

**Poverty line: Eight countries' experiences
and the issue of specificity and consistency***

by

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Abstract

“Specificity or relevance” of a poverty line refers to the extent to which the poverty line could reflect the specific characters of an area. “Consistency or comparability” concerns with the ability of the poverty lines to indicate comparable level of ‘welfare’ across space and time. The paper presents eight countries’ experiences in deriving their poverty lines. It particularly pays attention to the above two issues. It finds that, in constructing poverty lines, countries follow various approaches: some countries give more weight to the ‘relevance’ than to ‘comparability’, while others explicitly aim to have more comparable poverty lines. In practice, there could be a trade-off between the two aspects of poverty measurement, and the choice rests on the country and on the purpose of measuring poverty.

Introduction

The poverty line is the starting point of poverty analysis. It serves as an objective standard by which the so-called “poor” are distinguished from the “non-poor”. In many cases, the poverty line is specified as the cost of satisfying the daily basic per capita food and nonfood items. In the long history of poverty measurement, several issues have been raised and have been the subject of long standing debates.

Countries estimate poverty lines for a number of purposes. They are primarily used to compute poverty levels serving as indicators to monitor and compare poverty across time, regions, and population groups. Relating poverty trends with the corresponding policy regimes could give indication of the effectiveness of certain policies in reducing poverty. Comparing poverty levels for different areas within a country helps identify areas needing more assistance. For targeting purposes, poverty line often serves, along with other criteria, as a threshold for basic entitlements to various benefits provided by the government.

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This paper aims to revive the discussion about two practical issues of poverty line estimation; specificity or relevance and consistency or comparability. “Specificity or relevance” of a poverty line refers to the extent to which a poverty line could reflect the specific characters of an area. “Consistency or comparability” concerns with the ability of the derived poverty lines to indicate comparable level of ‘welfare’ across space and time. This issue has been examined by various researchers (e.g. Ravallion and Bidani, 1993; and Wodon, 1997). Wiebe (1994, p. 2) says “A Poverty measure is said to be *consistent* if it identifies the same poverty status (poor or not poor) for two households with identical welfare levels”. (For problems arising due to inconsistent poverty lines, see e.g. Ravallion, 1998).

It starts with a summary of standard approaches in deriving (absolute) poverty lines, and a short description of eight countries’ experiences (Bangladesh, China, India, Indonesia, Nepal, Philippines, Thailand, and Vietnam) in deriving their poverty lines. The issue of specificity or relevance and consistency or comparability is then discussed, together with countries’ examples. An illustration of the need to pay attention to measurement is also given. The paper concludes that the current practice shows that countries have developed their own poverty lines and measures taking into account of their own view of poverty, regardless of the need for comparability across countries. The countries’ estimates and internationally comparable estimates need not be contrasted as they serve different purposes.

Standard approaches in deriving (absolute) poverty lines (this section draws heavily from Ravallion, 1998)

The technology for constructing an (absolute) poverty line is fairly established. The (total) poverty line is often defined first for satisfying either calorie consumption or basic food and non-food needs. To be meaningful and reliable, the poverty line should be explicitly fixed to a specific “welfare” level (fixed “real value”) over time and space. By being absolute in the space of welfare, the poverty line allows a meaningful comparison across time and space, because “such a poverty line guarantees that the poverty comparisons made are consistent in the sense that two individuals with the same level of “welfare” are treated the same way” (Ravallion 1998, p.5).

Various objective approaches for poverty line estimation could be generally classified in three ways:

DIRECT CALORIE INTAKE

Direct calorie intake (DCI) is probably the easiest method to apply. Poor households, for instance, are defined as those households with per capita energy intake less than the standard per capita requirement of energy (e.g. Bangladesh using a national threshold of 2,122 calories per capita per day energy intake in accordance with Food and Agriculture Organization standards for a healthy diet in South Asian countries).

Resulting poverty number and incidence estimates based on this method are undoubtedly easy to understand because of the simplicity and transparency of the standard used. There are several arguments however, against the continued use of the DCI method. While being consistent in the sense of reflecting the same nutrient intake, the DCI method measures “undernourishment”, not poverty, which entails deprivation in all other aspects of welfare other than calorie intake. DCI removes the poverty phenomenon away from the income and expenditure nexus of households.

FOOD ENERGY INTAKE METHOD

An improvement over the DCI is the food-energy intake method (FEI) method which measures consumption or income poverty (household's command over basic food and nonfood items) by finding a monetary value of the poverty line at which “basic needs” (in this case predetermined food energy requirement/calorie intake) are met. Once this consumption or income level is located, it automatically provides the allowance for both food and nonfood consumption. This method avoids the need for price data to value the “basic needs” items.

Poverty lines using the FEI method can be derived in two ways. First, by calculating the mean income or expenditure of households whose estimated caloric intakes are approximately equal to the stipulated requirements. Second, by using the empirical relationship between food energy intakes and consumption expenditure (either regressing intake against consumption and invert the estimated function, or simply regressing consumption expenditure on nutritional intake).

Poverty line estimates based on the FEI method (with a single calorie requirement) assure consistency in terms of calorie requirement in the sense that on average people at the poverty line will have the same food-energy intakes. However, by relating the energy intake to consumption expenditure, the method implicitly regards that consumption expenditure (of goods and services) is a better welfare indicator. Ravallion (1998, pp. 11-14) argues that the FEI method will lead to inconsistent poverty lines in terms of command over basic consumption goods across space. Relationship between food-energy intake and income or expenditure levels at which the required intake is met moves with factors other than cost of living differences. Instead of being consistent, estimated poverty lines using the FEI method are more like revealed preferences of households that are relative to the different market conditions where they operate. It is said that other than prices, such factors as tastes, activity level, availability of substitutes and publicly provided goods, all comes in estimating expenditure levels at which a particular level of need is met. For instance, it is possible that because in general, per capita expenditure in richer areas tends to be higher than per capita expenditure in poorer areas, the resulting poverty lines even when using the same benchmark calorie requirement, will tend to be higher in the former. While the difference may be due to the fact that prices are generally higher in the more progressive areas, preference for superior or more expensive sources of calories and other items of

expenditure also pulls the poverty line upwards. This argument is also valid for over time comparison.

COST OF BASIC NEEDS METHOD

An often proposed ideal method of deriving a poverty line is the cost-of-basic needs (CBN) method by stipulating a bundle of goods and services that are required by everyone (or household) to attain an acceptable standard of living in the society. The CBN method usually sets poverty line by computing the cost of a food basket enabling households to meet pre-determined minimum daily nutritional requirement and then adding to this cost an allowance for non-food consumption. There are three steps to implement this method: (a) defining a bundle of food items meeting a defined required daily nutrient (usually caloric) intake; (b) estimating the cost of the food bundle; and (c) computing an allowance for non-food items.

Food component: There are two commonly practiced ways of defining the basic food basket. One is to exogenously determine a commonly consumed and least-cost food basket, which yields a specific calorie requirement, and evaluating this at current prices. A food basket derived in that manner does not guarantee that people with food expenditure level equal to the poverty line are actually consuming the required minimum nutritional intake because of diverse food preferences.

Another approach is to determine the food basket (satisfying a specific calorie requirement) based on what are actually consumed by "a reference group" as shown by household consumption surveys (in most cases, the food basket is determined with some understanding of local diet and food preferences). There are at least two choices of reference groups: the general population or an "a priori" definition of a poor group. Population belonging to the lower deciles of the distribution is often taken as the reference group. Selecting these households ensures that expensive, luxury food items are not represented in the basket. And by basing the composition of the basket on existing consumption patterns in the study area, the food items included in the basket clearly reflects the tastes, culture, and norms of the area. This method requires detailed consumption data including the total food expenditure levels and the quantities of the food items actually consumed. There is also an issue of what prices to be used: the average market prices, or the prices paid the "poor".

Nonfood component: There are also a number of ways to estimate the non-food allowance. A bundle of non-food items is directly estimated using non-food consumption survey and then added to the food poverty line to yield the total poverty line. This method of deriving the non-food component is analogous to the method of constructing food poverty lines in the CBN method. But even as said method is simple and straightforward, it unavoidably becomes arbitrary because there is no absolute standard for minimum nonfood requirement similar to that of food that has a standard calorie intake as basis. Operationally, the definition of the items to be

included in the basic nonfood bundle is hard to formulate without being arbitrary and relative to the norms of society.

Another approach is the food-share method (known as Orshansky's approach), where the poverty line is derived by dividing the minimum cost of food bundle by some estimate of the share of food in total expenditure. There are at least two variations of this approach, the average food share or the food share of the 'poor' group. Ravallion (1998) suggests lower and upper poverty lines, based on (i) the nonfood expenditure of poor families whose total income or expenditure is just enough to meet its subsistence needs, and (ii) the nonfood expenditure of families whose food expenditure equals the food poverty line, respectively.

Determining the food share may be done parametrically by estimating a functional equation relating food share with total expenditure or food expenditure and other household characteristics, which may be used to predict the food share at given expenditure levels. Another possibility is to use a simple non-parametric procedure where the average nonfood expenditure is calculated from observed survey data for those households with total expenditure or food expenditure in small intervals around the food poverty line. In practice, some sort of spatial price indices are used to derive the poverty lines for various regions, and inflation rates are applied to update the poverty lines over time. This way CBN method could maintain spatial and inter-temporal consistency.

