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Measuring Poverty in Singapore: Frameworks for Consideration

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MEASURING POVERTY IN SINGAPORE

FRAMEWORKS FOR CONSIDERATION

Singapore does not have an official poverty line. Should there be one? And what are the frameworks that have been used or could be adopted for the measurement of poverty in this country? **The Lien Centre for Social Innovation and SMU School of Social Sciences** report on their investigation into the complex issue of domestic poverty.

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Over the past ten years, Singapore has registered robust economic growth and consistently ranked amongst countries with the highest GDP per capita in the world. Over the same period, inequality has risen sharply. Singapore does not have an official poverty line. However, the living conditions and incomes of the poorest amongst the Singapore resident population,[1] while not reaching the level of destitution experienced in developing countries, nonetheless suggest that Singapore needs to reassess the way in which poverty is acknowledged, defined and addressed.[2] This concern was reiterated in a dialogue session on poverty in Singapore held in August 2013. Over 20 representatives from non-profit organisations working with poor communities were present, and most concurred that more clearly defining and measuring poverty would be an important step towards more effectively addressing the needs of the poor.[3]

The Lien Centre for Social Innovation (LCSI) at Singapore Management University (SMU) together with John Donaldson (School of Social Sciences, SMU) and Yeoh Lam Keong (Adjunct Senior Research Fellow, Institute of Policy Studies), have embarked on a research project designed to inform strategies to address the complex issues that Singapore faces in this area. Our research collates views on domestic poverty from a range of sources, and analyses various conceptual frameworks used for defining and measuring poverty. This project will provide a basis for further research into the extent and nature of poverty in Singapore.[4]

This article summarises the key findings on the prevalence of poverty in Singapore from our research to date, and discusses the merits and drawbacks of the use of various approaches to measuring poverty that could be particularly relevant for Singapore.

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Image credit: Samxir Sani

INEQUALITY IN SINGAPORE

Over the last decade, Singapore's Gini coefficient rose sharply from 0.454 in 2002 to 0.478 in 2012.[5] Singapore now has one of the highest levels of inequality in the developed world.

Rising inequality is a common feature of other developed economies such as the United States and countries of the European Union, as well as advanced Asian economies like Japan and South Korea. However, as noted by the authors of *Inequality and the Need for a New Social Compact*,[6] Singapore is unique with respect to the speed at which domestic inequality has increased and the level it has increased to. They note that the average increase in the Gini coefficient in these countries over a 20-year period was 0.02, the same increase that Singapore experienced in just 10 years from 2000–2010.[7]

Inequality in Singapore is compounded in comparison to countries with similar per capita income by the low and falling real wages of the bottom 20 per cent of employed residents relative to that of other wage earners. The period 1998 to 2010 saw the real median incomes of employed residents in this quintile fall by approximately 8 per cent, while incomes of those in the top 20 per cent increased by 27 per cent.[8]

Rising inequality does not necessarily denote the existence of poverty. However, rising inequality combined with evidence of poverty indicates that the poor are being left further behind, and this appears to be what is happening in Singapore.

APPROACHES TO MEASURING POVERTY IN SINGAPORE

Given Singapore's level of development and wealth, it is a commonly held view that poverty does not exist in Singapore, or that domestic poverty is not comparable to the absolute poverty that is present globally. This view persists for a variety of reasons. There is no official poverty line and thus no clear recognition that it exists; relevant data to better assess the situation of the poor in Singapore is difficult to obtain, and there is no shared view on the way poverty is defined and measured.

1. Monetary Measures of Poverty

The most common approach to measuring poverty involves analysis of monetary income or expenditure. The most frequently used monetary measures identify levels of absolute poverty and relative poverty. Table 1 summarises estimates of monetary measures of poverty in Singapore from a variety of sources. (Note: Measures of monthly household income generally use four-person households as their point of reference.)

