for countries in the developing world is per capita consumption expenditure (including the consumption of own production). In advanced countries it is income that is taken as the relevant measure of the standard of living. Given agreement on the measure of the standard of living, there are a number of methods to determine the threshold of deprivation below which a person can be identified as poor. This threshold is commonly known as the poverty line.

There is general agreement that the relevant method for determining poverty lines for developing countries is the cost of basic needs. This method involves identifying a typical diet for the poor that is necessary for leading a healthy life. Healthy life is defined in terms of nutritional requirements using WHO and FAO nutritional requirements (recommended daily allowances e.g. 2500 calories per adult per day). Required quantities of the goods supplying the required calories are appropriately priced to arrive at a monetary value defining a food poverty line. By adding to this amount the cost of other requirements needed by individuals to live in a social context (e.g. the cost of clothing, shelter, education and medicine) an overall poverty line can be estimated[10].

While the international debate has been conducted in terms of a fixed poverty line (e.g. $1 dollar per day) applied to all countries and over time, there is increasing realization that poverty lines should vary among countries depending on the level of development. This is tantamount to saying that, in general, the poverty line will be expected to be a function of the standard of living. Indeed, allowing the poverty line to change with the

[9] Sen (1976) pioneered the theory of poverty measurement by identifying a set of axioms that need to be satisfied by poverty measures. The literature that followed is indeed extensive as reviewed by Zheng (1997 and 2000). In Zheng (2000) seventeen axioms and sixteen poverty are identified. Of the sixteen poverty measures four are found to satisfy all seventeen axioms (these are the Foster-Greer-Thorbecke (1984), Watts (1968), and Hagenaars-Dalton measure and Hagenaars (1987)); two are found to satisfy sixteen out of the seventeen axioms (these are the Chakravarty (1983) ethical measure and the Clark, Hemming and Ulph (1981) sub-group consistent measure). At the other extreme, the head-count ratio is found to satisfy eight axioms while the poverty-gap ratio is found to satisfy eleven axioms.

[10] Note that this method was applied rigorously since the turn of the 20th century in the famous contribution of Rowntree (1901), but the concept itself would be as old as when people started worrying about poverty.

standard of living has been the practice in Europe in contrast to the practice in the US where the poverty line was held fixed for a long period of time[11].

Having obtained the poverty line, an immediate measure of poverty is the ratio of the poor thus identified to the total population in a given society. This is the well-known head-count ratio. It is the most widely used, and easily understood, measure of poverty. Thus, for example, the international development goal on poverty is to reduce the head count ratio to half its current level by the year 2015. The head-count ratio measures the spread, or incidence, of poverty in a given society. Another useful poverty measure is the poverty-gap ratio, which takes into account the extent to which consumption of the poor falls below the poverty line. It measures the depth of poverty in a society. Using the head-count ratio and the poverty-gap ratio together one can immediately obtain the average income of the poor[12]. As is well known these two measures are special cases of a general class of additively separable poverty measures. The Foster-Greer-Thorbecke, FGT, measure is given by[13]:

(1) $P_\alpha = 1/n \sum [(z - y_i)/z]^\alpha$;

In the above equation the summation is over q poor people, n is total population, z is the poverty line, y_i is the consumption expenditure of the i^{th} poor person, and α is a non-negative poverty aversion parameter. When $\alpha=0$ the equation gives the head-count ratio denoted by P_0 or H and is given by:

(2) $P_0 = H = q/n$

When $\alpha=1$ the equation gives the poverty-gap ratio, denoted by P_1 and is given by:

(3) $P_1 = H (1 - y_p/z)$

Where y_p is the mean consumption expenditure of the poor. Note that with equations (2) and (3) the average consumption expenditure of the poor can easily be calculated as:

(4) $y_p = z (1 - P_1/ H)$

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[11] See Atkinson (1999) for the practice in Europe, and Citro and Robert (1995) for the debate on the desirability of allowing the poverty line to change with the standard of living in the US . In a recent comment Streeten (2001: 89) notes that poverty lines "are dynamically defined and rise with rising average incomes". Moreover, he argues that it is important to "note that not all poverty resulting from rising average incomes is relative; absolute poverty can also result from higher average incomes". Ravallion (1998) provides a microeconomic foundation for a poverty line that changes with income where the utility function of a representative agent is defined on own income and the ratio of own income relative to mean income. Also see Foster (1998).

[12] For the technical formulation of these measures see equations (2) and (3) below.

[13] See Foster, Greer and Thorbecke (1994).

The average consumption expenditure of the poor can also be used as an alternative measure of the depth of poverty.

To be able to identify the poor information on the distribution of consumption expenditure, or income, in the society is needed. This information is usually obtained from household budget, or expenditure, surveys. Such surveys, like population censuses, are very expensive to conduct in a rigorous fashion and as a result such information is usually lacking in developing countries, especially on a time series basis (but India is an exception in this regard). For Africa such information has only recently been made available for a limited number of countries.

In general, any poverty measure (call it P) could be expressed as depending on mean consumption expenditure in society, the poverty line and on a measure of the underlying inequality in the distribution of consumption. Thus, in general form any poverty measure can be expressed in the following form:

$$(5)\quad P = P(z, \mu, \theta) = P(\mu/z, \theta)$$

where μ is mean consumption expenditure, z is the poverty line and θ is a measure of the inequality in the distribution of consumption expenditure usually taken as the Gini coefficient. The theoretical restrictions on the above general form are such that as per capita consumption increases (poverty line declines), other things remaining the same, poverty declines. Similarly, as inequality in the distribution of consumption expenditure declines, other things remaining the same, poverty declines. Note that in this general formulation if the poverty line changes by the same rate of change as mean consumption expenditure, other things remaining the same, poverty does not change[14]. Note also that if the poverty line is set as a constant proportion of mean consumption expenditure, then poverty changes will only depend on the change in the distribution of consumption expenditure[15].

In the context of the above general form of the poverty measure the percentage change in poverty over time, G(P) can easily be derived. Clearly if the poverty line does not change over time, then percentage changes in poverty will depend on the growth rate of per capita income and the percentage change in the Gini coefficient, each appropriately weighted by the elasticity of the poverty measure with respect to each of them. For generality, however, we assume that the poverty line is a function of per capita income with an elasticity of ε, which ranges between zero and unity. Using the second equality in equation (5) it is an easy matter to establish that the percentage change in poverty is given by the following equation:

$$(6)\quad G(P) = (1-\varepsilon)\,\eta\, G(\mu) + \nu\, G(\theta) = \eta^*\, G(\mu) + \nu\, G(\theta)$$

[14] This is the property of zero homogeneity of the poverty measure with respect to mean consumption expenditure and the poverty line. This property is thought to hold for most of widely used poverty measures.

[15] This can easily be established by direct substitution in equation (5).

where η and ν are the elasticities of the poverty measure with respect to per capita income and the Gini coefficient respectively, and where $\eta^* = (1-\varepsilon)\,\eta$ is the poverty line adjusted elasticity of the poverty measure with respect to per capita income. Equation (6) gives a general formulation for the decomposition of the percentage change in poverty into a growth component and a distribution component.