In sum, while DCI method only provides measure of undernutrition, in terms of consistency, the FEI method produces consistent poverty lines assuming food-energy intake could be considered as a valid welfare indicator on its own (Ravallion, 1998). In addition, the resulting poverty lines could be considered "relevant" in terms of average calorie requirement. However, if the consumption of goods and services is considered a better welfare indicator, the FEI method cannot assure consistency in terms of real expenditure, and the CBN method would be preferable. In practice, the CBN method may entail tradeoffs between 'consistency' and 'relevance' aspects of poverty. To ensure comparability overtime or across groups, consistent CBN-derived poverty lines (using fixed consumption basket) normally account only for changes in the price level, but not changes in consumption behavior and taste preferences thereby losing their practical relevance. Regarding the FEI and CBN methods, Wodon (1997, p. 95) says "in practice, any method for computing poverty lines is likely to make room for both consistency and specificity".

Specificity or relevance *versus* consistency or comparability

Across space:

Specificity or relevance of a poverty line (across space at a particular time) refers to the poverty line that reflects the specific characters of a region under study. It is argued that the poverty line should take into account of various aspects such as the life pattern, culture, social

condition, and norms prevailing in the region. Based on this argument, the poverty line of a certain area or region is independent from the poverty line being used in other area or region. The main concern is for the poverty line to constitute the existing norm or value of the society in the region/area. This view leads to the construction of a poverty line that is 'location specific'. Wodon (1997) says that 'a poverty profile will be deemed specific if its underlying poverty lines represent local or temporal perceptions as to what constitutes poverty'. ADB also acknowledges the aspect of specificity, as it says 'This yardstick (the poverty line) varies from country to country, depending on income and cultural values' (ADB, 1999, p. 3). In fact, the socio-cultural specificity of poverty norms goes back to Adam Smith who in 1937 said that:

"By necessities I understand, not only the commodities what are indispensable necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people even of the lowest order, to be without.....(as quoted by Srinivasan, 2000: p. 15)."

On the other hand, consistency or comparability proponents argue that to enable comparison across regions or areas, the poverty lines for different regions or areas should indicate the same standard of living (Ravallion and Bidani, 1994; Wodon, 1997). Some sort of 'standardization' should then be undertaken to enable strict comparability. Money metric measures, like that of poverty line, should therefore be adjusted for price differentials so it maintains a fixed real value to make valid spatial and even inter-temporal comparisons of absolute poverty rates. In other words, to enable comparison the poverty line should be fixed in terms of standard of living across the entire domain of the poverty comparison. This entails using, say, a poverty line in a rich region which may be considered 'low' or 'not relevant' per its 'own standard' for the sake of making it comparable because the domain of the comparison goes well beyond the borders of that region.

That is why Ravallion and Bidani (1994:77) suggest that the measurement choice rests ultimately on the purpose of the poverty profile being constructed. In constructing poverty lines for urban areas, for instance, the derived poverty line can reflect the life pattern, culture, social condition, and norms existing in urban areas. This poverty line, which is estimated independently from the one developed for rural areas, may not reflect the same standard of living, thus comparability or consistency is lost.

Across time:

Similar to spatial specificity or relevance, inter-temporal specificity or relevance of a poverty line refers to its ability to reflect the specific condition/characteristics of a particular region/area at a given time. It has been argued that the derivation of the poverty lines across time

should consider changes in the life pattern, culture, social conditions, and norm prevailing in different years.

One well-known quotation from 1938 supports this view:

“A standard budget worked out in the [1890’s], for example, would have no place for electric appliances, automobiles, spinach, radios, and many other things which found a place on the 1938 comfort model. The budget of 1950 will undoubtedly make the present one look as antiquated as the hobble skirt.” (Cited in Kanbur and Squire, 1999, p. 4).

Essentially, the proponents of the specificity or relevance question whether the yardstick of a poverty line or some components of the poverty line, for example a food basket which was constructed ten years ago, would still be relevant to the present situation due to changing social and economic environment. (This is analogous to the fact that even the weights used for price index construction are updated after a certain period of time). Kanbur and Squire (1999) discuss the normal definition of poverty as ‘the state of one who lacks of a usual or socially acceptable amount of money or material possessions’. A ‘social’ or ‘moral’ element of poverty is contingent on time and place. As stated by Kanbur and Squire (1999, p.2):

“as technology progress and the general standard of living rises, three effects have an impact on poverty: new consumption items, changes in the way society is organized may make it more expensive for the poor to accomplish a given goal, and general upgrading of social standards can make things more expensive for the poor”.

In practice, by updating the basket to reflect the current years, the derived poverty lines are more likely to lose their inter-temporal consistency or comparability. In sum, the question is whether it is necessary to update in a more or less regular interval the yardstick of poverty line (e.g. by revising the consumption basket) to take into account changing condition and consumption/life pattern and perception of poverty. If yes, the next question is how frequent, and how about comparability of the derived poverty lines over time?

The comparability or consistency of the poverty lines for different years usually requires that they should be kept fixed in terms of standard of living, and in practice only some sort of price (inflation) adjustment is made to update the poverty lines in the base years. This leads to some questions such as what price index should be used: a general price index which may either cover the commodities that are not being consumed by the poor or include prices that are not experienced by the poor, or a price index of the commodities consumed by the poor (with the actual prices paid by the poor). It may be argued that the price index to be used is the index reflecting the price change of the consumption basket of the poor. India, for instance, uses the specific cost of living indices for middle rural and urban population to update the rural and urban poverty lines separately (see Appendix 2).

The need for comparability or consistency is in line with the World Bank's stand as it says "In measuring absolute poverty in one country, the poverty line should have the same value across all groups or regions, and over time" (World Bank, 1991, p. 1-2). Field (1994, page 91) says:

'In particular, we should not do as some suggest and increase the poverty line by the rate of economic growth; to do this would cause us to lose the notion of poverty as a state of absolute economic deprivation' .

In sum, the two aspects should be met in poverty line estimation exercise. To be acceptable the poverty line should reflect the existing condition in the area or region or in a particular time for which the poverty line is derived, and at the same time the estimated poverty line should enable us to compare poverty across regions or areas and across time.

However, in practice there is a trade-off between the two. Thus, some compromises should be made. The poverty lines being developed may not perfectly reflect the existing norms and culture at a particular location and time, so long as they can be used for spatial and inter-temporal comparisons. In addition, the methodology should be as simple as possible; easy to understand and easy to apply, acceptable, and at the same time should be logically defensible.

Countries' experiences

Official methodologies

This section presents a summary of the procedures by which poverty lines are set in selected developing countries (as officially adopted) in alphabetical order (for details see Appendix 2).

Bangladesh

The DCI and FEI methods have been used for computing official poverty estimates, while independent researchers use the CBN method more often. However, recently the FEI method has been decided as official method wherein the poverty lines are derived through regression of the functional equation relating per capita daily calorie intake to monthly per capita expenditures. For 1999, separate urban and rural poverty lines (with differing per capita per day calorie requirement: 2112 urban and 2122 for rural areas) for 21 regions were computed.

China

Estimating the prevalence and extent of poverty in China follows several approaches that are dictated more by the need for criteria for allocating poverty alleviation funds. Efforts to assist the poor are concentrated historically in the resource-constrained and remote rural areas where the system for identifying the poor is fairly established. More recently, rising poverty in urban areas

that came to host rural migrants and a vast number rendered unemployed by enterprise reforms, also called for specific interventions requiring the development of a poverty criterion to measure urban poverty.

In 1986, the setting of rural poverty standards was compelled when the Central Government of China launched a large-scale poverty reduction program, which needed the identification of poor counties as beneficiaries. Official rural poverty cut-off was 'arbitrarily' set at 150 Yuan annual net per capita income. Higher cut-offs at 200 Yuan and 300 Yuan were set for counties in old revolutionary base areas and counties with large minority populations. Number of poor counties was derived based on per capita net income data collected from Rural Household Survey (RHS) conducted by the State Statistical Bureau in 1984.

Rural poverty calculations were improved in 1993 using RHS conducted in 1984 and 1990. Food poverty line was set as the total cost of a fixed food bundle meeting 2,100 calories per capita per day nutritional requirement and reflects actual consumption patterns. The food bundle is then valued using average market price for each food item paid by the poor for both own-produced and purchased items. The allowance for the consumption of basic nonfood items was estimated as the residual share after the food share is established at 60 percent of the food poverty line based on the average share of expenditure on food spent by Chinese rural households.

This estimation procedure was improved in later years by using a regression model to estimate actual nonfood expenditures of households with expenditure just reaching the food poverty line. The rural poverty line is estimated every year when RHS is available, the most current poverty line estimate is derived taking into account of average price changes.

Urban poverty estimates on the other hand, are not based from a unique poverty criterion but on officially accepted definitions on what constitute urban poverty in China. With the deepening economic reforms, the laying off of state-owned enterprise workers has been an important factor leading to urban poverty. Urban poor has therefore been defined collectively as those who are laid off from work, the unemployed due to labor disability or old age, and individuals or households whose per capita income is below the minimum living security standards. In the absence of official urban poverty estimates, past poverty assessments made by researchers are largely based on independent calculations made by agencies such as the World Bank and the United Nations Development Program.

