Stuart Cameron
Consultant, Oxford Policy Management
stuart.cameron@opml.co.uk

Education and urban poverty: how little do we know?

Abstract: As poverty in the world becomes increasingly urban, urban inequalities become increasingly large, and informal settlements continue in many countries to be either ignored by governments or seen as threats, how much do we know about the access to education, and educational outcomes, for poor urban households? Due to their often semi-legal residential status, the difficulty of carrying out surveys among mobile populations and in areas that are sometimes flood-prone or dangerous, frequent evictions and the rapid creation of new slums, these households may not be properly covered in household surveys. Potentially, they are falling under the radar both of policymakers and data collectors, and progress towards international education goals set for 2015 may be less advanced than thought. This paper will discuss the options for improving this situation, including mapping and self-documentation by people living in poor urban areas, focusing on shortfalls in service provision; satellite imagery; census data and improving national household surveys; and special household surveys targeting marginalized urban populations. It draws on primary research from Bangladesh, and secondary data from Bangladesh, Malawi and Vietnam, in a bid to examine the potential shortfalls and strengths of different data sources and roughly quantify the educational disadvantage of poor urban households.

Sub-theme: Emerging global trends in education: post-2015 trajectories

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1. INTRODUCTION

As poverty in the world becomes increasingly urban (Ravallion et al., 2007), urban inequalities become increasingly large, and informal settlements continue in many countries to be either ignored by governments or seen as threats, how much do we know about the access to education, and educational outcomes, for poor urban households? Are large-scale measurement efforts such as the Millennium Development Goals and Education for All goals being undermined by a failure to count educational disadvantage among a large, and by many accounts growing, group?

This paper addresses these questions with an examination of survey and census data from three countries – Bangladesh, Malawi and Vietnam. The following section reviews evidence that administrative data, household surveys and censuses may fail to count urban populations correctly, especially the poor and those who live in slums. The paper then presents estimates of the proportion of urban populations who are poor or live in deprived conditions, and presents disaggregated educational indicators for these deprived urban groups, revealing large intra-urban educational inequalities. It compares multiple data sources in an attempt to understand the degree of certainty that we can attach to such estimates, showing that there can be large variation among data sources, with little grounds for choosing between them. The final section concludes with a consideration of research methods that could be used to reach a better understanding of the educational situation of the urban poor.

2. LITERATURE REVIEW

(a) Problems counting urban populations generally

There are a number of well-documented difficulties simply in counting how many people live in urban areas. First, there is potential failure of censuses to cover the entire population. Parts of the population are excluded from censuses for both political and practical reasons (Carr-Hill, 2012), and highly mobile groups in particular tend to be excluded, which tends to result in undercounting of urban populations (Bloom et al., 2010).

Second, definitions of urban vary widely between and even within countries (Satterthwaite, 2010; Cohen, 2004). Some of what is counted as urban slum housing, for example, may consist of rural houses on the edge of villages that expand and are reclassified as towns. Satterthwaite (2010) suggests that the current criteria used by China and India understate the true urban population, and revisions in either of these countries would substantially alter the estimated world urban population.

Third, there is a shortage of timely and accurate data. Population counts usually depend on decennial censuses and so are rapidly out of date for specific age groups (Carr-Hill, 2012). In many nations no census data are available for the past 15 years (Satterthwaite, 2010). Conflict and politicisation of census results are among the obstacles to obtaining accurate and recent

population estimates, especially in sub-Saharan Africa (Potts, 2009). The standard population estimates provided by the United Nations are based on pure extrapolations of past trends, with no other theoretical foundations, and implicitly assume that all countries will follow the historical path of now-developed countries; this has been shown to be unrealistic for countries near the beginning or end of their urban transition (Bloom et al., 2010).

Potts (2009) and Satterthwaite (2010) argue that the reliance on projections from old data has led to sweeping claims being made particularly about rapid African urbanization, that are not supported by more recent data. Examining the latest census data, Potts (2009) finds that some sub-Saharan African countries are urbanising very slowly, and a few are even becoming more rural, trends that can be explained in terms of declining economic opportunities, urban poverty and livelihood insecurity. Although there may be a counter-argument that censuses are probably failing to count certain deprived urban groups, there is generally no better data available to substantiate this claim, or estimate the scale of under-counting, or assess whether under-counting has worsened or improved over time (see Potts, 2012).

(b) Problems counting slums and urban poverty

UN-HABITAT, the United Nations agency for human settlements, uses the word slum to refer to a wide range of low-income settlements and poor human living conditions and proposes as a simple definition, "a heavily populated urban area characterised by substandard housing and squalor" (UN-HABITAT, 2003, p. 8). For statistical purposes it defines a slum household as