SOURCE	REFERENCE YEAR	MEASUREMENT METHOD	POVERTY ESTIMATE
ABSOLUTE POVERTY ESTIMATES			
Yeoh Lam Keong, *mimeo* (2013)	2011	Using household income of S$1,250 (2012 AHEBN estimate) to S$1,500 per month as a poverty line. Estimated number of working poor + unemployed poor + retired poor households based on data from the Department of Statistics (DOS) for 2011.	10–12 per cent or 110,000–140,000 Singapore resident households
Jacqueline Loh, *Social Space* "Bottom Fifth in Singapore" (2011)	2008	Using S$1,500 as a poverty line (the qualifying level for many ComCare schemes in 2011) and looking at the income distribution across quintiles for all households, not only "employed households." This data is only available every five years from the Household Expenditure Survey (HES).	12–14 per cent or 130,000–150,000 Singapore resident households
BELOW SOCIAL INCLUSION LEVEL ESTIMATES			
The Straits Times, "Widening Wage Gap, Does it Matter?" (2010)	2008	Reports that a family of four would need S$2,500–S$3,000 per month to reach the social inclusion level of income. (Estimated by LCSI from 2007/2008 Household Expenditure Survey.)	23–26 per cent or 250,000–280,000 Singapore resident households with monthly incomes below S$3,000
RELATIVE POVERTY ESTIMATES			
Lien Centre analysis based on the HES 2007/08	2008	Using 50 per cent of median household income amongst resident households, relative poverty line is at S$2,500.	20–22 per cent of all households
Asher & Nandy, "Singapore's Policy Response to Ageing, Inequality & Poverty" (2008)	2006	Measuring relative poverty through estimation of workers that are eligible for the Workfare Income Supplement (WIS) when it was first introduced in 2007. Eligibility criteria included having a monthly salary of less than S$1,500.	26 per cent or about one out of four workers would have been potential beneficiaries of the WIS.

Table 1 – Estimates of Poverty in Singapore Using Various Monetary Measures.

i. Absolute Poverty

Defining an *absolute poverty line* involves identifying a minimum level of household income or consumption that is required to meet basic needs, with poverty considered to be income or consumption below this level. Typically represented as a numerical figure in the relevant currency, absolute poverty is conceptually the simplest quantitative approach to measuring poverty on a national level.

While the Singapore government does not define a poverty line, an official measure of deprivation that comes closest to identifying a level of absolute poverty in Singapore is the Average Household Expenditure on Basic Needs (AHEBN), a monetary measure calculated by the Singapore government's Department of Statistics (DOS). It consists of the average expenditure on food, clothing and shelter in a reference poor household living in a one to two-room Housing and Development Board (HDB) or government rental flat, multiplied by a factor of 1.25 to account for other household needs like transport, education and other necessary expenditures for normal living.[9] The AHEBN varies for households of different sizes and is based on data from the five-yearly Household Expenditure Survey (HES) and updated periodically to account for increases in the consumer price index that occur between survey years.

What is somewhat frustrating for those interested in research in this area is that the AHEBN is not easily available in the public domain. The one official reference the study team was able to locate is in the *2012 Singapore Parliament Reports* (Hansard). In response to a question posed in parliament, it was noted that the AHEBN in 2011 was S$1,250 per month for a four-person household.[10]

Based on data from the DOS's *Key Household Characteristics and Household Income Trends, 2011* report,[11] Yeoh estimates the total number of resident households with incomes less than the AHEBN range of S$1,250-1,500 per month to be between 110,000-140,000 households. By this estimate, roughly 10-12 per cent of resident households are unable to meet basic needs in the form of clothing, food, shelter and other essential expenditures. Yeoh's estimate includes 70,000-90,000 working poor households; 20,000 unemployed poor households; and 20,000-30,000 poor retiree households.[12]

The AHEBN is in fact a very conservative measure of hardship or absolute poverty. One issue is that the AHEBN does not independently calculate the cost of transport, education and medical costs and instead relies on the estimate that these cost approximately 25 per cent of the cost of food, clothing and shelter combined. Amongst other things, this modest multiple fails to account for the fact that the cost of the former tends to rise faster than that of food, clothing and shelter.

Another estimate of poverty in Singapore uses data from the five-yearly HES. This survey collects data on income distribution across all resident households, so it is more comprehensive than the data from the annual *Key Household Income Trends* report which only includes employed households. The latter report omits typically 9 to 10 per cent of households which do not have an employed member, a significant share, particularly of poorer households. Based on the HES, Loh estimates that in 2008, 12-14 per cent of all Singapore households, or between 130,000 and 150,000 households, were living below a monthly household income of S$1,500.[13] Loh chose the figure of $1,500 as a proxy poverty line because it was a commonly used qualifying level for government assistance schemes under ComCare at the time of her study.

