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U N S F I R
United Nations Support Facility for Indonesian Recovery

Identifying the Poorest of the Poor in Indonesia

TOWARDS A CONCEPTUAL FRAMEWORK

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IDENTIFYING THE POOREST OF THE POOR IN INDONESIA : TOWARDS A CONCEPTUAL FRAMEWORK

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Abstract

This paper analyses alternative methods of identifying the 'poorest of the poor' in Indonesian society. Core conceptual issues are first explained to highlight the evolving nature of an understanding of poverty. These include considering the issue in terms of capability deprivation, vulnerability and the political and institutional dimensions of poverty. These ideas are then investigated in the Indonesian context using a range of empirical illustrations. Finally the different strands of the discussion are unified to offer recommendations to policy-makers and statistical agencies on guiding principles for effective identification of the 'poorest of the poor'. Future work will focus on the policy and operational implications of such methods of measurement.

About UNSFIR

The United Nations Support Facility for Indonesian Recovery (UNSFIR) is a project established by the Government of Indonesia and the UNDP to stimulate examination of policy options for the country at an important point in the country's development. The work aims to engender wide public discussion of the issues involved in order to build a new social political consensus for effective and lasting policy implementation.

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The author is grateful to Anis Chowdhury for drawing attention to the evolution of criteria used by the Indonesian government in identifying poor families and households and in highlighting a survey that was used by the Central Board of Statistics in identifying poor households on the basis of non-income indicators. See appendices to this paper.

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I. Introduction: setting the context

This paper, in response to a request from BAPPENAS, analyses alternative methods of identifying the 'poorest of the poor' in Indonesian society. These include considering the issue in terms of capability deprivation, vulnerability and the political and institutional dimensions of poverty. Such considerations imply varied definitions of poverty which will necessarily entail different policy responses in terms of resources spent and the scope of government action. Future work will focus on the policy and operational implications of these different poverty measures.

1. The renewed interest in extreme poverty: towards a global agenda

There is widespread realisation in the international community that, despite a good deal of progress in many parts of the world, the incidence of extreme poverty (however defined) is conspicuously prevalent. This sense of humility is reflected in the re-engagement with 'international development goals', first brought together in1996 in an OECD publication, and the energy being expended by the donor community in the production and implementation of 'poverty reduction strategy frameworks' (PRSFs) for low-income countries.[1] External assistance agencies have re-focussed attention on such noble declarations as halving extreme income poverty in the developing world by 2015. At the same time, recent papers presented to the Executive Boards of the Bretton Woods institutions have strongly argued for an enhanced poverty reduction framework in low-income countries.[2]

Recent international developments – most notably the social consequences of the 1997 Asian crisis and the imminent threat of worldwide recession following the September 11 terrorist attacks on the USA – have only intensified the need for a global agenda on dealing with extreme poverty. Dire predictions have been made by some external agencies that recession in the world economy will push many millions into poverty.[3] There are legitimate concerns that scarce 'donor dollars' may become

[1] See OECD (1996). The international development goals pertain to target reductions – within two decades of the 21st century - in extreme income poverty, malnutrition, infant mortality, maternal mortality and improvements in reproductive health.

[2] These papers can be found in www.worldbank.org/poverty/strategies.htm and www.imf.org/external/np/pdr/prsp/poverty2.htm.

[3] See World Bank (2001a). It should be emphasised that the threat of a world recession existed prior to the September 11 tragedy. As the Asia Recovery Information Centre (ARIC) (2001:16, Box 2) puts it: 'At present, the global economy is experiencing one of its worst synchronised slowdowns, spearheaded

even more scarce as the rich nations of the world become preoccupied with internal security issues and with fighting incipient domestic recessions following the terrorist attacks on the USA. At the same time, donors and aid agencies are likely to be preoccupied with humanitarian and relief operations – rather than long-term poverty - in the wake of the US-led military operations in Afghanistan.

2. The Indonesian agenda

It is in such a global context that the Indonesian agenda on dealing with extreme poverty needs to be appreciated. Here, a contrast needs to be made between the optimism of the Suharto era and the circumspection and uncertainty that affect Indonesia in the post-crisis period.

During the Suharto era, the twin combination of political stability, engineered through a combination of coercion and co-option, and the long economic boom, bred a sense of complacency on the battle against extreme poverty. It was felt that the latter – as a generic phenomenon – was largely tamed. The government needed to focus on pockets of extreme poverty that marked the archipelagic terrain of Indonesia.[4]

The 1997 financial crisis and its aftermath have shaken – perhaps forever- the sense of optimism that characterised the Suharto era. It is widely recognised that Indonesia was the worst hit country in the tragic episode of the 1997 Asian crisis. After an initial bout of robust debate on how badly (or mildly) the poor were affected by the terrible recession of 1998 that followed the financial crisis, a consensus seems to have emerged that poverty shot up for a period, but the worst seems to be over.[5]

Under normal circumstances, such a finding would have inspired cautious optimism. Instead, several developments have overshadowed the onset of even cautious

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by the US…The 11 September attack on the US has …added to the downside risks'. Elsewhere, it observes: 'The International Monetary Fund (IMF) now places world GDP growth for 2001 at 2.7 per cent (down from its 3.2 per cent forecast of May this year)…Consensus Economics now forecasts the average GDP growth rate of about 70 countries it covers in its surveys for 2001 to be 1.7 per cent (lower than its 2.2 per cent forecast of May this year) (ARIC, 2001: 14).

[4] Breman (1999) offers a critique of the way poverty statistics were used in Indonesia under the Suharto regime. This, does not, however, undermine the genuine progress against poverty that was made in the high-growth era prior to the 1997 financial crisis.

[5] For a thorough review of this debate, see UNSFIR (1999). See also Booth (1999, 2000).

optimism. Innovations in poverty measurement and analysis have suggested a disenchantment with simple notions of poverty – such as insufficient income to acquire the basic necessities of life – and a growing a recognition of its multidimensionality. It is increasingly being couched in terms of *deficient capabilities* (lack of basic education, adequate health, nutrition etc), *vulnerability* (the risk that people can move in and out of poverty) and *powerlessness* (the notion that the poor feel helpless and unable to influence the institutional, social and political circumstances that affect their daily lives and their future).[6]

Based on this notion of multidimensionality, findings in the Indonesian context have emerged that suggest that the magnitude of poverty is much more widespread than was initially thought. At least one study claims that as much as 50 per cent of Indonesians are 'poor' based on the notion of vulnerability (vis-à-vis a little over 20 per cent based on conventional definitions of poverty).[7] Another study has suggested that the incidence of capability deprivation was more than twice the rate of poverty (as conventionally defined using consumption expenditure data) that was officially recognised to have prevailed in the Suharto era.[8] Survey data also suggest that approximately 87 per cent of those who are in the bottom quintile of households (in terms of expenditure distribution) do not have the incentive or the capacity to participate in political and civic activities.[9]

Such sombre findings are emerging precisely at a time of dwindling fiscal resources, prospects of prolonged slow growth against the growing threat of a global recession and political uncertainties.[10] To compound these challenges, Indonesia has embarked

[6] For a comprehensive statement on the changing views on global poverty, see World Bank (2000), World Development Report, 2000/2001. See also Kanbur and Squire (1999). The notion of poverty as 'capability deprivation' has been forcefully argued by Sen (1999) and is one of the core planks of the UNDP's global reports on human development. UNDP has also made the point that capability deprivation is equivalent to deprivation of human rights. See, for example, UNDP (2000). The notion of powerlessness is a key feature of a landmark 'voices of the poor' study drawn from the responses of a large sample of poor individuals and households spread across a large number of countries in the developing world. See Narayan et al (2000). A more comprehensive discussion of these issues can be found in section II of this paper. For a critique of the broadening of the notion of poverty, see McCawley (2000).

[7] See World Bank (2000) that draws on Pritchett et al (2000).

[8] See Dhanani and Islam (2000, 2001a).

[9] As reported in World Bank (2001b, table 4, p.9).

[10] Growth in 2001 is now expected to be below 3.5 per cent after being close to 5 per cent in 2000. The central government budget deficit is expected to increase to 6.0 per cent of GDP in the absence of counterveiling measures. See World Bank (2001b: 4-6).

on what one author has aptly called a 'systemic transition'. It is engaged in the quest for democratic consolidation; it has embraced decentralised governance after decades of highly centralised rule; it is struggling to implement a broad-based economic reform agenda.[11]

Not surprisingly, faced with the harsh reality that Indonesia will – for some time to come – no longer face a benign environment with bountiful resources, policy-makers may well be keen to seek ways in which they make use of their scarce resources as efficiently as they can. When applied to the case of dealing with poverty, such a premise translates to the notion that the relevant authorities ought to target scarce public resources to the neediest members of society in order to achieve efficiencies and reduce waste. Hence, there appears to be a willingness to embrace a minimalist approach to deal with poverty paradoxically at a time when the latter is supposed to be more widespread than was once thought.

Is the minimalist approach necessarily the best way of dealing with poverty, given the current state of knowledge on the phenomenon? Is it, in other words, aligned with international best practice? A resolution of this core question is important because it will fundamentally mould the way in which analytical efforts ought to be invested in identifying the neediest members of society or the 'poorest of poor' Indonesians. The paper argues that if one accepts the principle of multiple forms of impoverishment, then a tightly targeted approach to using scarce public resources to deal with extreme poverty may be too simplistic, despite its obvious merits in terms of budgetary and efficiency considerations.

At the same time, accepting the premise that the poor suffer from multiple deprivations raises methodological challenges, intensifies data requirements and poses important policy choices. The point is that someone may suffer from severe deprivation in one terms of one attribute (say, access to safe water) but not necessarily according to another (say, basic education). In such a context, identifying the poorest of the poor is unlikely to be a straightforward affair. Any methodological framework would then simply have to make explicit the multiplicity of deprivations and embody

[11] See Mishra (2001).

value judgements on what aspects of poverty are seen to be of most importance from the standpoint of policy interventions.

Despite the measurement challenges posed by a framework that emphasises the multidimensionality of poverty, the policy implications are not necessarily nebulous. The framework provides scope for a judicious combination of both tightly targeted interventions and broad-based measures that rely on universalistic principles. Thus, while it would be appropriate to argue for selectivity in, say, disbursing the benefits of a food subsidy scheme to deal with food insecure households, it would be equally valid to combine this approach with measures that aim to ensure that all Indonesians are able to reach a prescribed standard of basic education.

3. Structure of the paper: a reader's guide

These, then, are the key ideas explored in this paper. They are articulated through a number of interrelated, but clearly delineated, sections. In section II, the focus is on an amplification of core conceptual issues. The section commences by tracing the evolution of ideas in measuring extreme poverty. The transition from regarding poverty as a monolithic scalar to the more complex notion that poverty manifests itself in multiple forms that may or may not be perfectly correlated is emphasised. The emerging consensus seems to be that extreme poverty is best represented by some combination of low purchasing power, limited capabilities, a high degree of vulnerability and a sense of powerlessness. This allows one to argue for the existence of a 'poverty set' rather than a single, overarching poverty statistic. Linking the different dimensions of extreme poverty is then seen to be the primary measurement exercise.

Section II also highlights the point that even within an analytical tradition that seeks to express extreme poverty as a unidimensional scalar using income/consumption data, there are some unresolved debates. Should absolute or relative norms be the underpinning principles in measurement? Should one apply 'international' or 'national' poverty lines? The section notes that those working within this tradition have also offered powerful insights by highlighting the distinction between overall poverty and the severity of poverty.

Section III applies the conceptual issues developed in the previous section to the Indonesian context. There is a range of empirical illustrations. These include: measures of extreme poverty based on income, wages, and consumption; the distinction between the overall incidence of poverty and the severity of poverty; the contrast between 'national' and 'international' poverty lines; the spectrum of capability deprivation; evidence of vulnerability and some indications of the powerlessness of the poor.

Section IV offers the conclusion to this paper. It weaves together the different strands in the discussion and builds on that premise to offer recommendations to policy-makers and statistical agencies on the guiding principles for identifying the poorest of the poor in Indonesia. The section makes the point that the existing statistical system has the capacity to generate much of the information that is required.

II. Conceptual issues

1. Identifying the poorest of the poor: the income/consumption approach

Poverty is typically referred to a state of affairs in which households and individuals have insufficient resources and abilities to meet their needs. The standard exercise is to draw on data on income or consumption at the household/individual level and compare this with some defined threshold. If people fall below this threshold – or the 'poverty line' – then they are deemed to be 'poor'. This classic definition of poverty of inadequate purchasing power in relation to minimal needs has a reasonably ancient pedigree and can be traced to the seminal work of Seebohm Rowntree towards the end of the 19th century.[12]

Despite its seeming simplicity, the income/consumption approach engenders a host of questions and issues that have not always been satisfactorily resolved. How should one define the threshold or poverty line? Should income or consumption data be used? Should everybody who fall below the poverty line be counted as 'equally poor'? In that case, how does one identify the 'poorest of the poor'?

[12] See Chen and Ravallion (2000). The classic study by Rowntree was working class families in 1899 in the English city of York. The study was published in 1901 and his conclusion was that 10% of the population was living in poverty.

While all the issues have not been satisfactorily resolved, a certain degree of consensus seems to have emerged. First, there is general agreement that, at least in the context of developing countries, the threshold should draw on a minimal consumption bundle that satisfies 'basic' nutritional standards (e.g. a prescribed level of daily calorie intake) and embody 'essential' expenses on non-food items. Of course, there still remains the contentious issue of linking poverty lines to societal norms when defining 'basic' nutritional standards and 'essential' expenses on non-food items. This in turn sparks debates on whether poverty lines ought to be 'absolute' or 'relative'. One suggestion is that an explicit, yet simple, link to relative standards is possible by invoking the notion that poverty lines should be set at 50% of the median/average income or consumption expenditure of the relevant population of a country – a convention that has been widely used in industrialised countries.[13] Yet another suggestion is that one should focus on the bottom quintile (or 20%) of the population in the expenditure/income distribution.[14] Nevertheless, statistical agencies in many developing countries, including Indonesia, continue to press on with the idea that it is possible to devise poverty lines based on the absolutist principle that there is indeed an objectively verifiable minimal consumption bundle.

In some recent work, suggestions have been made that resolving the contentious issue of identifying appropriate poverty lines should start from the premise that the exercise is inherently subjective. Hence, one plausible way of proceeding is to construct – or at least inform the choice – of poverty lines by drawing on self-reported or perceptual data of households.[15] For example, a typical question could be: 'what is the minimum amount necessary for a typical household in this community to get by'? One possible advantage of this approach is that it allows some judgements to be formed on prevailing societal norms without the statistical agencies or other practitioners imposing their judgements on what the prevailing norms are. Self-reported data of this nature then can be used to derive poverty lines.

Of course, subjective measures of poverty need not simply be limited to the exercise of deriving poverty lines. They can be more directly used to identify sub-groups in

[13] See Canadian Council on Social Development (CCSD) (2001). The Council makes a strong plea for using relative norms in establishing poverty lines.
[14] This so-called 'quintile analysis' is used extensively in section III of this paper.

poverty, for example, by asking knowledgeable respondents who they consider to be the most deprived members in their community and the criteria that they use to arrive at such a judgement. In addition, people could be asked to engender self-reported data on well-being. Do they have enough? Are they better off today relative to the past using their own assessment of what 'better off' means?

Subjective measures of poverty – generated in this manner – do not necessarily mean that they are inherently more reliable than or analytically superior to objective measures of poverty. Respondents may merely reflect their predilections and prejudices. In any case, so-called objective measures of poverty have to rely on household surveys. Nevertheless, what one can at least claim is that the simultaneous availability of both self-reported data on well-being and objectives measures of deprivation allows practitioners to test the extent to which the two are correlated. Such an exercise can then be used to enrich poverty analysis.

