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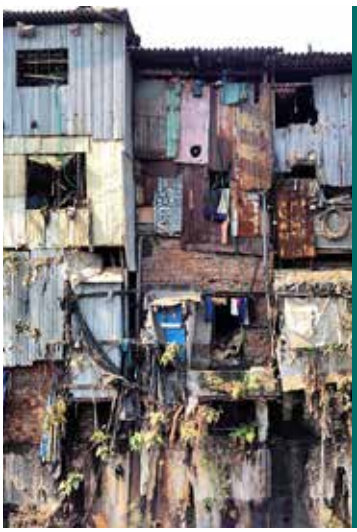

Monitoring progress on urban poverty

Are current data and indicators fit for purpose?

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Abstract

The availability and timeliness of data at the urban level, particularly for informal settlements, is limited. In addition, current indicators can underestimate the extent of urban poverty. Poverty lines based on the cost of basic needs – often a combination of food and non-food essentials – tend to underestimate the higher costs of housing, transport and other services in urban areas. Other multi-dimensional indicators that go beyond income to reflect wider aspects of well-being have also been criticised for failing to capture key aspects of urban poverty, such as the quality of public service provision, and access to adequate housing. This working paper explores how we can improve the data we collect and the indicators we use to measure urban poverty.

Contents

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Executive summary

In recent years, there have been efforts to highlight the extent of urban poverty and housing deprivations in the global poverty agenda. For instance, UN Habitat introduced the concept of 'slums'[1] in the Millennium Development Goals (MDGs). There has also been a surge in community-based enumerations in informal settlements (Beukes, 2014). Despite these improvements, data on urban poverty, particularly for slum areas, remain limited (Carr-Hill, 2013). Often it is difficult to find basic information such as the number of people residing in a slum or the mortality rate in a specific settlement.

Poverty estimates (both monetary and multi-dimensional ones) tend to be drawn from international and national household surveys, while census and administrative data are also used to measure deprivation. This is particularly true in wealthier countries, where a mixture of census data and administrative data is often used to construct detailed maps of deprivation. These datasets provide more granular data – data that zoom in to the local level – as they are not based on a sample of the population. In poorer countries, however, the reliability of data drawn from administrative systems is often called into question. Here, household surveys remain the dominant source of poverty numbers, providing more frequent data than comprehensive censuses, and often more reliable figures than those drawn from administrative systems.

This working paper argues that today's mainstream data-gathering approaches have limitations when it comes to providing data on urban poverty, particularly on slum dwellers:

- **limited coverage:** they undercount slum dwellers (a problem in household surveys, but often in censuses too).
- **limited granularity:** data rarely cover local areas (this applies exclusively to data from household surveys).
- **limited frequency:** data are often collected every three to ten years.

In addition to the limitations on data collection, there is also a problem with the **indicators commonly used to measure poverty** as some of them can be inadequate in urban contexts.

Existing solutions to urban poverty data problems

Addressing limited coverage

Increasingly, slum dwellers are carrying out enumerations, which provide rich information and can be used to cross-check poverty indicators and inform policy.

A number of initiatives have also used satellite data to help identify slum settlements. However, this process has its own limitations. Verification from the 2005 Census and Mapping of Slums survey in Bangladesh, for example, found about 30% of slums were somehow missed by the satellite image identification (Angeles et al., 2009).

Another approach used to capture information on the number and characteristics of slum dwellers has been to carry out special surveys for this group, although these remain the exception.

Addressing limited granularity

At present, even if census data are soon out of date, they are still the most comprehensive source of geographically disaggregated information that we have. As argued by Satterthwaite (2014a), efforts could be directed to make this information more user-friendly for policy-makers in local governments.

In addition to making census data more available, there have also been calls to improve the quality of administrative data. Further, some cities with more resources have attempted to create bespoke comprehensive information systems on the deprivations that face the urban poor.

Another approach used is to estimate consumption or income-based welfare outcomes at the local level, combining census data with more up-to-date household

1 We recognise that words need to be used carefully and that the term 'slum' should not be taken lightly. The definition of slums is discussed in further detail in Section 2.4.

survey data. While there will, inevitably, be statistical errors associated with this method, it is one way to produce essential local information in the years between censuses.

Finally, researchers are exploiting the rapid growth of information and communication technology (ICT) to, for example, mine mobile phone Call Detail Records (CDRs), to predict poverty levels for detailed geographies. These methods merit greater exploration to gauge their potential as well as their limitations in terms of representativeness, privacy and analytical challenges.

Addressing limited frequency

The response to the need for more frequent data is often to conduct more frequent surveys, particularly in poorer countries where frequency tends to be lower.

Increasing the frequency of surveys has obvious implications for both costs and capacity. Efforts are being made to leverage the rapid growth of ICT more directly for data collection, including the use of mobile-phone surveys. These work well for short surveys and can also provide panel data that reveal trends and changes, as they can track the same interviewees over time. In addition, the use of CDRs to address the limited frequency of traditional collection methods could also be further explored. In both cases, the limitations of such methods, particularly their representativeness needs to be seriously assessed.

Addressing the suitability of poverty indicators for urban contexts

Many countries recognise that the costs of meeting basic day-to-day needs are higher in urban areas and have different rural and urban poverty lines produced on the basis of cost calculations. Some countries, such as Colombia, go further, calculating variations in costs between large cities. Nevertheless, poverty lines, even when they make these distinctions, rarely account properly for non-food expenses.

There are welcome proposals to adjust poverty indicators in terms of non-monetary poverty, so that they apply to crowded urban settlements, in the context of discussions about the new framework of Sustainable Development Goals to replace the MDGs when they expire in 2015. There are also proposals to collect new information on security of tenure, measured by the share of families with documented rights to their house and that do not fear arbitrary eviction (Revi et al., 2014).

Recommendations and conclusion

There is no getting away from the fact that, in the long term, the strengthening of administrative data and national statistical capacity is needed (including that of local governments).

At the same time, the political nature of data must be acknowledged: governments may exclude marginalised groups that are considered 'non-citizens' and have incentives to distort numbers that affect resource allocation or to hide underperformance. Although the technical barriers to more effective data collection and analysis are very real, the political barriers also need to be taken into account.

In the short term, producers of data could be clearer about how different instruments deal with vulnerable populations, such as slum dwellers. In addition, data on slum dwellers and other under- counted groups could be produced using alternative sources, such as community-led enumerations, or satellite imagery (backed by on-the-ground verification), which could then inform future sampling frames. The potential of new technologies to complement traditional methods and provide frequent and granular data also deserves further exploration and experimentation, bearing in mind any possible pitfalls and biases.