One challenge when defining an absolute poverty line is in determining what constitutes "basic needs." For example, it is extremely difficult to set a generalised minimum food requirement as energy requirements vary by body weight, age and activity levels. Measuring poverty on a household level is also gender blind and assumes a fair distribution of food within a household.[14]

Another criticism of absolute measures of poverty such as the AHEBN is that they do not account for basic expenditures necessary for social mobility such as human capital investments, and information and communications technology. It has been estimated that a family of four in Singapore requires an income of S$2,500-3,000 per month in order to invest in human capital and create the possibility of social mobility or a life beyond continued basic subsistence for adults or children of the next generation.[15] Such investments include supporting in-school education, improving skills, and the purchase of goods like computers, internet connection or mobile phones that provide vital assistance in training, education and networking. If poverty was defined in this way, then approximately 23-26 per cent of households would fall into this category.[16]

ii. Relative Poverty

Most developed countries measure poverty using a combination of basic needs (food, clothing, shelter, education) and relative measures that take into account domestic standards of living and factors influencing social exclusion.[17] This is based on the notion that an individual's perception of poverty depends upon his/her relative position in the surrounding environment. The Nobel prize-winning economist Amartya Sen, in his seminal text on poverty, *Development as Freedom*, noted that "relative deprivation can mean absolute deprivation, if it means that an individual is unable to participate in society."[18] From this perspective, relative deprivation is an important indicator of basic needs.

If poverty is narrowly understood in terms of absolute needs, then a relative poverty line would be an indicator of *inequality* rather than of poverty. However, advocates of relative poverty measures point to the strong linkages between inequality and a number of serious social problems. These include mental and physical health problems, unwanted teenage pregnancy, crime and violence.[19] By this analysis, commonly used indicators of inequality such as the Gini coefficient are also useful measures of deprivation. While it is theoretically possible to have poverty with no inequality, as well as inequality without poverty, both inequality and poverty are linked to serious though sometimes different social effects.

A commonly used relative poverty benchmark is 50 per cent of median household income, a definition which is used, amongst many other examples, in the OECD statistical database.[20]

The most recent available source we could find discussing official measures of relative poverty in Singapore is from 1999. It states that the DOS defines relative poverty as 50 per cent of median household income.[21] The HES 2007/08 is the most recent data available that covers all households; however, neither the overall mean or median monthly household income is reported by the HES which provides only the average household income by quintiles. As this figure is S$5,480 for the 41st-60th quintile, the overall median income would not be more than this and could be reasonably estimated to be about S$5,000, suggesting that households with monthly incomes of less than S$2,500 are living in relative poverty. In 2007/08, about 20-22 per cent of households have incomes below this level. As with previous estimates, unfortunately, these rough approximations are the best that can be made due to the lack of granularity provided in publicly available data.

2. NON-MONETARY APPROACHES TO MEASURING POVERTY

While monetary approaches to measuring and defining poverty are more commonly used and understood, these measures do not capture the multidimensional nature of poverty. For this reason, we have explored a great variety of alternative approaches to measuring poverty. In the previous section, we were able, subject to the limitations of publicly available data, to suggest ways in which monetary poverty measures could be applied to Singapore. There is no available data we can use to apply the non-monetary measures discussed in this section. Instead, based on our discussion with non-profits and others working with disadvantaged communities, we have identified a number of approaches that could be particularly relevant for poor communities in Singapore. The following section also contains a brief discussion of how these non-monetary measures could be useful in better understanding, and ultimately addressing poverty in Singapore.

i. Poverty Measured in Terms of Capabilities

Amartya Sen argues that monetary measures ignore the cultural relativity of poverty and bias solutions towards those oriented around income. He suggests that efforts to alleviate poverty should focus on what the poor person or household lacks in terms of capabilities because this focuses attention on the causes of poverty rather than its symptoms. This approach not only strives to provide people with the ability to escape poverty, it also identifies political, social and economic barriers that reinforce poverty.[22]

A number of non-profit representatives who joined our discussion on poverty in Singapore highlighted the potential usefulness of the capabilities approach for their work with low-income households, people with disabilities (PWDs) and people living with mental illnesses.[23] With current patterns of declining social mobility and the emergence of chronically poor groups, the capabilities approach could help focus attention on non-welfare based solutions that could address barriers to greater empowerment.