The income/consumption approach to poverty measurement is also characterised by a debate on the relative merits of a 'national' poverty line and an 'international ' poverty line. The former is country-specific, but suffers from the disadvantage that it cannot be used for comparative purposes. How can one compare poverty in Indonesia to, say, Thailand, given that the thresholds are specific to the circumstances of each country and hence essentially non-comparable? A well-known suggestion is that a national poverty analysis ought to be conducted using country-specific poverty lines, while global comparisons should rely on international poverty lines. This has spawned the World Bank's 'one dollar a day' approach, that is, the view that the poor are those who do not possess purchasing power equivalent to at least one dollar a day (at constant prices).[16]

On the issue of using income or consumption data, the professional consensus seems to be that the latter is to be preferred to the former. For a variety of reasons,

[15] See, for example Goedhart et al (1977); Pradhan and Ravallion (1998)
[16] See World Bank, World Development Report 2000/2001.

consumption data appear to be more reliable and a better approximation of welfare than income, particularly in developing countries.[17]

A case could, however, be made for using data on real wages of unskilled workers to check on the consistency of estimates provided by consumption indicators. Wages often represent the primary source of income for the poor. They are also frequently available. In addition, data on minimum wages could be used to identify the incidence of the 'working poor' (that is, those who do not receive the minimum wage) and to check the extent to which minimum wages are aligned with official poverty lines. Where minimum wages are regarded to be too generous in relation to existing poverty lines, a fraction of that (e.g. 50% of minimum wages) could be used to classify the working poor.

So far, the income/consumption approach has not made a distinction between the poor as a whole and the poorest of the poor. This entails differentiating between degrees of poverty. The standard practice – at least until the mid-1970s – used to be one in which everybody who fell below the poverty line were considered to be equally poor. Hence, the emphasis was on a 'headcount' - how many were poor. Largely as a result of a seminal contribution by A.K. Sen, it is now widely agreed that it is necessary to take on board two additional issues: how poor are the poor; and what is the degree of inequality among the poor? [18] The former is now referred to as measuring the 'poverty gap', the latter as measuring the severity of poverty. In more technical terms, this is a poverty index that is sensitive to the degree of inequality among the poor.[19]

In terms of these statistics, the overall incidence of poverty – or the head count ratio - cannot identify what is happening, even in aggregate terms, to the poorest of the poor. It is possible, in principle at least, for the overall incidence of poverty to go down or remain constant, but at the same time for the incidence of the poorest of the poor to go up. For insights on this dimension, it is necessary to focus on the poverty gap and the

[17] See Cloudeaul et al (2001). The standard argument is that consumption better reflects a person's/household's ability to meet basic needs than current income particularly when the latter fluctuates a lot.
[18] See Sen (1976).
[19] See Foster et al (1984). The measure of overall incidence of poverty – the proportion below the poverty line – is referred to as the 'headcount ratio' or 'Po'; the depth of poverty is the 'poverty gap' or 'P1' and the severity of poverty is identified as 'P2'.

severity of poverty. If the indices measuring the latter go up, then one can say that the incidence of extreme poverty has gone up. An added advantage of the poverty gap is that it can be interpreted as a measure of the resource transfers necessary (as a proportion of GDP) to eliminate extreme poverty (assuming such resources are 'perfectly targeted' to the poor).

Despite their analytical robustness, measures of the poverty gap and the severity of poverty are not routinely available in many developing countries. Fortunately, in the case of Indonesia, the statistical agencies have, for some time, started the practice of publishing estimates of the poorest of poor to the extent that they can be inferred from measures of the poverty gap and the severity of poverty index – see section III of this study.

An alternative, and arguably intuitive way, to identify the poorest of the poor using the income/consumption approach, is to use two poverty lines, one more generous than the other. The former would measure the overall incidence of poverty; the latter would measure the incidence of extreme poverty and hence be more pertinent in identifying the numbers that make up the poorest of the poor. It appears that in international analysis of poverty, this notion of dual poverty lines is becoming accepted. Thus, in the World Bank approach, the '$1 a day' benchmark may be interpreted as being relevant to measures of extreme poverty. This may be complemented by a '$ 2 dollars a day' benchmark to show how widespread poverty is in developing countries when allowance is made for a more generous threshold.

How should one translate the idea of dual poverty lines when dealing with country-specific poverty lines? One suggestion is that a distinction should be made between an overall poverty line and a 'food poverty line' – with the latter measuring the proportion of those who cannot even afford a minimal food bundle and hence represent a possible measure of the incidence of extreme poverty.[20] Yet another possibility is to use 80% of the poverty line – a procedure that seems to work quite well in the Indonesian context.[21]

[20] See Dhanani and Islam (2000, 2001a) who applies these ideas to the case of Indonesia. It turns out that the food poverty line is approximately 65% of the overall poverty line. See also Ikhsan (1999).
[21] See, once again, Dhanani and Islam (2000).

Despite the above innovations (the poverty gap, the severity index, dual poverty lines), any exercise that aims to identify the poorest of the poor using the income/consumption approach needs to confront a contentious issue. Suppose one starts with the philosophical premise that everybody has a right to a minimally specified decent living standard (defined in relation to the circumstances of a particular society) in the same way that everybody has a right to a vote in a democracy. The promulgation of such a 'rights-based' approach to poverty eradication then makes the focus on subgroups in poverty (for example, only those below the food poverty line or 80% of the poverty line) unjustifiably restrictive. It would entail the contentious value judgement that society needs to care only about arbitrarily designated worst-off cases.

Even if complex issues entailing value judgements could be resolved, the income/consumption approach cannot readily identify who are the poorest of the poor. For this a construction of a poverty profile is required. Thus, provided the relevant data are available, it should be possible to identify the characteristics of those who are, say, living below the food poverty line. Where do they live? How do they earn a living? What are their demographic characteristics and other personal attributes?

2. Capability deprivation and the poorest of the poor

The income/consumption approach measures inadequate purchasing power as a measure of deprivation. Even if one could guarantee adequate purchasing power, it does not guarantee the elimination of actual deprivation. Thus, for example, people in a particular community could have the potential capacity to acquire basic education, but because of, say, lack of access to appropriate facilities may not be able to acquire basic education (at least at reasonable cost). Hence, while people in this hypothetical community may be 'non-poor' based on non-monetary dimensions, they would still be deprived in their inability to be educated. The converse may also be true. Someone could be deemed 'poor' in a monetary sense, and yet, because of, say, an activist public policy that provides free basic education, may have the capacity to acquire rudimentary schooling.

As the above admittedly contrived example shows, it has now become commonplace to view '…poverty…as encompassing not only material deprivation…but also low achievements in education and health'.[22] A more general statement of this notion is that poverty should be conceptualised as 'capability deprivation', that is the severe restriction on 'capabilities that a person has …the substantive freedoms he or she enjoys to lead the kind of life he or she values'.[23] The ability to be literate and healthy are thus not only a means to an end, enabling people to escape from the trap of material deprivation by being productive members of society, but are ends in themselves. Indeed, such a line of thinking regards the elimination of capability deprivation as being at par with the acquisition and consolidation of core human rights. The right to be literate and healthy is as fundamental as the right to freedom of expression.

The current 'international development goals' recognise the notion of poverty as going beyond material deprivation. Thus, the international development community, based on discussion at various United Nations conferences in the 1990s, declare the need to:

- Reduce by half the proportion of people living in extreme income poverty (living on less than $1 a day)
- Ensure universal primary education
- Eliminate gender disparity in primary and secondary education (by 2005)
- Reduce infant and child mortality by two-thirds
- Reduce maternal mortality rates by three-quarters
- Ensure universal access to reproductive health
- Implement national strategies for sustainable development in every country by 2005, in order to reverse the loss of environmental resources by 2015.

Not all of these goals directly relate to poverty eradication goals (for example, the reference to environmental management), but the declarations make it clear that simply reducing income poverty is not enough. Furthermore, it is not merely an issue of focusing only on the education and health indicators prescribed in the international

[22] World Bank (2000), World Development Report 2000/2001, p.15.

development goals. One could argue that capability deprivation should also take account of such indicators as malnutrition, access to safe drinking water, access to sanitation facilities and access to shelter of acceptable quality.

How does one identify the poorest of the poor in such a diverse context? There are two issues here. The first pertains to the ability to differentiate among degrees of capability deprivation, the second to the task of aggregation. The problem that one encounters at this juncture is that, once the elimination of capability deprivation is seen as part of providing core human rights, the corresponding indicators become indivisible. Thus, one either has basic education or one does not; one is either literate or one is not. In such a case, it makes sense to treat everybody as equally deprived if they have not attained, say, basic education or adult literacy because they have been deprived of their fundamental entitlements and freedoms.

If, on the other hand, the strict alignment between capability deprivation and provision of core human rights is relaxed, it is possible to differentiate among different degrees of capability poverty. For example, it is possible to generate indices of moderate and severe malnutrition analogous to measures of extreme and overall poverty that was discussed under the rubric of the income/consumption approach. This is how it works.

Infant and child malnutrition are often measured in terms of standardised scores – often called Z scores – based on weight for age and weight for height. The weight for age index captures underlying problems of chronic malnutrition, while the weight for height index captures the phenomenon of 'wasting', which often occurs when children are suddenly deprived of food, as is likely to happen at times of famine. There are internationally approved tables or schedules that prescribe what the indices should be for a child or an infant experiencing 'normal' stages of development. A child/infant is considered underweight – and hence malnourished - if he/she deviates from this benchmark, where such a deviation is captured in terms of 'standard deviations', otherwise known as Z scores. The higher the Z scores, the greater the extent of malnutrition. This framework has been fruitfully applied to the case of Indonesia – see

[23] Sen (1999).

section III of this study. In such a framework, one could plausibly argue that the poorest of the poor are those households where the degree of infant/child malnutrition is 'severe' in terms of the Z scores.

The Z-score methodology need not be limited to analysis of child malnutrition. They could, in principle, be applied to a range of capability indicators in order to yield a classification of moderate and severe deprivation of capabilities.

The issue of aggregation emerges because non-monetary indicators of poverty are diverse and cannot just be added up in the way that monetary units can. UNDP has, over a period of time, attempted to offer a composite measure of capability deprivation. Known as the 'human poverty index' (HPI), the framework shares the spirit of the UNDP's well-known 'human development index' (HDI). The HPI is an aggregation of several indicators of deprivation: the percentage of people not expected to survive to 40; the illiteracy rate; percentage of people without access to water and health services; percentage of underweight children under the age of five. Unlike the HDI, which is classified into 'low', 'medium', 'high' categories of global comparisons, UNDP has not made any attempt to distinguish among different degrees of HPI. Furthermore, the HPI does not give a measure of the proportion of people living in human poverty in a way that could be compared with the proportion living in income/consumption poverty.

It ought to be acknowledged that, as in the case of income/consumption poverty, measures of capability poverty encounter measurement and data availability problems. In the case of various indicators enshrined in the international development goals, such as infant and child mortality rates, a major problem is that they are not available on a frequent basis. They are generated from census data and surveys that are conducted at periodic intervals. Thus, statistical agencies are often forced to use a variety of 'interpolation' methods to create annual data on these vital indicators.

There are conceptual problems as well. Education data, for example, relies heavily on gross enrolment rates. As is well known, this is merely a proxy for school attendance. Furthermore, gross enrolment rates could register an improvement merely because of

an increased incidence of grade repetitions. Of course, one should rely on net enrolment rates, but they are not readily available for many developing countries.

The point about raising methodological, measurement and data complications in estimating the poorest of the poor from the perspective of capability deprivation is not to inspire a nihilistic stance, but to suggest caution and circumspection in their use. To reiterate, the notion of capability deprivation encourages the use of a diverse array of non-monetary indicators of well-being. If one argues that eliminating capability deprivation is equivalent to the provision of core human rights, then all those who are deemed to be deprived in terms of education and health indicators should be treated as equally poor. If, on the other hand, one relaxes the tight alignment between the elimination of capability deprivation and the provision of core human rights, then it is possible to differentiate among different degrees of capability deprivation.

3. Vulnerability, powerlessness and the poorest of the poor

Vulnerability

There is a growing realisation that people can move in and out of poverty.[24] This has in turn inspired greater attention on the notion of vulnerability as an important dimension of poverty. Vulnerability may be defined as '...the probability or the risk today of being in poverty or to fall into deeper poverty in the future'.[25] Such vulnerability to a decline in well-being may be triggered by shocks at *the micro /household* level (e.g. illness, death of breadwinner in the family), at the *meso/community level* (e;g. a bad harvest, a collapse in the price of key products, environmental degradation) and the *macro/economy–wide level* (e.g. the 1997 Asian financial crisis).

Unlike more conventional poverty analysis, vulnerability analysis is of more recent origin. The methodological framework is evolving, but some directions have emerged. These include:

[24] Jo and Ellwood (1983) are among the pioneering studies that examined the dynamics of poverty.
[25] Coudouel et al (2001: 32).

- Ø The construction of 'poverty transition matrices' using panel data, or at least using a couple of cross-section surveys that seek to track the same set of households over two points in time
- Ø Tracking movements in and out of poverty for various both poor and non-poor households enabling the construction of *ex-post* entry/exit probability rates
- Ø Applying econometric techniques to cross-section data to generate *ex-ante* probability estimates of vulnerability
- Ø Using income variability estimates by poor and non-poor households and/or by a range of socio-economic groups.

Table II.1: A hypothetical poverty transition matrix

Cell percentages	Status in period 2		
Status in period 1	Poor	Non-poor	Total
Poor	30	30	60
Non-poor	15	25	40
	45	55	100

The above table – representing a hypothetical poverty transition - shows data for two periods of time. All the figures show percentages of poor households. In this hypothetical case, 50 % or 30 out of 60 households were poor in both periods suggesting that some have managed to move out of poverty. At the same time, the numbers show that some non-poor households in period 1 fell into poverty by period 2.

In principle, depending on data availability, it should be possible to use quarterly data to monitor seasonal variations in poverty. For example, it should be possible to assess the co-movement between harvesting seasons and changes in poverty.[26]

[26] The impact of seasonality on poverty and vulnerability is explored in Dercon and Krishnan (2000).

Using poverty transition matrices, it should also be possible to calculate probability rates of movements in and out of poverty for poor and non-poor households. Reverting to the above example, poor households – observed over the two periods – have a 50 per cent probability of moving out of poverty, or conversely, a 50 per cent chance of remaining in poverty.

Econometric techniques may be utilised to identify which factors influence the risk of low income/consumption in the future. If two observations are available from cross-section surveys, then it is possible to carry out a regression of income/consumption on household characteristics to find out the influence of such characteristics on future consumption.[27]

It is possible to use panel data to distinguish between different degrees of vulnerability. One study has offered the following categories.[28] The worst cases are those who always remain below the poverty line. This is an example of extreme vulnerability characterising the 'persistently poor'. The next category is the 'chronically poor' or 'vulnerable' when their income on average is below the poverty line, but there are episodes when they are above the threshold. Then there are those who are 'transiently poor' or 'not very vulnerable' in the sense that they experience episodes of poverty, but their income is on average above the poverty line. Finally, there are those who are 'not vulnerable' in the sense that they have never experienced any episode of poverty over the observed periods.