If, as seems reasonable for developing countries, it is assumed that the Gini coefficient is a function of per capita income along the lines of the famous Kuznets' hypothesis, then $G(\theta)$ can be expressed in terms of the rate of change in per capita income and a Kuznets elasticity, κ. As is well known the Kuznets' hypothesis asserts that at early stages of development, represented by a low per capita income, the degree of inequality in the distribution of income tends to increase with the increase in per capita income before it begins to decline[16]. This immediately implies that the Kuznets elasticity is expected to be positive at early stages of development (i.e. for low per capita incomes) and negative at later stages of development (i.e. for high per capita incomes). The turning point for the Kuznets curve (i.e. the per capita income level beyond which inequality begins to decline) can be estimated. On the basis of this the percentage change in poverty given by equation (6) can be written as follows:

$$(7) \quad G(P) = (1-\varepsilon)\,\eta\, G(\mu) + \nu\,\kappa\, G(\mu) = [\,\eta^* + \nu\,\kappa]\, G(\mu)$$

Seventh, if it is believed that the inequality in the distribution of consumption expenditure, and the poverty line, depend on mean consumption expenditure in society, then a powerful, yet simple, relationship between poverty and economic growth can be established. Note that in this case the poverty measure will be given by:

$$(8) \quad P = P(\mu/z, \theta) = P(\mu/z(\mu), \theta(\mu)) = P(\mu)$$

This relationship says that changes in poverty over time can always be calculated as a product of the elasticity of poverty with respect to mean consumption expenditure, after taking into consideration changes in the distribution of consumption expenditure, and the rate of change in mean consumption expenditure. The percentage change in poverty over time is given by:

$$(9) \quad G(P) = \gamma\, G(\mu)$$

The elasticity involved, γ, is the "growth elasticity of poverty" and it can be estimated or calculated. Such a relationship is important for the purposes of looking at the goal of poverty reduction over time.

[16] For the Kuznets' hypothesis see Kuznets (1955). For the empirical literature see Ahluwalia (1976), Ananad and Kanbur (1993-a & b), Jha (1996), Fishlow (1996), Sarel (1997), Bulir (1998), Bruno, Ravallion and Squire (1998), Millanovic (1999) and Barro (2000). Except for Bruno et al (1998) and possibly Ananad and Kanbur (1993), all others established the existence of a Kuznets curve.

2.2. Measuring Pro-Poor Growth:

In a recent paper Kakwani and Pernia (KP) (2000) proposed a measure for pro-poor growth based on a decomposition methodology similar to that presented by equation (6) above. Two major differences between equation (6) and the approach followed by Kakwani and Pernia (2000) need to be noted. The first is that while equation (6) presents the decomposition in a continuous fashion, Kakwani and Pernia work out their proposed formula for percentage changes in poverty between two periods. This not a major difference in view of the fact that the continuous changes in equation (6) can easily be translated into appropriate discrete changes for two periods. The second difference is that KP assume that the poverty line is fixed at the initial period's level and thus does not change over time. This is a major difference in view of the fact that keeping the poverty line fixed over time tends to underestimate poverty in growing economies and to overestimate it in declining economies, for a given distribution of expenditure. In technical terms such a procedure implies that the elasticity of the poverty line with respect to per capita income is zero and hence $\eta^* = \eta$.

Thus, without getting involved in the details of KP derivation what needs to be noted is their definition of the index of pro-poor growth, Φ, as the ratio of the growth elasticity of poverty to the partial elasticity of the poverty measure with respect to per capita income as follows:

$$(10) \qquad \Phi = [\gamma / \eta^*] = [(\eta^* + \nu \kappa)/ \eta^*] = [1 + (\nu \kappa/ \eta^*)]$$

Recalling the fact that (η^*) is negative, it is noted that the value of the index will be greater than unity if ($\nu\kappa$) is negative, "which means that growth is strictly pro-poor" (KP (2000: 13). Without claiming too much for our alternative decomposition methodology it needs to be noted that in KP the reason for why ($\nu\kappa$) should be negative is not explicitly noted. In equation (10) the obvious reason for this to be the case is that the country in question is on the declining arm of a Kuznets curve such that the Kuznets' elasticity, κ, is negative.

KP (2000: 13) suggest ranges for judging the degree of pro-poor growth according to the value of the index: negative values imply that growth is anti-poor; positive values that are equal to or less than 0.33 imply that growth is weakly pro-poor; values in excess of 0.33 and equal to, or less than, 0.66 imply that growth is moderately pro-poor; values in excess of 0.66 but less than unity imply that growth is pro-poor; and, values equal to, or in excess of, unity imply that growth is highly pro-poor.

Given KP's definition of the index it is not very clear why is this a measure of pro-poor growth. Note the index is defined on the basis of the total percentage change in poverty relative to the partial percentage in poverty as a result of a percentage change in per capita income. The elasticities defining these percentage changes relate to the fundamental determinants of poverty and hence relate to the nature of poverty in the country rather than to the nature of the growth process taking place. In defining the fundamental relationship of a poverty measure it is already required that growth is

expected to reduce poverty, for a given distribution. The total change in poverty captures not only the effect of growth but also that of distribution inclusive of the effect of growth on the distribution itself. Once again this total effect relates to structural characteristics of poverty or the economy in question.

III. Diversity of the Arab Countries:

The Arab countries have very diverse characteristics in such key areas as the structures of economies, level of development, geographic location, and type of governance and institutions. To highlight the economic diversity of the region, ERF (1998) grouped the countries of the region into four broad categories[17]: mixed oil economies (MOE: Algeria, Iraq and Libya); Oil Economies (OE), which include the countries of the Gulf Cooperation Council of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE; diversified economies (DE: Egypt, Jordan, Lebanon, Morocco, Syria and Tunisia); and, primary export economies (PEE: Comoros, Djibouti, Mauritania, Somalia, Sudan and Yemen)[18].

Excluding Comoros and Somalia, the 2001 distribution of population and GDP (at current prices) over these country groups is shown in table (1). The table shows that DE accounted for 46.5% of population and 26.6% of GDP; MOE accounted for 22.7% of population and 23.6% of GDP; PEE accounted for 19.4% of population and only 3.3% of GDP; while OE accounted for only 11.5% of population and 46.5% of GDP. Intra-Arab diversity is also captured by differences in per capita GDP for 2001. Not surprisingly, OE ranks top on this scale with a per capita GDP of about US$10.3 thousand, followed by MOE (US$2.7 thousand). DE ranks third with a per capita GDP of US$1.5 thousand while PEE's per capita GDP amounted to only US$408. The same diversity is captured by per capita private consumption expenditure (PCE per capita) for 2001. For the OE PCE per capita amounted to about US$4.1 thousand, implying an expenditure of US$11.2 per person per day, while that for MOE amounted to US$1.4 thousand (US$3.8 per person per day). For the DE PCE per capita amounted to US$1.1 thousand (implying a per person per day expenditure of about US$2.9), while for the PEE group PCE per capita amounted to US$328 (US$0.9 per person per day).

[17] For lack of adequate data at the time Palestinian territories, Somalia and Comoros were not included in the classification. We note in passing that such a classification scheme remains arbitrary but can be useful for the purposes of the analysis.