The capabilities approach is challenging to measure, and Sen himself notes that it is difficult to determine which capabilities are relevant. He argues that the capabilities approach is deliberately left incomplete because "insisting on one predetermined canonical list of capabilities chosen by theorists without any general social discussion or public reasoning is itself problematic."[24] Extensive qualitative fieldwork is needed to determine the relevant capabilities, and even then, there may be much unresolvable debate about which capabilities are most

Fishermen in Fort Kochi, Kerala

Kerala – The Value of Using a Capabilities Approach to Poverty

The Indian state of Kerala has made significant progress in improving life expectancy, literacy levels and standard of living, in spite of slow or stagnant economic growth over the past few decades. In 2003, Kerala had a poverty rate of 12 per cent against the Indian national average of 26 per cent.[25]

Hallmarked as the "Kerala model" of development, its approach is holistic, rather than solely focused on monetary measures. For instance, the Kudumbashree Initiative launched by the Government of Kerala in 1998 focused on building capabilities by empowering poor, uneducated women; largely housewives from disadvantaged households. By organising these women into neighbourhood groups that coordinated community self-help efforts and took ownership of local deprivation, the initiative improved gender-related social and political disadvantages.

This approach broke down barriers that limited the mobility and inclusion of members of the lower caste in Kerala. Initiatives focused on providing education and health care as well as employment opportunities that enabled disadvantaged groups to take action to improve their own well-being.[26]

important. Moreover, unlike monetary-based approaches, measures based on capabilities are difficult to compare across countries and times.

One leading approach to measuring poverty in terms of capabilities is the Multidimensional Poverty Index (MPI) developed by the Oxford Poverty & Human Development Initiative (OPHI). The MPI consists of ten indicators of poverty divided into three broad dimensions, and can be adapted for different needs.[27] It defines poverty as experiencing 30 per cent or more of the weighted deprivations.

MULTIDIMENSIONAL POVERTY INDEX

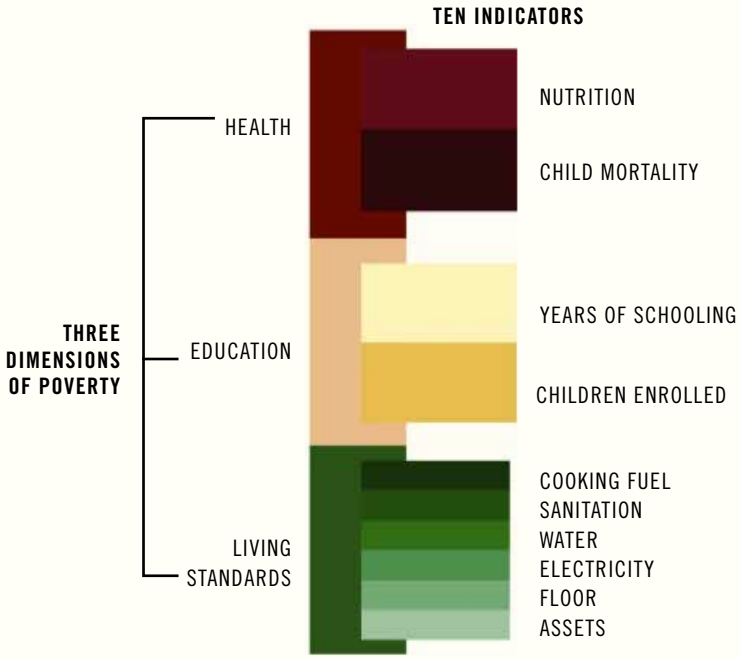

Figure 1: See Multidimensional Poverty Index[28] Dimensions and Indicators of MPI[29].

The MPI combines (a) incidence of poverty, or the proportion of people who are poor, and (b) intensity, or the average percentage of dimensions in which the poor are derived.

ii. Poverty as Social Exclusion

Another approach to assessing poverty is to view the issue as one of exclusion "from the mainstream economic, political, and civic and cultural activities that are embedded in the very notion of human welfare."[30] This approach views access to labour markets, the education system, the political process and civic or cultural organisations as fundamental to wellbeing. Countries in Europe commonly discuss poverty from a social exclusion perspective.[31]

In the Singapore context, our discussion group noted that a social exclusion analysis would be useful in understanding issues faced by particularly vulnerable groups such as PWDs, the elderly as well as the less visible groups such as single-headed households and social orphans.[32]

One methodological approach to measuring degrees of social exclusion is the Social Exclusion Index developed by the United Nations Development Programme (UNDP). Based on the MPI, this index contains 24 indicators encompassing three dimensions:

a. Economic exclusion: deprivation in income and basic needs.
b. Exclusion from social services: exclusion from education and health services.
c. Exclusion from civic and social life: deprivation in political, cultural and social networks or participation.