Estimates of income variability by socio-economic groups – for example by using coefficient of variations in earnings – have sometimes been used in vulnerability analysis. The relationship between income variability and poverty appears to be complex. Consider two individuals. One is a low-wage worker employed in the formal sector of the urban economy; the other is a small farmer. Suppose that the low wage worker hovers just under the poverty line, but also has low income variability. Suppose too that the small farmer has, on average, income just above the poverty line, but has relatively high income variability. Hence, from a static perspective, the urban worker would be non-poor, the rural worker poor, but from the standpoint of income

[27] Coudouel et al (2001) drawing on Christiansen and Boivsert (2000). See also Chaudhuri et al (2001).

variability, the small farmer would experience some vulnerability. Indeed, some studies show that the chronically poor have low income variability (as measured by the coefficient of variation) than the transiently poor.[29]

Vulnerability analysis, while innovative and insightful, suffers from one deficiency. Its reliance on panel data means that the estimates may be afflicted by measurement errors. In particular, households that are being tracked over time may be misclassified, with poor units being categorised as non-poor and vice-versa. There is also no assurance that the same households are being identified over time. Such measurement errors mean that the fluctuations in current poverty identified by vulnerability analysis may be exaggerated.

What are the implications of the discussion so far in identifying the poorest of the poor? It appears that while one can distinguish between different degrees of vulnerability, the dividing line is not always clear. The case for including those who are transiently poor may be less compelling, but should one focus only on the worst-off case, that is, the 'persistently poor' to use the classification scheme of one study? Or should one also include the 'chronically poor' (that is, those who are poor on average, but have episodes when they are above the poverty line)? This is ultimately an issue of value judgement, but one should guard against too restrictive a criterion. The paper is inclined to include both the persistently poor and the chronic poor in estimates of the poorest of the poor.

Powerlessness

The poor lack voice in the political system and feel powerless to influence the decisions, conduct and behaviour of state institutions. This is the institutional basis of poverty – a feature that has always been widely recognised, but seems to have received renewed emphasis in studies that rely on self-reported experiences and perceptions of the poor.[30]

The problems of voicelessness and powerlessness of the poor manifest themselves in a variety of forms. They are subjected to '…rudeness, humiliation, shame, inhumane

[28] See Jalan and Ravallion (1999, 2000).
[29] McCulloch and Baulch (1999).

treatment, and exploitation at the hands of the institutions of state and society'.[31] The poor can justifiably claim that threats of physical abuse and arbitrary exercise of bureaucratic power prevent them from participating in civic and political affairs. They can justifiably claim that in everyday interactions with public officials they invariably fail to receive the civility and courtesy that other, more fortunate, members of society so readily receive. As some of the poor who were surveyed in a developing country noted, public officials treated them 'like animals, worse than dogs'.

While the notion of powerlessness of the poor is well-known, what methodologies should one use in identifying the link between powerlessness and extreme poverty? Data on crime, violence and political coercion do not generally focus on the socio-economic status of the victims. As a result, a potentially fertile source information cannot be readily tapped to identify powerlessness as a key attribute of poverty. What one has now are purpose-built surveys – alluded to earlier – that try to draw on the self-reported experiences and perceptions of the poor. Usually, there is a focus on small group discussions and an identification of public institutions that are considered by the poor themselves as significantly affecting their daily lives. Respondents are then asked to rate the institutions in terms of a range of criteria that they nominate. Using such a procedure, it is possible to elicit the perceptions of the poor on their interactions with state institutions. This remains, at this stage at least, a major source of information on measuring lack of voice and power as manifestations of extreme deprivation.

4. Linking the different dimensions of extreme poverty: Methodological complications and policy implications

If, as suggested, poverty is a complex, multi-dimensional phenomena, entailing some combination of inadequate purchasing power, deficient capabilities, extreme vulnerability and powerlessness, how does one link the different dimensions of deprivation into a coherent approach? There are a number of directions that one could take.

[30] The most well-known is the multi-volume study on 'voices of the poor'. See Narayan et al (2000).
[31] World Bank, World Development Report 2000/2001, p.35.

Using income/consumption poverty as a proxy for other forms of deprivation

To start with, if the different dimensions of poverty are highly correlated, then, in methodological terms, measuring the poorest of the poor in a context of multiple deprivations does not pose a major challenge. One can simply use income/consumption poverty as a proxy for representing other forms of deprivation. Unfortunately, the different forms of poverty may not be well correlated. Someone could be 'capability poor' but not 'income poor'. Or one country might show great improvement in health but not in education. Or vulnerability could go up, while at the same time current income poverty goes down. This brings to the fore the challenging task of weighing the relative values of the different dimensions of poverty.

Using a welfare function

Assuming that the different forms of poverty are not perfectly, or even highly, correlated, one approach that could be used is a so-called multidimensional welfare function. In such an approach, all the relevant attributes of well-being would be incorporated in the welfare function. It follows that all those who fall below a specified minimum level of aggregate welfare would be regarded as poor.[32] It follows too that alternative minima of total welfare could be specified, with a stringent threshold being used to identify extreme deprivation. The welfare function approach allows for trade-offs in the sense that it uses perceptual data on individual preferences to assess how much improvement is needed in one dimension in order to compensate the loss of another dimension in such a manner that total welfare is held constant.

Despite its appeal, the welfare function approach faces rather formidable problems of measurement. How does one specify a suitable welfare function in which non-market elements of individual welfare (such as lack of voice and power) are sensibly incorporated and to which appropriate weights can be attached?

[32] Tsui, (1997); Bourguignon and Chakravarty, 1998).

Using a composite index

If, as suggested, specifying a welfare function incorporating weights estimated from revealed preferences of individuals represents formidable difficulties, why not impose arbitrary weights on the different attributes of poverty to arrive at a composite index? As was noted at a previous juncture, the UNDP's human poverty index (HPI) represents just such an example in which equal weights are attached to the different dimensions of poverty to arrive at an aggregate index. The critique that one could offer is that such a weighting scheme is arbitrary reflecting the value judgement of the practitioner rather than the individuals or households whose well-being are being measured. On the other hand, a UNDP-style aggregation could be defended on the ground that it reflects the sensible judgement that all dimensions of deprivation are equally important.

Whatever the merits of a composite index, one difficulty in practical terms is that it does not reveal the way in which the different dimensions of poverty behave and interact. If, for example, the HPI goes down, has it gone down because child malnutrition has improved or access to basic education has gone up? From a policy-making perspective, these are important questions that deserve to be answered. It seems that a composite index is useful for advocacy purposes, but not for the purposes of highlighting areas of deficiency that need corrective policy actions. It also needs to be noted that, as constructed, a composite index, such as the HPI, cannot reflect current concerns such as vulnerability and powerlessness. Despite these caveats, the HPI framework is useful because it highlights the need to monitor a range of capability deprivation indicators.

Universalism vs minimalism: can the dilemma be resolved?

One theme throughout this paper is the need to espouse a rights-based approach to measuring well-being. This is reflected in the argument that the development of human capabilities is a means to an end as well as an end in itself. In that case, access to basic education is as core a human right as freedom of expression. The principle of measurement that ensues is 'universalism': treat everybody as equally deprived if they are poor along any particular dimension, whether it is lack of basic education, poor

health or inadequate purchasing power. This goes against the principle of 'minimalism' in which policy-makers ought to be concerned only with the worst-off cases in all dimensions of poverty. Can this dilemma be resolved?

The principle of minimalism has some appeal because it implies that governments have a limited capacity to deal with poverty and, therefore, should target resources carefully. Casting a net too widely to deal with the magnitude and multiplicity of poverty would be too ambitious, wasteful in terms of use of scarce resources and ultimately ineffective.

The principle of universalism has appeal too. It encourages one to take a holistic approach to poverty eradication. Suppose that the poorest of the poor represent 10 % of the population in a country, but suppose that 30% of the population lack basic education. Should policy-makers worry only about the 10% and not the 30% who lack basic education? A preoccupation with narrow definitions of poverty can easily lead governments to lose sense of broader issues. It may well be that investing in basic education may be a better way of dealing with deprivation than a focus on narrowly based poverty programs that deal only with the worst-off cases.

The principle of universalism also implies that a preoccupation with the poorest of the poor may conserve scarce resources, but this could be offset by high compliance and administrative costs of running poverty programs on stringently specified targeting criteria. As is well-known, any program that relies on targeting is vulnerable to two types of errors. There is the risk that those who do not belong to the targeted group end up being the beneficiaries of the program, thus creating so-called 'leakages'. On the other hand, there is the risk that policing programs to ensure that leakages are minimised could end up by denying benefits to those that deserve to be supported. Which risk, leakages vs denial, is morally less defensible? There is no ready answer. Indeed, strict definitions of the poorest of the poor in a context of generalised deprivation compounds these moral dilemmas. In what way is someone lacking a basic education but located just above the food poverty line is, say, less deserving of support than someone who is below the food poverty line? In what way is someone in poor health and having an erratic source of income $1.50 a day in the urban informal sector is less worthy of support than, say, someone earning below $1.00 a day?

There are, of course, no convincing and clear answers to the above questions. It seems that the principle of minimalism, with its emphasis on narrow definitions of poverty, is useful in proving a rationing device when policy-makers feel obliged to match scarce resources to discrete poverty programs, but it is less useful in developing a holistic approach to poverty eradication.

Dealing with the multidimensionality of extreme poverty: towards a statistical and monitoring framework

The stage is now set for suggesting some guidelines for developing an appropriate statistical and monitoring framework for identifying extreme. Two features need to be simultaneously highlighted: a range of income and non-income indicators showing the extent and multiplicity of deprivation; a more selected range of income and non-income indicators showing the poorest of the poor. The idea is to develop a 'poverty set' rather than an overarching poverty statistic. The matrix below (Table II.2) provides an illustration.

Table II.2 : Table II.2: Elements of a statistical and monitoring framework for identifying extreme poverty

Indicators	Overall poverty	Poorest of the poor	Comments
Consumption/income indicators *National poverty line (NPL) *International poverty line(IPL) *Real wages and minimum wages	(a) % below NPL (b) % below $2 a day (c) Bottom quintile of exp.distribution (d) Real wages of unskilled workers (e) % below minimum wage	(a) % below food poverty line (FPL) (b) % below PL set 80% of overall NPL (c) % below $ 1 a day (d) Bottom decile of exp. distribution (e) % below 50% of minimum wage (f) Poverty gap ratio (g) Poverty severity index	
Capability indicators *Education *Health *Nutrition *Housing *Composite index	(a) % adult illiteracy (b) % gross/net primary enrollment ratio (c) % without primary education (d) % who do not live upto the age of 40 (e) % of children (below 5) undernourished (f) % Infant under (below 1) undernourished (g) Infant mortality rate (h) Maternal mortality rate (i) % without access to sanitation facilities (j) % without access to safe drinking water (k) % without access to health services (l) % with housing using 'insufficiently durable' construction material (eg dirt floor, thatched roof) (m) Human poverty index	(a) <u>to (d); (g) to (l)</u> communities with highest incidence, using a three-tier ranking of 'low'. 'medium', 'high' using the principle of 'equal thirds'. Alternatively, use Z-scores for 'low', medium', 'high' using the national average as the benchmark <u>(e) to (f)</u> '% with severe malnourishment' using Z-scores	In the UNDP methodology, global comparisons of the human development index are made by using a three-tier ranking of 'low', medium', 'high'. Proposed indicators have drawn on above methodology to identify same ranks using national data
Vulnerability indicators *Poverty transition matrix *Income variability *Econometric estimates of ex-ante probability of falling into poverty	(a) % vulnerable (inc. chronic poor, persistently poor, transiently poor) (b) Coefficient of variation of income	(a) % 'very vulnerable' (inc. persistently poor, chronic poor) (b) Correlation between coefficient of variation and 'very vulnerable' population	Panel data required for construction of poverty transition matrix Cross-section data appropriate for econometric analysis
Power and voice indicators	No simple statistics, except perceptual data from group discussions	As in previous column	Could correlate perceptual data with poverty profile of respondents

As can be seen from the above matrix, there are a variety of ways in which the poorest of the poor can be identified. One could use consumption/income indicators, a wide range of capability indicators and vulnerability indicators. In all cases, the presentation of the data is made in such a way that extreme poverty is seen as a subset of overall poverty. Power and voice indicators currently are not in a form that is readily useable since they rely heavily on perceptual data drawn from small discussions and cannot be translated into simple statistics.

The next step in developing a statistical and monitoring framework for identifying the poorest of the poor is to assess the extent to which different indicators are correlated. An illustration is offered in the matrix below (Table 11.3). If the correlation is significant, then using one indicator as a proxy for another seems justified. On the other hand, if the correlation is insignificant, it does not necessarily mean an unresolved dilemma or a methodologically uncomfortable result. Indeed, the notion of multiple deprivations means that one should analyse poverty in all its aspects and hence use all pertinent indicators to highlight such multiplicity. It also means that in setting poverty reductions goals, the emphasis should be on multiple targets rather than a single target – as is reflected in the current international development goals.

Table II.3 : Consumption, capability and vulnerability: a correlation matrix

	Capability indicators for both overall and extreme poverty	**Vulnerability indicators for both overall and extreme poverty**	**Comments**
Income/consumption indicators for both overall and extreme poverty	Yes	Yes	Use household data if possible, or use regional data within a country
Significant correlation	No	No	

Further ways in which the above 'correlation matrix' could be extended is to relate various deprivation indicators to the demographic (age, gender,household size and composition), labour market experience (e.g. employment status) and residential location of the poor. A more rigorous approach would entail multivariate regression analysis that would link poverty incidence with the various characteristics of the poor. Such analysis will not necessarily provide vastly different results to the more simple

correlation exercise, nor will it convincingly demonstrate causation ('why are people poor'?) – but they can reinforce existing findings.

III. Indonesian case studies

1. The poorest of the poor using income/consumption threshold: Indonesia and comparative cases

The primary issue in income/consumption indicators of poverty is the construction of an appropriate poverty line. How has Indonesia resolved this issue?

Constructing an appropriate poverty line: The CBS approach

The Central Board of Statistics (CBS) is entrusted with the task of constructing a poverty line. Until the outbreak of the 1997 financial crisis, the CBS methodology was not widely known. The agency still does not go through a thorough process of public scrutiny. On the other hand, there is now a much greater willingness on the part of CBS to share its methodology with its professional peers encompassing academics, other members of the bureaucracy (notably the National Development Planning agency: BAPPENAS) representatives of Indonesian think-tanks and external development agencies.

The CBS methodology on the construction of a poverty line has evolved over time. The first official poverty estimate in Indonesia was released in 1984 covering the period 1976-1983. The concept of poverty used by the official statistical agency is based on the cost of basic needs approach, and poverty is defined as a lack of command over basic consumption needs - both food and non-food. The minimum standard for food adequately required by individuals is set at 2,100 calories per day and is called food adequacy (poverty) line. This was based on the recommendation of the National Workshop on Food Nutrition held in 1978. The basic food need covers 52 food items consumed by majority of population who live just above the poverty line, called "reference" population. The standard for non-food basic need is based on the total expenditure on non-food by the majority of the reference population (representing deciles 2 and 3 in the expenditure distribution). The non-basic needs consist of 25-27 non-food items that include clothing, housing, education, health,

transportation, and other essential items. The selection of non-food commodities is based on the results of "The 1995 Basic Commodity Basket Survey". The expenditure value of this minimum standard for basic non-food is defined as the non-food adequacy (poverty) line.

Over the 1976-1999 period, CBS introduced several changes in its calculation method. The key changes entailed: (i) adjustments for food consumed outside the home in 1987, based on special food surveys; (ii) moving from a calorie-cost method for setting the food poverty line to the pricing of a food bundle method in 1993; (iii) producing national estimates of poverty incidence by adding up provincial estimates in 1996, the latter obtained using province-specific food and non-food bundles; and (iv) the introduction of new poverty line standards in 1999.[33]

Some of these changes have wide ramifications for interpreting poverty statistics in Indonesia. The adoption of higher poverty line standards in 1999 resulted in a major upward revision of poverty incidence for 1996 (from 11% to 18% nationally). Consequently, the new 1996 estimate is no longer comparable to poverty estimates for previous years.