Finally, thresholds and standards for some aspects of poverty need to be adjusted to urban contexts, where the poor often face higher costs and have to share services with many other people in often over-crowded settlements.

Undercounting and underestimating the extent of urban poverty and informal settlements means that people who face severe deprivations remain invisible to policy and overlooked by resource allocations from international organisations, central and local governments and non-governmental organisations. Ensuring better information on the deprivations they face will not guarantee that action will follow, but it is an important first step and a tool that can be used by different actors to exert political pressure.

1 Introduction

In recent years, there have been efforts to highlight the extent of urban poverty and housing deprivations in the global poverty agenda. For instance, UN Habitat introduced the concept of 'slums' [2] in the Millennium Development Goals (MDGs). There has also been a surge in community-based enumerations in informal settlements (Beukes, 2014). Despite these improvements, data on urban poverty, particularly for 'slum' areas, remain limited (Carr-Hill, 2013). Often it is difficult to find basic information such as the number of people residing in a slum or the mortality rate in a specific settlement.

Urban poverty figures (monetary and multi-dimensional ones, including housing deprivations) are often drawn from either national or major international household surveys. They are meant to be nationally representative, but sample sizes are often not big enough to provide disaggregated data beyond rural/urban and regional breakdowns.

Developing countries tend to rely more on survey data than on administrative or census data, which can provide more detailed and disaggregated geographical information (Carr-Hill, 2012). In fact, in many developed countries, administrative data is often used to monitor trends in local areas.

The over-reliance on household surveys in developing countries is, to a certain extent, a result of the poor quality and coverage of alternative sources of data. For instance, only a quarter of South Asian countries and less than half of Latin American and Caribbean countries have complete civil registration systems, with little progress since 2005 (World Bank, n.d. in OECD, 2014). In the case of census data, information is quickly out of date and sometimes excludes slum households in the enumeration.

In addition to the challenge of limited availability of data for informal settlements, some of the indicators commonly used to measure poverty do not capture adequately some of the characteristics of poverty in urban contexts (e.g. the fact that costs of living are higher and that services are shared with a high number of people in crowded settlements). As a consequence the extent of urban poverty is likely to be underestimated (Satterthwaite and Mitlin, 2013).

The undercounting of vulnerable groups and the underestimation of the extent of urban poverty as a result of inadequate indicators has consequences for the allocation of resources and the targeting of poverty reduction policies. Countries and communities need good data to direct policy to slum areas, measure its effects and hold governments to account.

There is general agreement on the need for better poverty data, as shown by recent calls for a 'data revolution'.[3] To contribute to these debates, in this working paper we discuss some of the limitations of data on urban poverty and review some of the existing solutions. Where possible, we refer to examples of data and indicators used for both global poverty monitoring and national policy-making.

The report is structured as follows:

- Section 2 explores the limitations of data on urban poverty, particularly for informal settlements
- Section 3 outlines some of the existing solutions to the limitations identified in Section 2 (including emerging trends on new technologies applied to poverty measurement where applicable)
- Section 4 concludes with recommendations to improve the way we collect and measure data on urban poverty.

2 We recognise that words need to be used carefully and that the term 'slum' should not be taken lightly. The definition of slums is discussed in further detail in Section 2.4.

3 http://post2015.org/category/data-revolution-2/

2 The limitations of existing urban poverty data and indicators

Monetary and multi-dimensional poverty estimates are commonly drawn from international and national household surveys. Besides household surveys, census and administrative data are also used to measure the deprivations faced by the population. This is particularly the case in wealthier countries, where a mixture of census data and administrative data is often used to construct detailed maps of deprivation. These datasets are more granular as they are not based on a sample of the population. In poorer countries, however, the reliability of data drawn from administrative systems is often called into question (Sandefur and Glassman, 2014), and census data are only available every ten years.

As a consequence, household surveys have become the main source of poverty numbers in poorer countries, as they provide more frequent data than comprehensive censuses and often more reliable figures than those drawn from administrative systems.

Despite their widespread use, these data sources have a number of limitations:

- **limited coverage:** they miss vulnerable populations like slum dwellers (a problem in household surveys, but often in censuses too).
- **limited granularity:** data are rarely available for local areas (this applies exclusively to data from household surveys).
- **limited frequency:** data are often collected every three to ten years, which for some indicators is arguably not often enough.

In addition to the limitations on data collection, there is also a problem with the **indicators commonly used to measure poverty** as some of them can be inadequate in urban contexts.

The next section discusses each of these limitations in more detail.

2.1 Limited coverage

By design, surveys often exclude people who live outside traditional households, such as the homeless, refugees[4] and mobile populations (i.e. rural-urban migrants, many of whom may live in slum areas); those living in institutions (e.g. care homes, factory barracks, hospitals, the military, prisons) and those workers living on site (e.g. construction workers and domestic servants). In practice, surveys tend to under-represent those living in slum areas because of the sheer difficulties of identifying and interviewing them (Carr-Hill, 2012).

Another issue is that household surveys derive their sampling framework from censuses and are likely to replicate any biases present in those censuses. Although censuses are, in theory, a complete enumeration of the population and efforts have been made to improve their quality, they have also been found to miss certain populations, including vulnerable groups in urban areas (Carr-Hill, 2012). Chandrasekhar (2005) provides a specific example of how a decline of eight million slum dwellers in India over the 1990s was, in reality, the result of a gross underestimation of the people living in urban slums.

While census reports in developed countries often include information on how well different groups (e.g. domestic workers, mobile populations, the homeless, among others) are covered, following UN Statistical Division's guidelines, this is not common practice in most developing countries (Carr-Hill, 2012).

In short, vulnerable populations, including slum dwellers, are likely to be undercounted in both censuses (which, in turn, affects sampling frames) and household surveys. If vulnerable populations are undercounted, then the extent of extreme poverty can be underestimated, with consequences for resource allocation and the targeting of poverty reduction strategies by international organisations, national and local governments.

4 About half of those refugees whose location is known live in urban areas (approximately four million) (UNHCR, 2012). http://www.unhcr.org/52a7236d9.html

2.2 Limited granularity

The second issue we explore is the limited granularity of household surveys. Such surveys are meant to be nationally representative, and therefore their sample size is often too small to allow the disaggregation of data for local areas. This means that breakdowns are typically only available for broad geographical areas, such as rural/urban areas or by region (there are some exceptions where district level data are possible).

Administrative data (i.e. data that are by-products of government activity) can be obvious alternative sources of granular data. In fact, they are commonly used in high and middle-income countries with the institutional capacity to maintain administrative systems of reasonable quality, but they are less reliable in poorer countries. There are, however, fundamental problems with administrative data when it comes to slum settlements characterised by informality, where basic records are often missing or incomplete (e.g. births/deaths registrations, electoral rolls, among others).