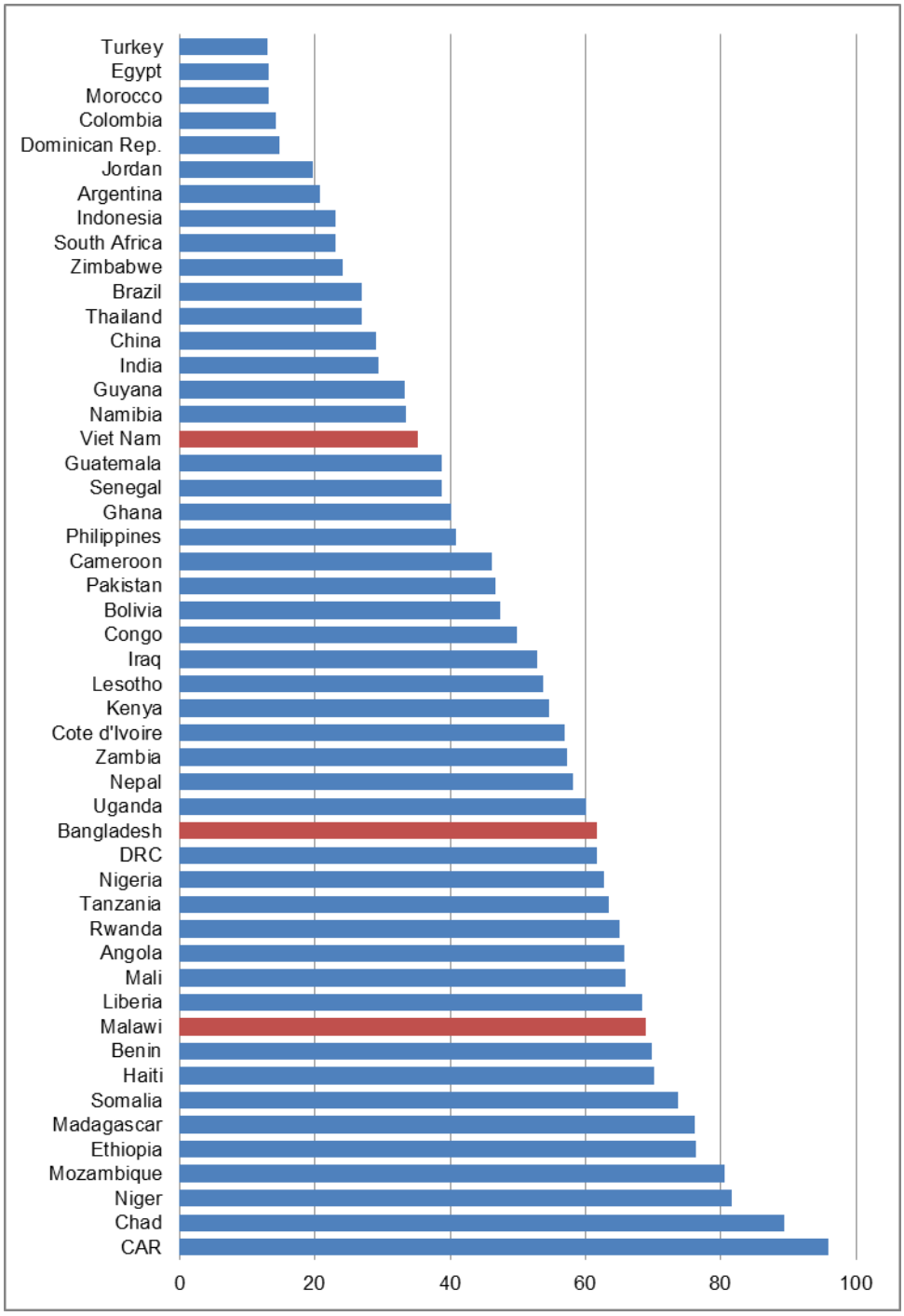
> *a group of individuals living under the same roof lacking one or more of the following conditions: access to improved water; access to improved sanitation facilities; sufficient living area (not more than three people sharing the same room); structural quality and durability of dwellings; and security of tenure* (UN-HABITAT, 2008, p. 92).

In practice, security of tenure is less easy to measure or monitor, so data tend to use the first four conditions. UN-HABITAT estimates that one-third of the urban population of the developing world (around one-sixth of the total population) live in slums; the proportion has been falling but the absolute number increasing, reaching 863 million in 2012 (UN, 2013). Defining the slum indicator at the household level – rather than at the community or neighbourhood level, which might seem more natural – is "a compromise between theoretical and methodological considerations" (UN-HABITAT, 2009, p. 42), being relatively easy to collect and interpret, but lacking the spatial component and unable to distinguish different types of deprivation.

Figure 1 presents the most recent data available by country. Although these data are for 2009, they are usually based on extrapolations from older data. Most appear to be derived from the USAID-funded Demographic and Health Surveys (DHS), while others use UNICEF's

Multiple Indicator Cluster Surveys (MICS), national censuses, and other sources. For instance the slum estimate for Malawi is based on the 2004 DHS; that for Bangladesh on the 2007 DHS; and that for Vietnam on the 2006 MICS (UN-DESA, 2012).

