Part 1: The Salient Issues with Defining and Measuring Poverty

Defining and measuring poverty is a challenging endeavour due to the wide range of potential poverty indicators and the challenges associated with measuring and aggregating the data. A widely used measure of poverty is the World Bank's poverty headcount ratio which estimates the number of people living with an income below $1.25 a day in purchasing power parity.[1] However, there are also several other approaches to measuring poverty. For example, in *Poverty and Famines: An Essay on Entitlement and Deprivation* Amartya Sen identifies five methods for measuring poverty: the biological approach, the inequality approach, relative deprivation, value judgement, and policy definition.[2] The applicability of each of these methods varies greatly depending on one's research question. Some methods lend themselves more easily to cross-country comparisons while others are more relevant at the national level. However, all of these methods share a common difficulty which is the availability of reliable data for empirical analysis.

Global poverty is particularly difficult to measure because it is necessary to obtain data which are comparable between countries. These data are not always readily available and therefore must be compiled by statistical agencies. For example, the World Bank's poverty headcount statistics are compiled by the World Bank Development Research Group based on household survey data which are compiled by government statistical agencies and World Bank country departments.[3] These data then need to be converted into results that are internationally comparable so that they can be aggregated to provide a measure of global poverty. This process is costly and time consuming. Therefore, as Laurence Chandy and Geoffrey Gertz argue, global poverty estimates are often out of date by the time that they are published.[4] This is also true for other measures of poverty.

However, the poverty measures that Sen identifies face additional constraints because for each of these methods it is also necessary to define what constitutes poverty and to determine an appropriate empirical measure to evaluate the level of poverty. For example, poverty can be measured in absolute or relative terms, by net income, by health indicators, or by basic needs. These definitions can also vary according to region and social values. Once the appropriate approach has been identified, it is then necessary to determine the relevant empirical measures. For example, if one were to adopt the biological approach, it is necessary to identify specific measures which indicate whether the biological needs of a population are being met. Some of these measures may include the prevalence of infectious disease, anaemia, maternal mortality, child mortality, stunting, wasting, and many others. Each of these measures is valuable for a specific topic of research and all are related to poverty. However, a measure of total poverty is difficult to determine from the aggregation of these numerous biological measures. Therefore, measuring and defining poverty is challenging because there is not a single agreed upon measure or definition and also because any analysis is necessarily constrained by the availability of data for a particular indicator.
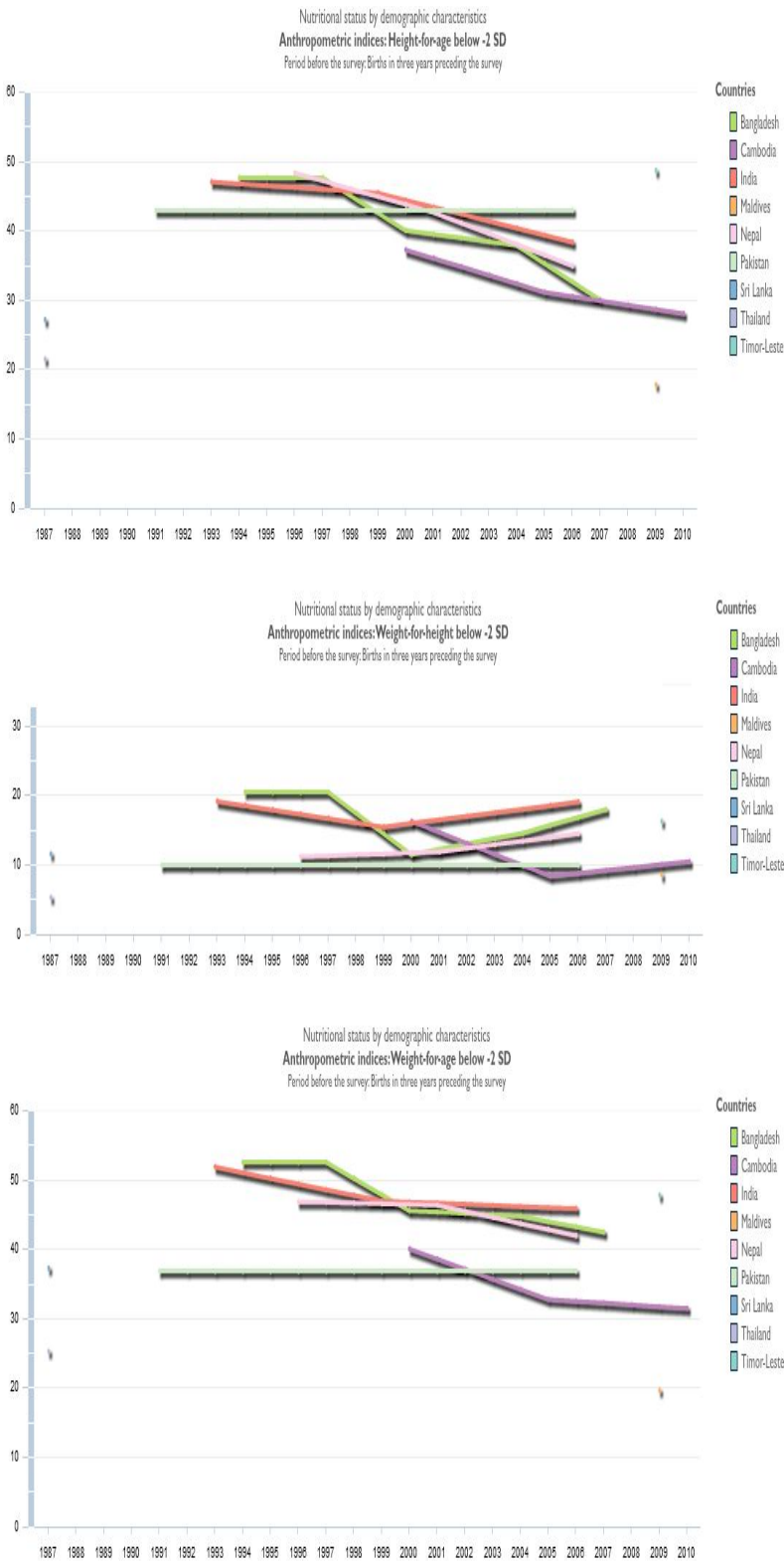
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[1] WHO Statistical Information System, Children Aged <5, (World Health Organization, 2011), http://www.who.int/whosis/indicators/compendium/2008/2nu5/en/