The indicators were selected through a combination of academic and practitioner analysis, focus group discussions, national consultations, existing literature, and surveys such as the European Quality of Life survey. According to this index, an individual is socially excluded if he or she is deprived of at least nine indicators.[33] The index can be adapted to specific country circumstances by creating locally relevant indicators.

Social exclusion may be more relevant in the developed world. In developing nations, the majority of the population may be struggling with inadequate provision of public services more generally, rather than the exclusion of a minority of people from social institutions and opportunities.

iii. Participatory Poverty Assessments (PPA)

Both a way of conceptualising poverty and an empowering way to assess it, participatory poverty assessments (PPAs) rely on the community under study to define and measure poverty for itself, as well as examine the causes of poverty and identify possible solutions.[34]

PPAs consider poverty to be culturally contextual and a "socially determined state".[35] While official poverty lines reflect the views of researchers, and ultimately politicians and public administrators, PPAs take the view that it is more appropriate to ask the members of the focus community to define the level of resources needed to support a minimally adequate standard of living in a given community.[36]

For Singapore, PPAs would be valuable in surfacing the views of poor communities themselves on the unique issues and constraints they face. This approach could be relevant for many poor groups as there is a dearth of rigorous ground-up poverty research and such an approach could assist to uncover new ways of uniquely defining and addressing poverty amongst these communities.

There are a variety of methodological approaches that can be used for PPAs. Such subjective poverty measures could be based on surveys of households who stipulate the minimum level of income or consumption they consider to be "just sufficient" to allow them to live a minimally adequate lifestyle. Another form of measurement would involve constructing indicators of well-being and having individuals subjectively rate for themselves as "excellent", "good", etc. Individuals in poverty are those whose indicators of well-being are less than a particular level, say "sufficient", for example.[37]

Another variant of PPAs is to ask communities to identify who in their community is poor and to articulate why they regard them as poor. Researchers have often found considerable consensus on who is poor and have used this to further explore avenues out of poverty for this group.[38]

One drawback of this approach is that individual perceptions may differ in response to the same real level of welfare. This approach is useful only if those surveyed share a comparable understanding of given levels of welfare.[39] PPAs can thus produce indicators that are comparable across similar communities, but these indicators are difficult to compare across countries.

"IN LIGHT OF RISING CONCERNS ABOUT INCREASING INEQUALITY, AND DEBATE ABOUT THE EXISTENCE, EXTENT AND NATURE OF POVERTY IN SINGAPORE, IT IS TIME FOR SINGAPORE TO JOIN COMPARABLE DEVELOPED NATIONS IN OFFICIALLY DEFINING AND MEASURING POVERTY."

CONCLUSION

In light of rising concerns about increasing inequality, and debate about the existence, extent and nature of poverty in Singapore, it is time for Singapore to join comparable developed nations in officially defining and measuring poverty. We believe that most Singaporeans are not aware of the scale and depth of poverty in Singapore. The process of identifying a poverty line, and discussing how it is measured, will generate greater public support for efforts to address the needs of vulnerable communities. In addition, it will also focus the efforts of the government, social sector and philanthropists according to common indicators arising from locally identified needs.

Our ongoing research in this area suggests that although monetary measures of poverty have their limitations, they are still a simple and effective way to assess the depth of need in the population as a whole as well as to identify specific groups of people who are most unable to meet basic needs.

Combining this with a variety of non-monetary based approaches to measuring poverty would also have great value in providing a more nuanced understanding of poverty within specific communities. These would assist to shed light on the challenges facing such groups, and most importantly provide insight into approaches that could be applied to tackle root causes and drive lasting change.

Actively defining and measuring poverty in this myriad of ways will result in greater recognition of existing needs within our community and of the scale of inequality and its impact on Singapore society as a whole. Most importantly, a deeper understanding of poverty can inform interventions to support those most in need, and provide a basis for accurately tracking the impact of these efforts. ■

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Endnotes

1 The Singapore resident population comprises households headed by Singapore citizens or permanent residents.

2 It is important to acknowledge at the outset that a complete picture of poverty and inequality in Singapore must include the experience of foreign workers. The analysis in this draft paper does not do this because we have relied on statistical measures of resident household income that cannot be compared to the little data that exists on foreign worker wages.