Figure 1. % of urban population who live in slum households, using UN-HABITAT data, 2009



Note: Countries shown are all those with 2009 data available.
Source: UN-DESA (2012)

However, the usefulness of cross-national slum estimation can be questioned in the light of claims that the poorest in urban areas are often among those not included at all in data collection (Fry et al., 2002; Carr-Hill, 2012). Gupta et al. (2009) note that estimates of India's slum population differ widely – from 42.6 million according to the 2001 census – a figure rejected by the government as being too low – to the government figure of 61.8 million based on other sources for 1997 and 2001, to 169 million in 2005 according to UN-HABITAT. The size of the urban poor population is almost twice the size of the slum population estimated in the 2001 census. Chandresekhar and Montgomery (2010) argue that urban poverty in India is likely underestimated because poverty lines ignore the high costs of housing in urban areas. Many settlements with very poor quality housing were not included in official lists of slums. Although there are higher poverty rates in slums than non-slum areas, Chandresekhar and Montgomery note that the urban poor and slum dwellers are not synonymous; a high proportion of poor urban households do *not* live in slums.

Sabry's (2009) study of Cairo notes that different sources provide different and sometimes contradictory conclusions about the scale and distribution of poverty in Egypt, and that millions living in informal settlements, mainly on the periphery of the city, are not counted as part of the city's population. It argues that low poverty figures cannot be reconciled with the estimated size of the slum population, and analyses showing poverty reduction in the city cannot be reconciled easily with those showing that the slum population is growing. Large slum areas were found to be missing from the government statistical agency's lists, upon which various household surveys based their sampling. In the words of one resident:

> *If the government census collectors come here, they only come to the first few streets which are close to the asphalt. Do you expect an employee who is paid a pitiful government salary to go deep into the pockets where most poor people live, especially when many of these areas have a bad reputation – do you expect them to hop on our mini-trucks or walk for kilometres in these puddles of sewage? (resident of an informal settlement in Cairo, quoted in Sabry, 2009, p. vii)*

Sabry also argues that, although most poverty studies in Egypt take regional price differences into account, they are still inadequate methodologically in capturing the cost of living in informal settlements, where people frequently pay more for common food items.

United Nations guidelines on population and housing censuses (UN, 2008) recognize the difficulty caused, for instance, by the lack of good maps in many countries, especially of unplanned settlements, making it difficult to ensure full and unduplicated coverage of all areas. They suggest alternatives such as hand-drawn maps, satellite images, aerial photography, and use of global positioning systems (GPS). They do not, however, add much on the practical issues of interviewer reluctance and safety concerns in conducting a census in difficult-to-reach and perhaps dangerous areas.

Despite the acknowledged under-coverage of poor urban areas, the UN-HABITAT data still returns quite high estimates for the proportion of slum households; in the most recent set of data (2009; see Figure 1) the proportion is more than 50% in half of the countries. This is likely to reflect the looseness of the slum definition, under which a household only needs to be deprived in one dimension (water, sanitation, durable housing materials) to be counted as a slum household; and can be counted as a slum household even if none of the neighbouring households have this deprivation.

Urban poverty is often associated with living in slums but is a distinct concept, and as Chandreskahr and Montomery (2010) suggest in the case of India, the urban poor and slum-dwellers are overlapping but distinct categories of people. Arguably, the focus on slums homogenizes the urban poor and obscures the complex inequalities characterising developing country cities (see Arabindoo, 2011; Gilbert, 2009). The slum focus has a tendency to put quality of housing at the forefront even though this is only one aspect of poor people's lives. Although it means the present paper is subject to some of the same criticisms, I use the word slum as a shorthand for urban deprivation, but attempt to broaden the focus of measurement to encompass deprivation in income and wealth as well as housing, water and sanitation. (A concept that takes into account geographical clustering of poverty would be a further improvement, but is not possible using most national household surveys.)

However, measurement of urban poverty in income or expenditure terms also has its own set of problems, particularly revolving around the choice of poverty line. It has been suggested that there is virtually no urban poverty in some sub-Saharan African countries and (for example) China, on the basis of $1 a day poverty lines. Even when poverty lines are adjusted geographically, they may be inappropriate for urban areas because they tend not to reflect the higher urban prices of non-food necessities such as schools, health care, transport, water and sanitation, and housing (Satterthwaite, 2010). In the analysis below I use indicators based on both expenditure and wealth indexes, depending on the data availability. By combining these with other deprivation indicators, a fuller picture of urban deprivation can be built than that derived only on potentially unreliable poverty lines.

(c) Problems in measuring education outcomes of the urban poor

Household survey reports typically provide break-downs of education outcomes disaggregated by rural-urban location, usually showing rural areas lagging behind urban areas. This tends to hide the inequalities within urban areas. But even if such data is disaggregated further, for instance by wealth quintile, it is not assured that the true extent of urban inequalities in education will be revealed, because (as described above) the survey may not have included the worst off urban groups in the first place, and also because it may not be appropriate to apply a single wealth index to both urban and rural areas.

Education outcomes are most commonly measured in terms of enrolment or attendance rates. Official enrolment rate estimates use administrative data on the number of children in school,

as the numerator, and census projections of the school-age population, as the denominator. Problems with the administrative data can include ignoring children who are in non-recognised NGO or private schools – common in poor urban areas in many countries – and children who are counted as enrolled even though they are not attending, for instance because they dropped out during the course of the school year.