India

The Indian official poverty line has long been defined in 1979 using the FEI method using calorie norms of 2,400 calories per capita per day for rural areas and 2,100 calories per capita per day for urban areas. Using the 1973-74 National Sample Survey data an inverse linear interpolation on average per capita monthly expenditure and the associated calorie consumption

level is applied separately to rural and urban areas to define all India urban and rural poverty lines. In short, the poverty line is defined as the per capita expenditure level at which the calorie norms were met on the basis of the all-India consumption basket for 1973-1974, equivalent to Rs. 49.1 and Rs 56.6. per capita per month for rural and urban areas, respectively, at 1973-1974 prices.

Unlike Bangladesh, India applies the FEI method only to estimate all-India urban and rural poverty lines (in 1973-1974 prices) and uses the derived urban and rural spatial price indices to calculate state-specific urban and rural poverty lines. To monitor poverty trend, the derived state-specific poverty lines in terms of national 1973-74 prices are updated following the movements of the state-specific CPI constructed for later years.

Indonesia

Indonesia started compiling poverty statistics in 1984 with the same poverty definition through the years, i.e. the inability to meet a predetermined consumption level for both food and nonfood needs. But continuing improvements have been done in computing the poverty benchmark using primarily the three-yearly National Household Socio-Economic Survey (SUSENAS) compiled by the Central Agency of Statistics or Badan Pusat Statistik (BPS). In 1993, the BPS started using additional surveys to derive nonfood items to be used for estimating non-food allowance.

The computation of the food poverty line assumes a minimum requirement for food that is equivalent to a per capita daily consumption of 2,100 calories per capita. The method of translating the nutritional requirement into its rupiah equivalent has gone through several improvements. Before 1993, the food poverty line was derived through linear interpolation given total expenditure and corresponding calorie intakes per expenditure group. This was done at the national level for urban and rural areas separately. In 1993, a bundle of commonly consumed food items meeting the said calorie requirement is first defined for each province using the consumption pattern of a reference poor group. Total monthly average per capita expenditure for each item in the bundle then becomes the food poverty line. The commodity bundles are unique to each province (applied to both rural and urban areas within the same province) considering the wide variety in the consumption pattern among Indonesian provinces. The same method is still used with updated food bundles to allow for shifts in the consumption pattern.

The procedure for estimating the rupiah equivalent of the basic nonfood allowance has likewise gone through several changes. Recently, a bundle of basic nonfood items based on a special survey on nonfood consumption of a reference poor group, was determined. The bundle differs from one province to another, as well as between urban and rural areas. The rupiah value of the selected nonfood commodities was estimated as the average monthly per capita expenditure for each of the selected nonfood items, and then added to the food poverty line to derive the total poverty line.

The continued modifications in its poverty measurement methodology adopts the view that the minimum standard for both food and nonfood needs should take into account local needs and market conditions such that the choice of items in the bundles varies across provinces sacrificing comparability of their poverty standards. The process of updating said measures likewise impinges on valid assessment of poverty reduction performance overtime as the consumption bundles are revised every year that the poverty line needs to be estimated.

Nepal

Official poverty measures in Nepal are based on three nationally representative surveys conducted over the past twenty years: the 1976/77 Survey of Employment, Income Distribution and Consumption Pattern in Nepal; the 1984/85 Multipurpose Household Budget Survey, and the 1995/96 Nepal Living Standards Survey (NLSS).

The country's most recent poverty estimates follow the World Bank's initiative of estimating poverty lines following the CBN method. Specifying a reference food basket based on a nationally representative food consumption pattern meeting the daily 2,124 calories per capita requirement (assumed as similar with the Indian population) sets the poverty line. Average quantities of food items, with appropriate adjustments to yield the calorie requirement, consumed by Nepali households in the second to fifth deciles of the per capita consumption distribution, are used as the reference composition of the appropriate food bundle. Food poverty line is fixed by costing the basket on the basis of average prices prevailing in a reference area, which is the Rural Eastern (RE) and Central Terai (CT) region. The average nonfood expenditure of households whose food expenditure is just enough to meet their minimum nutrition requirements is computed non-parametrically from the NLSS data. The (total) poverty line is derived by adding it to the food poverty line. To assess poverty across regions, regional cost-of-living index for 1995/1996 using the RE and CT prices as base is constructed. This index is used to express regions' expenditure distributions in terms of RE and CT prices, and these distributions are used to derive the estimates of poverty indices.

Philippines

The Philippine government adopts the CBN method in deriving official measures of poverty. Food poverty lines equivalent to the cost of daily per capita food needs are derived by pricing low cost and nutritionally adequate menus (for breakfast, lunch, supper and snack) for each urban and rural area of the 13 regions using local average prices. The menus satisfy the nutrient requirements equivalent to 2,000 calories and 80 percent of the per capita Recommended Dietary Allowance for vitamins, minerals and other nutrients, and reflect the food preferences of the regions.

The average food expenditure share of households within the ten percentile around the food poverty line is used to divide the food poverty line to provide allowance for nonfood needs.

National level poverty line is estimated as the average for all regions disaggregated by urbanity using population size as weights.

Thailand

Two major efforts were undertaken to estimate poverty in Thailand more accurately (Krongkaew, 1988, and Krongkaew and Kakwani, 1996) resulting in a new technique that recognizes that households differ with respect to calorie needs, and that there are price differences between regions and areas (urban and rural) over time.

In determining the food basket which would meet the calorie requirement, nine different baskets – separate baskets for rural (sanitary districts and villages) and urban areas (municipal areas) in five regions are examined (Bangkok is urban only). Calories obtained per baht from various baskets in 1992 are estimated. The average calories obtained per baht for sanitary district basket is chosen as a basis for computing food poverty lines in 1992. Calories obtained per baht for other years are estimated using price indices that are comparable across five regions, two areas, and over time are computed for 1992 with Bangkok as base (see Appendix 2). This information forms the basis for calculating the per month cost that would meet the calorie requirements of a household, depending on its specific calorie requirement according to age and sex composition of its household members and its location.

To arrive at the total poverty line, it was assumed that the poor spend 60 percent of total expenditure on food in Bangkok. Given the food poverty line, the total poverty line is estimated by dividing the food poverty line by the ratio of food to total expenditure. Because of differences in relative prices of food and non-food items of consumption, this ratio is estimated every year, separately for each area and region, using the spatial price indices for food and non-food items of consumption. A household is poor if its per capita income is less than the household-specific poverty line.

Vietnam

The General Statistical Office has defined a (food) poverty benchmark for 1993 as the per capita income necessary to meet essential food needs equivalent to 2,100 calories per capita per day. The method used is the CBN method by choosing 12 food items containing approximately 2,100 calories of the middle group income quintile for two sectors. Similarly, the country's Ministry of Labor, Invalids and Social Affairs defined a (food) poverty line in 1997 based on the quantity of rice per month (expressed in money terms), depending on the region (there are three groups: below 15 kg, below 20 kg, and below 25 kg).

A broader view of poverty however, is adopted in *Vietnam Development Report 2000* jointly published by the Government of Vietnam, the donor community and non-government organizations. Following the CBN method, the report maintains the nutritional requirement at

2,100 calories per capita per day but takes per capita expenditure as welfare indicator instead of income. Poverty estimates are derived using the Vietnam Living Standard Survey conducted in 1992/93 and 1997/98.

Food poverty line is derived for 1992/93 using the food consumption of households in the third quintile to derive an appropriate food bundle. The cost of this bundle is computed based on national average prices for each item in terms of January 1993 prices. For 1997/98, the cost of the 1992/93 food basket is recalculated in terms of January 1998 prices. To obtain total poverty line in 1992/93, the average nonfood spending of the same reference group is computed and added to the food poverty line. This non-food allowance is updated to 1998 prices using the inflation rate for nonfood items based on a separate price survey covering the same period. Spatial poverty rates are estimated using regional adjusted expenditure derived by employing the estimated regional cost of living index.

On the specificity and consistency

The best example of how “specificity or relevance’ issue is given importance is shown by how poverty lines are constructed in Indonesia and the Philippines (see Section 3).

In Indonesia, different food and non-food baskets are set for each province, and these are changed every time the poverty rates are estimated. The fact that its poverty lines have been constructed in away that comparability over time and across region is sacrificed has recently been acknowledged, even in official publications (see Sutanto, et.al. 1999, and BPS, 1999). By choice, the poverty lines were derived to account for ‘the dynamic of the society and living standard’ and ‘the poverty line measured by the official method moves with time, the change in tastes, and in the general standard of living’ (Sutanto, et.al. p. 15). Sutanto (1999: 2) states, for instance, that unlike in the previous measurement of poverty in Indonesia, ‘expenditure for schooling, is revised to account not only expenditure for primary school but also for junior high school as it is now become compulsory’. Recognizing that what constitutes basic needs or even poverty may change over time, the BPS itself states that the trend in Indonesia’s poverty should be analyzed carefully and take this fact into consideration. In sum, Indonesia adopts a “dynamic’ view of poverty, as clearly stated:

“poverty line or standard being used to measure poverty is dynamic in nature. This standard is revised upward every three years to reflect the change in the consumption pattern of low-income class which is still below the normative standard’ (Bahan Laporan Untuk Rapat Koordinasi Bidang Kesra, October 1999, BPS, Jakarta, p. 1).

