

## Why enumeration counts; documenting by the undocumented

1. The term “slum” usually has derogatory connotations and can suggest that a settlement needs replacement or can legitimate the eviction of its residents. However, it is a difficult term to avoid for at least three reasons. First, some networks of neighbourhood organizations choose to identify themselves with a positive use of the term, partly to neutralize these negative connotations; one of the most successful is the National Slum Dwellers Federation in India. Second, the only global estimates for housing deficiencies, collected by the United Nations, are for what they term “slums”. And third, in some nations, there are advantages for residents of informal settlements if their settlement is recognized officially as a “slum”; indeed, the residents may lobby to get their settlement classified as a “notified slum”. Where the term is used in this journal, it refers to settlements characterized by at least some of the following features: a lack of formal recognition on the part of local government of the settlement and its residents; the absence of secure tenure for residents; inadequacies in provision for infrastructure and services; overcrowded and sub-standard dwellings; and location on land less than suitable for occupation. For a discussion of more precise ways to classify the range of housing sub-markets through which those with limited incomes buy, rent or build accommodation, see *Environment and Urbanization* Vol 1, No 2 available at <http://eau.sagepub.com/content/1/2.toc>.

2. See Szreter, Simon (2007), “The right of registration; development, identity registration and social security – a historical perspective”, *World Development* Vol 35, No 1, pages 67–86.

3. See the papers published in the April 2012 issue of *Environment and Urbanization* listed on the back page; see also Patel, Sheela, Celine d’Cruz and Sundar Burra (2002), “Beyond evictions in a global city; people-managed resettlement in Mumbai”, *Environment and Urbanization* Vol 14, No 1, April, pages 159–172; also Weru, Jane (2004), “Community federations and city upgrading: the work of Pamoja Trust and

**SUMMARY:** *It has become common for the residents of “slums”<sup>(1)</sup> or informal settlements to survey and map their own settlements and to provide the findings to local governments. But why should they do so, given that they almost always have difficult relations with government? The experience of the last 20 years shows how community-led documentation and mapping has helped these residents support their negotiations with government agencies. The tools and methods for this documentation were developed by city and national federations of shack/slum dwellers, who also formed their own umbrella group, Shack/Slum Dwellers International, to help them exchange experiences and learn from each other. Sometimes, the documentation they developed helped them avoid eviction, as it showed the economic importance of their settlements. In other instances, the documentation was in response to government agencies that wanted to work with them, and it helped provide the basis for new partnerships. This community-led documentation also generates new knowledge that helps residents to think about their priorities and their own resources and capacities. When documentation is undertaken for all informal settlements in a city, it brings together the residents of these settlements to work at city scale with the city government. The community-led documentation described in this Brief brings new perspectives to involving those whose lives are being queried: in setting the questions, gathering the data and ensuring that they have ownership of the information generated and use it to address their needs and priorities.*

### I. THE UNDOCUMENTED

Perhaps as many as one billion people live in informal settlements in urban areas, and most lack official identity documents or documents confirming their address and their right to live there. To be counted in city surveys and to have an address, and documentation to prove this, suggests that you (and your neighbourhood) are considered part of the legal city and therefore are entitled to all the services associated with this. Conversely, to have no such documents and no official address often means being denied connections to piped water supplies and sewers, household waste collection and policing, and even access to schools and health care. It often means no possibility of opening a bank account, obtaining insurance or getting on the voters’ register.<sup>(2)</sup> A legal address can also provide some protection against your house being bulldozed or, should it be, of getting some compensation.

There is also a lack of data about informal settlements – their scale, boundaries, populations, buildings, enterprises and quality and extent of infrastructure and services – and the needs of their inhabitants. All informal settlements have some aspects of illegality, but they cannot be considered marginal or exceptional when they house between one-third and two-thirds of the population of so many cities. This also means that they house a very large proportion of these cities’ workforces. A lack of documentation serves as an excuse for government agencies not to provide infrastructure and services. It also means that there is no counter to politicians’ or civil servants’ claims that those living in informal settlements are law breakers or unemployed migrants who, they suggest, should go back to rural areas.