Censuses are the other obvious source of detailed geographical information on many aspects of well-being. In wealthy countries like the UK, local authorities count with information on deprivation drawn from the Index of Multiple Deprivation for very detailed geographical areas. The information to produce this index comes from a combination of administrative records and census data (e.g. records of beneficiaries of welfare programmes from the Department of Work and Pensions and records of school performance from the Ministry of Education, among others) (DCLG, 2010).

To summarise, surveys do not provide the granularity needed to understand the spatial nature of deprivation; administrative data are often incomplete and of poor quality and census data (although detailed enough) are quickly out of date (as discussed further below).

2.3 Limited frequency

Limited frequency is a problem that affects most of the data sources we are discussing. In the case of urban populations – and slum areas with highly mobile populations in particular – a lack of regular data makes it difficult to keep track of population changes that could inform the demand for service delivery. The lack of frequent data also makes it hard to gauge the impact of shocks or crises on the poor quickly enough for a rapid response.[5]

Censuses, in particular, suffer from this problem as they are only carried out once in a decade. Given their comprehensiveness, it is unsurprising that they are expensive and complex operations to undertake; thus their limited frequency. Censuses also provide the basis for household survey sample frames. As the gap in time between the census and survey increases, sampling frames may become progressively outdated.

Household surveys were introduced to account for changes during the periods between censuses, and it should be noted that poverty data collection initiatives have increased considerably over time. Today, sixty countries produce annual updates to key poverty statistics (Alkire, 2014), many of which are middle-income countries.

One would think that, given the global community's commitment to ending poverty, surveys would be carried out most frequently in the poorest countries, but survey frequency is actually lowest among this group. Chandy (2013)[6] finds that low-income countries have carried out, on average, just four surveys since 1980.

But it is not just the lack of frequency in data collection that can affect the timeliness of data. There can also be considerable time lags in processing the data, with significant delays between the moment of applying the survey and getting the data ready for analysis. In the most extreme cases, ten years have elapsed, in stark contrast to examples of good practice, where this has been achieved within six months of the survey (Chandy, 2013). In the case of Mexico, they claim to prepare the official multidimensional poverty statistics (which include income poverty) nationally and by state two weeks after receiving the cleaned data (Alkire and Samman, 2014).

In short, frequent data can help to track sudden changes in well-being. This is particularly important to understand vulnerability and the impacts of shocks, using more frequent data on income/expenditure and employment, health, consumption, access to basic services and others. Up-to-date information on population numbers, particularly in informal settlements, is also vital to understand service delivery needs. Without this information policymakers are less equipped to respond.

2.4 Suitability of indicators for urban contexts

In addition to data limitations in coverage, granularity and frequency, some indicators commonly used for poverty measurement are not suitable for urban settings, and overlook some dimensions that are important in such contexts, such as security of housing tenure. This has been well documented in the literature (e.g. Satterthwaite and Mitlin, 2013). Some examples are included below.

Monetary Poverty

Poverty measures based on income/consumption, like the widely used $1.25 a day, can underestimate the higher costs of living in urban areas. While the $1.25 poverty line

5 In addition to the lack of frequency, the lack of panel data (i.e. following the same person/household over time) makes it difficult to measure the impacts of shocks.

6 This paper focuses on household surveys to measure monetary poverty.

is used mostly for global monitoring rather than national policy-making, it can influence donors' resource allocation decisions. Further, even when countries have separate poverty lines for rural and urban areas, these sometimes do not account properly for differences in the costs of non-food expenditure, such as transport or housing (Satterthwaite and Mitlin, 2013).

Non-food expenditure – e.g. water, electricity, transport, in some cases access to toilets, housing, education and healthcare – can be particularly costly in urban settings. For example, transport, so critical for those living in the periphery of cities to get to work, can account for a large proportion of earnings. In Harare, Zimbabwe, the urban poor spend more than one quarter of their disposable income on transport; while in Kampala, Uganda, this rises to almost half (World Bank and International Monetary Fund, 2013).

Access to shared services in dense urban areas

Access to water and sanitation is often measured as the proportion of people that have access to 'improved' water sources and sanitation facilities (the MDG indicator, also used in other multi-dimensional poverty measures, such as the Oxford Poverty and Human Development Initiative's (OPHI) Multidimensional Poverty Index (MPI)).[7] This includes the use of shared facilities (e.g. a tap in the case of water), which fails to recognise the higher demand that characterises dense urban areas. In situations where 5,000 people share a tap, there is a real question of whether this can be considered an 'improved' facility (Satterthwaite and Mitlin, 2013).

In some cases these limitations also apply to national measurement, which can overlook the quality of these services (e.g. if they are shared with many people, their affordability, and frequency of provision). This can underestimate the deprivations faced by the urban poor with consequences for the allocation of resources.

In the context of discussions about a new development framework that will replace the MDGs when they expire in 2015, there are proposals to improve these indicators so they better capture these deprivations in urban settings. We look at these proposals in Section 3.

Standards for 'adequate' housing

Access to adequate shelter is an area of poverty measurement that is critical in the urban context. The concept of 'slum' proposed by UN Habitat in the 2000s (used for MDG7, Target 11) constitutes an effort to highlight housing deprivations in the global poverty agenda.[8]

The concept as developed by UN Habitat defines a slum household as one lacking one or more of the following: a durable housing structure; access to improved water; access to improved sanitation[9]; sufficient living space (under three people per room); and secure tenure. The first four rely on conventional definitions; the last, although critical for informal settlements where many fear eviction, is the most difficult to assess and is not used in current slum measurement, given the lack of available data (UN Habitat Global Urban Observatory, 2003; UN Habitat, 2007).

Attempts to define the term 'slum' are bound to be debatable. The term often refers to the urban low-income populations living in houses or shacks they built themselves. In terms of tenure, some of these settlements occupy illegal land, but in other cases it is the subdivisions that are illegal, in other words, the site was purchased but the development for housing was not approved by the local authority (Satterthwaite and Mitlin, 2013). Further, in many informal settlements, residents are tenants.

Some argue that the concept is too vague (Gilbert, 2007). It is often used as a general term to cover a wide range of housing deficiencies and settlements, whereas in fact slums are far from homogeneous. So-called slums can range from high density, squalid central city tenements, to spontaneous squatter settlements without legal rights, sprawling at the edge of cities.[10]

Gilbert also argues that the term is relative, and highly dependent on income and domestic circumstances: 'Your description of a slum is my home and what you regard as decent shelter today may well be considered a slum in the future' (Gilbert, 2014). In other words, what is conceived as 'sufficient' living space and what constitutes 'adequate' housing is context specific and it is difficult to provide a universal definition. For example, having a toilet outside the house in the UK was not a marker of poverty in the 1950s but it certainly is today (Norton et al., 2014).