The consistency of Indonesia’s poverty lines has been questioned (Bidani and Ravallion, 1992 and 1993; Asra and Virola, 1992; Booth, 1993; Wiebe, 1994; Asra, 1999, and LPEM, 2000). All argue that the use of a cost of calorie method (a variant of the food energy method) used for

deriving the poverty lines until 1993 generated non-comparable urban and rural poverty lines. Even after the CBN method is adopted, the ratios of urban to rural poverty lines are still higher than the perceived urban-rural price differential. For instance, estimated urban-rural food price differential during 1987-1996 based on SUSENAS result was only 13-16%, compared to 28-52% as implied by the official food poverty lines (Asra, 1999). Suryahadi, et.al. (1999), using the iterative method for setting the reference group, find that during 1996 and 1999 the derived urban poverty line was only 12 per cent and 9 per cent higher than rural poverty line. The ratios based on the official poverty lines were 39 per cent and 30 per cent.

In the Philippines, to reflect the existing consumption pattern of the regions, nutritionally adequate food menus for breakfast, lunch, supper and snack for an individual for urban and rural areas of each region were derived based on the Recommended Dietary Allowance for the average healthy Filipino (See section 3). There are 27 one-day sample menus corresponding to 13 regions (urban and rural areas) and the National Capital Region (see Appendix 2). These menus were developed to closely represent region-wise differences in, among others, consumer preference, cultural patterns, climate, and urbanization. (See section 3.) The consistency aspect of the Philippines' poverty lines has been questioned by Balisacan (1999a, 1999b) and Kakwani (2000). They argued that official poverty estimates yield a poverty picture that is relative to the living standards of the regions. In Balisacan's words: "By construction, the official approach tends to yield poverty lines that are not consistent, that is, the standard of living implied by the poverty lines varies for each of the regions as well as over time." (Balisacan, 1999a, p. 6). Regional poverty line conforms only to a common nutritional requirement and cross comparison is valid only in terms implied food energy intake. Inconsistency results when translating this nutritional requirement to low-cost typical menus since the process is largely informed by regional living standards. The adjustment of food thresholds to poverty thresholds compounds the problem.

In 1992 the National Statistics Coordination Board Executive Board of the Philippines approved a new methodology for poverty assessment. One of the differences between the old and new methodologies is the components of the nonfood requirement: the new methodology does not make provisions for expenses going to alcoholic beverages, tobacco, recreation, durable furniture & equipment, miscellaneous and other expenditures. Obviously the estimates of poverty incidence based on the new methodology for the three years; 1985, 1988 and 1991 are lower compared to those based on the old methodology.

India's case provides an example of an explicit recognition for the need for comparable poverty lines across states. State-wise rural consumer price indices (CPIs), derived using the CPI for agricultural laborers for food, the CPI for the whole population for the non-food, and rural consumption pattern of people around the poverty line at the national level in 1973-1974, were used to derive state-specific poverty lines for rural areas. The state-wise urban price indices are also constructed to derive state-specific urban poverty lines.

The use of state-wise price indices to derive state-specific poverty lines in the base year, and state-specific inflation rates to update the base-year poverty lines ensures comparability across states as well as overtime. However, it is also recognized that the adopted method of updating the poverty line considers only the price changes with reference to the base year consumption basket and does not take into account shifting consumption patterns by keeping the same consumption meeting the calorie norm. In terms of 'relevance', the implicit consumption basket of the derived poverty lines may already be outdated (considering that the base year is already more than 20 years ago).

Bangladesh' poverty lines derived using the DCI method are consistent in terms of calorie intake, but the welfare indicator used is "under nutrition", which may not be widely accepted as a measure of poverty. The FEI method, on the other hand, considers 'relevance' (or "location" specific) as an important aspect as it captures regional dietary preferences and prices by estimating calorie cost functions for 21 regions (separately for urban and rural areas) using region-specific consumption data. However, this may result in inconsistent regional poverty lines in terms of command over basic consumption goods (Ravallion, 1998, pp. 11-14). Wodon (1997) investigates this issue of specificity and consistency in greater length and concludes that Bangladesh's poverty lines are not consistent across space and time (p.78). Table 4 of Appendix 1 provides the ratios of urban to rural poverty lines of 21 regions for 1999. The ratios range from 1.20 in Dinajpur (indicating that urban poverty line is 20% higher than that of rural) to 1.95 in Kushtia. In 17 regions, the ratio is at least 1.30; urban poverty line is 30% higher than that of rural. These considerably "high" ratios may support the view that the derived poverty lines are not comparable across (urban-rural) areas.

Poverty line estimates in China are far from being consistent (across space) yardsticks. However, in this case, the efficacy of poverty statistics should be judged by how these are able to serve the purpose for which these are designed which is for targeting beneficiaries of the country's social relief program. In this case, the main consideration has been the availability of fiscal resources rather than gauging the extent of and meeting basic needs deprivation, which requires that a uniform basic needs standard be adopted nationwide. As the definitions of rural and urban poverty are not all comparable, it could be concluded that the issue of consistency across space has not been paid sufficient attention. Recently rural poverty lines have been made comparable over time.

Recent poverty lines in Vietnam and Nepal are estimated more or less by the same version of CBN method (with a fixed food bundle) using the results of their Living Standard Survey. To ensure spatial consistency of estimates, poverty rates in Vietnam are obtained by comparing the food and total poverty lines (valued at national average prices) with the per capita expenditure of households adjusted for regional price differences relative to the national average. For each household, nominal expenditures are expressed in January 1993 and January 1998

prices using the cost-of-living index. Spatial and temporal poverty comparison is therefore based on consistent poverty lines, accounting only for price inflation overtime and cost-of-living differences across areas while maintaining the same food and nonfood standards. Similarly, Nepal constructed regional cost-of-living index for 1995/1996 using the RE and CT prices as base and used this to express nominal per capita expenditure in terms of the base price. This price adjusted per capita consumption is then used to assess poverty across regions.

However, using a common food bundle for the whole country could be considered inadequate because of cultural consumption patterns of households may vary across areas or across time. Thus from the “relevance” aspect, the use of a fixed and common food bundle may not reflect the existing consumption pattern of some regions (see Wodon, 1997 for other issues regarding the use of a fixed bundle). Kakwani (n.d, p. 6) says “It is obvious that the food basket must take into account the consumption pattern of the population living in different regions and areas”.

Why is the choice of approaches important?

As in most cases policy is derived based on the poverty figures, which in turn are dependent upon the methodology used. It is important therefore, that policymakers should somehow understand how poverty estimates are made. Alternative sets of poverty estimates may lead to different policy prescriptions. Below are two examples.

Indonesia:

Official poverty incidence estimates (which are location-specific) for the years 1987, 1990 and 1993 show that urban poverty was higher than rural poverty indicating the need for paying more attention and resources to urban areas. Ravallion (1992), Booth (1993), Wiebe (1994), Asra and Virola (1992) questioned this finding. The adjustment for cost of living differences which is much lower than the implicit price differentials shown by the official figures is argued to have changed the focus of poverty-oriented actions (Ravallion, 1992).

In addition, using a derived ‘consistent’ poverty lines, the decomposition analysis indicates that rural-urban migration or population shifts was significantly associated with poverty alleviation (Ravallion and Huppi 1991, and Asra 1999), while it is not the case based on the official poverty lines. Thus different policy decisions, in this case on migration, will be made differently depending on which set of poverty measures is accepted.

The implications for regional targeting of different poverty profile based on alternative (more consistent) poverty lines has been emphasized by Bidani and Ravallion (1992). Recently, Asra and Francisco (2000) show another consistent set of provincial poverty estimates for 1993 (based on the spatial purchasing power parity indices developed by the BPS following the approach used by the UN International Comparison Project/Gearry-Khamis method, see BPS

1996). The figures provide different ordering of provincial priorities for poverty alleviation (see Table 1 of Appendix 1). The correlation of the ranking is only 0.24. Suryahadi, et.al. (1999) produce consistent regional poverty estimates for 1996, leading to a different ranking from that of official method (although the Spearman rank- correlation between the two rankings is reasonably high, 0.62).

The choice of the poverty measures to adopt will also affect provincial resource allocation. In fact, "Indonesia's new government has decreed that allocation of central government funds to provincial government will reflect poverty incidence at the provincial level, with poorer provinces receiving greater allocations' (Warr, 2000, p.2). Thus, whatever the view adopted by the Government, the implications of using different poverty estimates should be clearly understood.

Finally, in its most recent and more complete publication of poverty estimates, the BPS shows the effect of revised basket on the estimates (see Table 2 in the Appendix). It shows the extent of the effects of revision on the poverty estimates and their trend. Instead of 24.2 million poor in 1999, the revised basket leads to an estimate of 37.5 million poor for the same year: a difference of around 13 million. While revised basket approach shows that there is a significant rise in the number of the poor, from 22.5 million to 37.5 million, the same basket approach indicates a slight increase of the poor, from 22.5 million to 24.2 million. Again, whatever figures are adopted would lead to different judgment.

Philippines:

Balisacan (1999a) suggested that food poverty lines in richer areas will tend to be higher because these areas would prefer better quality that are naturally more expensive sources of calories. Thus, a person's poverty would depend on his/her location and the prevailing living standard in the area rather than his command over basic consumption needs wherever he/she happens to live. The spatially consistent poverty estimates for 1994 given by Asra and Francisco (2000) and by Balisacan (1999a) lead to different regional poverty rankings than the ones based on the official estimates (see Table 3 in the Appendix 1). The rank correlation of both estimates with the official ranking is the same, 0.59, implying that there is substantial re-ranking of provinces, while the rank correlation between the two estimates is high, 0.78.