[18] Such classification is slightly different from that used by the World Bank in its World Development Reports which uses gross national income (GNI) per capita. High income group is that with GNI per capita of US$9.2 thousand or more (Bahrain, Kuwait, Qatar, and UAE); upper middle income group is that with GNI per capita range between about US$3.0-US$9.2 thousand (Lebanon, Libya, Oman, and Saudi Arabia); lower middle income group is that with GNI per capita in the range US$0.75-US$ 3.0 thousand (Algeria, Djibouti, Egypt, Iraq, Jordan, Morocco, Syria, Tunisia, and Yemen); and, low income group is that with GNI per capita of about US$0.75 thousand or less (Comoros, Mauritania, Somalia, and Sudan). See, for example, World Bank (2003: 243).

Table (1) : Population, GDP and Private Consumption Expenditure in Arab Countries 2001

Country /Country Group	Total Population (million)	Population Share (%)	GDP (US$ billion)	GDP Share (%)	Per Capita GDP (US$)	Private Consumption Expenditure (PCE: US$ billion)	Per Capita PCE (US$)
Egypt	64.7	23.23	91.1	12.80	1408	70.8	1094
Jordan	5.2	1.87	8.8	1.24	1692	6.5	1250
Lebanon	3.8	1.37	16.7	2.35	4395	13.1	3447
Morocco	29.2	10.49	33.5	4.71	1147	20.5	702
Syria	16.8	6.03	19.2	2.70	1143	13.1	780
Tunisia	9.7	3.48	20.1	2.83	2072	12.1	1247
Diversified Economies	**129.4**	**46.46**	**189.4**	**26.62**	**1464**	**136.1**	**1052**
Algeria	32.9	11.81	54.7	7.69	1663	23.8	723
Iraq	24.5	8.80	81.0	11.38	3306	48.0	1959
Libya	5.8	2.08	32.1	4.51	5535	15.8	2724
Mixed Oil Economies	**63.2**	**22.69**	**167.8**	**23.58**	**2655**	**87.6**	**1386**
Bahrain	0.7	0.25	7.9	1.11	11286	3.8	5429
Kuwait	2.2	0.79	32.8	4.61	14909	15.7	7136
Oman	2.4	0.86	20.0	2.81	8333	8.2	3417
Qatar	0.6	0.22	16.2	2.28	27000	3.3	5500
Saudi Arabia	22.8	8.19	186.5	26.21	8180	68.3	2996
UAE	3.3	1.18	67.8	9.53	20546	31.5	9546
Oil Economies	**32.0**	**11.49**	**331.2**	**46.54**	**10350**	**130.8**	**4088**
Djibouti	0.7	0.25	0.6	0.08	857	0.4	571
Mauritania	2.7	0.97	1.0	0.14	370	0.8	296
Sudan	31.6	11.35	12.5	1.76	396	10.5	332
Yemen	18.9	6.79	9.1	1.28	482	6.0	318
Primary Export Economies	**53.9**	**19.36**	**23.2**	**3.26**	**430**	**17.7**	**328**
Total	**278.5**	**100.00**	**711.6**	**100.00**	**2555**	**372.2**	**1336**

Source: League of Arab States et al (2002: annex tables 2.5, p. 237; and 2.7, p. 239).

Within each group per capita PCE varies also. Thus, for example, for OE the highest PCE per capita is recorded for United Arab Emirates (US$26.2 per person per day) while the lowest is recorded for Saudi Arabia (US$8.2 per person per day). In the MOE the highest PCE is recorded for Libya (US$7.5 per person per day) while the lowest is recorded for Algeria (US$2 per person per day). The DE group also records a wide variation with five countries having an average PCE that varies between US$3.4 to US$1.9 per person per day while Lebanon had an average of US$9.4 per person per day, with the lowest US$1.9 average recorded for Morocco.

Using the above information on PCE per capita, the indicative international poverty lines of one and two dollars per person per day, and pending further information on the distribution of PCE in the various countries, it is reasonable to expect that poverty, appropriately defined, should be expected to pose a development problem in all of the Arab countries of the DE group, the PEE group and possibly Algeria of MOE group. Six of these countries have been selected for the study of public policy and poverty reduction in the Arab region: Egypt, Jordan, Morocco, Sudan, Tunisia and Yemen. In what follows emphasis will be on these six countries as representing the Arab region.

IV. Inequality in Distribution of Consumption Expenditure:

As a prelude to the discussion of poverty in the Arab region, it is perhaps important to look at the degree of inequality in the distribution of consumption expenditure and its development over time in the region. Using the Gini coefficient, and based on the most recent available high quality data, table (2) reports a comparison among world regions. The table, adapted from Deininger and Olinto (2002), adopts the standard World Bank classification of world regions. The Middle East and North Africa region of the World Bank is represented in the Deininger and Squire (1996) high quality data set by six Arab countries. The table summarizes the degree of inequality for various regions over five five-year periods (1966-1990) and as such it provides a highly aggregated picture. Nonetheless, it will be helpful to compare the Arab region with regions in the world in terms of the level and trend of income inequality.

Table (2): Income Inequality in the Arab Countries and World Regions 1966-1990 (Gini Coefficients in percentages)

Region	Number of Countries	1966-70	1971-75	1976-80	1981-85	1986-90
Arab Countries	6	43.67	41.65	41.90	42.95	38.17
East Asia and Pacific	9	37.26	38.89	38.53	38.60	40.04
Latin America	17	57.24	50.93	49.77	49.06	50.16
North America	2	35.61	35.28	35.91	35.12	36.54
South Asia	4	33.30	33.32	35.37	36.68	33.57
Sub-Saharan Africa	7	39.00	-----	44.00	41.21	35.75
Western Europe	15	37.09	34.88	30.82	29.74	30.83
Sample	60	40.63	39.32	38.51	36.91	38.58

Source: Deininger and Olinto (2002: 23, table (1)).

The table shows that the Arab countries, as a group, ranked second to Latin America as the highest inequality region for the first two sub-periods as well as for the 1981-85 sub-period. During the sub-periods 1976-80 and 1986-90 the region ranked as the third highest inequality region. This is reflected in an average Gini coefficient for the distribution of consumption expenditure of about 44% compared to one of 57% for Latin America for the first sub-period. For the sub-period 1986-90 the Arab region's Gini coefficient of about 38% was the third highest with East Asia and the Pacific region ranking second highest (with a Gini coefficient of about 40%) and Latin America ranking as the highest inequality region (with a Gini coefficient of about 50%). We hasten to note that such comparison has to acknowledge the fact that for all regions, except Latin America and Western Europe and North America, the Gini coefficients are based on consumption expenditure rather than income. In this respect it is known that the distribution of expenditure is generally more equal than the distribution of income. Indeed Deininger and Squire (1996) advise researchers to upward adjust their expenditure

based Gini coefficients by 6.6 percentage points to make them comparable to those based on income. Making such an adjustment, however, does not change the ranking of the regions. Making the adjustment the Gini coefficient of the distribution of income in the Arab countries becomes 50% for the first sub-period and about 45% for the last, which reflects a fairly high degree of inequality in the distribution of income[19].