On the denominator side, children who live in the street, who are domestic servants in the homes of their employees, or who migrate independently, are among the groups whose educational participation (or lack thereof) is particularly unlikely to be accurately recorded in surveys or administrative data. Independent child migration has been found to be common in several countries, and usually appears to mark, or follow, the end of a child's education, although in some cases children migrate to take advantage of education opportunities in the city (see Whitehead et al. 2007). There is still little research into the consequences on education and current and future livelihoods when children migrate independently from rural to urban areas (but see Reale 2008).

Carr-Hill (2012) estimates for the 21 countries that were included in the Education for All Fast Track Initiative that there are around 35 million uncounted children of school-going age living in slums; based on an assumption that one in four of these are out of school, this implies that there are 3.4 million uncounted children in slums in FTI countries and globally, around 34.5 million. However, these estimates are based on UN-HABITAT data on the proportion of urban dwellers living in slums, which are themselves based on household survey data that reportedly fail to cover the urban poor, as well as on the problematic standard population estimates. The estimates are also based on some large assumptions: that one-in-six of the slum population is of school age; and that one-in-four of these are both uncounted and out of school.

Ultimately more specialized research instruments may be needed to address the shortfalls in national-level data collection. Existing examples of survey studies focusing specifically on education among the urban poor include Tsujita (2013) in New Delhi, and Mugisha (2006) in Nairobi. The following sections present evidence from further urban poverty surveys in Bangladesh and Vietnam. In Malawi, where no such specialized surveys are available, I explore to what extent comparison of standard national household surveys and censuses can be used to bring out insights about deprived urban households.

3. BANGLADESH

According to UN-HABITAT, 69% of Bangladesh's urban inhabitants live in slum households, the highest prevalence in Southern Asia (UN-HABITAT, 2008). In most cases these households are classified as slum households because they lack durable housing or sufficient living area. Around 30% of urban inhabitants endure two deprivations, and 14% endure three or more (ibid). In large cities the proportion living in slum households is even higher, at 79%.

The UN-HABITAT definition, which stems from a broad concern with the quality of housing, overcrowding and basic services, is arguably broader than what most people on the ground would call a slum, and as noted above, is also counter-intuitive in defining slums at the individual household level rather than the level of whole areas. The Centre for Urban Studies (CUS) in Bangladesh uses a narrower description: a slum is a neighbourhood or residential area with at least 10 households with

> *four of the following five conditions prevailing within it: predominantly poor housing; very high population density and room crowding; very poor environmental services, particularly water and sanitation facilities; very low socioeconomic status for the majority of residents; lack of security of tenure* (CUS et al., 2006, p. 11)

By this definition, and with a research method involving a mixture of satellite photography and key informant interviews, 35% of the people of the six main Bangladeshi cities lived in slums in 2005. However, this must also be seen as a rough estimate, relying as it does on the key informants' estimates of the population of each slum area.

Even estimating the total population of Dhaka is not straightforward. Dhaka can refer to a division, a district, or a city; and there are several definitions of the city borders. The area under the jurisdiction of the city government, Dhaka City Corporation, is 276 km² and had a population of 7 million in 2008 (BBS, 2009). The much bigger Dhaka Statistical Metropolitan Area consists of the city corporation and the peri-urban areas beyond it, and stretches beyond Dhaka District into neighbouring districts, with an area of 1353 km² and a population of some 12-13 million in 2008 (BBS, 2009). Earlier estimates that put its population at 12 million in 2000 and projected it to reach 22 million by 2015 (Baker, 2007; World Bank, 2007), appear to have been revised downwards; according to projections in 2010 its population in 2015 will be 15.4 million (UN-DESA, 2011).

The number of urban people below the national urban poverty line stayed around 10 million between 1992 and 2005, while the number of rural people below the rural poverty line dropped from 51 to 46 million during the same period (World Bank, n.d.). The urban poor, these figures suggest, make up a substantial and growing part of the country's total number of poor people.

To analyse the urban poverty-education relationship nationally I construct urban deprivation indicators using the HIES data. The following indicators are available:

- More than three persons per room
- Unimproved water source

- Unimproved sanitation source[1]
- For 2005: In the poorest quintile of per-capita expenditure (adjusted for regional price differences)
- For 2010: Have expenditure below the upper poverty line (adjusted for regional price differences)
- Non-durable roof material
- Non-durable wall material

Table 1. Estimated % of urban population in each type of deprivation

	deprivation									
	poor	water	sanitation	wall	roof	space	1+	**2+**	2+ excl. poverty	3+
2005										
Bangladesh	12.9	0.8	51.7	45.8	4.1	23.4	70.5	**44.2**	41.4	18.1
Dhaka	7.7	0.2	55.9	43.7	1.6	27.6	68.3	**46.2**	45.7	18.0
2010										
Bangladesh	19.3	5.2	41.0	37.2	3.0	20.7	64.9	**39.6**	34.1	16.7
Dhaka	16.8	8.5	40.2	32.6	1.3	24.0	65.5	**39.1**	34.1	15.1

Source: Household Income and Expenditure Survey. Note: different poverty indicators are used for 2005 and 2010.