### II. SELF-ENUMERATIONS, SURVEYS AND MAPS

However, it has become common for those living in informal settlements to document and map their own settlements – as described in case studies in Ghana, Kenya, India, Namibia, South Africa, Tanzania, Thailand, Uganda and Zimbabwe.<sup>(3)</sup> But why do so, especially when the residents almost always have difficult relations with local government? Since all informal settlements have some aspects of illegality, might not their documentation be used against them? And surely such documentation is the responsibility of government bodies? Shouldn’t household surveys be designed and implemented by professionals, to be accurate, objective and implemented across the whole city? But it was in response to the lack of such surveys, or the exclusion of informal settlements from

This Brief draws on the Editorial in the April 2012 issue of *Environment & Urbanization* on “Documenting by the undocumented” by Sheela Patel and Carrie Baptist; also on the commentary by Arjun Appadurai on “Why enumeration counts”, which is to be published in the October 2012 issue of the Journal (available Online First from May 2012 at <http://eau.sagepub.com/>). This Brief, funded by UKaid from the Department for International Development, allows the journal's main findings to reach a wider audience.

Muungano in Kenya", *Environment and Urbanization* Vol 16, No 1, April, pages 47–62; and Karanja, Irene (2010), "An enumeration and mapping of informal settlements in Kisumu, Kenya, implemented by their inhabitants", *Environment and Urbanization* Vol 22, No 1, April, pages 217–239.

4. See the paper by Sheela Patel, Carrie Baptist and Celine d'Cruz listed on the back page.

5. For more details, see <http://achr.net/>; the October 2012 issue of *Environment and Urbanization* will have several papers on this programme.

6. See the paper by Diane Archer, Chawanad Luansang and Supawut Boonmahathanakorn listed on the back page.

7. See, for instance, the papers on Epworth (Zimbabwe) and on Cuttack (India) listed on the back page.

these, that community-led documentation became part of how shack/slum dwellers and their own organizations and federations demonstrate their capacities to local governments.

That similarities exist between the tools and methods used in different cities and nations is no coincidence, as most of the surveys, enumerations and mapping were undertaken by city and national federations of shack/slum dwellers who, in 1996, set up their own small umbrella group, Shack/Slum Dwellers International (SDI). These federations and the local NGOs that work with them formed SDI in part to help support them learn from each other, including learning about community-led documentation.<sup>4</sup> The surveys, enumerations and mapping have become a core practice of the federations – along with peer exchanges and support for daily savings in community-managed savings groups. Many peer exchanges have involved community leaders experienced in community-led documentation visiting groups in other cities or nations to show how this is done.

Community-led surveys and mapping are also central to the Asian Coalition for Community Action, a programme of the Asian Coalition for Housing Rights. This supports more than 700 community-driven upgrading programmes in 150 cities in 19 different Asian nations.<sup>5</sup> Residents' engagement in mapping their settlements helps them identify and analyze pressing issues. It often encourages dialogue and understanding between community residents about their neighbourhood and its linkages to the wider city. It also means that they are no longer an invisible part of the city, ignored in city plans and overruled by commercial developers.<sup>6</sup> When poor communities within a city gather together to organize surveys, they form a network of people facing common issues and can negotiate collectively with local government through their strength in numbers. Citywide mapping also highlights the different types of tenure and the different landowners, as well as the common problems facing communities; and it identifies areas of vacant land that might be leased or purchased by those communities needing to relocate for upgrading.

### III. THE DIFFERENT COMPONENTS OF COMMUNITY-LED DOCUMENTATION

There are three different components to community-led documentation: settlement profiles, enumerations and mapping. **Settlement profiles** are prepared for each informal settlement, and are the result of visits to each settlement by a team that includes known community leaders. These do not produce detailed data on each household and house plot but they do provide a detailed overview of, for instance, the settlement, its inhabitants, land tenure, quality of housing, extent of provision for infrastructure and services, and the residents' main problems and priorities. It has become common for the residents and the visitors to walk the boundary of the settlement so that it can be mapped with a handheld GPS device.