In sum, the measurement aspect of poverty analysis, in particular the issue of specificity and consistency, cannot be neglected as it will surely impact on the policy decisions. Kanbur and Squire (1999) state, for instance, that "the importance of precise measures of poverty increases when we turn to the design of specific, poverty-reducing actions because of equal treatment of equals is one of the fundamental principles of public policy".

Concluding remark

The experiences of some countries reviewed in this paper show that although they all use more or less similar type of household survey data, there are various approaches being applied to construct their poverty line. With respect to the issue of specificity and consistency, Indonesia and the Philippines (although acknowledge the importance of consistency/comparability) pay more attention to specificity, while Vietnam, India and Thailand explicitly take more consideration of consistency or comparability aspect (may not regard specificity/relevance as one consideration).

In addition to the fact that poverty is multidimensional, as each country has its unique characteristics and specific political, economic, social, and cultural condition, the poverty measurement methodology that is adopted eventually depends on each country's consideration. The important thing is for the policymakers in each country to be aware of the methodological underpinnings behind the poverty figures being used in the development planning process and their implications.

From the countries' perspective, it is desirable for each to develop its own poverty measurement methodology taking into account the specific characteristics of the country and of its various regions. However, whenever possible, the consistency principle should be ideally followed to enable spatial and over time comparisons within a country. With regard to comparability across countries, if the international community needs to have internationally comparable poverty estimates for its own purposes, these could be derived regardless whether these are the same or otherwise with the countries' figures.

This compromise will serve the need of both the country and the international community. Countries will use their own estimates in making domestic policy decisions, while the internationally comparable estimates will serve the purposes of the international community. Fields (1994, p. 92), after discussing internationally comparable poverty estimates and countries' estimates, concludes that 'as practical matter in such cases, the national poverty lines have to be respected'. And this is what has been happening. (The World Bank's regional poverty estimates using \$1 and \$2 PPP per capita, which are theoretically the most consistent or comparable poverty lines across countries, have been widely used for international comparison. However, countries have developed their own poverty estimates using the poverty lines that they feel more appropriate to their countries' condition. Both estimates need not be contrasted as they are derived for different purposes).

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Table 1. Provincial Rankings Based on Headcount Index, Indonesia, 1993

Provinces	Official		PPP-adjusted	
	Incidence	Ranking	Incidence	Ranking
Aceh	13.5	15	47.9	10
North Sumatera	12.3	11	57.8	20
West Sumatera	13.5	16	35.2	6
Riau	11.2	6	15.4	2
Jambi	13.4	14	41.2	8
South Sumatera	14.9	8	56.5	19
Bengkulu	13.1	12	60.4	22
Lampung	11.7	7	68.0	24
Jakarta	5.6	1	6.5	1
West Java	12.2	10	62.4	23
Central Java	15.8	19	68.5	25
Yogyakarta	11.8	8	40.7	7
East Java	13.2	13	54.6	16
Bali	9.5	3	24.6	3
West Nusa Tenggara	19.5	21	53.9	14
East Nusa Tenggara	21.8	23	59.0	21
East Timor	36.2	27	69.5	26
West Kalimantan	25.0	26	56.0	18
Central Kalimantan	20.8	22	51.7	12
South Kalimantan	18.6	20	30.2	4
East Kalimantan	13.8	17	32.0	5
North Sulawesi	11.8	9	53.6	13
Central Sulawesi	10.5	4	80.1	27
South Sulawesi	9.0	2	41.6	9
Southeast Sulawesi	10.8	5	55.8	17
Maluku	23.9	24	54.0	15
Irian Jaya	24.2	25	50.0	11
Correlation coefficient				0.24

Note: The ranking is from lowest (=1) to highest (=27) poverty incidence.

Table 2. The effect of revised basket on the poverty estimates, Indonesia

Year	1996 basket		Revised basket	
	% poor	No. of poor (million)	% poor	No. of poor (million)
1996	11.34	22.5	11.34	22.5
1998	17.86	36.5	24.23	49.5
1999	11.72	24.2	18.17	37.5

Source: Table 5.1 of BPS, n.d. Pengukuran Pengukuran Tingkat Kemiskinan di Indonesia 1976-1999: Metode BPS. Seri Publikasi Susenas Mini 1999, Buku 1. Jakarta.

Note: Unlike the 1996 figures, the 1998 and 1999 figures are based on Susenas-type survey with only 10,000 sampled households.

Table 3. Regional Rankings Based on Headcount Index, Philippines, 1994

Region	Official/a		Authors' Estimates/b		Balisacan's Estimates/c	
	Incidence	Rank	Incidence	Rank	Incidence	Rank
National Capital Region	10.5	1	0.7	1	0.7	1
Cordillera Autonomous Region	56.4	12	33.6	5	28.5	9
Ilocos Region	53.6	10	34.3	6	25.8	6
Cagayan Valley	42.1	5	32.5	4	25.3	5
Central Luzon	29.2	2	17.9	2	13.6	2
Southern Luzon	34.9	3	20.2	3	16.8	3
Bicol Region	60.8	14	49.7	11	38.5	13
Western Visayas	49.9	8	37.4	8	26.9	8
Central Visayas	37.5	4	52.1	13	31.4	10
Eastern Visayas	44.8	6	55.1	14	41.3	14
Western Mindanao	50.6	9	49.1	9	37.9	12
Northern Mindanao	54.1	11	50.3	12	41.5	15
Southern Mindanao	45.6	7	36.0	7	24.6	4
Central Mindanao	58.7	13	49.1	10	36.2	11
Autonomous Region of Muslim Mindanao	65.3	15	57.1	15	26.8	7
Correlation wrt to official rankings		1.00		0.59		0.59
Correlation wrt to Balisacan's estimates				0.78		1.00

Note: The ranking is from lowest to the highest: 1=the lowest poverty incidence and 15=the highest poverty incidence.

Sources:

a) National Statistical Coordination Board (1999). 1997 Philippine Poverty Statistics.

b) Authors' estimates using 1994 Family Income and Expenditure Survey

c) Balisacan, et.al. (1999) Conceptual Framework for the Development of an Integrated Poverty Monitoring and Indicator System (IPMIS).

Table 4. Ratio of Urban to Rural Poverty Lines

Countries	Year	Poverty Lines (In National Currency Units)		Ratio
		Urban	Rural	
1. Bangladesh	1999			
	Dhaka	956.5	704.4	1.36
	Mymensingh	863.3	486.9	1.77
	Jamalpur	709.2	501.3	1.41
	Kishoregonj	857.0	527.6	1.62
	Tangail	800.8	633.0	1.27
	Faridpur	829.4	584.5	1.42
	Chittagong	878.5	623.9	1.41
	Chittagong H.T.	758.5	584.9	1.30
	Comilla	1045.3	615.7	1.70
	Noakhali	833.7	733.8	1.14
	Sylhet	854.7	607.1	1.41
	Rajshahi	625.0	496.4	1.26
	Rangpur	636.5	477.0	1.33
	Dinajpur	608.9	507.5	1.20
	Bogra	817.3	520.1	1.57
	Pabna	759.5	544.7	1.39
	Khulna	716.8	540.6	1.33
	Jessore	750.0	571.0	1.31
	Kushtia	1016.9	521.5	1.95
	Barisal	831.9	596.7	1.39
	Patuakhali	783.0	579.1	1.35
2. India	1973-74	56.96	49.63	1.15
	1977-78	72.50	56.84	1.28
	1983	117.64	89.45	1.32
	1987-88	165.58	115.43	1.43
3. Indonesia	1976	4522	2849	1.59
	1978	4969	2981	1.67
	1980	6831	4449	1.54
	1981	9777	5877	1.66
	1984	13731	7746	1.77
	1987	17381	10294	1.69
	1990	20614	13295	1.55
	1993	27905	18244	1.53
	1996	38426	27413	1.40
4. Philippines	1985	4365	3353	1.30
	1988	5893	4094	1.44
	1991	8327	6276	1.33
	1994	9831	7946	1.24
	1997	12577	10178	1.24

Sources:

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BANGLADESH

Bangladesh has gone through all three standard approaches of setting the poverty lines. The DCI and FEI methods have been used for official poverty estimates, while independent researchers use the CBN method more often.

A World Bank report on poverty in Bangladesh done in 1998 adopted the CBN approach, which is based on the estimation of the cost of a basic consumption bundle that is held constant from year to year and across areas and groups. Following the CBN method, price differentials overtime and across areas are accounted by evaluating the cost of a food bundle (which is constant from year to year and across areas) using area-specific prices prevailing each year. Upper and lower nonfood allowances are based on household's area-specific and actual nonfood expenditures in order to capture geographic differences in the costs of nonfood goods.

Deriving the poverty line:

Sources of data Household Expenditure Survey
Conducted by the Bangladesh Bureau of Statistics (BBS)
Available for 1981/82, 1983/84, 1985/86, 1988/89, 1991/92 and 1995/96

Living standard indicators Calorie intake
Per capita expenditure

DIRECT CALORIE INTAKE (DCI) METHOD (official)

**Calorie norm/
Total poverty
line** Absolute poverty: 2,122 calories per capita per day
Hardcore poverty: 1,805 calories per capita per day

Adopting the calorie requirements above, the BBS defines the poor as simply those households with energy intake less than these requirements.