7 For the definition, see: http://www.wssinfo.org/definitions-methods/watsan-categories/

8 We are aware that the term can have derogatory connotations – it implies poor quality housing that needs replacing and has sometimes been used to legitimatise the eviction of residents in these settlements and the destruction of their homes (e.g. 'slums clearance'). Despite these reservations, the term is difficult to avoid. It is widely used in the literature: UN Habitat collects data on housing deficiencies using this term, which is also included in the MDGs. Further, a number of urban poor groups have organised themselves as slum dwellers' organisations or federations. In some countries, particularly in Asia, there can be advantages in being officially recognised as a slum. As such, and following Satterthwaite and Mitlin (2013), we use the term throughout this working paper, but remain aware of its problematic aspects. Note that in the text the terms slum and informal settlements are used interchangeably.

9 Both access to water and sanitation follow the measures used by the MDGs, developed by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation http://www.wssinfo.org/definitions-methods/

10 For example, differences between Viwandani and Korogocho slums in Nairobi have been highlighted in terms of the socioeconomic status and demographic composition of their residents. Viwandani is a settlement located in the industrial area; its residents have relatively higher levels of education and employment, as it attracts mostly single household migrant workers to the surrounding industries. It therefore has higher socioeconomic status than Korogocho (Beguy et al., 2011).

Other commonly used poverty measures, such as OPHI's MPI, include one indicator for housing deprivation – the presence of dirt floors – as this is the only housing indicator comparable across a large number of countries. As argued by Satterthwaite (2014b), when constructions in slum areas have more than one storey (not uncommon in these settlements), the upper floors would not face the 'dirt floor' deprivation, yet they may be inadequate in other ways (e.g. in terms of the durability of the materials of walls and roofs or whether they have sufficient living space). As a result, the extent of housing deprivations may be underestimated in global measurement.

Some countries have their own definitions of informal settlements and of housing deprivations. In some Latin American countries, for example, measures of basic unmet needs include housing deprivations (Feres and Mancero, 2001). In particular, the durability of building materials and the sufficiency of living space are often considered and defined according to different country contexts. However tenure and affordability are important aspects of housing deprivations that are often missed.

Other dimensions

There are other areas that are often overlooked in multidimensional poverty measurement and that could be of particular relevance for urban contexts. Research by Brock (1999), part of background work undertaken for the World Bank's Voices of the Poor study, found that in addition to their immediate living conditions (crowded environments, inappropriate housing, lack of access to water, and dirty streets) the urban poor also mentioned violence and crime as key features of poverty.[11] A participatory exercise conducted in a Kenyan informal settlement, Mathare Valle, as part of the Participate project (Burns et al., 2013)[12] also highlighted insecurity and violence (political violence, clashes between ethnic groups, mugging, gender-based violence) as key issues faced by slum dwellers.

Stigma was also raised as an important issue among slum dwellers in India, who highlighted that they were not treated as citizens, faced discrimination and were stigmatised by society (Burns et al., 2013). These are issues that are often recognised as missing dimensions in the poverty measurement literature.[13]

11 Brock reviewed features of poverty drawing on NGO work with 58 groups and individuals in 12 countries (Bangladesh, Bolivia, Egypt, Ghana, Malawi, Nepal, Nicaragua, South Africa, Sri Lanka, Tanzania, Uganda and Zimbabwe), who were asked to identify key criteria for poverty, ill-being or vulnerability. The participants were poor men, women and children and they lived in both rural and urban settings (55% rural; 45% urban). While there is no indication in the report that the groups of the urban poor interviewed lived in slum areas, it is highly likely this was the case. Brock compares the frequency with which different issues were mentioned by the urban and rural poor.

12 The Participate initiative seeks to provide high quality evidence on the reality of poverty at ground level, bringing the perspectives of the poorest into the debate on what will replace the MDGs when they expire in 2015. More information can be found at: http://www.ids.ac.uk/project/participate-knowledge-from-the-margins-for-post-2015

13 For example, see http://www.ophi.org.uk/research/missing-dimensions

3 Existing solutions to urban poverty data problems

In this section we take each of the limitations mentioned in Section 2 and outline some of the existing solutions and proposals put forward to deal with these. Although still incipient, we also review methodologies that seek to apply new technologies to complement traditional poverty measurement (e.g. the use of satellite imaging to aid counts of missing populations; mobile phone surveys to lower costs and carry out more frequent surveys; and recent studies that mine mobile phone call detail records (CDRs) to predict poverty levels).

3.1 Addressing limited coverage

Estimating the number of people missing from the data

As stated in Section 2, slum populations, alongside other vulnerable populations are often excluded or underestimated in both censuses and household surveys. Other available sources of information, such as community-based enumerations, could be used to fill these gaps.

In the case of slum populations, Karanja (2010) and Livengood and Kunte (2012) describe community data-gathering strategies in Kisumu in Kenya and Cuttack in India, respectively. Increasingly, slum dwellers themselves are carrying out enumerations in a number of settlements and these are becoming more sophisticated in terms of using comparable formats across different countries and GPS technology (Beukes, 2014). These estimates could be used more widely to cross-check official urban poverty numbers.[14]

In addition, given rapid urbanisation in many countries and the low frequency of traditional data collection methods, it is often hard to capture information on poor mobile populations that are migrating in and out of slums. There are some examples where Big Data,[15] particularly mobile phone CDRs, have been used to analyse migration patterns. Although these are emerging trends, the potential to complement and aid estimates of slum populations could be further explored (particularly in contexts where it is more difficult to collect reliable data through traditional methods).[16]

Of course, there are a number of caveats that need to be taken into account when using information derived from mobile phone records, not least trends in phone ownership, sample bias and the fact that data are not representative (further explored in Section 3.2).

Carrying out special surveys for missing vulnerable populations

Another approach used to capture information on the number and characteristics of slum dwellers has been special surveys for these groups, as carried out by the African Population and Health Research Center in Nairobi. The Center created a sample frame for Kibera and other settlements in Nairobi in 2000 and designed the questionnaire to ensure that its findings could be compared to the Demographic and Health Survey general results for the country (Satterthwaite and Mitlin, 2013). Kenya's National Bureau of Statistics did the same for informal settlements in Mombasa. Although this is a certainly a useful alternative, so far it has been exceptional in its application.