**Enumerations** involve interviews with at least one member of every household in each settlement. In effect, they are censuses as every household is included, which also means that each gets to know why the enumeration is being carried out and can ask questions about it. Enumerations produce more accurate quantitative data than the settlement profiles, as each building is counted and numbered and data are collected about each household. Accurate plot boundaries are also established. The data collected are returned to each household, as well as to resident organizations (for instance, the women's savings groups) for verification, and are also presented and discussed in community meetings. It has become common practice for a photograph to be taken of each household standing in front of their home, which is allocated a number that is visible on the photo. The households then receive a photo card that includes the data collected about them, which they can check. This is often the first time that a household has had any identity document, and in some cases this photo card has proved useful for them to get access to state entitlements or in proving residency when there are public schemes to provide infrastructure or offer resettlement. Although these enumerations and plot boundary mapping involve much more work and detail than settlement profiles, the federations have become adept at training large numbers of residents to undertake these and to rapidly cover all households and bring back the data for presentation at community meetings and discussions.

**Mapping** settlements ranges from sketch maps produced by community leaders and following community discussions (often undertaken as part of the settlement profile), through to draft maps of settlements and their surrounding neighbourhoods produced by those doing settlement profiles or enumerations, to detailed maps showing each structure and its boundaries. Detailed maps often include the adjustment and re-drawing of base maps from satellite or aerial images, incorporating collected data and maps produced by GPS, and with data incorporated within them in full Geographic Information Systems (GIS).<sup>7</sup> When undertaken in conjunction with enumerations, these can help produce detailed to-scale maps showing the plot and building boundaries that are needed when planning upgrading (although producing this level of detail and the basis for agreement between households as to plot sizes and boundaries may require plane-table surveys). The use of GPS is not a replacement for detailed on-the-ground work and interaction with residents, but is

**PHOTO 1:** A citywide survey of the settlements and vacant land in the city of Lautoka, Fiji was compiled onto a large map and presented to the Lands Department



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8. See, for instance, CORC (2005), *Profiles of Informal Settlements within the Johannesburg Metropole*, Community Organization Resource Centre, Cape Town, 170 pages; CORC (2006), *Profiles of the Informal Settlements within Cape Town Metropole*, Community Organization Resource Centre, Cape Town, 220 pages; and Pamoja Trust and SDI (2008), *Nairobi Slum Inventory*, Pamoja Trust, Urban Poor Fund International and Shack/Slum Dwellers International, Nairobi, 175 pages.

9. See the paper by Avery Livengood and Keya Kunte listed on the back page.

valuable for providing initial maps and then for allowing the incorporation of these into maps of data collected from settlement profiles or enumerations. This is very different from surveys of informal settlements undertaken by local governments or the enterprises they contract, which use aerial or satellite images without any ground truthing and with no engagement with the residents. For instance, mapping based on aerial or satellite images without ground verification cannot determine populations or local enterprises or the boundaries between houses or settlement boundaries, and provides very limited information about house structures.

Many of the federations have produced profiles for all informal settlements in a city as an initial step towards negotiating government support for addressing the needs of their inhabitants.<sup>(8)</sup> They wait to do the more detailed and time-consuming enumerations until government support is available – and this also avoids the problem of information becoming out of date because of delays in government support.<sup>(9)</sup> The Alliance that organizes the enumerations in India (the National Slum Dwellers Federation, Mahila Milan and SPARC) suggested this two-phase process. The first phase, which includes settlement profiles and boundary mapping for all informal settlements, provides the basis for the citywide plan and for prioritization; the second phase takes place only when specific plans have been developed for specific settlements, and this is when the more detailed surveys are undertaken, collecting data from each household, including precise plot boundaries.

#### IV. WHAT COMMUNITY-DRIVEN DOCUMENTATION PROVIDES

The experience of the last 20 years shows how community-led documentation has proved useful for strengthening urban poor communities and supporting their voice. It supports their own assessments of problems and discussions about needs and priorities – and assessments of the resources

10. Appadurai, Arjun (2012 forthcoming), "Why enumeration counts", *Environment and Urbanization* Vol 24, No 2, October (but available from April 2012 on Online First at <http://eau.sagepub.com/>).