FOOD AND ENERGY INTAKE METHOD (official)

Calorie norm Urban: 2,112 calories per capita per day
Rural: 2,122 calories per capita per day

**Total poverty
line** Poverty lines are derived through regression of the functional equation that relates per capita per day calorie intake to monthly per capita expenditures. The equation expressing the relation is shown below:

$$\ln y = a + bx + e$$

where y = monthly per capita expenditure (including food and nonfood)

x = daily per capita calorie intake

e = disturbance term

Separate urban and rural poverty lines for 21 regions have been computed at threshold per capita per day calorie intakes.

COST-OF-BASIC NEEDS METHOD (World Bank)

Calorie norm 2,122 calories per capita per day

Food poverty line A representative and common food bundle is defined for 14 geographical areas (6 urban and 8 rural areas), meeting the 2,122-calorie requirement per day per person. The cost of the food bundle is evaluated by area using prices estimated by regression for each food item in the bundle. To eliminate the upward bias arising from the prices paid by richer households, the regression procedure used to find prices paid by the poor in each area is controlled for total consumption, education and occupation.

Total poverty line To provide nonfood allowances, two cases are considered yielding lower and upper poverty lines. For the lower poverty lines, the area-specific nonfood expenditures of households whose total consumption is equal to the cost of the basic food bundle are computed. For the upper poverty lines, the nonfood expenditures of households whose food expenditures are equal to the cost the basic food bundle are taken. Adding up the food allowances with respectively, the lower and upper nonfood allowances, which are estimated non-parametrically, gives the total lower and upper poverty lines by area. Price differentials across space and time are accounted by evaluating the cost of the food bundle using area-specific prices prevailing in each year. Upper and lower nonfood allowances are based on households' area-specific and actual nonfood expenditures to capture geographic differences in the cost of nonfood goods.

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CHINA

Estimating the prevalence and extent of poverty in China follows several approaches which are dictated more by the need for criteria for allocating poverty alleviation funds rather than a need for a consistent yardstick for use in nationwide and overtime monitoring of poverty. Efforts to assist the poor are concentrated historically in the resource-constrained and remote rural areas where the system for identifying the poor is fairly established. More recently, rising poverty in urban areas that came to host rural migrants and a vast number rendered unemployed by enterprise reforms, also called for specific interventions requiring the development of a poverty criterion to measure urban poverty.

RURAL POVERTY LINE

In 1986, the setting of rural poverty standards was compelled when the Central Government of China launched a large-scale poverty reduction program, which needed the identification of poor counties as beneficiaries. Official rural poverty cut-off was arbitrarily set at 150 Yuan annual net per capita income. Higher cut-offs at 200 Yuan and 300 Yuan were set for counties in old revolutionary base areas and counties with large minority populations. Number of poor counties was derived based on per capita net income data collected from Rural Household Survey (RHS) conducted by the State Statistical Bureau in 1984.

In 1993, rural poverty line calculations were improved using RHS conducted in 1984 and 1990.

Deriving the poverty line:

Sources of data	Rural Household Survey Conducted by the National Bureau of Statistics (NBS)
Living standard indicator	Per capita income
Calorie norm	2,100 calories per capita per day

COST-OF-BASIC NEEDS METHOD

RURAL POVERTY LINE

Food poverty line	Food poverty line was set as the total cost of a fixed food bundle meeting 2,100 calories per capita per day nutritional requirement and reflects actual consumption patterns. Widely consumed items such as alcohol, cigarettes and candies with minimum or no nutritional value are excluded in the bundle. Based on survey results, actual daily average consumption of various items are adjusted to meet 2,100 daily calorie requirement. The food bundle is then valued using average market price for each food item paid by the poor for both own-produced and purchased items.
Total poverty line	To derive the total poverty line, the allowance for the consumption of basic nonfood items was estimated as the residual share after the food share is established at 60 percent of the food poverty line based on the average share of expenditure on food spent by Chinese rural households in 1984. This estimation procedure was improved in later years by using a regression model to estimate actual nonfood expenditures of households with expenditure just reaching the food poverty line.

The food share of households whose total expenditures equal to the food poverty

line was determined through regression using the following equation:

$$a = \alpha + \beta \log (TE/Z_f) + \varepsilon$$

where a = food share

α = intercept or the food share when $TE = Z_f$

β = coefficient of regression

Using the estimated food share when $TE = Z_f$, the nonfood poverty line and total poverty line is computed as

$$Z_{nf} = Z_f (1-a)$$

$$Z = Z_f + Z_f (1-a)$$

$$Z = Z_f (2-a)$$

where Z = total poverty line.

Z_f = food poverty line

Z_{nf} = nonfood poverty line

The rural poverty line is estimated every year when RHS is available else, the most current poverty line estimate is adjusted to account average price changes.

URBAN POVERTY LINE

Urban poverty estimates on the other hand, are not based from a unique poverty criterion but on officially accepted definitions on what constitute urban poverty in China. With the deepening economic reforms, the laying off of state-owned enterprise workers has been an important factor leading to urban poverty. Rural-urban income disparities also contributed a great deal through increased migration pressures amidst declining employment opportunities. Urban poor has therefore come to be defined collectively as those who are laid off from work, the unemployed due to labor disability or old age, and individuals or households whose per capita income is below the minimum living security standards.[1] In the absence of official urban poverty estimates, past poverty assessments made by independent researchers are largely based on calculations made by agencies such as the World Bank and the United Nations Development Program (UNDP).

[1] In 1994, the State Council directed the determination by all cities of minimum living requirements that conceptually, are similar to poverty lines. Each locality promulgated local minimum living security standards according to its respective average living level, consumption indexes and financial situation of the locality. For this purpose, poverty estimates derived on the basis of these standards are not comparable across localities.

Sources:

Wang, Zingzui, et. al. 2000. China Poverty Profile. A report submitted to Asian Development Bank. FCPMC, Beijing, PRC.

INDIA

The Indian poverty line in use for official poverty monitoring has long been defined in 1979 using the FEI method based on an all India consumption basket for 1973-74.

Deriving the poverty line:

Sources of data National Sample Survey (NSS)
Started in 1950 until 1974 continuously without break by the National Sample Survey Organization (NSSO). Subsequently, data collection was done through an integrated survey quinquennially starting in 1972/73 until 1993/1994.

Living standard indicator Per capita expenditure

Calorie norm Urban: 2,100 calories per capita per day
Rural: 2,400 calories per capita per day

These calorie norms were derived using the age-sex-activity specific calorie allowances recommended by the Nutrition Expert Group (1968) and the age-sex-occupational structure of rural and urban population as projected for 1982-83.

FOOD ENERGY INTAKE METHOD

Total poverty line To work out the monetary equivalent of the poverty line based on the above calorie requirement, the 1973-74 National Sample Survey (NSS) data are used. Using appropriate conversion factors, the calorie content of food consumption baskets corresponding to various per capita expenditure classes are computed. An inverse linear interpolation on average per capita monthly expenditure and the associated calorie consumption level is applied separately to rural and urban areas to define the all-India urban and rural poverty lines. Estimated poverty lines are Rs. 49.09 (rural) and Rs. 56.64 (urban) at all India level expressed in 1973-74 prices are adopted as the base line.

To reflect state-wise cost-of-living differences, state-specific poverty lines are estimated. Standardized poverty lines at the national level are adjusted to prices prevailing in each state in the base year using state-wise consumer price indices (CPI) derived using CPI for agricultural laborers for food and CPI for the whole population for the nonfood. Using the rural consumption pattern of people around the poverty line at the national level in 1973-74 to derive the weights, the combined CPI for food and nonfood for each state is computed and is used to derive state-specific rural poverty lines for 1973-74 corresponding to the all-India rural poverty line. The same is done for state-specific urban poverty lines using the CPI for industrial workers to derive state-specific urban price indices.

To monitor poverty overtime, the adjusted state-specific poverty lines in terms of national 1973-74 prices are updated following the movements of the state-specific CPI constructed for later years following the same methodology as done in deriving the 1973-74 CPIs still using the same weights derived from the 1973-74 NSS.

Unadjusted NSS data of population distribution by monthly per capita consumption expenditure levels are used to derive the poverty ratio or incidence, the proportion of the population below the poverty line. The number of the poor was calculated using the estimated population given by the Registrar General of Census.

Sources:

Thomas, P.V. India Country Paper on Poverty Measurement. Seminar on Poverty Statistics, 21-23 June 1999, ESCAP, Bangkok.

Government of India, Report of the Expert Group on Estimation of Proportion and Number of Poor. Perspective Planning Division, Planning Commission. New Delhi, July 1993.

Government of India, Estimate of Poverty. Press Information Bureau. New Delhi, 11 March 1997.

INDONESIA

Indonesia started compiling poverty statistics in 1984. Since then, the statistical system has made available poverty information for 1976, 1978, 1980, 1981, 1984, 1987, 1990, 1993, 1996 and 1998. Poverty definition is maintained through the years, i.e. the inability to meet a predetermined consumption level for both food and nonfood needs but continuing improvements have been done in computing the benchmark above which a person or a family can already be considered as nonpoor using the National Household Socio-Economic Survey (SUSENAS) compiled by the Central Bureau of Statistics (CBS).