It should be noted that CBS is not the only agency in Indonesia officially involved in estimating poverty or dimensions of deprivation. Another agency is the National Family Planning Board (or BKKBN) that has also constructed an aggregate measure of well-being by collecting detailed information on individual families on an annual basis and classifying them into five mutually exclusive socio-economic categories. The BKKBN approach is discussed in **appendix 1**. Its methodology has been widely criticised, despite the fact that it has been used for targeting prospective beneficiaries of public assistance schemes. There is, at best a weak correspondence between the BKKBN estimates and the CBS estimates of poverty. For example, 75% of households classified as 'poor' (or 'pre-wellbeing' category) under the BKKBN criteria are found to be non-poor using consumption-based measures of poverty.[34]

[33] The CBS methodology is presented in detail in CBS/UNDP (1999) and CBS (2000).
[34] See Suryahadi et al (1999: 4-5).

Overall poverty and extreme poverty using the CBS poverty line: some estimates

The CBS does not make an explicit attempt to estimate the poorest of the poor, although its publication of the poverty gap and the poverty severity index in recent years reflects a concern with identifying trends in extreme poverty. There has, however, been no attempt to identify the appropriate cut-off point for the poorest, such as the 'food poverty line' or some variation of a stringent threshold that is appropriate in identifying the incidence of extreme poverty. Nevertheless, thresholds for extreme poverty can be readily obtained from CBS data.

Illustrations of trends in extreme poverty are shown in Table III.1 for the national level, as well as rural and urban areas. As can be seen, based on the latest poverty line, the incidence of overall poverty at the national level is a little over 20% as recorded at 1999. The relative size of the poorest of the poor of course varies, depending on the cut-off point used. At 80% of the current poverty line, the national incidence of extreme poverty is around 13 %, but drops to approximately 5% using the 'food poverty line'. Clearly, a resolution is necessary of the appropriate poverty line for depicting the relative size of the poorest of the poor. Such an exercise has never really been conducted in Indonesia, but it needs to be done.

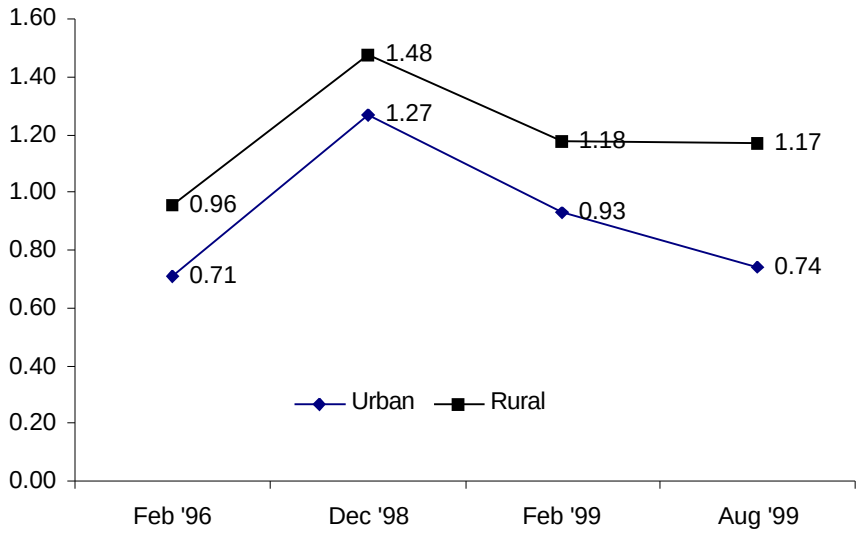
Table III. 1: Overall poverty and extreme poverty using alternative poverty lines, Indonesia, 1996-99

	Overall poverty line (PL) (Rp/capita/mth)	80% of poverty line (PL) (Rp/capita/mth)	65% of poverty line (PL) or 'food poverty line' (Rp/capita/mth)	Poverty incidence (%) for overall poverty line	Poverty incidence (%) at 80% of PL	Poverty incidence (%) at 65% of PL
National						
1996	36165	28932	18806	19.23	9.16	2.88
1999	84451	67560	54893	22.86	12.86	4.57
Urban						
1996	43731	34985	28425	15.63	7.18	2.55
1999	98274	78619	63878	19.99	11.12	3.85
Rural						
1996	31721	25377	20619	21.27	10.24	3.06
1999	75613	60490	49148	24.71	13.99	5.04

Source: Adapted from Dhanani and Islan (2000: table A4, p.31).

Figure III.1 shows trends in the poverty severity index for Indonesia for the period 1996-1999 (derived from SUSENAS 1996, 1998 and 1999). The data – as presented – is useful identifying trends, but is not effective in indicating to policy-makers the relative size of the poorest of the poor required for intervention and assistance.

Figure III.1. Trends in Poverty Severity Index (P_2), 1996 – 1999



The CBS poverty line and its critics

Despite attempts to modify the official poverty line in Indonesia, critics note that deficiencies remain that have, in the past, led to relatively low poverty estimates. The low pre-crisis CBS estimate of consumption poverty in Indonesia for 1996 and in previous years is due to two main factors: a relatively low poverty line in rural areas, and an underestimated consumption of non-food items. First, the official food poverty line in rural areas was just 78% of its urban equivalent, a gap far in excess of expected urban-rural price differentials. This is because the CBS method, while using a standard bundle of food for both urban and rural households, allowed them to consume these commodities in different quantities, thus implicitly allowing urban consumers to purchase more expensive food items. The alternative use of an identical food basket for both urban and rural areas, in terms of both type and quantity as

proposed by the World Bank would significantly increase the rural food poverty line.[35] Given that poverty estimates are quite sensitive to small changes in the poverty line, a higher rural food poverty line would substantially raise the estimate of rural poverty.

Second, the value of non-food items in the total official poverty line amounted to less than 20% of total household expenditure until 1996 (22% in urban and 15% in rural areas). This is quite low relative to the expenditure pattern of households in the neighborhood and below the poverty line observed in SUSENAS consumption surveys, who spent around a third of their total consumption expenditure on non-food items. The new poverty line standards used for the revised 1996 poverty estimates only partially corrected the extent of non-food consumption (28% in urban and 24% in rural areas), while they did not correct for the low rural food poverty line relative to the urban one. As such, the CBS method continues to yield relatively low total poverty lines, and correspondingly lower poverty estimates, particularly in rural areas.

Critics allege that CBS determines the reference group 'subjectively'. What are its implications? Well, choosing a richer reference group will automatically result in a poverty line that is higher than if a poorer reference group is chosen'.[36] Such fluctuations in the poverty line will occur even if the calorie content embodied in the food poverty threshold remains unchanged.

Another point of contention is the use of regional poverty lines in Indonesia. As noted, this procedure was incorporated as part of official methodology in the 1996. The use by the statistical authorities of an approach that essentially treats national poverty incidence as a 'residual' (entailing aggregation of provincial poverty estimates) complicates comparability over time and introduces contentious issues of regional differences in prices and consumption patterns in Indonesia. Should one use a poverty line that can be applied across all regions – and rural and urban areas within regions – or should one highlight local representation and thus use region-specific

[35] World Bank (1993)
[36] SMERU (2001: 2)

poverty lines? These questions were raised in some studies conducted in the mid-1990s.[37]

CBS uses province-specific food bundles (varying in food types and quantities as well as prices), while some external agencies – such as the World Bank - prefers using a national reference food bundle based on the national consumption pattern of the poorest 15% of the population (varying in price across provinces) to provide a consistent poverty profile over space and time.[38]. A variation of the latter method is the use of an 'iterative' method to determine both the reference population and its typical non-food budget share while CBS computes the cost of province-specific non-food bundles in the same way as it does the food bundle.[39] . It has been shown that moving to region-specific poverty lines compounds the extremes in the spatial distribution of poverty, making the estimates higher for 'high-poverty' provinces and lower for 'low-poverty' provinces.[40] One must note, however, that despite these modifications, the CBS method yields ranking of provinces from the least to the most poor that are quite consistent with the iterative method, with a Spearman rank correlation coefficient of 0.92 [41]

International poverty lines

As noted in section II of this study, another way of monitoring the poorest of the poor, especially when international comparisons are required, is to use the international poverty lines (IPL) as advocated by the World Bank. There are now two IPLs available: one uses a $1 a day criterion, the other $2 a day. It is possible to interpret the former as a measure of extreme poverty, the other as a measure of the incidence of deprivation using a generous threshold. Indeed, the notion of using the $ 1 a day as a measure of extreme poverty is now reflected in the in the international development goals. Table III.2 offers an illustration for Indonesia and some selected Asian countries.

[37] World Bank (1993), Bidani and Ravallion (1993), Ravallion and Bidani (1994).
[38] World Bank, (1993:103). A recent restatement of the CBS position is Sutanto et al (2000)
[39] Suryahadi *et al.*(2000:13); Pradhan *et al.*,(2000)
[40] Chesher (1998)
[41] Pradhan *et al*.(2000: 14).

Table III.2: Poverty incidence based on international poverty lines, Indonesia and selected Asian countries (%)

Year: 1999 or nearest observation	$1 a day	$2 a day	National poverty line
Indonesia	12.00	65.10	23.50
Malaysia	-	8.10	8.00
Philippines	13.00	46.10	37.50
Thailand	4.30	32.20	15.90

Source: Asia Recovery Information Centre (ARIC), ARIC Social Indicators, www.aric.adb.org

As can be seen, there is a huge difference between the poverty rates when based on alternative poverty lines. Based on $1 a day threshold, Indonesian poverty in 1999 was 12%, but jumps to 65% based on $2 a day! For Philippines and Thailand, there are also very significant discrepancies. Note that for Indonesia, Philippines and Thailand, poverty rates using the $ 1 a day standard is at least half the incidence recorded under the national poverty lines – suggesting that the international standard pegged at 1$ a day for these countries is probably best seen as a measure of extreme poverty. Note that in the case of Malaysia the poverty rates are virtually identical when using both national and international standards.

There are critics of the international poverty line (IPL) approach advocated by the World Bank. One study found that the World Bank methodology underestimated poverty incidence relative to national poverty lines, sometimes by quite high margins, in eight out of 11 Asian countries reviewed. The study noted that '…in its present formulation, the international poverty line approach has limited applicability in quick monitoring of the impact of a crisis or a program on a country or a group of countries'.[42] On the other hand, if as this study suggests, the $ 1 a day criterion is used as a measure of extreme poverty, then it probably turns out to be more plausible as a means of undertaking global comparisons.

Real wages as a measure of extreme poverty in Indonesia

A study claims that real wages ought to be used more extensively for purposes of poverty monitoring. The logic is that the primary source of income of the poor is the

'…sale of their labour, whether as wage workers, petty traders, becak drivers or day labourers. Changes in the purchasing power of the pay they receive for their labour, that is changes in their real wage, are therefore a good indication of their economic well-being.'[43] In addition, it is claimed that '…wage data have one great advantage over household income or expenditure surveys: they are very cheap and be carried out quickly'.[44] The usual frequency is either monthly or quarterly. Of course, one has to recognise the many deficiencies of real wages as a measure of poverty. Wage data do not provide any information work intensity; they do not provide any indication of dependent members of a worker; poor people can also derive income from non-labour assets; there is no reference to income distribution. Despite these caveats, it would be useful to find out the correlation between the behaviour of real wages and poverty in Indonesia. Table III.2 offers an illustration over the long-run (1976-78 to 1996-1998).

As can be seen, there is, on the whole, a reasonably good correspondence between the movement in real wages for agricultural workers (in Java) and the changes in poverty incidence. The conspicuous exceptions seem to be 1978-80 and 1987-90 when poverty fell even when real wages.

Table III.3: Comparison of changes in poverty and real wages in Indonesia

	Changes of number of poor based on official poverty line (%)	Agricultural real wages in Java (%)
1976-78	-12.90	4.4
1978-80	-10.4	-1.8
1980-84	-17.3	4.4
1987-90	-9.3	-5.7
1990-1993	-4.8	19.2
1993-1996	-13.1	14.2
1996-1998	52	-33

Source: Adapted from Papanek (1999:table 2).

There is another way in which wage data can be used to monitor poverty in Indonesia. This pertains to the use of minimum wage data. One can work out the proportion of workers earning below the minimum wage and interpret this as a measure of the incidence of the 'working poor'. Such an interpretation would be valid if minimum

[42] David et al (1999:14)
[43] Papanek (1999:1).
[44] Papanek (1999:4).

wage represents a sensible estimate of minimum living standards for an average worker. Tables III.4 and III.5 offer an illustration.

Table: III.4 The notional monthly minimum wage at the household level as percent of urban monthly poverty line at the household level, 1996 and 1999

Province	1996	1999
Aceh	92.5	60.0
North Sumatra	103.6	69.4
West Sumatra	85.2	53.1
Riau	148.9	87.4
Jambi	104.0	54.8
South Sumatra	80.4	55.1
Bengkulu	105.3	48.2
Lampung	107.8	56.5
Jakarta	112.4	69.3
West Java	126.9	74.7
Central Java	101.0	61.8
Yogyakarta	111.5	59.9
East Java	123.0	72.9
Bali	125.1	69.8
West Nusa Tenggara	91.7	55.0
East Nusa Tenggara	87.6	48.2
West Kalimantan	70.9	46.5
Central Kalimantan	96.6	66.3
South Kalimantan	85.3	54.0
East Kalimantan	86.9	57.5
North Sulawesi	111.2	58.4
Central Sulawesi	95.6	53.5
South Sulawesi	88.4	52.4
South East Sulawesi	105.2	49.9
Maluku	94.0	46.1
Papua	106.3	65.8
Indonesia	**109.1**	**64.5**

Source: Authors' calculation of BPS poverty line, minimum wages and SAKERNAS 1998.
Note: Due to data limitation, the notional monthly minimum wage at the household level uses the average number of 1998 wage earners per household which is 1.4. The monthly household poverty line is obtained by multiplying the per capita monthly per capita income with the average number of household member in 1999.

Table III.5: Percentage of paid workers receiving below the minimum wage by province, 1994 and 1998

Province	1994	1998
Aceh	25.0	14.7
North Sumatra	39.6	23.4
West Sumatra	26.1	17.4
Riau	27.6	23.4
Jambi	21.3	12.6
South Sumatra	35.2	31.3
Bengkulu	28.7	17.5
Lampung	43.5	28.0
Jakarta	21.0	19.2
West Java	41.0	34.9
Central Java	44.2	34.7
Yogyakarta	25.2	22.1
East Java	47.6	37.7
Bali	37.7	25.4
West Nusa Tenggara	46.6	40.0
East Nusa Tenggara	27.0	26.2
West Kalimantan	15.0	16.5
Central Kalimantan	7.5	14.7
South Kalimantan	22.1	18.6
East Kalimantan	17.5	18.3
North Sulawesi	25.1	20.3
Central Sulawesi	21.7	21.1
South Sulawesi	16.1	14.7
South East Sulawesi	20.6	8.8
Maluku	26.6	15.7
Papua	16.4	10.8
Indonesia	**38.1**	**29.9**

Source: SAKERNAS, 1994 and 1998

As can be seen from Table III.4, minimum wages on average were approximately 9% higher than the official (urban) poverty line in 1996, but by 1999, they were 36% lower than the official (urban) poverty line. This is because of the substantial upward adjustment of the poverty line between 1996 and 1999. Thus, the 1999 minimum wage threshold is a more reasonable indicator of the incidence of the working poor than the standard prevailing in the mid-1990s. The data suggests (table III.5) that 30%

of paid workers could not meet their basic necessities (as measured by the standards of minimum wages) in 1999.[45]

What about future developments? In light of substantial adjustments in minimum wages in 2001, it is unlikely that the 1999 standards will prevail in the future. Indeed, one could once again see minimum wages exceeding the official poverty line in various provinces, sometimes by substantial margins. In that case, it may be useful to use a certain percentage of the minimum wage – say 50% - as one possible cut-off point for assessing the extent of the poorest of the poor among paid workers.