In terms of inequality trends, the table shows that inequality in the Arab region recorded a declining trend with a decrease in the Gini coefficient from about 44% in the first sub-period to about 38% in the last sub-period, with a slight increase during the period 1971-1985. Declining inequality trends are reported for Latin America, Sub-Saharan Africa and Western Europe while increasing inequality trends are reported for East Asia and the Pacific and North America. Inequality in South Asia remained virtually the same. Noting that these results are based on averages over countries and that the Gini coefficient is not additively separable, the above should be interpreted with caution. However, the trend of declining inequality for Arab countries is confirmed by detailed official country information.

For five of the six Arab countries in this project recent information confirms the above trends. Thus, for example, El-Laithy, Lokshin and Banerji (2003: 24, table 3) report that the Gini coefficient for the distribution of consumption expenditure increased from 34.5% in 1995/96 to 37.8% in 1999/2000, thus recording an annual rate of increase of 2.31 percent per annum. For Jordan it is reported that the Gini coefficient declined from 40% in 1992 to 36.4% in 1997 thus recording an annual rate of decline of 2.33 per cent. Both these changes in the Gini coefficient can be considered quantitatively significant. By contrast, the changes for Morocco and Tunisia are quantitatively insignificant where for Morocco the recorded annual rate of increase is 0.13 per cent (from a Gini of 39.3% in 1990/91 to 39.5% in 1998/99) and where for Tunisia the recorded annual rate of decline is 0.48 percent (from a Gini of 41.7% in 1995 to 40.9% in 2000).

For both sets of countries, and given the short periods of time over which the above changes in the distribution of expenditure have occurred, and given the fact that the underlying structural factors affecting inequality are not likely to have undergone drastic changes over the same period, it is open to empirical investigation as to what might have caused such changes. One possible hypothesis worthy of testing is that perhaps changes in macroeconomic policy may be the cause. Almost all of these countries have experienced such macro policy changes during the indicated time periods. However, the precise ways in which macro policy changes affect income inequality are not theoretically well known, though the design and content, of most policy packages would suggest that their influence would be to worsen the state of expenditure distribution. An

[19] It needs to be cautioned that such average comparisons are sensitive to the countries included in the sample and they should only be used as indications. Moreover, due to the fact that the Gini coefficient is not additively separable it is very difficult to compare their averages over countries. Alternative methodologies compute inequality measures from decile observations from various countries of a given region as will be noted below.

important component of these macroeconomic policy packages is that of trade policies designed to increase the degree of openness of these countries to the global market[20].

V. International Estimates of Poverty in the Arab Countries:

The most recent estimates on poverty in the Arab region are reported by Chen and Ravallion (2000; hereinafter CR). Drawing on a sample of 265 national sample surveys from 83 countries, CR reported poverty results for the Arab region (in their terminology the Middle East and North Africa region). The most important methodological points to note about these new results are the following:

(a) the paper provides poverty estimates for the years 1987, 1990, 1996 and 1998 where all poverty and inequality measures are estimated from the primary survey data;

(b) the estimates are based on consumption figures in 1993 purchasing power parity (PPP) produced by the World Bank and based on the 1993 International Comparison Project (IPC). On the basis of this an international poverty line in 1993 PPP is specified as the median of the lowest ten poverty lines in the poverty lines data set of Ravallion et al (1991) following the updating of the national poverty lines to the new PPP base. The updated poverty line is found to be $32.74 per person per month, or about $1.08 per person per day. The poverty line is kept constant over time[21];

(c) to estimate regional poverty at a given reference year surveys are lined up in time. For countries with one survey the Lorenz curve is assumed to remain unchanged and is used for all comparison years. When the reference date is between two surveys an appropriate weighted average poverty rate is estimated using the available information. Estimates for 1998 assume that the Lorenz curves remain unchanged for all countries that do not have a 1998 survey; and,

(d) in a significant departure from the 1991 results the authors report poverty results where the poverty line is allowed to change with income (but see Ravallion (1998)). The justification for reporting relative poverty results is given as the recent work by Atkinson (1998) and Atkinson and Bourguinon (1999). The

[20] For a possible explanation of the declining trend see Page and van Gelder (2002).

[21] On the updated 1993 poverty lines and consumption levels a regression model for the poverty line as a function of consumption expenditure was run with a new format as follows:

$$\ln z = \underset{(40.5)}{3.46} + \underset{(6.54)}{0.004}\,(c - c_{min}) - \underset{(-2.81)}{0.00000156}\,(c - c_{min})^2$$

with an R-squared of 0.88; where c_{min} is the lowest consumption per capita in the sample. Noting that the intercept of the above estimated equation gives the logarithm of the poverty line in the poorest country, the authors note that this implies a poverty line of $31.96 per person per month and note that "our $1.08 poverty line is a close approximation to the poverty line one would expect to find in the poorest country" (CR (2000: .6)).

procedure adopted is such that the authors "assume that to be deemed not poor a person must meet both the $1 per day absolute consumption standard and consume more than some proportion of the mean consumption in the country of residence" (CR(2000: 16). Assuming a constant of proportionality with mean consumption of one third the relative poverty line in 1993 PPP is specified as max ($1.08, c/3) per person per day for any country, where c is mean consumption per capita in 1993 at 1993 PPP. Continuing their absolute poverty focus, however, the authors kept this "relative" poverty line constant "over time in any given country " (CR (2000: 17).

In the sample of countries used six Arab countries are included to represent the Middle East and North Africa: Algeria (with two surveys in 1988 and 1995), Egypt (two surveys for 1991 and 1995), Jordan (three surveys 1987, 1992 and 1997), Morocco (two surveys 1985, 1990), Tunisia (two surveys 1985, 1990) and Yemen (two surveys 1992 and 1998). We note that the population of these countries represented about 57.7% of the total population of the Arab countries in 2001. The results of the absolute poverty approach for the Arab countries are reproduced in the table below.

Table (6): Head Count Ratios in the Arab and World Regions (poverty line $1.08 per person per day in 1993 PPP)

Region	1987	1990	1993	1996	1998
Arab Countries	4.30	2.39	1.93	1.83	1.95
East Asia*	23.94	18.51	15.87	9.97	11.26
East Europe**	0.24	1.56	3.95	5.12	5.14
L. America***	15.33	16.80	15.31	15.63	15.57
South Asia	44.94	44.01	42.39	42.26	39.99
S.S. Africa	46.61	47.67	49.68	48.53	46.30
Total*	28.51	28.05	27.72	27.01	26.18
Total	28.31	28.95	28.15	24.53	23.96

Source: Chen and Ravallion (2000: table 2). * This region includes the Pacific. ** This region includes central Asia. *** This region includes the Caribbean.

From the above results it is clear that the Arab region had the least poverty rate among all regions in the world starting in 1993. Prior to 1993 The Arab region was second to the Eastern Europe and Central Asia region in terms of the lowest head count ratio. Not only this, at a poverty line of $1.08 per person per day the Arab head count ratio for all years in the table is very insignificant to the extent that a claim to the effect that the region does not a have a poverty problem would be very credible. However, given the Arab countries in the sample, the nature of their economies and their growth records during the period such a claim will be hard to sell to ordinary Arabs having to devise all sorts of survival strategies to make ends meet. Such observations throw serious doubt about the so-called absolute poverty approach of choosing the poverty line in question and keeping it constant across countries and over time. When the poverty line is increased to $2.15 per person per day both the ranking and the magnitudes of the poverty results change, but then Sub-Saharan Africa results become equally unbelievable by ordinary Africans. Table (7) summarizes these results.