Improving the census and sample frame, including use of satellite information

The 2005 Census and Mapping of Slums (CMS) survey in Bangladesh was designed to help identify slum settlements and create a slum sample frame that could inform the targeting of urban welfare programmes. First, a map was

14 For other groups that are often missed in census and household surveys (e.g. displaced populations) other alternative sources of information could be sought. For example, their numbers could be estimated through figures provided by the UN High Commissioner for Refugees (UNHCR). This agency manages camps for displaced and refugee populations and have figures on them. In addition governments keep records of those who are applying for or who have been granted asylum (Carr-Hill, 2012).

15 In recent years, a large and increasing share of data has been produced and made available in real time. The resulting exponential growth in the collection and availability of data (both structured and unstructured), with datasets too large and complex to process using traditional database management tools or applications, is broadly referred to as Big Data. The data are usually generated digitally and collected passively as people use digital services. The three characteristics that define big data are the three Vs: volume, velocity and variety (Laney, 2001).

16 In Rwanda, for example, Blumenstock (2012) estimated internal migration patterns using a dataset containing mobile phone CDRs for 1.5 million people between 2005 and 2009 and calling about 900 subscribers to collect anonymised demographic data. Similarly, Wesolowski and Eagle (2009) used mobile phone CDRs for 6 million mobile phone subscribers in Nairobi, Kenya between June 2008 and 2009 to examine the dynamics of the Kibera slum – how long people stay there, migration from the slum and where people move to, as well as where they work.

created using geo-referenced satellite images to produce street maps of cities. Suspected slums were located by looking at population density and roofing materials. Second, a team interviewed local residents to assess the conditions in the slum settlements and population size, and to verify the findings from the satellite images with information on the ground (Angeles et al., 2009). A similar approach has been used in other countries, such as Timor Leste and Indonesia (Carr-Hill, 2012).[17]

However, this process can face important limitations. About 30% of slums were missed by the satellite image identification in the Bangladesh survey. Slums were more often missed in places with steep gradients or heavy tree cover. In addition, while the roofing material generally varied between slum and non-slum areas, there were a fair number of exceptions to this pattern. For instance, the density and roofing material often found in slums were also found in some markets, meat processing plants and light industrial facilities, which were accidently mistaken for slums (Angeles et al., 2009). In addition, the timeliness of satellite images can also be a problem. Adjustments for new buildings and demolitions can have a big impact on small areas, with implications for weighting samples and the logistics of fieldwork (Carr-Hill, 2012).

In short, while satellite images serve as a good starting point, they can only provide a partial picture of slums that needs to be complemented with on-the-ground information.

3.2 Addressing limited granularity

Making the most of census data, strengthening administrative data and bespoke databases

Even if the data from censuses become outdated very quickly, given the low frequency of censuses, they are, ultimately, the most comprehensive source of data that are geographically disaggregated (although content and whether it captures income varies a lot across countries). Efforts could be directed to present this information in a more user-friendly way so that local governments can easily identify those who face deprivation in their areas (Satterthwaite, 2014a). Local governments could also set up systems that can update key statistics in between censuses; many already do.

A project supported by the Global Communities (previously CHF International), which helped local governments in Ghana to map slum settlements and identify urban poverty, offers an example of the combined used of GPS and census data. This exercise created maps for key indicators, including detailed estimates of population, income and housing indicators, as well as urban services, such as water, sanitation, and waste management. It also created a consolidated Accra Poverty Map and a composite poverty index for 79 communities in 2008-2009. This helped to inform the planning process of pro-poor programmes by both local and central government.

In addition to making census data more available, there have also been calls to improve the quality of administrative data. The latter requires long-term improvements in state capacity and other sources of data that offer quicker fixes tend to be prioritised. Ultimately, administrative data are a source of both granular and up-to-date information. As such, improving their quality and reliability requires more attention that it has had to date (Chattopadhyay, 2014).

Further, in some cities with more resources, efforts have been made to develop bespoke comprehensive information systems on deprivations facing the urban poor. In Brazil, for example, the City of São Paulo Department of Housing and Urban Development (SEHAB) initiated a comprehensive urban development strategy that in 2005 led to the creation of a user-friendly information and mapping system (the Information System for Social Housing in São Paulo (HABISP). HABISP contains information about residents of public housing and precarious settlements of various kinds – favelas, informal land subdivisions, slum tenements and hazardous areas. It gives decision makers access to comprehensive information on housing and other socioeconomic conditions of the urban poor (Cities Alliance, n.d.).

Finally, slums federations' own enumerations also count with valuable and detailed information on the deprivations faced by slum dwellers, and – as is already happening in some places – can be used to inform policymaking (Environment and Urbanization, 2012).

Modelling local welfare estimates in the years between censuses

Combining census and survey data

Estimates are often used in the absence of up-to-date detailed geographic information. In recent years, there has been growing use of 'poverty maps' that estimate consumption or income-based welfare outcomes at the local level, combining census data with more up-to-date household survey data (Christiaensen et al., 2011). In fact, a number of countries, particularly in Latin America, use this method as a first step in their targeting of well-known cash transfer programmes (Lavallee et al., 2010; Coady, 2003; Cecchini et al., 2011).[18] This approach

17 There have been other studies using satellite data to understand the topography and land use patterns of urban areas and identify slum settlements. See for example Kit et al. (2011) and Netzband et al. (2009) for Hyderabed, India and Dhaka, Bangladesh, respectively.

18 After areas are chosen based on poverty maps, in-depth assessments of the areas are often undertaken. In addition, households that think they qualify for the programmes can often approach the programme offices. For more information, see Coady et al., 2003; Cecchini and Madariaga, 2011; and Fiszbein and Schady, 2009).

imputes consumption or income at the local level into the population census based on a set of regression models estimated from household survey data. These imputed household level income or consumption estimates are then aggregated into welfare indices at different levels of geographic aggregation (Elbers et al., 2004). Although there will, inevitably, be statistical errors associated with this method, it is one way to produce local information in the years between censuses.[19]

Using mobile-phone records

Responding to the rapid growth of information and communication technologies in recent years, many researchers have mined mobile phone CDRs to predict poverty for local areas. In many developing regions, mobile technology has substituted for weak telecommunication and transport infrastructure and underdeveloped financial and banking systems (UN Global Pulse, 2012). Analysis conducted in this manner is considered reliable for research if phone ownership rates are at or above 80% (Croke et al., 2012). Further, mobile penetration is often higher in urban areas, which means there is potential to apply this methodology to these areas.