3 This dialogue session was convened by the Lien Centre for Social Innovation and involved many groups that have participated in the "Partnership Against Poverty" roundtables convened by Caritas that have taken place in 2012 and 2013.

4 For further information, please contact Sanushka Mudaliar, sanushka@smu.edu.sg or Mumtaz Md Kadir, mumtazmk@smu.edu.sg.

5 The Gini coefficient is an indicator of the level of inequality in an economy. It evaluates the actual distribution of income among individuals or households on a scale from 0 to 1, with 0 representing a situation in which all individuals or households within the economy are perfectly equal. The figures cited for the Gini are for original income from work and includes employers' CPF contributions but does not take into account government benefits or taxes. See Department of Statistics, "Key Household Income Trends, 2012," 12 www.singstat.gov.sg/Publications/publications_and_papers/household_income_and_expenditure/pp-s19.pdf, Page 12, and also DOS, "Key Household Income Trends," 2010, 7.

6 Manu Bhaskaran, Ho Seng Chee, Donald Low, Tan Kim Song, Sudhir Vadaketh and Yeoh Lam Keong, "Inequality and the Need for a Social Compact," background paper for Singapore Perspectives 2012, Singapore Inclusive: Bridging Divides, (2012): 5.

7 Ibid.

8 Hui Weng Tat, "Wages, Inequality and Economic Growth in Singapore," presented at the Conference on Regulating for Decent Work, 6-10 July 2011, International Labour Office, Geneva, Switzerland, based on various issues of the Report on the Labour Force in Singapore, Ministry of Manpower.

9 Ang Seow Long, "Country Paper on Poverty Measurement: The Case of Singapore." Singapore Department of Statistics, Ministry of Trade & Industry, 1999, referring to the Minimum Household Expenditure, the term used for the AHEBN until 2006, and Yeoh Lam Keong, mimeo, 2013.

10 Mr Lim Hng Kiang, "Minimum Household Expenditure" Singapore Parliament Reports (Parliament No. 12, Session No. 1, Volume No. 12, 14-05-2012), http://sprs.parl.gov.sg/search/topic.jsp?currentTopicID=00077477WA&currentPubID=00077461-WA&topicKey=00077461-WA.00077477-WA_4%2Bid-19955e07-6b6a-450e-a53b-c569f953bf23%2B.

11 Department of Statistics, "Key Household Characteristics and Income Trends, 2011," Singapore, 2011.

12 Based on the income distribution by decile of employed households (i.e. households with at least one fully employed working age member), the bottom 6-8 per cent, or around 70,000 to 90,000 households, was estimated to earn less than $1,250-1,500 per month. (See Table 5, Resident Household Income from Work Including Employer CPF Contributions, 2000-2011, in "Key Household Characteristics and Income Trends," 2011.) These households could be described as the

"working poor" —where the wages of full time breadwinners are insufficient to meet basic family needs without financial assistance. Making the assumption that half of the non-employed households with working age members are the unemployed poor adds another 20,000 poor households. And finally, assuming roughly half of retiree households (defined by DOS as those comprising solely non-working persons aged 60 years and over (from Key Household Income Trends, 2012, 27) who have not achieved the minimum sum in their CPF are poor (76 per cent according to CPF estimates), a further 20,000-30,000 retiree households would be unable to meet basic needs without family or state assistance.

13 Jacqueline Loh, "Bottom Fifth in Singapore," Lien Centre for Social Innovation, *Social Space Issue 4 (2011)*: 88-91, www.lcsi.smu.edu.sg/downloads/SocialSpace2011-Bottom%20Fifth%20in%20Singapore%20-%20Jacqueline%20Loh.pdf.

14 Lawrence Haddad and Ravi Kanbur, "How Serious is the Neglect of Intra-Household Inequality?" The Economic Journal 100 (1990): 866-881.

15 Li Xueying and Zakir Hussein, "Widening Wage Gap. Does it Matter?" *The Straits Times*, 11 Dec 2010.

16 Based on the latest available data for all households, the HES 2007/08.

17 Felix Naschold, "Why Inequality Matters for Poverty" (briefing paper produced for the UK Department for International Development, 2: 5, March 2002), www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3876.pdf.

18 Amartya Sen, *Development as Freedom*, Oxford: Oxford University Press, 1999 quoted in Naschold, "Felix Naschold, "Why Inequality Matters for Poverty," (briefing paper produced for the UK Department for International Development, 2: 5,March 2002), www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3876.pdf.