Table (7): Head Count Ratios in the Arab and World Regions (poverty line $2.15 per person per day in 1993 PPP)

Region	1987	1990	1993	1996	1998
Arab Countries	30.03	24.76	24.12	22.16	21.88
East Asia*	62.90	57.33	51.61	42.78	44.96
East Europe**	3.59	9.55	17.17	19.19	19.92
L. America***	35.54	38.09	35.07	37.00	36.44
South Asia	86.30	86.41	85.41	85.02	83.96
S.S. Africa	76.52	76.37	77.76	76.87	75.57
Total*	58.22	58.77	58.59	57.75	57.60
Total	61.00	61.66	60.10	56.12	55.98

Source: Chen and Ravallion (2000: table 3).

In the results of table (7) an average head-count ratio for the Arab countries of about 25% would be taken as a reasonable representation of reality of the late 1990s. Given such perceptions, a real poverty line of about 2.15 may be the right order of magnitude. Despite this, some would still consider the estimated poverty rate too low. Having noted the above, we now look at the quasi-relative poverty results presented by the World Bank. Table (8) summarizes these results.

Table (8): Quasi-Relative Poverty in the Arab and World Regions

Region	Poverty Line# ($/person/day)	1987	1990	1993	1996	1998
Arab Countries	1.78	18.93	14.49	13.62	11.40	10.76
East Asia*	1.92	45.06	38.68	30.76	23.16	24.55
East Europe**	2.71	7.54	16.19	25.34	26.08	25.55
L. America***	3.31	50.20	51.48	51.08	51.95	51.35
South Asia	1.08	45.20	44.21	42.52	42.49	40.20
S.S. Africa	1.33	51.09	52.05	54.01	52.80	50.49
Total*	1.79	39.34	39.47	39.26	38.06	36.96
Total	1.59	36.31	37.41	36.73	32.79	32.08

Source: Chen and Ravallion (2000: table 5)

Despite the reasonable nature of these results compared to those of the absolute approach presented in table (5), judging by among other things the results pertaining to Sub-Saharan Africa, we note that they also produce the same pattern of ranking among regions where the Arab region is the lowest poverty region for all years from 1990 onwards. This is certainly an achievement by the region. However, a head-count ratio of about 11% by 1998 will be judged too low to be credible by people familiar with the countries in the sample.

In what follows we provide alternative estimates guided largely by country specific poverty lines. To facilitate adding poverty measures we denominate these country poverty lines in 1985 PPP dollars using the GDN data- base that provides real per capita income figures together with the share of private consumption expenditure as a share of GDP. Further, we use the latest high quality information on expenditure distribution. Whenever available we also use the change in the Gini coefficient between the base year for which we have poverty line information and high quality distribution information to

project the results to 1998. Our base line results are presented in table (9) where the per capita expenditure and poverty lines are per person per month in 1985 PPP dollars.

Table (9): Poverty in a Sample of Arab Countries: National Poverty Lines

Country (survey year)	Per Capita Consumption (US$ 1985 PPP)	National Poverty Line (US$ 1985 PPP)	Head-Count Ratio (%)	Poverty-gap Ratio (%)	Squared Poverty-gap Ratio (%)
Algeria (1995)	119	66	28.01	7.97	3.20
Egypt (1995)	127	78	24.13	4.15	1.05
Jordan (1997)	179	88	21.48	4.59	1.32
Morocco (1998)	128	61	25.51	6.83	2.61
Tunisia (1990)	141	56	18.48	5.18	2.12
Yemen (1998)	55	36	37.00	10.31	3.65

Source: own calculations.

While our objective is not to report final poverty results for the Arab countries involved we note that the above results can be taken as reasonably close to observed poverty phenomenon in the countries involved. Admittedly our results underestimate poverty for Egypt (see, for example Datt et al (1998) and the references to other estimates by Egyptian authors that goes up to 45% for the same year) and Yemen. Our choice of the reported result for Egypt is due to its approximation of the recent results of Datt et al (1998). Our results may also overestimate poverty for Tunisia for which we estimated head-count ratios of 5.52% for a poverty line of US$35 per person per month (i.e. 24.8% of mean consumption expenditure) and 9.42% for a poverty line of US$42 per person per month (i.e. 29.8 of mean consumption expenditure). Given the population weight of Egypt in the Arab region, as well as in the sample, the above observations should not detract from the comparison we are about to make.

To compare these alternative results with those in tables (6) and (7) above we need to appropriately adjust the estimates for Algeria, Egypt, Jordan and Tunisia. To maintain maximum comparability we assume that the poverty line does not change with per capita consumption expenditure (the usual suspect assumption used by the World Bank following various contributions by Ravallion). Further, for Algeria, Jordan and Tunisia we also assume that the Lorenz curve did not shift over time (a very strong assumption for Tunisia) while for Egypt we have evidence that the Gini coefficient for consumption expenditure has increased by an annual rate of 6.59 per cent over the period 1995 to 1997 (increasing from 0.289 to 0.35). For Egypt, therefore, we will also use the elasticity of the head-count ratio with respect to the Gini coefficient which is calculated as 2.09.

Table (10) reports illustrative results for the head-count ratio. Our ultimate interest is in the overall weighted average of the head-count ratio for the region. We note that the reported rate of growth of per capita consumption expenditure in the table is a result of fitting a time trend equation for each country. For Jordan (with a growth rate of 0.19 per cent), Algeria (with a negative growth rate of 0.61 per cent) and Morocco (with a growth rate of 0.5 per cent) the estimates are not significantly different from zero. So for these

countries, and given the assumption on distribution, poverty should not have changed between the relevant periods. However, we still use the estimated rates of growth to refine the trend in poverty. For the rest of the countries the estimates are significant and are used accordingly.

Table (10): Poverty in a Sample of Arab Countries: 1998

Country	Initial Head-count Ratio (%)	Elasticity of the Head-count Ratio wrt Mean Consumption Expenditure	Growth Rate of Mean Consumption Expenditure (%)	Projected Head-count Ratio 1998 (%)	2001 Population Share (%)
Algeria (1995)	28.01	-1.87	-0.61	28.98	20.49
Egypt (1995)*	24.13	-3.33	2.16	27.45	40.29
Jordan (1997)	21.48	-2.44	0.19	21.38	3.24
Morocco (1998)	25.51	-2.01	0.60	25.51	18.18
Tunisia (1990)	18.48	-2.03	4.00	9.39	6.04
Yemen (1998)	37.00	-1.52	-8.60	37.00	11.77
Average/Total	25.77	-2.20	Na	26.23	100.00

Source: own calculations. * For Egypt we use equation (6) for the change in the poverty measure over time. Hence we note that the elasticity of the head-count ratio with respect to the Gini coefficient is 2.09.