Smith et al. (2013) used CDRs in Côte d'Ivoire to predict poverty levels. With 77% of the population using a mobile phone it is a good case to mine this type of data. To estimate poverty levels from mobile phone communication data, the authors tested a number of hypotheses. For instance, they assumed that the level of mobile communication activity (volume and duration) can relate to levels of social and economic activity.[20]

The authors then checked correlations between communication patterns and OPHI's MPI for 11 regions and found strong relationships. They also argue that this model could be used to provide estimates for more detailed geographical areas. However, the lack of data makes it difficult to validate some of these results. Even in the case of the MPI, there is a seven-year lag in the data used (the MPI is based on 2005 survey data while the phone records correspond to 2012, and the MPI has some limitations when applied to urban locations, as discussed above).

In addition to mobile-phone communication activity and its patterns, Gutierrez et al. (2013) have used mobile airtime purchases to estimate income and inequality, also within Côte d'Ivoire. They hypothesise that the size and frequency of airtime purchases are correlated with the income of individuals. They also analyse segregation by analysing social networks and whether people tend to be friends with people that have the same airtime purchase average as themselves.[21]

These studies are incipient and, of course, a number of caveats need to be taken into account – not least inequalities in access to mobile phones and any sample selection bias. There are also privacy concerns. In the case of mobile CDRs, there is a growing concern that it may be possible to re-identify anonymised data. Privacy challenges are exacerbated in poor and fragile states where institutions are often weak or where the identification of anonymised data poses particular security risks. Further efforts are needed, therefore, to preserve privacy and to better anonymise data, as well as to build legal frameworks and institutional capacity to tackle these issues.

There can also be analytical problems. When using Big Data to understand development phenomena it is essential to be mindful of the cultural and ethnographic context. This kind of data can lead to apophenia (the tendency to see patterns where none exist), a consequence of the massive quantity of data that may offer connections in all directions (Boyd and Crawford, 2011). This makes it particularly crucial that research using Big Data is transparent about its methodology, analytical assumptions and underlying biases. It also requires higher and more sophisticated human resources to be able to understand and appropriately analyse such data, as well as building up computing capabilities. In addition, there is often a lack of good quality granular socioeconomic data to compare and validate the results of these models.

While these studies have been largely academic to date, and the use of CDRs a very recent trend, it is worth exploring its potential and its limitations to gauge the extent to which it can be used to complement traditional survey information, given the continuous availability of mobile-phone records data and high penetration in some countries.

3.3 Addressing limited frequency

More frequent surveys, including use of mobile-phone surveys

The response to the need for more frequent data is often to conduct more frequent surveys, particularly in poorer countries where frequency tends to be lower.

Increasing the frequency of surveys would have obvious cost and capacity implications. In recent years, however,

19 The limitations mentioned in Section 2.1 in terms of the coverage of both censuses and surveys also apply.

20 They also use a 'gravity model', which assumes that the size of communication flows (measured by the hourly aggregated volume and duration of calls) between two areas is proportional to the population of those areas, but it diminishes as the distance between them grows. The authors posit that the difference between observed and expected communication flows between areas (the residual) is related to levels of social and economic activity. They also test the relationship between poverty levels and two other features of communication patterns: the diversity of social connections and what they call 'introversion'. The diversity of social connections assumes that the more diverse the connections of a region the lower the poverty level is likely to be, while introversion suggests that those areas that have fewer connections to other regions compared to the number of connections within the region, are less likely to benefit from opportunities further afield. For further details on the methodology, see Smith et al. (2013).

21 There are also studies mining CDR data in the Latin American context. See for example Frias-Martinez and Virsesa (2012) and Soto et al. (2011).

with the rapid growth of information and communication technologies (ICT), efforts have been made to leverage technology more directly for data collection, to save time and cut costs. These have included the use of mobile-phone surveys where, rather than enumerators using electronic devices in face-to-face interviews, respondents are contacted and surveyed through their mobile phones.

Such surveys can be conducted in many different ways – via SMS[22], interactive voice response (IVR), web-based surveys, or via computer-aided telephone interviews (CATI).[23] These methods also eliminate transport costs and time; the only main expenses being the costs of phones, phone credit and, in the case of voice interviews, interviewers and an office from where the team can work (Dillon, 2012).

The World Bank's *Listening to LAC* project in Honduras and Peru found that mobile-phone surveys cost about $8 through SMS, $17 via IVR, and around $25 through voice calls (and $40 in Honduras, due to higher telecom costs) per interview, compared to about $40 for every interview carried out in face-to-face surveys (Ballivian and Azevedo, 2013). In comparison, in a Tanzanian survey, part of the World Bank's *Listening to Africa* project, the average cost per mobile phone interview amounted to about $4.10 to $7.30 while a baseline face-to-face survey was estimated to cost between $50 and $150 per interview (Croke et al., 2013). These potential savings can then be employed to conduct surveys more frequently.

A number of limitations need to be considered. As mentioned in Section 3.2 in the case of CDRs, inequalities in phone ownership and sample selection bias need to be treated seriously. While mobile-phone usage is growing and in some countries is close to 80%, inequities in access remain. A woman is 21% less likely to own a mobile phone than a man overall, rising to 23% in Africa, 24% in the Middle East, and 37% in South Asia (GSMA, 2010). A 2010 survey in 17 Sub-Saharan African countries also found that the average mobile-phone owner is more likely to be educated (75% of those with at least nine years of formal education own mobile phones versus 44% of those with up to eight years), wealthy (with $1,100 as the average income of mobile-phone owners compared to $740 for others) and urban (Tortora et al, 2011).

In places with high mobile penetration rates and available databases of numbers from which an unbiased sample can be drawn, representative samples can be selected by contacting potential respondents to assess their characteristics (location, gender, age, education, wealth). In general, however, rigorous probabilistic sampling and a baseline face-to-face survey are also needed to produce reliable data (Croke et al., 2012; 2013).

If phone ownership rates are low and non-random, sampling bias can be minimised by providing some or all respondents with mobile phones and phone credit in exchange for their participation in the survey, which would serve as an incentive for participation and help reduce non-response[24] and attrition.[25] But a good underlying sample frame is needed to select those who should be given phones.

Further, while mobile-phone surveys can be used to collect data (including panel data) on a wide variety of topics, interviews need to be short. Croke et al. (2013) specify that the length of the interview should ideally be no longer than 20-30 minutes.

Finally, the analysis of CDRs mentioned in Section 3.2 as a way to address the lack of granularity also applies here, as CDRs can be used to tackle the lack of frequent data. Provided biases in sample selection are taken into account and properly explored, both CDRs and quick mobile-phone surveys have the potential to produce more frequent estimates on key indicators. For example, the latter could focus on specific vulnerable areas and gather information on key statistics that change more frequently (e.g. income/expenses/consumption, employment information, violence, health, access to services, etc.).