[2] Amartya Sen, "Concepts of Poverty," *Poverty and Famines: An Essay on Entitlement and Deprivation*, (Oxford: Oxford Scholarship Online, 2003), Chapter 2.

[3] Development Research Group, Poverty Headcount Ration at $1.25 a day (PPP) (% of Population), (World Bank Development Indicators, 2011), http://data.worldbank.org/indicator/SI.POV.DDAY

[4] Laurence Chandy and Geoffrey Gertz, Poverty in Numbers: The Changing State of Global Poverty from 2005 to 2015, Global Views, (Washington: The Brookings Institute, 2011), 2.

Part 2: Exploring Different Methods for Representing and Presenting Information – A Biological Approach (Percentage Stunted, Wasted, and Underweight)

Nutritional status by demographic characteristics
Anthropometric indices: Height-for-age below -2 SD
Period before the survey: Births in three years preceding the survey

Countries
Bangladesh
Cambodia
India
Maldives
Nepal
Pakistan
Sri Lanka
Thailand
Timor-Leste

Nutritional status by demographic characteristics
Anthropometric indices: Weight-for-height below -2 SD
Period before the survey: Births in three years preceding the survey

Countries
Bangladesh
Cambodia
India
Maldives
Nepal
Pakistan
Sri Lanka
Thailand
Timor-Leste

Nutritional status by demographic characteristics
Anthropometric indices: Weight-for-age below -2 SD
Period before the survey: Births in three years preceding the survey

Countries
Bangladesh
Cambodia
India
Maldives
Nepal
Pakistan
Sri Lanka
Thailand
Timor-Leste

ICF Macro, 2011. MEASURE DHS STATcompiler - http://www.statcompiler.com - January 23 2012.

Poverty and malnutrition are cyclical. Poverty leads to malnutrition and higher mortality rates in children because parents may not be able to afford to provide for all of the needs of the children. Malnutrition also leads to poverty as individuals' economic potential often decreases as a result of chronic malnutrition. Causation runs in both directions. As a result, measures of infant mortality, child mortality, and child malnutrition are useful indicators of poverty levels. These indicators also provide a development prognosis due to the fact that the present health of today's children will have a long term impact on their earning potential and thus the earning potential of the future labour force.

The Demographic Health Survey (DHS) provides measures of infant and child mortality as well as anthropometric measures for stunting (<2std. height for age), wasting (<2 std. weight for height), and underweight children (<2 std. weight for age).[5] The DHS findings show that both infant and child mortality have been decreasing in all South Asian countries for which DHS data exist, except for Pakistan which has been stagnating. The anthropometric measures yield inconsistent results. The proportion of stunted and underweight children has been decreasing in South Asia while the proportion of children that are wasted is increasing. These results are depicted in the graphs to the left.

These graphs illustrate the significant difficulty in measuring poverty based on a largely biological approach. Four of the five indicators discussed seem to indicate that poverty is decreasing in South Asia. The fact that the number of children who are severely undernourished is increasing is disconcerting. The inconsistency of these results demonstrates the greatest shortcoming of the biological approach as it does not yield one measure by which one can confidently say that poverty is decreasing in South Asia. Nevertheless, these results provide a largely favourable outlook and indicate where governments should focus their resources to improve the health status of children and thus the human capital of society.

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[5] WHO Statistical Information System, Children Aged <5, (World Health Organization, 2011), http://www.who.int/whosis/indicators/compendium/2008/2nu5/en/

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