Thus, according to our calculations a reasonable, lower estimate, of the head-count ratio in the Arab region in 1998 would be about 26%. If countries like the Sudan and Mauritania are added to the sample of Arab countries (with a population weight of 12.3% of Arab total population in 2001 and head-count ratios in excess of 50 per cent of their respective populations) the incidence of poverty in the Arab region would be much higher than our own, albeit, conservative estimate.

VI. Country Estimates:

6.1. Poverty Lines:

As per international recommendations all of the reported country estimates for the Arab countries are based on poverty lines calculated according to the cost of basic needs method. Calculations, however, differ as to the approach adopted. Earlier studies adopted the approach of identifying a typical food basket, representing the dominant patterns of food consumption among the poor and satisfying the nutritional requirements for a healthy life. The quantities of the goods in the representative food basket are priced according to the prevailing, relevant, market prices for the survey year in question to get the food poverty line, z_f . An additional allowance for non-food basic needs, z_{nf}, is added to the food poverty line to obtain the overall absolute poverty line for the year in question. Some studies followed the standard practice of using the share of food in total expenditure, derived from household budget surveys, to deflate the food poverty line in order to get to the overall poverty line.

As is well known Ravallion (1998: 16-20) proposed a method to ensure the consistency of the non-food component of the poverty line with standard welfare analysis. The proposal is based on estimating a food Engel curve of the form:

(11) $f(y_i)/y_i = \alpha + \beta_1 \log (y_i/z_f) + \beta_2 [\log (y_i/z_f)]^2$

Where y is total expenditure and f(y) is food spending. By substituting spending on basic food needs, z_f, in the above equation, it is clear that the value of α estimates the average food share of those households who can just afford basic food needs. This implies that spending on non-food basic needs is given by $[(1 - \alpha)z_f]$. Using this information, a lower poverty line is given by:

(12) $z_L = z_f + (1- \alpha) z_f = (2- \alpha) z_f$.

It is also suggested that an upper poverty line, z_U, is given by $[z_f/\alpha^*]$, where α* is defined implicitly by:

(13) $\alpha^* = \alpha + \beta_1 \log (1_i/ \alpha^*) + \beta_2 [\log (1_i/ \alpha^*)]^2$

It is suggested that (13) may be solved numerically or by non-parametric methods without imposing a functional form on the Engel curve. Most of the recent studies in the Arab countries followed the proposal by Ravallion.

Examples of calculating the poverty line using the conventional method include that for Jordan for 1987[22]. The required minimum daily nutritional intake is taken as 2224 calories and 40.5 grams of proteins per person per day. The cost of the food basket that provided this minimum level of nutrition was calculated, for various sub-regions of the country, using local consumption habits and prevailing prices and a national average was calculated to arrive at the food poverty line.

The cost of non-food basic needs was calculated on the basis of enumeration of these needs as identified at the time. These included five components of (i) cost of housing of 3 rooms per family, with a bathroom, latrine, and kitchen and inclusive of the cost of fuel, electricity and water; (ii) clothes and footwear; (iii) education; (iv) health; and (v) transport. For subsequent studies a different approach was adopted where the food poverty line is deflated by the share of food in total expenditure of the poor households, after excluding expenditure on non-essentials (e.g. recreation). For 1992 such share was found to be 0.512. For 1997 the same procedure was used but the items deleted from the total expenditure of the poor households differed resulting in a food share of 0.418[23].

[22] Another example, for Egypt, is to be found in Korayem (1994). There also estimates for Sudan based on this method that date to the 1980s.

[23] An alternative procedure used is to inflate the 1987 and 1992 poverty lines by the consumer price index. The CPI for 1997 was calculated as 210.4 percent in terms of 1987 prices and 120.1 percent in terms of 1992 prices. Moreover, another alternative was to update the cost of basic needs that satisfy the nutritional requirements after allowing for the possibility of substituting cheaper food items.

According to World Bank (1999: 7 table 4) the official poverty lines, per person per annum, for Jordan amounted to JD261 for 1992 and JD313.5 for 1997. Per capita expenditure, as per the household income and expenditure surveys for these two years, amounted to JD684 for 1992 and JD762 for 1997. This implies that the official poverty line was about 38% of per capita consumption expenditure for 1992 and 41% for 1997.

Examples of the use of Ravallion's suggestion for welfare consistent poverty lines are recently reported for Egypt, Morocco, Tunisia and Yemen[24].

Egypt: El-Laithy, Lokshin and Banerji (ELLB: 2003: 8) note that after estimating a food poverty line based on minimum caloric requirements "the share of nonfood expenditure is estimated by fitting Engel's curves of the food share onto total expenditure controlling for the household's demographic composition. The total poverty line is then calculated by dividing the cost of the food poverty line by the estimated share of nonfood expenditure. The lower poverty line restricts a nonfood expenditure to the share typical of those individuals whose total expenditure is equivalent to the food poverty line".

Similarly, El-Ehwany and El-Laithy (EEEL: 2001: 57) explain that after calculating a food poverty line, based on the consumption patterns of the poor, and providing 2200 calories per person per day, non-food expenditure was estimated by fitting Engel's curves where "the food share is regressed on log total expenditure relative to the cost of basic needs, augmented for household size". The equation they report is identical to equation (11) without the quadratic term and including a term capturing household size. Thus the lower poverty line they use is the one given by equation (12) appropriately adjusted for household size. "The upper poverty line was estimated at the total expenditure for households who spend on food an amount equal to the food poverty line".

EEEL (2001: 46, table 2.11) report their estimates for the per capita annual poverty lines for rural and urban areas. For urban areas the food poverty line is estimated as LE. 902; with lower, and upper, poverty lines of LE.1297 and LE.1952.9 respectively. In accordance of equation (12) this implies an average ratio of spending on basic food needs of 0.56, not accounting for the family size in urban areas. For rural areas the food poverty line is estimated as LE.707; with lower, and upper, poverty lines of LE.955 and LE. 1324.6 respectively. This implies an average ratio of spending on basic food needs of 0.65 in the rural areas, not accounting for the family size in rural areas.

Unfortunately, EEEL (2001) do not report the per capita consumption expenditures for urban and rural sectors. We calculated this information from EELB (2003: 24, table 4) as simple averages of the regions they consider (metropolitan, lower, upper and border urban and rural regions). According to our calculations per capita consumption expenditure for 2000 amounted to LE.2008 for urban areas and LE.1156 for rural areas. These imply that the ratio of the poverty line to consumption expenditure is 0.65 for the urban areas and 0.83 for the rural areas. For a lower middle income country such as Egypt these ratios can be considered to be on the high side.

[24] See Laabas (2001) for estimates for Algeria.

Morocco: The World Bank (2001-b: annex A: 1) notes that the food poverty line for Morocco is calculated on the basis of a bundle of goods that yielded an average food energy requirement of 2000 calories per person per day. For 1998/99 the food poverty line is obtained from that of 1990/91 by appropriately using the food consumer price indices for the two years. Thus, for 1998/99 the poverty lines amounted to DH1888 per person per year for the whole country, and DH1962 for the urban areas and DH1878 for the rural areas.