3.4 Addressing the suitability of indicators for urban contexts

In addition to proposals to deal with the limitations of data, there are suggestions to improve the indicators used to measure poverty in urban contexts.

Monetary Poverty

The fact that costs to meet basic needs are higher in urban areas is recognised in countries that have different rural and urban poverty lines based on cost calculations. Some countries go further, differentiating costs between their larger cities. Colombia, for example, has calculated local poverty lines for 26 areas, including the larger cities, since 2006.[26]

22 Surveys can be conducted via SMS in places with poor telecom infrastructure, and in fragile or difficult conditions, as SMS provides respondents with a sense of anonymity, contributing to more reliable responses. It is useful for short self-administered surveys (Schuster et al., 2011). However, this method is only appropriate with very few questions and is not appropriate for illiterate populations, or where people cannot read the language in which the questions are asked. In these cases IVR or voice call surveys are preferable.

23 Although the most expensive, CATI is more appropriate in cases of illiterate respondents, and also when populations speak different languages (Croke et al., 2012; Ballivian and Azevedo, 2013). In addition, it is superior when the questionnaires ask open ended questions with more complicated answers. Interviews can be scheduled for a particular day and time on a regular basis, so respondents allocate time to answering the survey. It has also been found to have the lowest attrition and highest retention rates - with response rates of 80% compared to about 45% for IVR and SMS surveys in Honduras, and 50% compared to less than 30% for the other methods in Peru (Ballivian and Azevedo, 2013).

24 Ballivian andAzevedo (2013) in a study in Peru and Honduras found that although providing respondents with phones helps increase sample size and representativeness, whether incentives are provided and their value did not impact response rates.

25 Attrition is when respondents in a panel survey drop out, which can bias longitudinal data if some groups drop out more than others.

That said, some national poverty lines, even when they differentiate between urban and rural areas, do not account properly for all non-food expenses. In the case of Colombia, the lines are based on food expenditure and adjusted with a multiplier (of 2) for non-food costs, following the methodology proposed by the Economic Commission for Latin America and the Caribbean (ECLAC).

Given the difficulties of incorporating non-food expenditures, some have argued that communities should be more involved in validating these estimates (Satterthwaite and Mitlin, 2013).

Access to shared services

In the context of discussions about a new development framework that will replace the MDGs when they expire in 2015, there are proposals to adjust the indicators that were used in the MDGs to measure 'improved' access to water and sanitation so they are applicable to crowded urban settlements. In terms of drinking water, for example, a redefinition of an 'improved source' is proposed that includes collection times (30 minutes or less for a round trip, including queuing) and elements of quality ('a source or delivery point that by nature of its construction or through active intervention is protected from outside contamination with faecal matter'; Revi et al., 2014).

Similarly, proposals for measures of 'improved' access to sanitation also take into account the context of dense informal settlements. Revi et al. (2014) define adequate facilities as those that are shared among no more than five households or 30 persons, whichever is fewer. Further, 'improved sanitation facilities at home are those that effectively separate excreta from human contact, and ensure that excreta do not re-enter the immediate environment' (Revi et al., 2014).

Standards for 'adequate' housing

In addition to measuring durability and sufficient space (all included in the UN Habitat definition of slums discussed in Section 2.4) there have been efforts to measure security of tenure. For example, in 2003 UN Habitat introduced the Urban Inequities Survey in 25 cities, which includes information on tenure. Further, there are now proposals to collect new information on security of tenure as measured by the percentage of people with documented rights to their house and the percentage that do not fear arbitrary eviction (Revi et al., 2014).

Suggestions for the measurement of the affordability of housing are also being debated (e.g. the proportion of the urban population in the lowest income quintiles that spends more than 30% of its income on accommodation). And there are also discussions on whether the definition of what constitutes a slum could be improved, with greater involvement of local communities (Revi et al., 2014).

In the past there have been other suggestions for improvements in the measures of housing deprivation and slums, with an emphasis on the fact that it is not just physical housing that is important, but the habitat around it. As such, the inclusion of access to other basic services has been proposed: waste collection, storm drainage, street lighting, and roads for emergency access. In the same vein, basic social services could also be added, such as schools and clinics within easy access and safe areas where children can play and communities can socialise (World Bank, 2000).

Other missing dimensions

Other dimensions of poverty that are important for urban contexts (but that also apply to rural settings) are also under consideration in discussions of a new development framework, such as inequality, violence (including domestic violence) and crime. Other relevant aspects, such as stigma and social capital are more difficult to measure. There have been relevant studies on this (e.g. OPHI's analysis of missing dimensions and recommendations from the Stiglitz-Sen-Fitoussi Commission) but indicators remain less developed.

3.5 A note on general barriers to improvements in poverty data

General limitations to better data collection have been widely documented in the literature (e.g. Chandy, 2013; Sandefur, 2013; Sandefur and Glassman, 2014), particularly around the lack of capacity and resources within statistical offices in poorer countries.

The limited capacity of governments' statistical capacity means that both the quality and the frequency of data collection can suffer and that agencies end up relying on donors or consultants to lead surveys. There is also a vicious circle; the less often surveys are undertaken, the more difficult it is to build institutional capacity that would make it easier to carry out surveys over time. In fact, Chandy (2013) finds that there is a positive correlation between countries' statistical capacity (as measured by the World Bank's Bulletin Board on Statistical Capacity) and the frequency with which they carry out household surveys. It is also likely that statistical capacity is just one manifestation of a wider problem of state capacity and the strength of the institutions in developing countries.

In addition, government statistical agencies have a lower status than other government agencies, such as central banks or finance ministries. As such, their ability to attract and retain human resources is restricted. It is rare for the head of a statistics office to have a high political profile or to become a political champion who can defend the agency's interests. The low budget allocations for national statistics offices are a clear reflection of their low profile. Donors also compound the problem as they tend to interact

26 http://formularios.dane.gov.co/Anda_4_1/index.php/catalog/198/export

more with the more powerful agencies, typically finance ministries, rather than statistical agencies (Chandy, 2013).

Despite concerted efforts to improve statistical capacity – e.g. in Busan, efforts by the World Bank's International Development Association and Paris21 – the performance of national statistical offices has not improved much over time, as measured by the World Bank's Bulletin Board on Statistical Capacity (Sandefur and Glassman, 2014).[27]

Resources are also limited. The approximate costs of a cross-sectional survey approach $1-2 million, although there can be substantial variation depending on methods, ranging from $100 to $1,000 per household. Aid commitments to fund statistical systems vary from $200 million to $500 million a year. This represents about 0.3% of the total aid budget (Chandy, 2013).