Identifying the poorest of the poor in Indonesia using consumption/income indicators: further issues

As noted, estimating both extreme and overall poverty using consumption/income indicators must start from the availability of an appropriate poverty line. The contentious nature of the use of the official poverty line in Indonesia is essentially related to the lack of a consensus on what poverty means.

Is there a simple way out of this predicament? It may be tempting to suggest that one should use some simple rules. For example, some conventions have developed in the use of relative poverty lines. Recall from section II that one such convention is that the relative poverty line could be set at 50% of median income or expenditure. This procedure is, as noted, widely used for international comparisons across industrialised countries. Unfortunately, it is unlikely to work in the case of Indonesia where overall living standards are still modest by international benchmarks. As Table III.6 shows, the rule of 'one-half of median income/expenditure' yields poverty lines that are even lower than the food poverty line in 1999 and is 28% below the official poverty line in 1996. The 'one-half rule' may serve as a rather stringent cut-off point for the poorest of the poor, but it is unlikely to engender consensus in Indonesia.

What about the notion that one should focus on the bottom 10 to 20% of the expenditure distribution? Of course, when defined in this fashion poverty is always 10

[45] For a more exhaustive analysis of minimum wages in Indonesia, see Islam and Nazara (2000) and Dhanani and Islam (2001b).

to 20% and never changes over time. The advantage is that it seems to be in the range where most of the poor are in Indonesia and likely to be in the medium term. Furthermore, as will be highlighted in the discussion at a later juncture, existing household surveys can be readily manipulated to highlight the disadvantages suffered by the bottom 20% of households vis-à-vis richer households in terms of a range of capability indicators.

Table III.6: Alternative poverty lines for Indonesia, 1996 and 1999 (national level only)/Rupiah per month per capita

	Overall poverty line (CBS)	80% of poverty line	65% of poverty line	Relative poverty line set at 50% of median expenditure
1996	36165	28932	18806	26216
1999	98274	67560	54893	54467

Source: Calculated from CBS data

While simple rules, such as a focus on the bottom 20% of the expenditure distribution, are useful, there may be a case for adopting a more rigorous approach to the construction of an appropriate poverty line that is at the crux of identifying the size of the poorest of the poor using consumption/income data. The government may wish to review the time-honoured practice of giving CBS the sole responsibility of constructing a poverty line. One possibility is the use of a national forum that brings in pertinent stakeholders that convene to agree on a definition of consumption poverty in Indonesia. This national forum-driven exercise could be reviewed every three years in order to coincide with the national socio-economic surveys (SUSENAS) that provide the basis of estimates of consumption poverty in Indonesia.[46]

[46] As is well known, a part of SUSENAS is conducted every year collecting information on the characteristics of 200,000 households and over 800,000 individuals. This part of the SUSENAS is known as 'SUSENAS core'. Another part of the SUSENAS is conducted every three years, specifically collecting information on very detailed quantities and values of consumption from around 65,000 households. This is the SUSENAS consumption module that forms the basis of constructing poverty lines.

2. Capability deprivation and the poorest of the poor: issues and evidence

Capability deprivation from the perspective of the Indonesian national human development report

There has, until the onset of the 1997 financial crisis, been a preoccupation with measuring consumption/income poverty in Indonesia. This has meant that crucial aspects of capability deprivation received relatively little attention.

At the global level, UNDP, through the launch of its 'human development reports', tried to champion the importance of developing human capabilities as a core goal of economic development.[47] With the benefit of hindsight, one could maintain that UNDP was less successful in propagating this message through its attempted national human development reports in Indonesia. None of the informally published reports of the 1990s received much publicity. This deficiency seems to have been remedied with the launch of the national human development report in 2001 – the first such report for post-crisis Indonesia developed in partnership with CBS and the National Development Planning Agency.

The theme of the 2001 report endorses the 'rights-based' approach to poverty eradication, arguing that the development of human capabilities, entailing agreed outcomes in such areas as basic health and education is equivalent to the consolidation of core human rights and entitlements. The report argues that all Indonesians, irrespective of who they are and where they live, are entitled to nationally mandated minimum human development standards. Such a compact, it is argued, is seen as a key plank in the consolidation of democracy and the emergence of a well-governed, decentralised Indonesia.

The current national human development report brings to the fore the challenging task of resolving the dilemma in Indonesia between the principle of universalism enshrined in the rights-based approach to poverty eradication and the minimalist ideas embodied in the notion of the poorest of the poor. There is, as yet, no official resolution of this highly topical issue, but as a preamble it is worth observing how

capability poverty is being viewed in Indonesia from the perspective of a major national report.

The HPI framework: application to Indonesia

As noted, the HPI is a composite index that tries to bring together the different dimensions of capability deprivation into a single scalar. As noted too, it suffers from two disadvantages. First, it arbitrarily imposes weights on the different components of capability poverty. Second, it cannot be interpreted as a measure of the incidence of poverty in the same way that head count ratios of consumption/income poverty can be. Nevertheless, the HPI is useful as an advocacy tool. More importantly, the HPI framework draws attention to five key indicators of capability deprivation: % of people not expected to survive to age 40; the adult illiteracy rate (%); % of population without access to safe water; % of population without access to health services; % of undernourished children under the age of five. Table III.7 illustrates their use in the Indonesian context

Table III.7 : Key indicators of capability deprivation, Indonesia, 1990-1999

	1990	**1996**	**1999**
HPI	27.6	25.2	25.2
Population not expected to survive to age 40 (%)	15.2	18.3	15.2
Adult illiteracy rate (%)	18.5	14.4	11.6
Population without access to safe water (%)	54.7	53.1	51.9
Population without access to health services (%)	14.0	10.6	21.6
Under-nourished children under the age of five (%)	44.5	35.4	30.0

Source : BPS/BAPPENAS/UNDP (2001 : annex 1.2, p. 15)

From the above table, one could infer that, as at 1999, the degree of capability deprivation varies from 52 % (more than half of the Indonesian population do not have access to safe water) to 12% (this being the proportion of the adult population that are deemed to be illiterate). The extent of child malnutrition is also quite high

[47] Non-income dimensions of poverty also received considerable attention in the 1990 World Development Report published by the World Bank.

(30%), particularly when judged against the benchmark that a well nourished population typically has around 3% of children who suffer from some form of malnutrition.[48] There have been improvements in the various indicators between 1990 and 1999, with the conspicuous exception being the deterioration of the population without access to health services (it jumped from 10.6% to 21.6% between 1996 and 1999).

Other important indicators of the well being of mothers and children pertain to primary schooling, infant and maternal mortality. Target reductions in these indicators are now part of the international development goals. The evidence, as at 1999, suggests that net enrolment rates at the primary level is around 95% and infant mortality is around 47 (per thousand live births). One weak spot is the maternal mortality rate which, at 450 per 100,000 live births, is one of the highest in South-east Asia.[49]

How do these figures compare with estimates of consumption poverty? This depends, of course, on the comparators being used. At a little over 20% of the population, consumption poverty in 1999 is broadly aligned with some indicators of capability deprivation, but is notably below the levels recorded by other indicators (especially child malnutrition and access rates to safe water).

Alternative studies of capability deprivation in Indonesia: the HKI/GOI Nutrition Surveillance System

Aspects of the information embodied in Table III.8 can be reinforced by other studies that share the spirit of the notion of capability deprivation. A good example is the series of studies conducted by the Helen Keller International and the Government of Indonesia (HKI/GOI) Nutrition Surveillance System (NSS). NSS was particularly active in monitoring maternal and child malnutrition in the wake of the 1997 financial crisis. Illustrations of the indices that the HKI/GOI have used are shown in Table III.9.

[48] Sadaah et al (1999:2).
[49] BPS/BAPPENAS/UNDP (2001: ch.3).

Table III.8 Indicators of maternal and child malnutrition, NSS sites, Indonesia, February 1999 to February 2000

Indicators of malnutrition	Feb-Mar 1999	Apr-May 1999	Dec99-Feb 00
Wasting among mothers (%)	13	12	15
Wasting among children (aged 12-23 months) (%)	13	14	11
Stunting among children (aged 12-23 mths) (%)	32	34	38
Underweight children (aged 12-23 mths (%)	32	39	38

Source: Adapted from HKI/GOI (2000), pp.5-6. Maternal wasting is measured as low bodyweight compared to height (BMI) with less than 18.5 kg/m2 being used as the appropriate cut-off point. Wasting among children is measured in terms of low weight for height; underweight is measured in terms of low weight for age; stunting is measured in terms of too short a stature for age. All the indicators for children use the 2 standard deviations below the reference population as the cut-off point (or 'Z-scores').. All the indicators, both for children and mothers, reflect a combination of the decrease in the quantity and quality of food and an increase in the frequency and severity if illness

Table II.8 suggests that the incidence of both maternal and child malnutrition is quite high in Indonesia, although there has been some improvement in one case over the course of 1999 (the prevalence of stunting seems to have declined). The incidence of malnutrition varies from 11% to 39% for the NSS sites.

Identifying different degrees of capability deprivation in Indonesia

So far, the focus has been on the overall incidence of capability deprivation. As noted in section II, it should be possible to identify different degrees of capability deprivation. Such an exercise is, of course, necessary to identify the poorest of the poor from the perspective of capability poverty.

One can go back to the HPI methodology and work out the most deprived communities/regions in Indonesia in terms of this framework. How would one define a community or a region in this context? It seems that a focus on provinces – and districts within provinces - is appropriate, given the current agenda of decentralisation in Indonesia, where regional actors are most likely to play a much more important role in shaping the country's future. Furthermore, Indonesia is committed to developing a scheme of fiscal transfers to the districts. Hence, the issue

of how fiscal transfers ought to be designed to maximise their impact on poverty eradication goals will play an important role in current and prospective policy debates.

Using HPI data, it is possible to group the more than 250 districts on which relevant information is available into three tiers (the higher the value of HPI, the more deprived the district). These are: 'low' HPI (less than 25 which is the national average for 1998); 'medium' HPI (between 25 and 40); 'high' HPI (greater than 40). The analysis shows the following distribution. 129 districts have low HPI; 154 districts have medium HPI; only 11 districts have high HPI.[50]

An alternative methodology for working out different degrees of capability poverty is to use so-called Z-scores, a point that was highlighted in section II. Studies on child malnutrition in Indonesia have utilised this methodology. One study has suggested that if, as is standard practice, a Z-score of –2 (that is, two standard deviations from the WHO standard) is the cut-off point for defining malnutrition, then a Z-score of –3 could be interpreted as a case of 'severe malnutrition'. When applied to Indonesia, the results show that the proportion of severely malnourished children was around 8% in 1999.[51] In absolute terms, the magnitude is quite striking suggesting that '…of Indonesia's 23 million children under five years, 1.8 million are severely malnourished'.[52]

The Z-score methodology need not be limited to the measurement of child malnutrition. It could be applied to other indicators of capability deprivation, particularly when studying its extent across the different provinces and districts of Indonesia. Thus, for example, the three-tier classification of districts by the level of HPI could be re-worked by assigning Z-scores (in terms of the standard deviation of the HPI values from the national average) to the different districts and categorising them into 'moderately deprived' and 'severely deprived' cases. Clearly, there is scope here for fruitful empirical work.

[50] Adapted from BPS/BAPPENAS/UNDP (2001:74).
[51] Jahari et al (2000)
[52] UNICEF (2000: 13).

Capability deprivation and the poorest of the poor in Indonesia: further issues

The launching of the national human development report in 2001 has created a momentum in Indonesia for taking a renewed look at how poverty is measured and analysed and how poverty eradication goals ought to be set. As noted, a preoccupation with measuring consumption poverty has given way to an examination of capability deprivation. In advocating a rights-based approach to poverty eradication, the national human development report suggests that the government should seriously consider the use of the international development goals and the principle of universalism in a manner that would suit the spirit and requirements of a democratic, decentralised Indonesia. In such a context, the notion of the poorest of the poor would be seen as too restrictive as it would militate against the universalistic principle that all Indonesians are entitled to minimum human development standards.

Indonesia has, of course, incorporated many of the international development goals in its national plan documents, but a case could be made for regionalising these goals and merging them with others. These include: universal access to health services, universal access to safe drinking water, the ability of all Indonesians to have access to shelter of acceptable quality, universal literacy and the government's stated intention of ensuring that all Indonesians have at least nine years of basic education. These goals should then become an integral part of a human development compact for Indonesia. The extrapolation of historical trends suggests that Indonesia as a whole will meet most of the international development goals and the targets based on universalistic principles within two decades, but many regions will miss out – some by a long way. The logic of such a framework suggests that these regions should be regarded as part of 'the poorest of the poor'.

At a time when Indonesia has committed itself to consolidating democratic governance and regional decentralisation, the need to engage in deep and extensive public deliberations on setting poverty eradication targets for all regions seems most appropriate. As the Indonesian human development report suggest, one way to trigger

such deliberations would be to hold a 'National Social Summit' – to agree on national standards, the entitlements of each region and the necessary plan of action'.[53]

3. Vulnerability, powerlessness and the poorest of the poor in Indonesia

Vulnerability

Until the onset of the Asian financial crisis in 1997, vulnerability was not a widely recognised phenomenon in Indonesia. It was simply assumed that cross-section surveys offered an adequate description of the phenomenon of poverty. Certainly, this assumption appeared quite plausible during the long economic boom of the Suharto era, when popular expectations of uninterrupted improvements in living standards held sway. In the more sombre circumstances of the post-crisis period, when many from the emergent middle class joined the ranks of the poor, even if temporarily, it became evident that it was necessary to assess the risk of individuals and households falling into poverty or getting even poorer. Reflecting this mood to capture movements in and out of poverty, a spate of studies has explored the prevalence of vulnerability in Indonesia.[54] Some of these studies have been made possible by the fact that various surveys were carried out that tracked the same set of households over time. For example, the '100 Villages survey' interviewed a panel of over 10,000 households four times from August 1998 to October 1999.[55] A 'mini-SUSENAS' (that is, a smaller version of the full SUSENAS) was carried out in December 1998 and about 7,500 households were re-interviewed in August 1999.[56]

An alternative technique that does not rely on panel data has also been developed. It relies on regression techniques to estimate a '…predicted mean consumption level, predicted consumption volatility and vulnerability to poverty for each household'.[57] The estimates are derived from cross-section data on expenditures and a number of household and community characteristics. In the case of Indonesia, this has entailed

[53] BPS/BAPPENAS/UNDP (2001:4)
[54] See Skoufias et al (2000), Pritchett et al (2000), Chaudhuri et al (2001), Suryahadi and Sumarto (2001), Widyanti et al (2001).
[55] The survey is conducted by CBS and funded by UNICEF. It should be noted that the 100 Villages survey is not meant on a representative sample of the country. It was designed (in 1994) to offer a representation of various parts of the rural economy. Hence, the conclusions of any study based on this survey needs to be treated with some caution.
[56] This was conducted by CBS and funded by UNDP.
[57] Chaudhuri et al (2001: 1).

the merging of SUSENAS and PODES (village potential) data, the latter being a complete enumeration of villages in terms of such characteristics as size, population, infrastructure and local industries.[58]

An illustration of the key findings on vulnerability is provided in Tables III.9, III.10 and III.11. The first table draws on poverty transition matrices based on the '100 Villages Survey', the others on regression techniques applied to SUSENAS.

Table III.9, Persistent, chronic and transient poverty, 1999

Poverty category	Incidence (%)	Extent to which mean real per capita consumption is % below (-)or above (+)poverty line	Variance as measured by standard deviation
Persistently poor	17.5	- 30.0	0.1
Chronically poor	15.5	-10.0	0.1
Transiently poor	24.8	+ 20.0	0.2
Never poor	42.2	+ 90.0	0.7

Source: Adapted from Widayanti et al 2001, Table 5, p.11. The original data source is the 100 Villages Survey.