As Table 1 shows, around two-thirds of urban households have at least one of these deprivations, in line with the UN-HABITAT estimate, and with an apparent drop of a few percentage points between 2005 and 2010. A better indicator, arguably, would not be influenced so heavily by the frequency of a single type of deprivation. Using an indicator based on two or more deprivations (highlighted in Table 1), around 44% of urban households were slum households in 2005, dropping to 40% in 2010. Most of these are classified as such because they lack improved sanitation or durable walls.[2] This is higher than the CUS estimate, which may be stricter because it requires four out of five deprivations to prevail, and operates at the community rather than household level, so would exclude isolated deprived households.

These relatively high estimations from the HIES seem to allay concerns that the HIES is inadequately covering urban slums. However, there remains some cause for doubt about this. The slum households thus identified have an average area of 270 square feet, whereas in the CUS et al. survey, very few slum households were estimated to have an area of over 150

[1] WHO/UNICEF (n.d.) explains the concepts of improved drinking water sources and sanitation facilities (http://www.wssinfo.org/definitions-methods/watsan-categories/). In the HIES data I am not able to distinguish shared from unshared latrines, which would tend to mean that the proportion in slums is underestimated.

[2] The poverty indicators I have used are not strictly comparable between the two surveys. As the table shows, however, there is still a drop of a similar magnitude when the poverty indicator is not used. Educational estimates shown in Table 2 are altered very little when the slum indicator is replaced with one that excludes poverty from the deprivation criteria.

square feet. Only 12% of the urban households in the 2010 HIES were both classified as slum households and had areas below 150 square feet. In other words, the HIES appears to be capturing generally poor housing conditions prevalent in urban Bangladesh, resulting in a plausibly high number, yet still failing to include all of the cities' slum areas.

Table 2 breaks down the adjusted net attendance rates[3] at primary and secondary level, into four categories: rural non-poor, rural poor, urban non-slum, and urban slum. 'Slum' here refers to those households with two or more of the deprivations shown in Table 1 above. Attendance in urban slums is somewhere between that of the rural poor and the rural non-poor, and much lower than for the urban non-slum category. Between 2005 and 2010, attendance improved quite dramatically for both groups. But the improvement was faster among the rural poor, who appear to have almost caught up with the urban poor living in slums. The major educational division in Bangladesh is not between urban and rural areas – which have similar averages for primary enrolment – but between the better off and disadvantaged groups within each type of location. Educational outcomes in Dhaka are slightly worse than in other urban areas.

Table 2. Adjusted net attendance rate by year, location category, and sex

%	primary				secondary		
	male	female	total		male	female	total
2005							
rural non-poor	71.8	74.5	73.1		44.3	54.7	49.4
rural poor	57.5	61.6	59.5		15.5	29.2	22.9
urban non-slum	83.5	81.6	82.6		62.8	67.9	65.4
urban slum	63.3	69.4	66.4		30.3	39.5	34.9
-- *Dhaka slum*	*57.9*	*66.3*	*62.2*		*35.0*	*37.4*	*36.3*
total	68.9	71.7	70.2		40.9	50.5	45.7
2010							
rural non-poor	79.4	83.1	81.2		54.4	63.3	58.5
rural poor	67.9	78.7	73.3		30.1	41.3	35.9
urban non-slum	82.6	82.6	82.6		64.0	67.5	65.7
urban slum	71.0	78.4	74.6		34.0	49.2	40.9
-- *Dhaka slum*	*69.5*	*74.8*	*72.2*		*27.7*	*48.9*	*37.3*
total	74.7	81.0	77.8		47.0	56.1	51.4

Source: Household Income and Expenditure Survey, 2005 and 2010
Note: 'Slum' refers to households with two or more deprivations.

[3] The primary school adjusted net attendance rate is the number of children of primary school age attending either primary school or secondary school, expressed as a percentage of the population of that age group.

The HIES data can be compared to a survey of 1599 households in four large slums in Dhaka, conducted in 2008 as part of the Consortium for Research on Educational Access, Transitions and Equity (CREATE; see Cameron, 2011, 2013). At the primary level, the enrolment rates estimated for the CREATE sample are encouragingly consistent with the Dhaka slum sub-sample of the HIES; the CREATE estimate lies in between the HIES estimates for 2005 and 2010. At the secondary level, the CREATE study areas appear to be much worse off, however.[4] The CREATE data also highlight the extent of heterogeneity within slum areas, with a gap of nearly 20 percentage points between the richest and poorest in primary enrolment.

Table 3. Adjusted net enrolment rate, by wealth quintile and sex

%	primary				secondary		
	male	female	total		male	female	total
poorest	52.9	69.0	61.0		5.2	7.1	6.2
richest	75.7	83.0	79.5		47.6	64.8	56.6
average	65.3	75.3	70.2		22.5	32.4	27.6

Source: CREATE Dhaka slum household survey, 2008

These findings reassuringly suggest that the HIES does not grossly overestimate urban primary education enrolments, despite indications that it fails to include households within the range of sizes typical in slums. However, it is possible that the CREATE survey's focus on the central areas of Dhaka may have omitted some of the poorest, and probably most educationally deprived, slums on the periphery of the city. At the secondary level, the CREATE survey presents evidence of a particularly deprived group – the poorest quintile living in slums – who hardly participate in secondary education at all, and suggests that secondary attendance rates may be overestimated in the HIES.