Lower poverty lines are based on an estimation of equation (11) for urban and rural areas on the 1998/99 household data. The estimated equation for the urban areas gave a value of $\alpha = 0.5316$ (with a standard error of 0.0048), and a value of $\beta = -0.0625$ (with a standard error of 0.0031) and an adjusted R-squared of 0.1211. For the rural areas the estimated equation areas gave a value of $\alpha = 0.6406$ (with a standard error of 0.0046), and a value of $\beta = -0.0582$ (with a standard error of 0.0046) and an adjusted R-squared of 0.0699). With these estimates for the values of α the lower poverty lines amounted to DH2881 per person per year for the urban areas and DH2553 for the rural areas and DH2652 for the national level.

An upper poverty line is estimated on the basis of the logic of equation (13) where an allowance for non-food spending is obtained by considering those households whose food expenditure is equal to the food poverty line. The approximation used to get the upper poverty line is given by $z_L = (1+\beta)z_f/(\alpha + \beta)$. On the basis of this the upper poverty line is estimated as DH3922 per person per year for the urban areas and DH3039 for the rural areas and DH3337 for the national level.

According to information reported in World Bank (2001-b: annex A, p. 7, table 7) nominal mean expenditure at the national level amounted to DH7826 per person per year, and to DH10157 for urban areas and DH5087 for rural areas. These mean expenditure figures imply that the ratios of the poverty line to mean expenditure for Morocco amounted to 0.339 and 0.426 for the lower and upper poverty lines respectively at the national level; 0.284 and 0.386 for the lower and upper poverty lines in the urban areas; and, 0.501 and 0.597 for the lower and upper poverty lines for the rural areas.

Tunisia: According to the World Bank (2003: 12) a food poverty is estimated from the 2000 household budget survey data. "The share of non-food items is estimated following Engel's law. Basic non-food items are estimated on the share of expenditure on non-food items made by households whose total expenditures are equal to the food poverty line". The annual per capita food poverty lines for 2000 are estimated as TD247 , TD222 and TD205 for metropolitan, other urban and rural areas respectively. The estimated annual lower per capita poverty lines are estimated as TD357, TD318 and TD294 for metropolitan, other urban and rural areas respectively. It is curious that the average ratio of expenditure on basic food needs is almost the same for all areas and equal to about 0.57. No information is provided on per capita consumption expenditure from the survey.

Yemen: According to the recent World Bank (2002-a and b) a food poverty line, allowing for a food energy intake of 2200 calories per person per day, is estimated on the basis of 35 food commodities reported in the Household Budget Survey (HBS) of 1998 together with the unit values generated from the survey. The calculated food poverty lines that are used in the analysis are YR2101 per person per month for the whole country, YR2093 for urban areas and YR2103 for rural areas. Lower poverty lines are estimated on the basis of the average non-food spending of households whose total expenditure equals the food poverty line. The lower poverty lines amounted to YR3210 per person per month for the country, YR3195 for urban areas and 3215 for rural areas. The upper poverty lines are estimated on the basis of calculating the average non-food spending among households who actually spend the cost of the cost of the minimum food requirements. The estimated upper poverty lines, which are used in the analysis, amounted to YR4720 per person per month for the country, YR4764 for urban areas and YR 4707 for rural areas. As ratios of the respective per capita consumption expenditure the lower poverty lines amounted to 0.72 for the country, 0.59 for the urban areas and 0.78 for the rural areas.

6.2. Country Poverty Estimates:

Poverty estimates for a number of Arab countries are available from different sources. For each country poverty estimates, however, vary considerably.

Egypt: The most striking example of the different estimates for the same country is that of Egypt. El-Issawy (1995: 18- 25) provides a critical evaluation of earlier studies covering estimates for 1974/75, 1981/82 and 1990/91, and suggests a synthesis of these results to come up with an acceptable average estimate. Without getting involved, at this stage, in issues relating to poverty trends over time it is sufficient to note that the compromise estimate of El-Issawy (1995: 20-21) for 1990/91 gives a head-count ratio that ranges between 0.42 and 0.46 for the rural areas and between 0.38 and 0.45 for urban areas. If the proportion of urban population is taken as 0.45 in 1990/91, then the overall head count ratio for Egypt will range from 0.402 to 0.4555 . These are indeed much higher estimates than the international estimates referred to in the previous section.

As noted in sub-section (2.1) above recent estimates for poverty in Egypt are provided by EEEL (2001: 46, table 2.12) for 1999/2000. According to these estimates 20.15% of the total population of Egypt was found to be living below the lower poverty line and 49.63% of the total population were living below the upper poverty line. For the lower poverty line, the head-count ratio is found to be 0.1844 for the urban areas (z_L = LE. 1297), while that for the rural areas it is 0.2141 (z_L= LE. 955). For the upper poverty line, the respective head-count ratios are 0.4607 for the urban areas (z_U = LE. 1953) and 0.5227 for the rural areas (z_U = LE. 1325).

These recent estimates should be contrasted with those of ELLB (2003: 23, tables 1 and 2). Despite the fact that these authors refer to poverty lines used by EEEL (2001) their estimate of the head-count ratio for the lower poverty line is substantially lower for

1999/2000 at 0.1674. Similarly, their estimates for urban poverty of 9.21% of the urban population falling below the lower urban poverty line, and for rural poverty of 22.07% of the rural population falling below the lower rural poverty line, are different from the above quoted results.

The above two sources on poverty in Egypt also report trends in poverty over the second half of the 1990s. Table ( ) summarizes these results which are based on the lower poverty lines.

Table (11): Trends in the Incidence of Poverty in Egypt (head-count ratios in percentages)

Details	EEEL	ELLB
1995/96:		
Urban	22.51	
Rural	23.30	
National	22.96	19.41
1999/2000:		
Urban	18.44	9.21
Rural	21.41	22.07
National	20.07	16.74

From the above table it is clear that both sources show poverty to have declined during the second half in Egypt. At the national level poverty decreased by 2.89 percentage points according to EEEL and by 2.67 percentage points according to ELLB. Urban poverty declined by 4.07 percentage points while rural poverty declined by 1.99 percentage points.

Jordan: Recent poverty estimates for Jordan are reported for 1997 at the national level. For the lower poverty line it is reported that 11.7% of the population were poor while for the upper poverty line 18.24% of the population were poor. Between 1992 and 1997 poverty declined in Jordan. In 1992 it is reported that 14.42% of the population were living below the lower poverty line for that year (i.e. z_L= JD261 per person per year), while 20.88% of the population were living below the upper poverty line (i.e. z_U = JD304 per person per year).

Morocco: The spread of poverty in Morocco for 1998/99 is estimated as 19% of the population as falling below the upper poverty line at the national level, with 12% of the urban population and 27.2% of the rural population being poor as per the respective upper poverty lines.

Poverty trends over the 1990s are reported by comparing 1990/91 with 1998/99. For 1990/91 it is reported that 13.1% of the population were below the upper poverty line for that year at the national level. Urban poverty is reported as 7.6% of the urban population while rural poverty was 18% of the rural population. Thus, compared to 1990/91 poverty in Morocco increased during the 1990s by about 5.9 percentage points at the national level and by 4.4 percentage points in the urban areas and by 8.8 percentage points in rural areas.