19 Richard G. Wilkinson, *The Spirit Level: Why Greater Equality Makes Societies Stronger*, New York: Bloomsbury Press, 2010.

20 The definition for relative poverty used in the OECD database is 50 per cent of median household income after taxes and transfers and adjusted for household size, see www.oecd.org/social/income-distribution-database.htm.

21 Ang Seow Long, "Country Paper on Poverty Measurement: The Case of Singapore", Singapore Department of Statistics, Ministry of Trade & Industry, 1999. Presented at United Nations Economic and Social Commission for Asia-Pacific Seminar on poverty statistics.

22 Amartya Sen, "Human rights and capabilities," *Journal of Human Development and Capabilities* 6 no.2 (2005) 151–166. Amartya Sen, Development as Freedom, New York: Random House, (1999), 87-88.

23 Note that in this and other references to approaches that could be relevant for certain poor groups that this listing is not exhaustive and the measure could be relevant for other poor groups as well.

24 Amartya Sen, "Human rights and capabilities," *Journal of Human Development and Capabilities*, 2005 6 (2):151–66.

25 A. K. Pat, "A Poverty Eradication Mission in Kerala," *Economic and Political Weekly*, 48 (2005): 4991.

26 Jos Chathukulam and Alex K. Thottunkel, "The Sen in the Neo-Liberal Developmental Programmes of Kerala," *International Journal of Rural Management* 6 no. 2 (2010):161.

27 Maria Emma Santos and Sabina Alkire, "Human Development Report Modules: The multidimensional poverty index," http://hdr.undp.org/en/media/Multidimensional_poverty_index.pdf; see also Sabina Alkire, "Choosing Dimensions: the Capability Approach and Multidimensional Poverty," *Chronic Poverty Research Centre Working Paper* No. 88, 1 August 2007.

28 Sabina Alkire, Adriana Conconi and Jose Manuel Roche, *Multidimensional Poverty Index 2013: Brief Methodological Note and and Results*, The Oxford Poverty and Human Development Index (OPHI), Oxford Department of International Development, University of Oxford, 2012: www.ophi.org.uk/wp-content/uploads/MPI-2013-Brief-Methodological-Note-and-Results1.pdf?18be84.

29 Oxford Poverty & Human Development Initiative, www.un.org/en/ga/second/65/docs/foster.pdf.

30 Udaya Wagle, "Rethinking Poverty: Definition and Measurement." *International Social Science Journal* 54 no. 171 (2002),160.

31 The European Union's Social Inclusion Process combines a relative monetary measure of poverty with an assessment of social exclusion. Council of the European Union, Joint report by the Commission and the Council on Social Inclusion, Brussels: Council of the European Union, 2003, http://ec.europa.eu/employment_social/soc-prot/soc-incl/final_joint_inclusion_report_2003_en.pdf .

32 Social orphans refer to youth who have no family support. These could include orphans but also youth whose familes are not present or relevant in their lives.

33 This correlates with suggestions in Sabina Alkire and James Foster, "Counting and Multidimensional Poverty Measurement (Revised and Updated)," OPHI Working Paper No. 32, University of Oxford, 2009. See also United Nations Development Programme, "Beyond Transition: Towards Inclusive Societies, Regional Human Development Report," Bratislava; Slovakia, UNDP Regional Bureau for Europe and Commonwealth of Independent States, 2011, http://issuu.com/undp_in_europe_cis/ docs/rhdr_socialinclusion/1.

34 Robert Chambers outlines a set of methods of PPAs, measuring not by survey but by directly involving the population one is measuring. Robert Chambers, "Poverty and Livelihoods: Whose Reality Counts?" Brighton, Institute for Development Studies, 1995.

35 Patricia Ruggles. 1990. *Drawing the Line: Alternative Poverty Measures and Their Implications for Public Policy*. Washington, DC: Urban Institute Press.

36 Ibid.

37 This concept was originally developed in van Praag (1968) and used by Hagenaars (1986) to derive a poverty measure.

38 See Anirudh Krishna, "Escaping Poverty and Becoming Poor: Who Gains, Who Loses, and Why?" *World Development* no. 32 no.1 (2003):121-136.

39 Melissa Mullikin and Robert Haveman, "Alternatives to the Official Poverty Measure: Perspectives and Assessment," presented at Conference on Poverty: Improving the Definition after 30 Years, University of Wisconsin-Madison, 1999.