The SUSENAS is conducted every three years in 27 provinces using a sample of around 65,000 households spread over urban and rural areas. Data from a special survey in 1982 on prepared food consumed outside of the household is also used to determine the ratio between expenditure on prepared food consumed outside of home and total food expenditure, which is used to correct the underestimated per capita food expenditure given by SUSENAS consumption data. In 1993, the CBS started using separate surveys to derive nonfood items to constitute the minimum nonfood requirements to be included in the computation of the poverty line. These surveys aim to identify the essential nonfood commodities consumed by population living just above the poverty line. The 1993 survey involved 800 households spread over 10 provinces. This was followed by another survey in 1995 that was carried throughout the country with around 4,500 sample households.

Deriving the poverty line:

Sources of data National Household Socio-Economic Survey (SUSENAS) The SUSENAS is conducted by the Central Bureau of Statistics (CBS) making available poverty statistics for the following years: 1976, 1978, 1980, 1981, and every three years thereafter.

Living standard indicator Per capita expenditure

Calorie norm 2100 calories per capita per day

This calorie norm is based on the recommendation of the National Workshop on Food and Nutrition in 1978.

COST OF BASIC NEEDS APPROACH

Food poverty line **1987-1990 Methodology:** The first step computes for the implicit price of calorie, $P_{c,i}$ paid by expenditure group i by dividing the total amount of food expenditure, $E_{f,i}$ with the amount of calories consumed, C_i .

$$P_{c,i} = E_{f,i}/C_i$$

$P_{c,i}$ differs across expenditure groups such that calories are more expensive for higher expenditure groups. To determine the $P_{c,i}$ that is relevant to the poor, the total expenditure, $E_{t,i}$ is divided by $P_{c,i}$ to derive the total amount of calorie intake, TEC_i , if one spends all his income on food.

$$TEC_i = E_{t,i}/P_{c,i}$$

Given average total expenditures and corresponding calorie intakes per expenditure group, the average per capita expenditure per month that meets the 2100 calories is determined through interpolation. This was done at the national level for urban and rural areas, separately.

1993 Methodology: The methodology for computing the food poverty line was changed in 1993. A bundle of commonly consumed food meeting the said calorie requirement is first defined for each province based on the consumption pattern of a reference poor group (households living just above the expected poverty line). Total monthly average per capita expenditure for each item in the bundle becomes the food poverty line. The commodity bundles are unique to each province (applied to both rural and urban areas within the same province) considering the wide variety in the consumption patterns of Indonesian provinces.

1996 Methodology: The 1996 methodology follows the 1993 methodology using an updated food bundle to allow for shifts in the consumption pattern and price changes (using a new reference group). The bundle remains the same for urban and rural areas but different for each province reflecting its respective consumption pattern.

1998 and 1999 Methodology: Basically the same with the 1998 methodology. However some "refinements" were introduced. Reference group for identifying the food commodities was revised to account for inflation during 1986-1989. Like in 1983 and 1986, 52 items were selected (but different commodities).

Total poverty line 1987 Methodology: The share of non-food to total expenditure, S_{nf} , of the expenditure class within which the food poverty line, PL_f , lies was used to inflate the food poverty line to obtain total poverty line, PL .

$$PL = PL_f (1 + S_{nf})$$

1990 Methodology: An absolute amount of expenditure for some essential non-food items (14 for urban areas and 12 for rural areas) is added to the food poverty line to derive the total poverty line (including expenditure on housing, fuel, light and water, health, clothing, footwear and headwear, durable goods and miscellaneous goods and services). The minimum requirement for each these items was set arbitrarily based on value judgement. Urban and rural regions were treated differently, in terms of both the number of non-food items and the minimum requirement for each item.

1993 Methodology: A bundle of basic non-food requirements (46 items) based on a special survey (in 10 provinces) on nonfood consumption of the reference (near) poor group was determined (using some criteria, such as whether the item was consumed by majority of the reference households, and its share in its sub-group expenditure). At national level, the bundle differs between urban and rural areas. The rupiah value of the selected non-food commodities is then estimated based on its expenditure ratio to its sub-group expenditure (based on the special survey), and the sub-group expenditure from the 1993 SUSENAS. This value was then added to food-poverty line to derive at the total poverty line. As the survey covered only for 10 provinces, similar approach at national level could not be used for all provinces, while SUSENAS data were considered were not detail enough to enable the identification of basic needs basket. The non-food allowance for each province is estimated by assuming that the proportion of non-food expenditure to total expenditure (of the near poor group) is the same with that of national level.

1996 Methodology: The same with that in 1993. However, the non-food bundle was selected based on the new 1995 special survey on non food consumption (covering all 27 provinces) of the reference (near) poor group. Unlike in 1993, the provincial bundle was determined separately, different for urban and rural areas.

1998 and 1999 Methodology: Basically the same methodology with the 1996 methodology. However, due the change in the majority cut-off to include the non food-items as basic needs (from 30% to 20% of the population), new non-food items were added (in total 51 items in urban and 47 in rural).

Sources:

Asra, Abuzar, I.P. David and R. A. Virola. 1997. "Poverty Assessment in the Philippines and Indonesia: A Methodological Comparison" *Journal of Philippine Development*. Number 44, Vol. XXIV, No. 2 Second Semester.

Sutanto, Agus, P.B. Irawan and A. Said. 1999. *Poverty Measurement: Problems and Development*. Paper presented at International Conference on Methodologies of Poverty Calculation in Indonesia, Jakarta, 30 November 1999.

Badan Pusat Statistik, 2000. *Pengukuran Tingkat Kemiskinan Indonesia 1976-1999: Metode BPS*. Jakarta.

NEPAL

Official poverty measures in Nepal are based on three nationally-representative surveys conducted over the past twenty years: the 1976/77 Survey of Employment, Income Distribution and Consumption Pattern in Nepal (SEIDCP); the 1984/85 Multipurpose Household Budget Survey (MPHBS), and the 1995/96 Nepal Living Standards Survey (NLSS). All three surveys are different and thus their resulting poverty measures are not directly comparable.

This report discusses the recent exercise of measuring poverty in Nepal following the initiatives of the World Bank using the NLSS where the poverty line used is expressed in terms of per capita expenditure below which an individual is considered poor.

Deriving the poverty line:

Sources of data Nepal Living Standards Survey
Available for 1995/1996
Conducted by the Central Bureau of Statistics (CBS)

Living standard indicator Per capita expenditure

Calorie norm 2,124 calories per capita per day

The standard calorie requirement refers to the average requirement of the Nepali population arrived using calorie norm based on age, gender and activity levels of the Indian population as studied by the National Institute of Nutrition of the India Council of Medical Research. Poverty line calculation therefore is based on this per capita requirements and does not use equivalence scales to adjust for different nutritional requirement across age/gender groups.

COST-OF-BASIC NEEDS METHOD

Food poverty line Following the CBN approach, the poverty line is set first by specifying a reference food basket based on a nationally representative food consumption pattern meeting the daily 2,124 calories per capita requirement. For lack of an officially accepted calorie norm for the Nepal population, said calorie requirement is based on age, gender and activity levels of the Indian population as studied by the National Institute of Nutrition of India Council of Medical Research. Average quantities of food items, with appropriate adjustments to yield the calorie requirement, consumed by Nepali households in the second to fifth deciles of the per capita consumption distribution, are used as the reference composition of the appropriate food bundle. Assumed living standard is fixed by costing the basket on the basis of average prices prevailing in a reference area, which is the Rural Eastern and Central Terai.

Total poverty line

To obtain the total poverty line, the average nonfood expenditure of households whose food expenditure is within small intervals around the food poverty line are computed non-parametrically from the NLSS data and added to the food poverty line. Following this method yielded a total poverty line, which is a combination of a food poverty line expressed in Rural Eastern Terai prices and a nonfood poverty line based on the average consumption pattern of a national reference poor group.

Constructing regional cost-of-living index using the Rural Eastern and Central Terai prices as base allows a consistent regional poverty comparison in Nepal. A reference consumption bundle applicable to all regions of the country is first identified and then the cost of purchasing this reference bundle in each region is determined. The ratio of the cost of this bundle in each region to its cost using the base price gives the regional price index. Said index is used to express nominal per capita consumption in terms of the base price obtaining a "real" measure of per capita consumption which is then used to assess poverty across regions.

Sources:

- Prennushi, Giovanna. Nepal: Poverty at the Turn of the Twenty-First Century Main Report and Background Studies, South Asia Region Internal Discussion Paper, Report No. IDP 174, The World Bank, May 1999.
- Lanjouw, P., et. al. 1986. "Building Blocks for a Consumption-Based Analysis of Poverty in Nepal", n.p.

PHILIPPINES

The Philippine government adopts the CBN approach in deriving official measures of poverty. Ideally, this requires developing a standard for each basic need for use in evaluating the incidence and extent of deprivation in terms of this standard. However, for lack of reliable benchmark for nonfood needs, a standard is developed only for food needs. The standard for nonfood needs is approximated empirically from the consumption pattern of a reference poor group.

Deriving the poverty line:

Sources of data	Family Income and Expenditure Survey (FIES) Conducted by the National Statistical Office (NSO) Available for 1957, 1965, 1971, 1975, 1985 and every three years thereafter.
Living standard indicator	Per capita income
Calorie norm	2000 calories per capita per day and 100% of the per capita Recommended Dietary Allowances (RDA) for protein and 80% of the per capita RDA for vitamins, minerals and other nutrients
	The average nutritional requirement is arrived based on the average age and sex composition of the Philippine population and their level of physical activity.
Food poverty line	A food poverty line equivalent to the cost of daily per capita food needs is derived by pricing low cost and nutritionally adequate menus (for breakfast, lunch, supper and snack) developed for an individual who lives either in urban and rural areas of each region. The menus were developed in 1988 by the Food Nutrition and Research Institute (FNRI) based on the results of the 1987 Food Consumption Surveys. The cost of every bundle is evaluated at area-specific prices derived from separate price surveys.