Tunisia: The most recent estimates of poverty in Tunisia show that about 9.9% of the population fell below the upper poverty line in 2000. The spread of poverty in the metropolitan areas was about 6.2% of the population that for other urban was 6.9% of the population while that for the rural was 16.1% of the population. At the lower poverty line the incidence of poverty was indeed very marginal being 4.1% at the national level, 0.8% in the metropolitan areas, 2.3% in urban areas and 8.3% in rural areas.

Poverty trends over the 1990s compare 1990, 1995 and 2000. For the respective upper poverty lines it is shown that at the national level poverty has increased from 16.2% of the population in 1990 to 17.1% in 1995 and then declined to 9.9% of the total population in 2000. The increase in poverty between 1990 and 1995, and its decline thereafter, was recorded for all areas.

Yemen: The most recent estimates of poverty in Yemen show that in 1998 the incidence of poverty was such that 41.8% of the total population was living below the lower poverty line at the national level. In the urban areas 30.8% of the urban population was living below the lower urban poverty line while in rural areas 45% of the rural population was living below the lower rural poverty line. The incidence of poverty at the respective upper poverty lines was such that the head-count ratios amounted to 0.669 at the national level, 0.578 in the urban areas and 0.696 in the rural areas.

For the case of Yemen, and despite the availability of a household budget survey for 1992, no poverty trends over the 1990s is reported. The reason for this is a number of methodological differences between the two surveys that had to do with survey design, sample representativeness, food bundles, and the use of prices versus that of unit values (see World Bank (2002-a: 2, box 1).

From the above brief review of recent poverty estimates at the level of the countries, and assuming that the results are comparable between countries, table (12) reports the weighted average head-count ratio for the Arab countries using the population weights for the year 2000. These are only indicative results that can be compared with the international estimates for the region.

Table (12) : The Spread of Poverty in Arab Countries at the End of 1990s

Country	Population Weight	Head-count at the Lower Poverty Line (%)	Head-count at the Upper Poverty Line (%)
Egypt	0.523	20.07	49.63
Jordan	0.039	11.70	18.24
Morocco	0.224	9.80	19.00
Tunisia	0.037	4.10	9.90
Yemen	0.141	41.80	66.90
Sample	1.000	19.355	41.095

According to the above results about 19% of the Arab population lived below an implicitly defined lower poverty line at the end of 1990s. Poverty incidence is much higher at the implicitly defined upper poverty lines with a head-count ratio of 0.411. These results, tentative as they may be, should be contrasted with those reported in section (V) above.

6.3. Conditions for Pro-Poor Growth:

From section (II) it will be recalled that an index of pro-poor growth has been proposed by Kakwani and Pernia (2000) in the form of equation (10) as follows:

$$(10) \qquad \Phi = [\gamma / \eta^*]$$

Where it is recalled that (η^*) is the elasticity of the poverty measure with respect to consumption expenditure after allowing for the changes in the poverty line with respect to consumption expenditure, and is negative; and (γ) is the poverty elasticity of growth which is the sum of (η^*) and ($\nu\ \kappa$) where ν is the partial elasticity of the poverty measure with respect to the Gini coefficient, which is positive, and κ is the Kuznets' elasticity, which can be positive or negative. Note that in view of the fact that for all countries in under

The suggested ranges for judging the degree of pro-poor growth according to the value of the index require that negative values should indicate that growth is anti-poor; positive values that are equal to or less than 0.33 indicate that growth is weakly pro-poor; values in excess of 0.33 and equal to, or less than, 0.66 indicate that growth is moderately pro-poor; values in excess of 0.66 but less than unity indicate that growth is pro-poor; and, values equal to, or in excess of, unity indicate that growth is highly pro-poor. As we suggested these ranges could be interpreted as reflecting the underlying structural nature of poverty and its response to growth inducing policy interventions.

Table (13) presents our calculations for the index of pro-poor growth for the countries for which we have information. To compute the Kuznets' elasticity use has been made of the following estimated equation (based on a sample of 50 countries, 33 developing countries and 17 advanced countries) and where the functional format proposed by Anand and Kanbur (1993-a, b) is used (where u is real per capita income in 1985 PPP; figures between brackets are t-values and where the R-squared is 0.329):

$$(14) \quad \text{Gini} = \underset{(13.4)}{0.5121} - \underset{(3.62)}{0.0000203\ u} - \underset{(2.08)}{49.8037\ (1/u)}$$

The implied Kuznets' elasticity is given by:

$$(15) \qquad \kappa = -0.0000203\ u + 49.8037u^{-1}$$

Given the existence of a Kuznets' curve as in the above estimated equation it is an easy matter to check that the implied turning point is $1354 per person per year in 1985 PPP (for the details see Ali (1998: 95-96). Real GDP per capita for the countries under discussion are well beyond the turning point which implies that for all of them the Kuznets elasticity is negative as is shown in the table below.

For Jordan, Morocco and Tunisia we estimated the partial poverty elasticities using the information provided in the different studies on the distribution of consumption expenditure and poverty lines. For Egypt we used the average of the elasticity magnitudes provided in EEEL (2001: 51 table 3.3).

Table (13): Pro-Poor Growth Index for a Sample of Arab Countries

Country	η	ν	κ	Φ	Status of Pro-poor Growth
Egypt	-2.91	2.26	-0.025	1.019	Highly pro-poor
Jordan	-2.79	3.15	-0.047	1.053	Highly pro-poor
Morocco	-1.88	1.96	-0.024	1.025	Highly pro-poor
Tunisia	-2.03	2.93	-0.064	1.093	Highly pro-poor
Yemen	-1.54	0.59	0.033	0.987	Pro-poor

According to the above results growth inducing public policy is expected to be highly pro-poor in the four middle income countries and pro-poor in Yemen . Recalling that the pro-poor index is generated by appropriate relative variation of the poverty measure and its fundamental determinants there is no reason to prevent interpreting it as an index of pro-poor policy interventions. All that needs to be done is that a composite index for policy needs to be formulated and its partial effects on per capita consumption expenditure and the measure of inequality ascertained. As such therefore, public policy intervention for poverty reduction in the Arab region should be expected to have a high pay off.

VII. Concluding Remarks:

So what do we know about poverty in the Arab region? The highly selective review of the relevant literature presented in the various sections of this paper shows the following:

(a) for all the countries in the project, except for Sudan, there exists a set of excellent studies on various aspects of poverty, thanks largely for the efforts of the World Bank in terms of conducting household budget surveys in low, and middle income, countries of the Arab region;

(b) for all countries for which there exists fairly rigorous poverty studies, except for Jordan, the cost of basic needs approach to the estimation of poverty lines is used including the estimation of the non-food component by Engel curves;

(c) for all countries, except Jordan, lower and upper poverty lines are reported as the case may be for rural, urban and national levels;

(d) though not reviewed most of the studies attempted, though on a speculative level, looking at the effect of macroeconomic policy on poverty;

(e) for almost all countries an attempt has been made to decompose observed changes in poverty over time using the conventional Datt-Ravallion method.

On the basis of the above it seems safe to conclude that our knowledge base about poverty in the region is fairly decent, despite conflicting results and sometimes incomplete information. From a public policy perspective it also seems fair to conclude that policies that are likely to be growth enhancing will have a pro-poor impact in the middle income countries of the region.

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