As Table III.9 shows, 17.5% of the poor are 'persistently poor', that is, they are always poor over the periods observed. 15.5% are 'chronically poor', that is, they are usually poor over the period observed. 24.8 % 'transiently poor', that is, they are sometimes poor over the periods observed. 42.2% are never poor over the periods observed. The 'vulnerable' population would include the transiently poor implying that the prevalence of vulnerability is larger than the prevalence of poverty per se. It is of some interest to note from the table that income variability (as measured by the standard deviation) is in fact highest for those who are never poor. It is also of some interest to note that the persistently poor and the chronically poor – who form the poorest of the poor in terms of this framework – have average consumption that are 10 to 30% below the poverty line. This suggests that the use of 80% of the poverty line to designate the overall incidence of extreme poverty in Indonesia (see previous discussion in section III.1) seems to be of the right magnitude.

[58] Suryahadi and Sumarto (2001).

Table III.10 revisits the above poverty categories using SUSENAS-cum-PODES data. It pertains to two years: 1996 and 1999.Both current consumption poverty and vulnerability jumped between the two years. As can be seen, the head count ratio goes up from 15.6% to 27.4%.[59] At the same time, the prevalence of vulnerability went up from 18.1% to 33.7%. This suggests that vulnerability is not only significantly higher than current consumption poverty, but it also went up more sharply than the former with the onset of the 1997 financial crisis.

Table III.10, Poverty and vulnerability, 1996-1999

Poverty category	**1996**	**1999**	**Change**
Transient poor	12.4	17.9	5.5
Chronic poor	3.2	9.5	6.3
Total	15.6	27.4	11.8
Total vulnerable group	18.1	33.7	15.6

Source: Adapted from Suryahadi and Sumarto, 2001, Table 1, p.10.

If, as suggested, the definition of the poorest of the poor in Indonesia may be limited to those experiencing chronic poverty, then the relative size of the group was rather low in 1996 (3.2%). It rose to a more substantial figure of 9.5% in 1999.

Table III.11 presents a simple matrix in which the correspondence between poverty and vulnerability is shown more explicitly. Clearly, there is a great deal of overlap between the proportion in poverty and the proportion that are vulnerable, but the two do not coincide perfectly. Hence, while 78% of the currently poor are vulnerable, 32% of the non-poor are also vulnerable.[60] It is the inclusion of the non-poor in vulnerability estimates that explains why in Indonesia, as in many other developing countries, the proportion of the population that faces a non-trivial risk of future poverty is significantly higher than the proportion currently observed to be poor.

[59] The discernible reader will note that these estimates vary from the CBS estimates presented earlier. This is due to the use of a different poverty line and, to some extent, the merging of two datasets.
[60] It is worth noting that different studies generate different estimates of vulnerability. In Pritchett et al (2000), the prevalence of vulnerability varies from 30% to 50%. In Chauduri et al (2001) it is 45%. In Sumarto and Suryahadi (2001), it is estimated to be 34%. The differences in the estimates stem from different definitions of vulnerability and use of different data.

Table III.11, Poverty and vulnerability, a simple matrix, 1999

	Non-poor	**Poor**
Non-vulnerable	64%	22%
Vulnerable	32%	78%

Source: Adapted from Chaudhuri et al (2001), p.1. Note that the prevalence of vulnerability is 45% according to this study. The original data sources are mini-SUSENAS December 1998 and 7,500 households re-interviewed in August 1999.

Powerlessness

Recently, attempts have been made in Indonesia as part of a world-wide study that has tried to listen to the 'voices of the poor'.[61] The purpose is to elicit responses from the poor through small-group discussions. This in turn allows one to obtain perceptual data on direct experiences of poverty.

An important theme that emerges from the above exercise is that the poor in Indonesia, as in many other developing countries, feel

- A strong sense of exclusion from decision-making processes that directly affect their lives
- A strong sense that women have no voice in decision-making processes
- A strong sense of distrust of state institutions.[62]

Exclusion from local decision-making processes

Respondents in poor communities that were surveyed were resigned to the fact that they were excluded from local-level decision-making processes. As one person in East Nusa Tengarra noted:

'When the Village Development Council calls a meeting, all the decisions about a project or program have already been made…Even an old, aged and blind man …will be invited along to the meeting, along with rest of the village men. They would all remain silent and listen…'

[61] Narayan et al (2000). For Indonesia, the relevant sources are: Consultations with the poor in Indonesia as compiled by Mukherjee (2000) and Bangsal and Sari (2000).
[62] The discussion draws on Mukherjee (2000) as reported in World Bank (2000, pp24-25, 55).

Elsewhere, someone observes:

'Those who are able to have influence are only people with high social status, the village officials or the rich'.

Lack of voice of women in local decision-making processes

Here are some typical observations:

- Women's groups everywhere confirmed that women are neither invited nor expected to attend village meetings which are often conducted at male-only events and places such as Friday post-prayer meetings…or the Village Forum
- Where women have their community gatherings and activities, they are often there as conduits for implementing development programs or self-help initiatives, with little or no decision-making roles
- 'When women are invited to the meeting (of the Village Development Council), they are only given the task to prepare and serve the refreshments…'
- Both women and men seem to concur that '…community decisions are rights and responsibilities of menfolk. Women's role is only to accept and implement them'.

Lack of trust of state institutions

The poor trust an institution that is perceived to be transparent, fair, sticks to commitments made, offers assistance without hidden agendas and believes in the capacities and convictions of the poor. When judged against such criteria, a number of faith-based NGOs were singled out, but none of the state institutions were identified. In particular, rural women consistently excluded village councils and government programs for poverty alleviation as worthy of their trust, and as being open to community influence.

While listening to the 'voices of the poor' in Indonesia is, in and of itself, a fascinating exercise and corroborates what has been widely recognised as key attributes of poverty, the challenge lies in translating such perceptual data into meaningful indices that can be readily tracked. Currently, one lacks voice and power

indicators that can be readily compared to consumption/income indicators of poverty, capability deprivation and measures of vulnerability. Perhaps greater attention needs to be paid to the design of national household surveys in the future that would routinely incorporate components that seek to elicit information on the civic and political activities of the poor. Certainly, some data that are available in this form suggest that well over 80% of low-income households in Indonesia do not participate in political and civic activities.

4. Linking the different dimensions of extreme poverty in Indonesia: issues and evidence

There is a well-established tradition in the Indonesian bureaucracy to try and monitor the poorest of the poor in terms of both income and non-income indicators, given the need to target appropriate beneficiaries of a range of government-run poverty programs. **Appendix 2** offers an overview. The criteria do not appear to be overly restrictive and are broadly in line with what has been discussed.

There is also a renewed effort by the CBS to design and implement surveys that would seek to measure the attributes of those experiencing extreme poverty using income and non-income indicators. **Appendix 3** offers a brief description of this enterprise. However, this paper cautions against the temptation to devise new measures of poverty. One promising aspect of the burgeoning research on the measurement and analysis of poverty in post-crisis Indonesia is the fact that most of the key indicators that can be used to monitor multiple forms of deprivation can be generated from existing household surveys and relevant data. Hence, the emphasis should be on a fuller utilisation of existing sources of information as well as incremental improvements to survey design where required rather than a root-and-branch creation of a new statistical system to monitor poverty. To reinforce this message, some illustrations are offered on the insightful ways in which different dimensions of poverty in Indonesia can be linked.

Existing household surveys enable one to focus on the correspondence between households located at different points on the expenditure distribution and attributes of capability poverty. The standard practice is to highlight the case of households in the bottom quintile of the expenditure distribution. This is also aligned with official

perceptions of the relative position of poor households in Indonesia. For example, in estimating the official poverty line, CBS uses the expenditure patterns of deciles 2 and 3 and regards the bottom decile as representing those in 'hard core poverty'. Furthermore, recent estimates suggest that a little over 20% of Indonesians live below the official poverty line (see section III.1 of this study).

Existing household surveys also enable one to focus on the correspondence between poverty, vulnerability and other household attributes, such as sector of activity, educational attainment and gender. Finally, existing regional data (generated from existing household surveys) can be used to illustrate the inter-linkages between poverty, vulnerability and measures of capability deprivation.

Consider basic education that is one of the prime components of capability deprivation. Figures III.2 to III.4 show the degree to which basic educational attainment indicators (adult literacy rates, mean years of schooling and primary enrolment rates) vary across households in different quintiles (with 'Q1' being the poorest 20%, 'Q5' being the richest 20%).

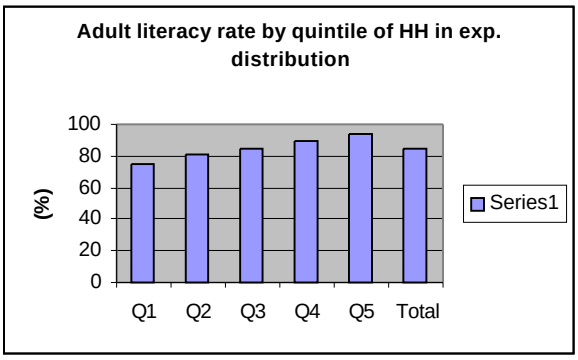


Figure III.2, Adult literacy rate by quintile, Indonesia, 1999
Source: Graphs generated from data in Insan Hiwasana Sejahtera (2000), Tables 4.3 and 4.27. Q1 = poorest 20%….Q5 = richest 20%. The original source of the data is SUSENAS.

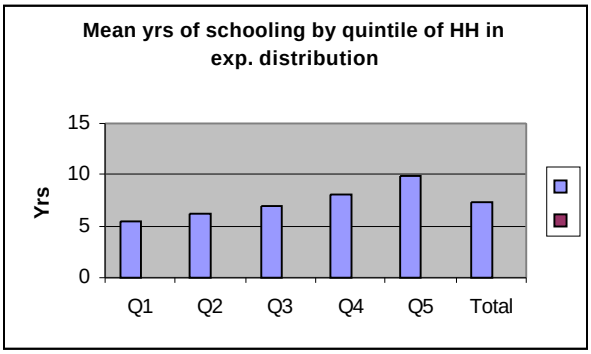


Figure III.3, Mean years of schooling by quintile, Indonesia, 1999

Source: Graphs generated from data in Insan Hiwasana Sejahtera (2000), Table 4.9. Q1 = poorest 20%….Q5 = richest 20%.The original source of the data is SUSENAS.

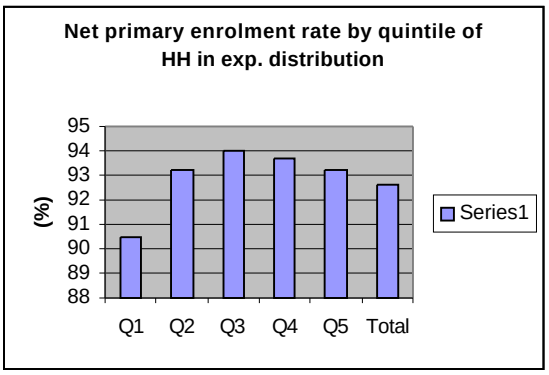


Figure III.4, Net primary school enrolment rates by quintile, Indonesia, 1999. Graphs generated from data in Insan Hiwasana Sejahtera (2000), Table 4.9. Q1 = poorest 20%….Q5 = richest 20%. The original source of the data is SUSENAS.

As all the figures show, the bottom 20% of Indonesian households are the most disadvantaged in terms of lack of basic education vis-à-vis richer households. The adult literacy rate for this group is around 73% compared with over 90% for the top 20%. In terms of mean years of schooling, the rates achieved by the bottom 20% are half of the levels attained by the top 20% (Figure III.3). The pattern is similar when viewed from the perspective of net primary school enrolment rates (Figure III.4).

Figures III.5 and III.6 represent variations in child undernutrition rates by quintile groups and the educational attainment of mothers. As expected, the bottom 20% has

the highest prevalence of child malnutrition (Figure III.5). As expected too, there are significant variations in child undernutrition rates when measured in terms of mothers' educational attainment. Households in which mothers have less than primary education exhibits the highest child malnutrition rates in Indonesia.

Figure III.6 shows the link between different quintiles of households and the proportion of the workforce who carry out their primary activities in the informal sector. Using the plausible assumption that low-paid activities are concentrated in the informal sector, it is not surprising that the bottom 20% have the highest incidence of workers in the informal sector.

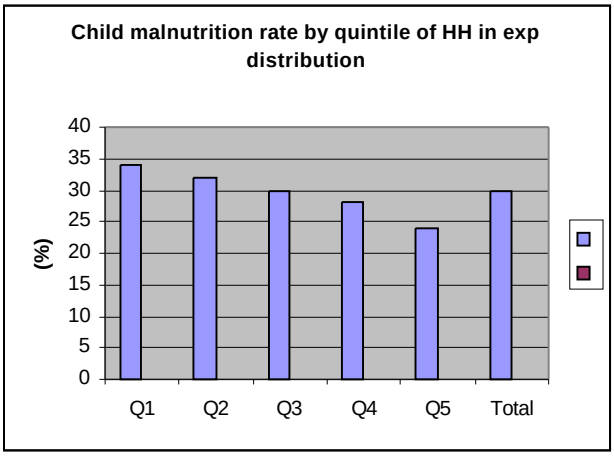


Figure III.5, Child undernutrition rate by quintile of households, Indonesia, 1998. Graphs generated from data in Sadaah et al (1999), Table 8. Q1 = poorest 20%….Q5 = richest 20%. The original data source is SUSENAS.

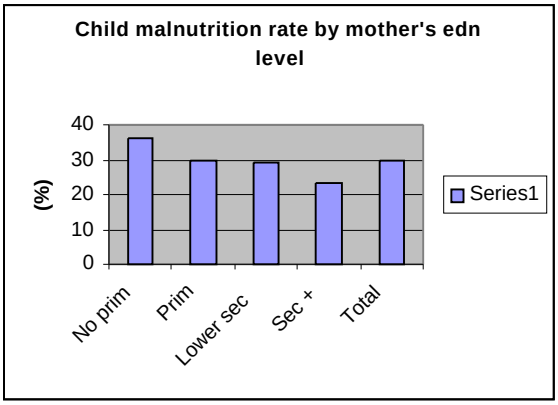


Figure III.6, Child undernutrition rate by mother's education level, Indonesia, 1998. Graphs generated from data in Sadaah et al (1999), Table 9. Q1 = poorest 20%….Q5 = richest 20%. The original data source is SUSENAS.

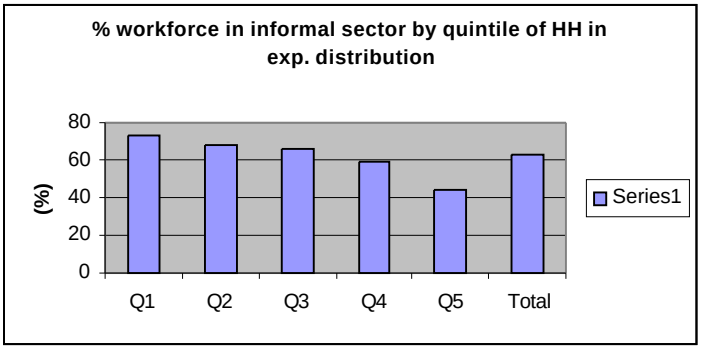


Figure III.7. % workforce in the informal sector by quintiles, Indonesia, 1999. Graphs generated from data in Insan Hiwasana Sejahtera (2000), Table 9.18. Q1 = poorest 20%….Q5 = richest 20%. The original source of the data is SUSENAS.

Figures III.8 to III.10 draw on a recent study to show the variations in poverty and vulnerability rates by educational attainment, sector of activity and gender. All data pertain to 1999 and are based on a merging of SUSENAS and PODES.