4. MALAWI

In its 2006/7 *State of the World's Cities* report UN-HABITAT (2006) estimated that close to 90% of people in urban Malawi were living under slum conditions in 2005. In the most recent version of the same report (UN-HABITAT, 2012), that figure was revised to only 66% for 2005, rising to 69% in 2009. It is not clear what the basis for this revision was. Around 16% of Malawi's population lives in urban areas, and urban growth has been estimated at around 3-4% per year since the 1990s (UN-DESA, 2011). According to UN-HABITAT (2010), East African countries including Malawi remain among the least urban in the world, but also have some of the highest growth rates. But rural populations continue to grow almost as fast; the proportion living in urban areas is only increasing at around 0.6 percentage points per year

[4] Strictly speaking enrolment and attendance rates should not be compared; enrolment rates are typically more generous because pupils can be enrolled but not attending, but rarely the reverse. Thus, if anything, the gaps between the 2010 HIES and 2008 CREATE survey results are larger than the numbers would suggest.

(UN-DESA, 2011). By this measure it is urbanizing a lot more slowly than Bangladesh or Vietnam, and also compared to many African countries such as Uganda, Kenya or Nigeria.

There are few published studies of urban poverty or informal settlements in Malawi. Zeleza Manda (2009) describes a 2008 survey of nine low-income settlements in Blantyre, Lilongwe, and Mzuzu, finding that a large proportion of households earned less than US$1 per person per day. Provision of water was dominated by water kiosks. Education levels of the residents of these settlements were not as low as might be expected; over half of household heads had at least some secondary education. A study of two informal settlements near Lilongwe (Gordon et al., 2013) describes one, with a population of around 37,000, as having a single government primary school and several private, unrecognized ones. A second settlement, with a population of 64,210, was apparently better served with four government primary schools and a community secondary school. According to UN-HABITAT (2011a) there is a shortage of primary and secondary schools, as well as of teaching staff, in Blantyre. In Lilongwe, with a population of around 670,000 in 2008, there were 66 public primary schools and 38 primary schools belonging to the private schools association; the public primary schools enrolled around 135,000 pupils (UN-HABITAT, 2011b).

Although I could find little specific survey research on urban poverty or slums in Malawi, there are several large-scale national surveys from recent years: a UNICEF-supported MICS survey in 2006; a census from 2008; DHS surveys from 2010 and 2004; and Integrated Household Surveys (IHS, Living Standards Measurement Survey) from 2004-5 and 2010-11. As in the preceding section, I first examine the proportion of urban households suffering different levels of deprivation, then calculate disaggregated education indicators.

As Table 4 shows, it is difficult to obtain a consistent indicator across different data sources. Higher levels of deprivation in the census might be taken as evidence that the census covers deprived groups more thoroughly; but it is difficult to be sure of this conclusion given the large differences in measurement between the surveys. For example, deprivation in access to water appears much higher in the census data, but this is largely because the survey question on water sources is coded differently. The most common deprivation is in terms of sanitation, or more specifically, the very common use of shared toilets or uncovered pit latrines. As for Bangladesh, the fact that many of these households using uncovered latrines do not suffer any of the other deprivations raises some doubt about whether it is appropriate for all of these households to be classified as slum households (as is the case in UN-HABITAT reports). For subsequent analysis, I take households with any two or more deprivations to be slum households, amounting to around half in the census and DHS data but around one-third in the LSMS data.

Table 4. Estimated % of urban population with each type of deprivation, by survey type

	poor	water	sanitation	floor	wall	roof	space	1+	**2+**	3+
census	23.4	20.4	81.1	32.7	0.2	22.8	20.5	86.0	**52.9**	31.9
DHS	21.2	4.4	78.2	34.7	8.5	22.9	14.0	81.4	**49.4**	30.9
IHS	13.2	4.3	49.5	29.6	2.5	19.3	7.1	65.6	**32.6**	17.8

Note. Poverty is defined as being in the poorest asset quintile for census and DHS data. However the census data poverty indicator includes household structure (permanent, semi-permanent or traditional) so is not a pure asset indicator. In the LSMS data an expenditure-based poverty line is used; thus the poverty rates are not comparable across sources.

Table 5 shows adjusted net attendance rates from the three different sources. The overall pattern is that a large majority of children appear to be attending primary school, but with much lower attendance rates at secondary level. Children living in urban slum households have worse attendance than those in urban non-slum households, but rural children are generally much worse off still. Educational inequalities are much starker at secondary level; in slum areas perhaps half as many children attend secondary school as in other urban areas.

There is, however, large variation between the different data sources. At the primary level, census-based estimates are much worse all around. At the secondary level, DHS estimates are lower than the other data sources, but a similar pattern of inequalities applies in each case. All of these estimates are much lower than the official primary adjusted net enrolment rate for 2009, which was 97% at primary level and 29% at secondary level (UIS, n.d.).