This single set of regional menus is used in computing the food poverty lines for all the years when poverty is measured.

For the bought component, the following sets of prices are used: a) NSO Retail prices in Metro Manila for National Capital Region (NCR); b) the composite prices derived from the NSO urban provincial retail prices for urban regions outside the NCR; and c) prices paid by farmers for rural regions outside NCR as gathered by Bureau of the Agricultural Statistics (BAS). For the own-produced commodities, prices received by farmers as gathered by BAS are used. In cases where data are not available, a price value is computed based on the prices of more or less similar commodities.

To get the price per commodity, the required weight of the food in edible form is converted into its "as purchased" (AP) equivalent. Price per commodity is then applied as follows:

$$P_c = (W_{tf}) \times (B_r) \times (P_{pc}) + (W_{tf}) \times (O_r) \times (P_{oc})$$

where W_{tf} = Total required weight of food item

B_r = Proportion of bought

P_{pc} = Price per unit of purchased commodity

O_r = Proportion of own produced

P_{oc} = Price per unit of own-produced

The total cost of the food menu (in terms of peso per day per capita) is the aggregated costs per commodity.

Total poverty line

Total poverty line is estimated using the food share method. Average share of food spending to total expenditures, a , is obtained nonparametrically for households whose total expenditure is within 10 percent around the food poverty line per region. This is used to estimate the nonfood allowance as follows:

$$Z_{nf} = Z (1-a).$$

Area-specific poverty lines are derived as shown below:

$$Z = Z_f + Z (1-a)$$

$$Z = Z_f/a.$$

Sources:

Francisco, V.S., Poverty in the Philippines. January 2000. Unpublished report to ADB.

National Statistical Coordination Board (NSCB), 1997 Philippine Poverty Statistics, Philippines.

THAILAND

The World Bank did one of the pioneering efforts on the technique of estimating poverty in Thailand in the 1970s based on nutritional adequacy for an average Thai individual. This poverty line was widely adopted to measure the poverty incidence and assess poverty profiles in the country in 1962/63 to 1994 using the Socio-Economic Survey (SES) data produced by the National Statistics Office (NSO). The only adjustments made from the original nutrition benchmark of 1,978 calories (derived in 1976 based on the minimum calorie intakes for the Thai population in 1970, is with respect to price changes. While this adjustment is acceptable if one assumes that there were no changes in the population structure and consumption pattern, the Thai government feels that a more accurate estimate of poverty reflecting contemporary circumstances is necessary to really understand the nature and extent of poverty amidst the rapidly changing economy of Thailand.

Two major efforts were undertaken to meet above requirements. The first was done in 1988 by Medhi Krongkaew and was further improved by the same together with Nanak Kakwani in 1996. The collaboration of both efforts resulted in a new technique of estimating poverty line sanctioned by the government. The new methodology aims to address the fact that households differ with respect to calorie needs and that this should be accounted for as well as price differences between regions and areas (urban and rural) and changes in prices of food and nonfood items.

Deriving the poverty line:

Sources of data

Socio-Economic Survey
Available for 1975-76, 1981, 1986 and every two years thereafter
Conducted by the National Statistics Office (NSO)

The survey is done primarily to collect information on household income and expenditures, changes in assets and liabilities, the durable goods ownership, and housing characteristics including other living conditions of households. The survey covers all private, non-institutional households residing permanently in municipal areas, sanitary districts, and villages

Living standard indicator

Per capita income

Calorie norm

The first step in the construction of the poverty line following this new method is to specify the food requirements of individuals and families that shall become the basis for the computation of the food poverty line. Recognizing the fact that household differ with respect to calorie needs, household-specific calorie requirement according to age and sex of individuals living in the household is used.

Calorie norms used are based on the age and sex of Thai population available from the country's Ministry of Public Health.

Energy requirement per day by age and sex:

Age	Male	Female
1-3	1200	1200
4-6	1450	1450
7-9	1600	1600
10-12	1850	1700

13-15	2300	2000
16-19	2400	1850
20-29	2787	2017
30-59	2767	2075
60+	1969	1747

COST-OF-BASIC NEEDS METHOD

Food poverty line

Food poverty line estimation in Thailand starts with the determination of the average cost per calorie. To do this, the average nutritional requirements of the population is computed for each area (municipal areas and sanitary districts in each of the five regions) by means of the weighted average method using the population weight given to each sample household. Nine different food baskets meeting the respective average calorie requirement of the areas are then defined in 1992. These food baskets, which are specific to the prevailing consumption patterns in each region and area are evaluated at prices prevailing in all regions and areas based on a separate survey done by the Department of Business Economics.

In determining the food basket which would meet the calorie requirement, nine different baskets –separate baskets for rural (sanitary districts and villages) and urban areas (municipal areas) in five regions are examined (Bangkok is urban only). Calories obtained per baht from various baskets in 1992 are estimated. The average calories obtained per baht for sanitary district basket is chosen as a basis for computing food poverty lines in 1992. Calories obtained per baht for other years are estimated using price indices that are comparable across five regions, two areas, and over time are computed for 1992 with Bangkok as base. This information forms the basis for calculating the per month cost that would meet the calorie requirements of a household, depending on its specific calorie requirement according to age and sex composition of its household members and its location.

Total poverty line

To arrive at the total poverty line, it was assumed that the poor spend 60 percent of total expenditure on food in Bangkok. Given the food poverty line, the total poverty line is estimated by dividing the food poverty line by the ratio of food to total expenditure. Because of differences in relative prices of food and non-food items of consumption, this ratio is estimated every year, separately for each area and region, using the spatial price indices for food and non-food items of consumption. A household is poor if its per capita income is less than the household-specific poverty line.

Sources:

National Economic and Social Development Board (NESDB), "New Poverty Thresholds for Thailand with Policy Application," Indicators of Well-Being and Policy Analysis, Vol. 2, No. 2, March 1998.

Kakwani, Nanak, Poverty in Thailand. School of Economics The University of New South Wales, Sydney, Australia. Undated.

Kakwani, Nanak and medhi Krongkaew. 1998. "Poverty in Thailand: Defining, Measuring and Analyzing. ' Working Paper No. 4. Development Evaluation Division. NESDB.

VIETNAM

The Vietnamese government aims to reduce poverty through a program that perceives poverty as being closely related to hunger. The General Statistical Office (GSO) has therefore determined a poverty benchmark in 1993 that defines the per capita income necessary to meet essential food needs equivalent to 2,100 calories per capita per day. Similarly, the country's Ministry of Labor, Invalids and Social Affairs (MOLISA) defined a food poverty line in 1997 equivalent to a monthly per capita income sufficient to buy rice ranging from 13 kg to 25 kg depending on the households' regional location.

A broader view of poverty later on is adopted in *Vietnam Development Report 2000* jointly published by the Government of Vietnam, the donor community and non-government organizations. Following the CBN approach, the report maintains the previous nutritional requirement but takes per capita expenditure as welfare indicator instead of income. Poverty estimates are derived using the Vietnam Living Standard Survey (VLSS) conducted in 1992/93 and 1997/98.

Deriving the poverty line:

Sources of data Vietnam Living Standard Surveys (VLSS)
Available for 1992-93 and 1997-98
Conducted by the General Statistical Office (GSO)

Living standard indicator Per capita expenditure

Calorie norm 2,100 calories per capita per day

Refers to the average requirement of the population which is fairly consistent with calorie requirements proposed for other Asian countries.

COST-OF-BASIC NEEDS METHOD

Food poverty line Food poverty line is first derived for 1992/93 using the food consumption of households in the third quintile as the reference composition of the appropriate food bundle. The cost of purchasing the reference food bundle is determined using the national average prices for each item in terms of January 1993 prices obtained from the VLSS.

For 1997-98, the cost of the food basket in 1992-93 is repriced in terms of January 1998 prices. As in the earlier food poverty line, prices are calculated for Vietnam as a whole such that the cost of the food basket is the nationwide average cost expressed in January 1998 prices.

Total poverty line To obtain total poverty line, the average non-food spending for the same reference group is computed and added to the food poverty line.

This is updated to 1998 prices using the inflation rate for nonfood items as obtained by the GSO covering the period in a separate price survey.

To ensure spatial consistency of estimates, poverty rates in Vietnam are obtained by comparing the food and total poverty lines (valued at national average prices) with the per capita expenditure of households adjusted for regional price differences relative to the national average. Spatial and temporal poverty comparison is therefore based on absolute and consistent poverty lines, accounting only for price inflation overtime and cost-of-living differences across areas while maintaining the same food and nonfood standards.

Sources:

Government-Donor-NGO Working Group, "Attacking Poverty," Vietnam Development Report 2000. Consultative Group Meeting for Vietnam, 14-15 December 1999.

Glewwe, Paul , et. al. "Who Gained from Vietnam's Boom in the 1990's? An Analysis of Poverty and Inequality Trends," Development Research Group, The World Bank, undated.