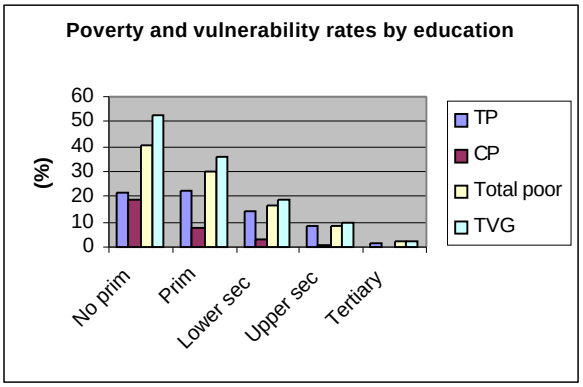


Figure III.8, Poverty and vulnerability rates by education, Indonesia, 1999. Graphs generated from Suryahadi and Sumarto (2001), Table 7. Original data sources are SUSENAS and PODES. TP= transient poor; CP = chronically poor; TVG = total vulnerable group.

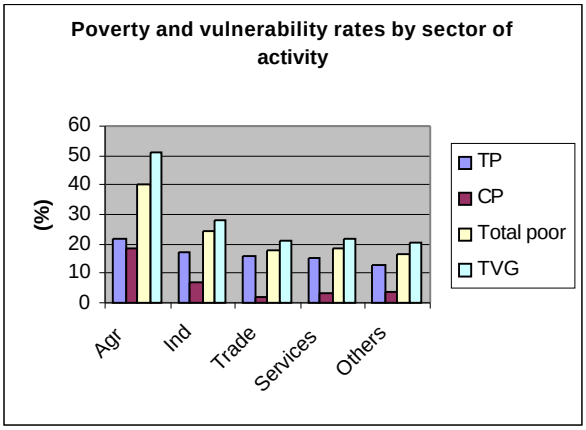


Figure III.9, Poverty and vulnerability rates by sector of activity, Indonesia, 1999. Graphs generated from Suryahadi and Sumarto (2001), Table 6. Original data sources are SUSENAS and PODES. TP= transient poor; CP = chronically poor; TVG = total vulnerable group.

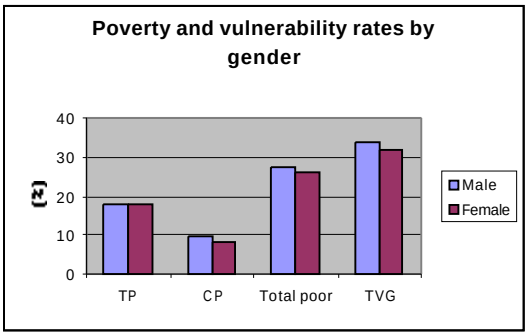


Figure III.10, Poverty and vulnerability rates by gender. Graphs generated from Suryahadi and Sumarto (2001), Table 8. Original data sources are SUSENAS and PODES. TP= transient poor; CP = chronically poor; TVG = total vulnerable group.

It is clear from Figure III.8 that both poverty (both of the transient and chronic variety) and vulnerability rates are highest for those who lack primary education and negligible for those with tertiary qualifications. Around 40% of those who lack primary education are currently poor and over 50% of the same group are vulnerable. In general, the incidence of vulnerability is higher across all educational groups, given that vulnerability includes the currently poor plus the non-poor who have non-negligible risk of falling into poverty in the future.

Figure III.9 suggests that, as expected, the highest incidence of both poverty and vulnerability is in the agricultural sector (40 to 50%). The trade sector and 'other' activities seem to have moderate prevalence of poverty and vulnerability.

Figure III.10 represents the interesting - and promising - finding that there does not seem to be any significant difference in poverty and vulnerability rates between males and females in Indonesia. In other words, the poverty statistics do not reveal any discernible gender bias. Indeed, for it is worth, the figure suggests that vulnerability among females is slightly lower than among males.[63]

Figures III.11 seeks to establish the correspondence between poverty and vulnerability by utilising province-level data. The latter, at a particular point in time, is higher than current levels of poverty, but how closely does one track the other across time and space? It seems there is indeed a close relationship between

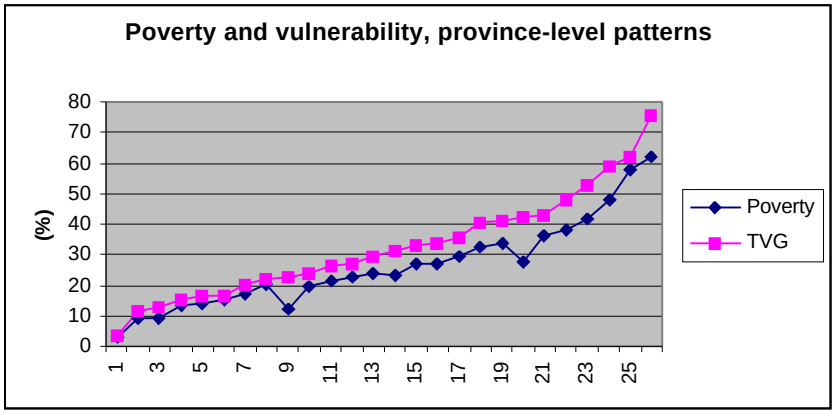


Figure III.11, Poverty and vulnerability, province-level patterns, Indonesia, 1999. Graphs generated from data provided in Suryahadi and Sumarto (2001), Table poverty and vulnerable, based on province-level data, although the alignment is by no means perfect.

Unfortunately, the same cannot be said for the correspondence between consumption poverty and a broad measure of capability deprivation, such as the HPI. Figure III.12 – which draws on province-level data – show that there is no significant correlation

between HPI and the incidence of consumption poverty. Several provinces with a relatively high head count ratio are just as likely to have a low HPI and vice versa. This is not entirely surprising since not all who are capability-poor are consumption-poor and vice and versa. Note from Figure III.8 above, that 40% of the consumption – poor have less than primary education. This implies that the poor include those with higher educational attainments. Hence, an exact correspondence between attributes of capability deprivation and consumption poverty cannot be expected.

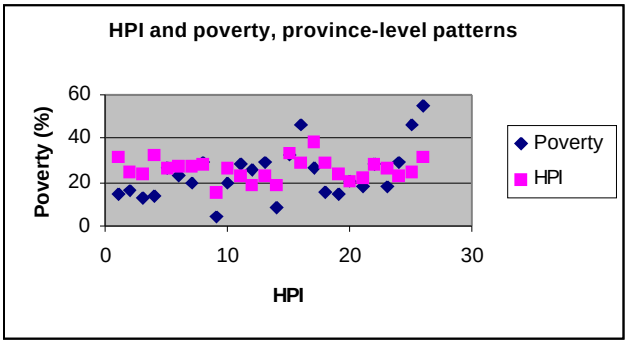


Figure III.12, HPI and consumption poverty, Indonesian province level patterns, 1999. Graphs generated from data provided in statistical appendix (Tables 9,14), National Human Development Report, Indonesia, 2001

This presents policy-makers with a quandary. Should they focus on consumption poverty or indices of capability deprivation when identifying impoverished communities? It appears that in a context where one cannot expect a close correlation between consumption poverty and deficient capabilities, the objective should be to highlight the multiple forms of deprivation. Hence, in poverty monitoring and analysis in Indonesia – as elsewhere – the focus should be on setting goals and targets that encompass both income and non-income dimensions of poverty. Where there is a conflict of targets, so that a region/household that is capability poor is not consumption poor, considerations of the former should supersede the latter. The ultimate goal in a democratic and decentralised Indonesia is to ensure that all its citizens attain minimum human development standards, even though they may or may not be consumption poor at a point in time. This is the spirit of the compact that should guide the government in its quest to identify the poorest of the poor.

[63] Analysis of wage data also suggests that gender discrimination in Indonesia, while certainly prevalent, is not particularly acute. See Dhanani and Islam (2001b).

IV. Summary and recommendations

This paper has traversed a wide and diverse terrain. It is thus appropriate that a summary is offered that brings together the key issues and findings. Such a summary will highlight:

- Ø The context in which ideas on poverty measurement and analysis have evolved, both globally and in the specific case of Indonesia
- Ø Emerging analytical traditions and philosophical perspectives that will guide poverty measurement and analysis in Indonesia
- Ø The broad evidence on the multiple dimensions of extreme poverty in Indonesia.

The summary in turn will serve as a preamble to a series of recommendations on the quest for adopting a conceptual framework for measuring, monitoring and analysing extreme poverty.

The global context

There is a renewed commitment to eradicating extreme poverty in the international development community. This is reflected in the re-engagement with international development goals and a spate of 'poverty reduction strategy frameworks' championed by major external assistance agencies. The 'new' development agenda coincides with burgeoning research that reflects disenchantment with simple notions and measures of poverty. It is now seen to be multidimensional in nature and is a combination of inadequate purchasing power, deficient capabilities and vulnerability. The state of impoverishment is accentuated by the inability of the poor to have any voice and influence on the decision-making processes that affect their lives.

The evolution of ideas on measuring and analysing poverty in Indonesia

How has changing perceptions on poverty in the global arena affected ideas on poverty measurement and analysis in Indonesia? Under the long economic boom and the coercive political environment that characterised the Suharto regime, there was a robust sense of optimism that the battle against mass poverty has been won. It made

sense to highlight notions of pockets of poverty, to publicise achievements in terms of reductions in consumption poverty and to pay insufficient attention to more complex dimensions of impoverishment. In the wake of the 1997 financial crisis, a good of research has shown that, despite commendable progress, poverty in Indonesia is probably more widespread and complex than what is popularly perceived. This has led to a re-thinking in the construction of appropriate poverty lines and in more insightful analysis of both income and non-income dimensions of poverty.

Several analytical traditions and philosophical perspectives seem to have emerged, causing tensions and dilemmas that cannot be easily resolved. Prevailing and prospective debates on poverty measurement and analysis in Indonesia will have to take on board a range of issues:

- Distinguishing between universalism and minimalism
- Distinguishing between poverty and vulnerability
- Appreciating the political and institutional dimensions of poverty
- Linking the different dimensions of poverty into a coherent approach.

Universalism vs minimalism

There is a well-established tradition within the Indonesian bureaucracy to try and identify the poorest of the poor. Such an approach draws on the minimalist principle that governments ought to be concerned with the worst off cases and tailor poverty programs to match scarce resources. Certainly, at a time of rising fiscal constraints and sluggish growth, the minimalist tradition appears appealing. It can act as a useful rationing device to ensure that scarce public resources are targeted to appropriate beneficiaries.

Any poverty eradication strategy that builds on the minimalist tradition is vulnerable to certain risks. Tight targeting can be undermined by high administrative and compliance costs. There is also the risk that the some of the really deserving and needy are excluded from public assistance schemes because of measurement and misclassification errors. Indeed, in a context of generally modest living standards, it is not always easy to distinguish between different degrees of poverty.

The alternative to the minimalist tradition is the view that poverty eradication strategies should not be limited to dealing with a deprived minority but should incorporate the concern of all citizens. All Indonesians in this view are entitled to minimum human development standards in terms of attainments in basic education, health, nutrition and access to shelter of acceptable quality. These entitlements are equivalent to such core human rights as freedom of expression. The universalistic principle that undergirds a rights-based approach to poverty eradication treats impoverishment as a case of capability deprivation and supports the idea of core international development goals that developing countries should aspire to. Poverty in this framework is not merely a case of inadequate purchasing power that is reflected in consumption/indicators.

Identifying the poorest of the poor by differentiating between different degrees of capability deprivation should certainly be a major task of the government, but not at the expense of ensuring that all Indonesians are entitled to nationally mandated human development standards. The Indonesian government seems to have affirmed the basic tenets of this view in its recent publication of the national human development report. Such affirmation is appropriate for a newly democratic and decentralised polity.

Poverty vs vulnerability

A spate of recent research in Indonesia and elsewhere has shown that the risk of falling into poverty in the future even among the non-poor is much larger than estimates of current poverty suggest. Hence, the phenomenon of vulnerability as distinct from poverty per se. Estimates of the prevalence of vulnerability are typically higher than current poverty because the former includes both the poor and the non-poor. Even among the poor, vulnerability analysis enable one to distinguish among different categories of poverty, entailing the 'persistently poor', the 'chronically or usually poor' and the 'transiently poor'. This in turn suggests that vulnerability analysis can be readily used to distinguish the poorest of the poor from others. The latter would be represented by the persistently poor and the chronically poor.

Vulnerability analysis highlights some interesting policy dilemmas. Should a government be concerned only with persistent and chronic poverty? A minimalist

approach suggests that it should, but one could argue that a legitimate role of the government is to attenuate the risk of individuals and households falling into poverty even though they may be currently non-poor. There is a need to ensure that governments facilitate the development of broad-based private insurance schemes, invest in a spectrum of social protection measures and, more importantly, invest in basic health and education that can serve to develop human capabilities and ultimately attenuate vulnerability.

The political and institutional dimensions of poverty: listening to 'voices of the poor'

It has always been widely recognised that poverty has political and institutional roots. This view has recently been re-emphasised in a multi-country study that has tried to listen to the 'voices of the poor'. Using 'participatory poverty assessment techniques', practitioners have tried to elicit information on direct experiences of poverty. Out of this enterprise has the emerged the theme in Indonesia and elsewhere that the poor lack the voice and capacity to influence local decision-making processes that directly affect their lives. There are both methodological and policy implications of the findings.

While participatory poverty assessment techniques are innovative and valuable, they do not really allow one to translate rich and complex perceptual data into monitorable power and voice indicators that could be readily compared with other indicators of poverty. The policy implications are also challenging. They suggest that alleviating poverty is not merely limited to the enactment of a discrete number of public assistance schemes. Ultimately, dealing with poverty requires fundamental reforms in governance. A promising development in the case of Indonesia is that its quest for democratic consolidation and decentralisation will, over time, provide the enabling conditions for much-needed reforms in governance to take place.

Linking the different dimensions of poverty

Once the multidimensional nature of extreme poverty is acknowledged, it is necessary to reflect on developing a coherent approach. One possibility is the use of a welfare function in which the different attributes of poverty are incorporated, but in its current

state of development such an approach faces considerable technical difficulties. Furthermore, a welfare function, while analytically appealing, may not have much to offer in policy and operational terms.

As an alternative, it may be tempting to adopt a composite index, such as the UNDP's Human Poverty Index (HPI). But the HPI weights all components of capability deprivation, a judgement that may not engender consensus. The HPI – like all composite indices – aim for aggregation at the expense of diversity. Yet, information on the diverse nature of poverty is precisely what is required. The HPI would be useful as an advocacy tool and the framework itself, entailing a range of key capability deprivation indicators, is very pertinent for operational purposes.

Perhaps the best way forward is to develop a statistical and monitoring framework in which a range of income and non-income indicators of poverty are brought together. The poorest of the poor would then represent a subset of those indicators. The next step would entail the establishment of a pattern of association among the selected indicators without necessarily implying causation. Fortunately, this framework can be readily applied to Indonesia by using existing household surveys.

Case studies on Indonesian poverty

There is now a plethora of studies on poverty in Indonesia focusing on both income and non-income indicators. The key findings can be summarised as follows.

- The poverty line in Indonesia is based on a minimum food bundle that yields a daily intake of 2,100 calories plus essential non-food expenses. The poverty line has been criticised in the past for being too low. The Central Board of Statistics (CBS) has updated the poverty line in 1998, but there continues to be disagreements on its appropriateness.
- Based on the CBS poverty line, consumption poverty as measured in 1999, was a little over 20%.
- While the CBS approach has been extensively used in statistical and analytical work, another agency, BKKBN, has used its own approach to monitor family

well-being. The BKKBN criteria have, in the past, been used for targeting public assistance schemes, but its mismatch with the CBS approach is worrying.