Table 5. Adjusted net attendance rate, by survey, location category, and sex

		primary				secondary		
		male	female	total		male	female	total
census	rural non-poor	72.9	73.9	73.4		16.9	17.6	17.3
	rural poor	65.8	67.5	66.7		11.8	11.8	11.8
	urban non-slum	82.7	79.6	81.1		50.9	49.7	50.2
	urban slum	77.2	77.6	77.4		24.2	26.1	25.2
	total	71.5	72.5	72.0		18.2	18.9	18.6
DHS	rural non-poor	87.7	90.5	89.1		10.2	12.8	11.4
	rural poor	80.1	80.8	80.5		3.9	5.3	4.6
	urban non-slum	97.0	97.3	97.1		41.8	41.9	41.8
	urban slum	89.6	89.8	89.7		16.0	20.1	18.0
	total	86.1	87.8	86.9		11.8	14.3	13.0
IHS	rural non-poor	90.5	93.2	91.9		21.9	24.6	23.4
	rural poor	83.3	85.4	84.3		9.7	11.7	10.6
	urban non-slum	96.6	92.6	94.5		48.5	52.0	50.2
	urban slum	87.2	85.7	86.5		19.1	15.5	16.9
	total	86.9	88.7	87.8		18.8	21.6	20.2

The much lower primary attendance rates found in census data are difficult to explain fully. It may be that the census reaches parts of the population excluded by the other surveys. However, this is not consistent with the pattern of secondary attendance rates, which are higher in the census than in the other data sources; and also is not consistent with the relatively small inequalities between slum and non-slum households in the census data. If the census was the best source for finding out about the worst-off slum households, then one would expect to see the largest inequalities in the census data.

Despite the doubts raised by differences between data sources, these estimates strongly suggest that official figures showing near-universal access to primary education are over-optimistic. They also highlight how both rural areas and slums lag far behind better off urban areas, especially at the secondary school level.

5. VIETNAM

The urban population of Ho Chi Minh City grew from 4.2 million in 1999 to 5.9 million in 2009; that of Hanoi grew from 1.6 to 2.6 million in the same period (GSO 2011). While the proportion in poverty remains higher in rural areas, the absolute number of poor people is greater in cities, and is reportedly increasing; urban slums are “extensive and growing” (Hartley and Toan 2008, p. 7). Rural-urban migration has increased in both relative and

absolute terms over the last two decades. Around 2.1 million people were added to the urban population between 2004 and 2009 (GSO, 2011). In 2009, 9% of the urban population had migrated from a rural area in the past five years. However GSO (2011) also records some migration in the opposite direction: 0.5 million had migrated from urban to rural areas during 2004-2009, perhaps reflecting temporary or cyclical migration. The urban population almost doubled between 1999 and 2009 while the rural population increased by around 60%. In 2009 around 30% of the total population lived in cities, bringing Vietnam to a similar level of urbanization as Bangladesh, although with a much smaller population overall (ibid).

A household registration system called hokhau governs the rights that can be accessed by internal migrants. Households that have official registration in their places of residence have full access to public facilities and social services within that district (Waibel, 2007). Dapice et al. (2010) claim that official statistics seriously underestimate the urban population and urban growth. The commonly used Vietnam Household Living Standards Survey (VHLSS) excludes urban migrants who do not have residential status in the city where they are living, and so are likely to underestimate the real level of urban poverty (Hartley and Toan, 2008). Although sampling design was improved for the 2010 round of the VHLSS, it still is not able to cover all groups of people, and in particular included very few migrants who were living in cities without a regular residence permit (Haughton et al., 2010).

In an attempt to address these issues, an Urban Poverty Survey (UPS) was conducted in 2009 by the Ha Noi and Ho Chi Minh City People's Committees and the General Statistics Office, with support from the United Nations Development Programme. It deliberately over-samples "wards/communes believed to have a high poverty rate, a large non-registered (KT4) population, high population growth, and many large enterprises" in Ho Chi Minh City and Hanoi, using enumeration areas from the 2009 census, and the data set includes sample weights so that representative statistics can be estimated (Haughton et al. 2010, p. 9).

Using the UPS, Haughton et al. (2010) finds quite low rates of poverty despite the survey's over-sampling of parts of the city believed to be poor and with large numbers of unregistered migrants. Poverty rates also did not seem to vary between non-registered migrants and registered residents. Using a $2 a day poverty line, only 3.0% of migrants and 2.6% of residents were poor, and the difference was not statistically significant. Using city-specific higher poverty lines set by local government, the rates of poverty were 9.6% for migrants and 9.7% for residents, and again not significantly different. However, using a multi-dimensional poverty approach that includes income, education, health, social security, housing quality, housing services, social inclusion and physical safety, Haughton et al. find high rates of deprivation, with migrants much worse off than residents, in all areas except physical safety and income.

Almost every child aged 6-10 in the UPS sample was in school (Haughton and Loan, 2011). For 11-14 year olds, 93% of children were attending school, and even among 15-17 year olds 70% were still in school. These findings are comparable to the enrolment rates for urban areas

found nationally in GSO (2010); participation in primary and lower secondary school seems to be better in Ho Chi Minh City and Hanoi than in other urban areas, while at upper secondary participation is around the same in these two cities as in other cities.