There is also the question of how effective this aid is. In some cases it is used to fund one-off project-based surveys rather than building long-term statistical capacity. In addition, many of those countries receiving substantial amounts of aid for statistical development are among those with relatively high scores in statistical capacity, which means that funds are not necessarily being channelled to those in the greatest need (Chandy, 2013).

Finally, some of the barriers are political. In many cases, vulnerable populations remain uncounted because they are considered non-citizens, cultural minorities or marginalised groups. Similarly, some of the problems with the reliability of official data – e.g. the issue of misrepresenting administrative data – are linked to incentives for resource allocations that are based on population numbers, certain characteristics of the population or performance indicators (Sandefur and Glassman, 2014). Even without these funding incentives, governments, particularly those with weak institutions and poor accountability checks, have incentives to distort numbers in a way that makes their performance look better. Although the technical barriers are very real, the political ones also need to be taken into account.

27 http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/EXTWBDEBTSTA

4 Recommendations and conclusion

In this paper we have summarised some of the limitations of data sources and indicators currently used to measure urban poverty, particularly in slum areas. We also described some of the existing tools available to deal with some of these problems. Before turning our attention to specific suggestions for improvements, it is worth highlighting some important general considerations. Although these are common knowledge, they are rarely reflected in current practice.

- **Fostering an integrated and long-term approach to data collection and measurement, particularly in least developed countries.** It is important to acknowledge that the group that pays for the data defines the data (in terms of sample, data elements, collection methods, and analytical strategies – typically to evaluate the programmes they are funding), and many funders operate in the same space. Instead of piecemeal projects and data collection by different actors, a more integrated approach that goes beyond individual project goals could help to better assess, monitor and motivate action to address urban poverty (Vlahov et al., 2011). This could include, for example, more efforts to improve long-term capacity (e.g. improving links between a central statistical agency and local level statistical capacity) and the quality of administrative systems instead of conducting a number of individual surveys.
- **Recognising the political nature of what is often regarded as a technical exercise.** There are incentives for different actors to misrepresent data. Governments may exclude marginalised groups that are considered 'non-citizens'. Some local or central government agencies may have incentives to distort numbers if this has implications for resource allocation. Governments may also choose to manipulate figures to hide underperformance. In short, in addition to dealing with capacity and resource constraints, it is important to recognise some of the incentives and political nature of bad data.
- **Committing to transparency on the limitations of data and cross-checking different sources.** Commonly used figures rarely make their limitations explicit. As such, numbers are often widely cited and used without recognising the fact that they are imperfect estimates. In this vein, data producers and users could be clearer about the limitations that underpin the data used. Cross-checking information between different data sources and methodologies could also be undertaken more frequently to highlight some data problems and provide incentives to improve quality.

Having provided some general reflections, we now set out more specific recommendations for each of the data gaps and limitations of indicators discussed in this working paper.

Limited coverage

In the short term, producers of data could be clearer about how different instruments (e.g. census and household surveys) deal with vulnerable populations, such as slum dwellers, by including this information in the notes on methodologies.

In addition, given that slum dwellers (among other groups like the homeless, refugees, domestic servants, on site workers) are commonly under-counted, estimates could be produced using alternative sources of information. In the case of slum dwellers, community-led enumerations could be used.

Other tools that can be used to estimate missing vulnerable groups include the use of satellite imagery (although the latter requires on-the-ground verification to produce reliable information) and, resources permitting, surveys for these specific groups (as undertaken by the African Population and Health Research Center). In fact, the importance of slum-specific data systems cannot be emphasised enough.

If estimates of these often missing populations are produced, then these could be used to inform future sampling frames and/or adjust results of existing information which excludes these populations.

Limited granularity and frequency

Governments require granular data to understand the spatial distribution of different deprivations. For key statistics that can change regularly (e.g. population numbers, income/expenditure, employment conditions in the informal sector, among others) high frequency is also desirable, in addition to granularity.

With regard to granularity alone, even if quickly out of date, the most comprehensive data source is the census. Yet in some cases this source is under-used. There is an argument for making such data more readily available to local governments, which could then choose to update information on key statistics in between census rounds. In fact, some local governments with the necessary capacity already do so.

In addition, new technologies have the potential to offer more frequent and granular data to complement traditional methods, and this deserves further exploration and experimentation, together with understanding possible pitfalls and biases. There are a number of initiatives combining census data with GPS technology to produce detailed poverty maps that are useful for local policy-makers. Some are using mobile-phone surveys, as they can be cost-effective, particularly when information is needed on a few key statistics or can be captured in a short questionnaire, and to follow the same interviewees over time. The use of information from call detail records (CDRs) also deserves further investigation; some are mining this data to track migration patterns as well as to predict poverty levels.

However, there is no getting away from the fact that in the long-term the strengthening of administrative data and national statistical capacity is needed (including the statistical capacity of local governments). There is, at present, an over-reliance on international household surveys, which is in many cases the result of the immediate need to bypass weak state capacity. However, if governments are going to improve the way they inform policies and target poverty reduction strategies, it is vital to strengthen statistical capacity and administrative systems, including basic birth and death registrations, as well as land and housing records.[28] There is a need to raise the profile of statistical offices (Sandefur, 2013) to attract good professionals – something already achieved by central banks and ministries of finance.

Inadequate indicators for urban contexts

Finally, there is a need to emphasise the fact that thresholds and standards for some aspects of poverty need to be adjusted to urban contexts. The urban poor often face higher costs and have to share services with many other people in crowded settlements.

Discussions on indicators for the post-2015 Sustainable Development Goals provide a useful platform to raise these points. In fact, there have already been a number of suggestions to modify some of the commonly used MDG indicators for access to water, sanitation and adequate housing, so that they take into account the quality, affordability and shared aspects of these services. As local actors – national and local governments, local communities – get involved in the formulation of targets and the monitoring of progress on a new set of goals, discussions on improvements for different indicators and the need to account for new dimensions, such as tenure and fear of eviction, should reach a wide audience.

Discussions on data collection and measures can be regarded as too technical, but they have deeply relevant policy implications. Undercounting and underestimating the extent of urban poverty and informal settlements means that people who face severe deprivation remain invisible to policy and resource allocation by international organisations, central and local governments, and non-governmental organisations. Getting better information on the deprivations they experience may not guarantee that action will follow, but it is an important first step and a tool that can be used by different actors to exert political pressure.

28 See for example, http://post2015.org/2014/08/21/the-x-file-and-the-need-for-civil-registration-and-vital-statistics-systems-post-2015/

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