- Official publications on poverty in Indonesia do not readily carry estimates of the poorest of the poor, although CBS regularly estimates the poverty gap ratio and the poverty severity index to highlight trends in extreme poverty.
- One possibility of estimating the size of the poorest of the poor in Indonesia is the use of cut-off point that is set at 80% of the CBS poverty line. This seems to be consistent with other studies that suggest that the chronically poor and the persistently poor lie between 10% and 30% below the poverty line. Estimates based on this criterion suggest that the incidence of extreme poverty is around 12%.
- One could also use the food poverty line that yields an estimate of food poverty of around 5%, but this could be deemed to be too low as an estimate of the relative size of the poorest of the poor.
- The use of an internationally comparable measure of extreme poverty, such as the World Bank's $1 a day, suggests that the incidence of the poorest of the poor, as at 1999, is around 12%.
- Indicators of capability deprivation based on the based on the HPI framework entail low life expectancy, child undernutrition, adult illiteracy, access to safe drinking water; access to health services. The international development goals suggest the use of infant mortality, maternal mortality and primary school enrolment rates. Estimates for 1999 suggest that the HPI components vary from 12% (adult illiteracy) to 52% (access to safe drinking water). The value of the HPI was 25. Infant mortality for the same year stood at 45 (per 1000 live birth). Maternal mortality stood at 450 (per 10,000 live births), this being conspicuously high relative to regional standards.
- It is possible to identify the severity of capability deprivation. One example is the use of Z-score methodology that has been applied to child malnutrition. Severe child malnutrition in 1998 was around 8% vis-à-vis an overall malnutrition rate of 30%.
- Another way in which the severity of capability deprivation can be identified is to use district/province-level data to identify with very high levels of HPI. Using this approach, 11 districts are severely deprived, while more than 150 are moderately

deprived. It is also possible to apply the Z-score methodology to regional data, an enterprise that is worth exploring in future empirical work.

- Ø Vulnerability analysis suggests that the prevalence of vulnerability varies from 30 to 50%. Obviously, estimates of the incidence of persistent and chronic poverty are much lower, being around 9.5% (in 1999) according to one study.
- Ø Studies using the 'voices of the poor' methodology show that the poor are excluded from the decision-making processes at the local level that affect their daily lives. Respondents suggest that this is one of the reasons why poverty programs have limited effects.
- Ø The correlation between income and non-income indicators of poverty can be illustrated by focusing on the various disadvantages suffered by the bottom 20% vis-à-vis richer households. Estimates based on 1999 SUSENAS data show that the bottom 20% have the highest illiteracy rate (around 27%), highest child malnutrition rate (34%), the least education (mean years of schooling that is half the standard for richer quintiles) and are over-represented in the low-paid informal sector (over 70%).
- Ø Some studies have also sought to identify the correlation between poverty, vulnerability and other household attributes. The results, based on 1999 SUSENAS-cum-PODES data, show that poverty and vulnerability are highest in the agricultural sector (40 – 50%) and among those with less than primary education (41% to 52%).
- Ø An interesting - and promising - finding is that there is no significant difference between males and females in terms of poverty and vulnerability indicators.
- Ø Regional data show a high degree of correlation between poverty and vulnerability, but the same cannot be said of the correlation between consumption poverty and capability deprivation (using HPI as a broad-based proxy). Many provinces that are capability poor are not likely to be consumption poor and vice versa. This poses a dilemma for policy makers, but a rights based approach to poverty eradication suggests that, where there is a conflict in terms of the use of indicators, capability deprivation should receive precedence over consumption poverty.

Identifying the poorest of the poor in Indonesia: future directions

The survey of theoretical perspectives on the measurement of extreme poverty and the empirical illustrations based on Indonesian case studies enable one to suggest the broad directions in which a statistical and monitoring framework on identifying the poorest of the poor could evolve. Here are some suggestions that could form the genesis of an 'annual poverty review' that the Indonesian government could contemplate to undertake.

- Given the prevailing disagreements over the construction of an appropriate poverty line, a national forum should be convened to engender consensus on what is an official poverty line in Indonesia. Such a forum could meet every three years to update the poverty line.
- Once a commonly agreed poverty line is designated, two estimates should be provided: one pertaining to overall poverty, the other to extreme poverty. The latter will require setting an alternative poverty line. The '80% rule' (that is, an extreme poverty line set at 80% of the overall poverty line) seems to work well, but it needs to be validated.
- Purely for expositional purposes, the food poverty line should be regularly published and estimates of food poverty provided. The regular publications of the poverty gap ratios and severity indices should be maintained.
- Estimates of the relative size of the poorest of the poor based on the official poverty line should be compared regularly with the estimates available from the international poverty line of $ 1 a day advocated by the World Bank. This would allow any discrepancies in the measures to be identified and enable policy makers to align the monitoring of extreme poverty with the international development goals.
- Although consumption-based estimates of poverty are likely to be more robust than income-based poverty estimates, there is a case for checking the former against real wage data. In addition, the incidence of the 'working poor' could be derived by monitoring minimum wage data, provided there is a reasonable degree of alignment between minimum wages and the official poverty line.

- Primacy should be given to the monitoring of capability deprivation, given the proposed compact in the 2001 national human development report that all Indonesians are entitled to the attainment of minimum human development standards. The indicators of capability deprivation should include all the components of the HPI together with those included in the international development goals. Additional indicators that should be considered include access to sanitation facilities and access to housing of acceptable quality.
- There should be regular updates of the indicators of capability deprivation at a national and regional (province and district level). The severity of capability deprivation should be highlighted by using the Z-score methodology entailing a three-tier classification of regions in terms of the HPI, its associated components, indicators used in the international development goals as well as additional indicators as proposed above.
- Methodologies currently available in studies of vulnerability should be officially adopted to provide regular estimates of persistent poverty, chronic poverty, transient poverty as well as the overall prevalence of vulnerability. This would entail ensuring that there is a continued availability of panel data within the framework of existing household surveys.
- An important direction in which existing survey instruments, such as SUSENAS, could proceed is in the development of power and voice indicators for households by focusing on their political and civic activities and their perceptions of state institutions with which they interact regularly.
- Perhaps the most pressing need is to establish a simple framework that can regularly update the pattern of association among income and non-income dimensions of poverty.
- CBS should undertake regular 'quintile analysis' to focus on the bottom 20% of households in the expenditure distribution. The multiple disadvantages that this group experiences can be highlighted in relation to richer household using the selected capability deprivation indicators, demographic characteristics (age/gender/household size and composition), residential location, as well as labour market data (sector of activity, employment status). Existing surveys can be readily tapped for such an exercise.
- Other options include the building up of a regular profile of all poor households as well as those that are deemed to be the poorest of the poor in terms of the official

poverty line. Such a profile would include all the selected capability indicators together with demographic characteristics, residential location and labour market data.

- Finally, this paper has provided ample evidence that there is no compelling need for generating a raft of new surveys and measures to identify the poorest of the poor. Much can be accomplished within the existing statistical framework and emerging deficiencies can be remedied with incremental changes to the current generation of household surveys.

Appendix 1

The BKKBN approach to measuring family well being

As part of its expanded mandate to raise the awareness of healthy living among the general population and to raise the living standards of Indonesians, the National Family Planning Board (Badan Koordinasi Keluarga Berencana Nasional or BKKBN), has also constructed an aggregate measure by collecting detail information on individual families on an annual basis, and classifying them into mutually exclusive socio-economic categories. Staring in 1994, BKKBN has undertaken an annual nation-wide enumeration exercise involving door-to-door visits to over 95% of families between January and March every year, and collecting information on some 90 socio-economic characteristics.

Five of these characteristics, eating at least two meals a day, owning two sets of clothes and living in a house with a solid floor, are considered so basic that a family not fulfilling them is classified as belonging to pre-wellbeing category. The next stage is wellbeing stage1 progressively graduating to wellbeing stage IV. Pre-well being represent 'poor' families while wellbeing stage 1 could be considered as belonging to 'near-poor' families.

BKKBN Categories for 'poor' and 'near-poor' families

Category of Wellbeing	**Family members *lacking* at least one socio-economic characteristics**
Pre-wellbeing stage	Practice religion, 2 meals a day, 2 sets of clothes, housing with solid or wooden floor, access to modern treatment or healthcare facilities.
Wellbeing stage I	Practice religion, consume meant/fish/ chicken, one new pair of cloths a year, minimum per capita house space 8 sq. m, health for last 3 months, at least one family member aged 15+ has a stable income source/job, all members aged 10-60 able to read and write, all children aged 7-15 enrolled in school, children of reproductive age use contraceptive, ability to improve religious knowledge, ability to save, eat together with all members once a day, take part in community activity, outside recreational activity at least one every six months, access to information - newspapers, radio. TV, able to use local transportation.

The BKKBN classifications has been criticised for using such criteria as ability to practice religion and ability to improve religious knowledge which do not necessarily reflect the level of wealth or poverty. Practice of religion has no strong correlation with the level of material well-being. The BKKBN criteria are also not sensitive to regional variations in life-style or living conditions. The survey methodology is by no means sound.

Not surprisingly, the estimates of the incidence of family wellbeing varies considerably when classified by all criteria (which includes religious practice) and when specified by economic criteria only. Thus, in 1999 for example, the incidence of 'pre-wellbeing' families falls from 23% to 15% when the criteria shifts from all socio-economic characteristics to economic characteristics only.[64] Others have shown that the correspondence between poverty incidence based on CBS-type estimates and the BKKBN estimates of 'poor' families is rather weak.[65]

[64] Dhanani and Islam (2000: 26).
[65] Suryahadi and Sumarto (2000).

Appendix 2

Ministry of Social Affairs – Directorate General for Social Assistance

Evolution of criteria for identifying the 'poorest of the poor' (Fakir-Miskin)

Government Regulation (PP) number 42, 1981 on Social Welfare Services for fakir Miskin:

Two main concept of "Fakir Miskin"

1. Unemployed who could not afford to fulfil a decent standards of basic needs
2. Employed who could not afford to fulfil a decent standard of basic needs

Two main points emerge from the above concept:

1. The lacking ability to fulfil basic needs
2. The lack of or not enough source of living (permanent job?)

11 criteria were used in June 1984:

1. Limited income
2. Limited ownership
3. Poor housing conditions
4. Limited education
5. Limited skill
6. Low welfare status
7. Poor religious life
8. Poor normative life
9. Limited family's social lie
10. Limited access to develop social relation with neighbours
11. Limited access to develop social relation with public.

Law number 6, 1974

Social welfare consist of three basic needs: material, spiritual and social.

The criteria of "Fakir Miskin" used by The Project on Assistance and Alleviation of "Fakir Miskin" consist of 11 aspects of social welfare:

1. Limited income:
    a. Unemployed or employed
    b. Income : In rural area Rp 13,295 per capita monthly: in urban area Rp. 16,600 per capita monthly (based on the study on criteria development in 1984)
2. Limited (asset) ownership:
    a. 2-3 pairs of cloths
    b. Modest quality of house
    c. No or less than 0.25 hectare agricultural land ownership
    d. Lighting using Kerosene
    e. Only has radio
3. Limited skills:
    Without additional skill
4. Limited education:
    a. Not completed primary school
    b. Junior high school
5. Limited moral value:
    Poor normative values
6. Limited religious value:
    Poor implementation of religious practice
7. Limited health status:
    a. Low nutritional status
    b. In the last 3 moths often suffer from stomach ache, headache, coughing, or flu
    c. Still need proper safe sanitation and source of safe drinking water
    d. Using rivers for human disposal
8. Limited housing condition:
    a. Floor size of less than 40 square metres
    b. Low quality of wall, bamboo or sago leaves
    c. Dust floor
    d. In bad condition
9. Limited family's social relations:
    a. Dominant role: father
    b. Mother's role in house works depend on the father

c. The children are occasionally earning income.

10. Relationship with neighbours:

    Having good relationship with neighbours

11. Social relationship with public (community):

    a. Having positive value of “gotong royong”
    b. Having ID card (KTP)
    c. Does not involved with social activities (PKK, LKMD, KT)
    d. Showing positive response regarding any levy (contribution) but has no ability to pay

During Pelita V the above project was modified into Program on Social Welfare Assistance. Since many regions objected the use of the term “Fakir Miskin” , the sub Program was named after “ Social Welfare Assistance for Women”.

The indicators used for poverty alleviation program during Pelita V are:

1. Human basic needs
2. Income
3. Asset ownership
4. Ability to access income sources
5. Social environment

During Pelita VI.

Inures (President Instruction) Number 5, 1993 on the Acceleration of Poverty Alleviation. This focus on poor people that lives in “Desa Tertinggal” (Under-developed villages). They consist of groups of people with low income and limited access to public services, infrastructure and financial capital to meet their basic needs, or people facing specific problems that need special assistance.

Inpres number 3, 1996 on the Development of Prosperous Family within the Framework of Accelerating Poverty Alleviation. This led to the BKKBN criteria for pre-wellbeing families noted above.

According to Inpres 21, 1998 on Joint Movement for Poverty Alleviation and the guidelines for the joint implementation of poverty alleviation, the target group that agreed by 5 ministries (BPS, Home Affairs, Bappenas, Social Affairns and Family Planning (BKKBN) are poor families that consist of families that received assistance

from IDT program and families that are classified as Pre-wellbeing and wellbeing stage 1 class using improved criteria.

The latest indicators used in poverty alleviation are:

1. Human basic needs
2. Income
3. Family's participation in social activities (institution) and the ability to make use of environment potential
4. Access to social services
5. Ownership of HH appliances and entertaining appliances
6. Family's affordability to do recreational activities

Criteria developed by Center for data and information (Ministry of Social Affairs) and LIPI:

1. Low income class or below poverty line of Rp. 42,380 for urban and Rp. 33,590 for rural areas (in 1998)
2. Low educational attainment: not completed junior high school and without special skill
3. Low health status and low nutritional status
4. Lack of reliable house including safe sanitation
5. Limited asset ownership
6. Limited social relations and does not participate in social activities
7. Limited access to information (newspaper, radio)

In cooperation with UNDP, the criteria used for urban poor are:

1. Low income, below poverty line of Rp. 52,500 per person per month (in 1998)
2. Low education (less than Junior high school)
3. Lack of reliable house including safe sanitation
4. Limited asset ownership
5. Limited social relations and does not participate in social activities
6. Limited access to information (newspaper, radio)

Appendix 3

CBS- Study on the determination of the criteria of poor people, 2000

The purpose of this study is to select variables that can be easily used to distinguished between the poor and the non-poor households using simple questions.

The study was conducted in 7 provinces (South Sumatera, Jakarta, Yogyakarta, east Java, West Nusa Tenggara, West Kalimantan and South Sulawesi). It covers 16 regencies/cities: 2 regencies from each province (expect for Jakarta- 3 cities). This study covered 3,260 HH and the survey was done in August 2000.

Numbers of questions regarding HH characteristics on housing, food consumption, clothing, medication, etc were asked, in addition to the standard questions on HH expenditure. 2 methods were applied to select the most highly correlated variables: the stepwise discriminant analysis and the stepwise logistic regression. Using the concept of basic needs as the basis for determining poor HH, the stepwise discriminant analysis came up with 17 variables, while the stepwise logistic regression came up with 13 variables.

Since the number of variables as well as the probability of misclassification resulting from stepwise logistic regression is smaller, the variables are selected using this method. After taking into account the operational aspect – selecting the easiest questions to be asked – 8 variables were selected. They are:

1. Size of floor
2. Type of floor
3. Sanitation (toilet) facility
4. Access to clean water
5. Variation of “lauk pauk” in a week
6. The affordability to by at least 1 pair of cloth for each HH member
7. Asset ownership
8. Participation in social activities

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