Among unregistered migrants in the UPS, however, only 69% of 11-14 year olds and 17% of 15-17 year olds were in school. The study also reveals that migrants are more likely to use private or semi-private schools than registered residents. Public schools, at both primary and secondary levels, charge fees with a system of fee exemptions, but migrants do not particularly seem to benefit from the exemptions: 4.5% of 11-14 year old migrants in school got full or partial tuition remission, compared to 9.1% of all 11-14 year olds in school. Most exemptions were for younger, primary school age children. Despite being both less likely to get fee exemptions and more likely to use private schools, migrants spend less on education, and this remains the case even when controlling for age, sex, parents' education, income per capita, and the number of siblings (Haughton and Loan, 2011).

The UPS results, then, clearly identify a disadvantaged urban group with worse educational outcomes than other urban residents, and whose needs are not properly addressed by current policies. It does not, however, provide evidence that current aggregate education indicators are in need of drastic revision.

6. CONCLUSIONS: IMPROVING DATA ON EDUCATION AND URBAN POVERTY

Counting the number of children living in slums is a fraught issue; the foregoing analysis has shown how much the estimate can vary with the indicator and data source used. Nevertheless, the analysis consistently reveals large educational inequalities in urban areas. In all three countries these are visible at the secondary school level, and in Bangladesh they are also visible at the primary level. In Bangladesh the rural-urban gap seems to be less important than the gap between rich and poor that operates within both rural and urban areas. Attendance rates in these surveys are generally well below official enrolment rates based on administrative data, and the rates in deprived areas, whether rural or urban, are much lower still.

The analysis was unable to find systematic evidence of household surveys under-counting deprived urban groups. This is reassuring, although it is possible that all the surveys fail equally to cover the most deprived groups, especially if they all use the same sampling frames based on census data which may itself have failed to achieve full coverage.

The types of analysis used here exemplify three possible methods for studying education outcomes among deprived urban populations. First, slum areas can be examined using a mixture of satellite photography and key informant interviews, as in the CUS et al. (2006) work in Bangladesh. Second, specialized surveys can be conducted targeting deprived urban groups, such as in the CREATE urban study in Bangladesh, the Urban Poverty Survey in

Vietnam, and others[5]. A difficult issue to resolve is whether it is possible for such surveys to base their sampling frames on the census, as in the Vietnam study; in other cases there is no clear sampling frame and so results cannot be generalized to the broader population of interest (e.g. the entire slum population of Dhaka). Third, where no specialised research exists, we can still gain some insights simply by comparing existing national sources, as I have done for Malawi, although this approach can end up raising more questions than it answers.

Other promising approaches include community self-enumeration, where residents of informal settlements have documented their own numbers and shortfalls in service delivery (Patel and Baptist, 2012); and mapping projects such as Map Kibera[6], which includes detailed data on the location and type of schools in Kibera, Nairobi, and could be combined with household survey data to get a good understanding of both the supply and demand sides in education.

Better guidance and transparency is needed on the practicalities of conducting censuses and major household surveys in difficult to reach areas such as slums. Survey and census organisations need to address systematically how they will ensure coverage of such areas in the planning stages, perform checks against other data sources afterwards, and communicate what steps they took and (to the extent that it can be ascertained) how successful those steps were. These steps have to be described in concrete terms that acknowledge the reality of enumerators and research assistants with varying levels of training, carrying out often lengthy surveys in difficult circumstances.

Why is this important? New sets of international goals are being drawn up to follow the Millennium Development Goals from 2015. Many of the proposals for educational goals (see UNICEF and UNESCO, 2013) insist on disaggregation of the goals as the only way to ensure that marginalized groups will be reached. However, disaggregation by rural-urban location and (separately) by wealth quintile, as has been proposed, may actually serve to obscure disadvantage among poor urban groups. At least, data collection should look at overlapping categories of location and wealth – that is, include the poorest asset quintile in urban areas among the groups that deserve special consideration statistically.

But given different ways of living and prices in urban areas, this too may be inadequate. What is wanted is something that captures the intersections of living in a difficult environment and having a low income and few assets, in order to identify groups that are likely to be marginalized in terms of education and other services. Adding a simple urban deprivation indicator, such as the group of households experiencing more than one type of deprivation, would help to show how the urban environment and inequalities in wealth or income can

[5] Mehta and Mehta (2012) list a number of slum studies on different topics, including in India, Brazil, and Kenya.

[6] http://www.mapkibera.org

combine to structure disadvantage in education. An indicator based on two or more deprivations is less sensitive to variations in individual survey questions than one based on a single type of deprivation, and also coheres with the intuition that households in areas of concentrated urban poverty are likely to be identifiable by multiple deprivations.

Of course, using two or more deprivations is still a rough guide, vulnerable to inconsistency across data sources, and there is no guarantee that it will coincide with local ideas in each country or city about what it means to be poor or to live in a slum. Grant (2010) argues for social and micro-level analysis in urban contexts to understand how distinct areas of urban deprivation develop over time. While international goal-setting may impose demands for aggregate and standardized data, real understanding of how urban educational inequality operates would involve finding a better compromise between this type of top-down analysis, and research that brings out context-specific processes and local understandings.

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