11. See the paper by Jockin Arputham listed on the back page; also Arputham, Jockin (2008), "Developing new approaches for people-centred development", *Environment and Urbanization* Vol 20, No 2, October, pages 319–337.

12. See the paper by Braimah R Farouk and Mensah Owusu listed on the back page.

13. See the paper by Carrie Baptist and Joel Bolnick listed on the back page.

14. See the paper by Beth Chitekwe-Biti, Patience Mudimu, George Masimba Nyama and Takudzwa Jera listed on the back page.

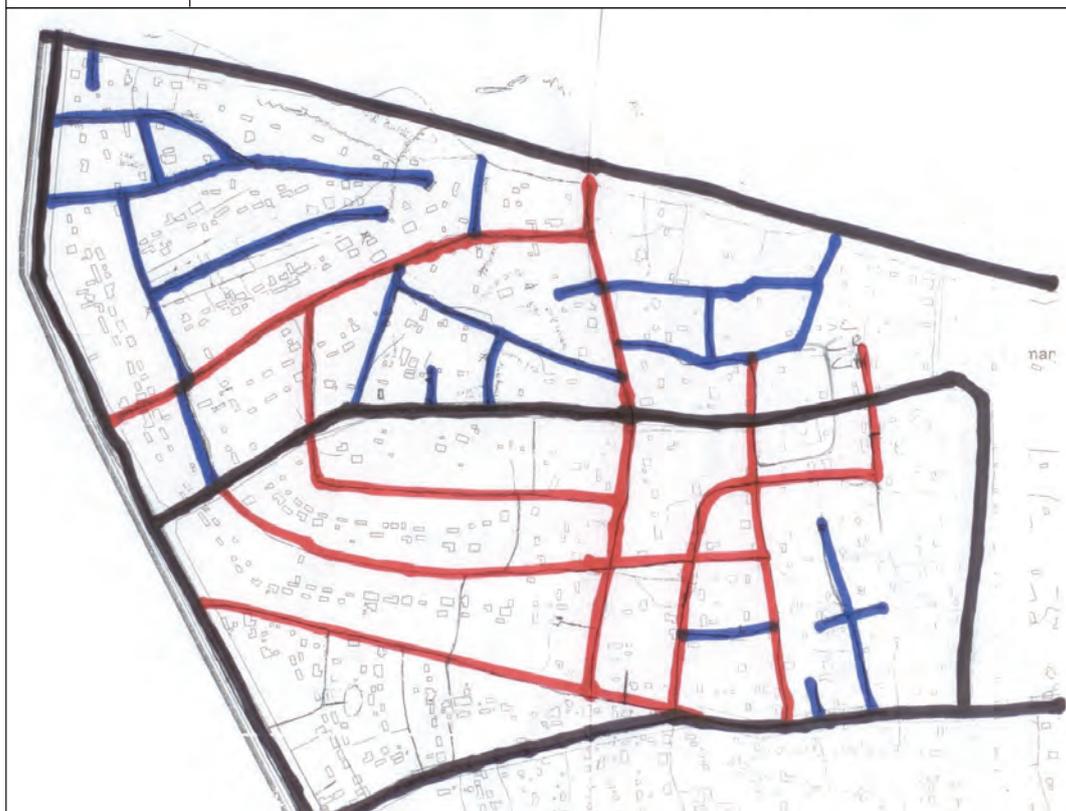
15. See the paper by Anna Muller and Edith Mbanga listed on the back page.

16. See the paper by Avery Livengood and Keya Kunte listed on the back page.

17. See the paper by Carrie Baptist and Joel Bolnick listed on the back page.

18. See also Bradlow, Benjamin, Joel Bolnick and Clifford Shearing (2011), "Housing, institutions, money: the failures and promise of human settlements policy and practice in South Africa", *Environment and Urbanization* Vol 23, No 1, pages 267–275; also see the paper by Mark Hunter and Dorrit Posel listed on the back page.

**FIGURE 1A: Community-generated layout plan**

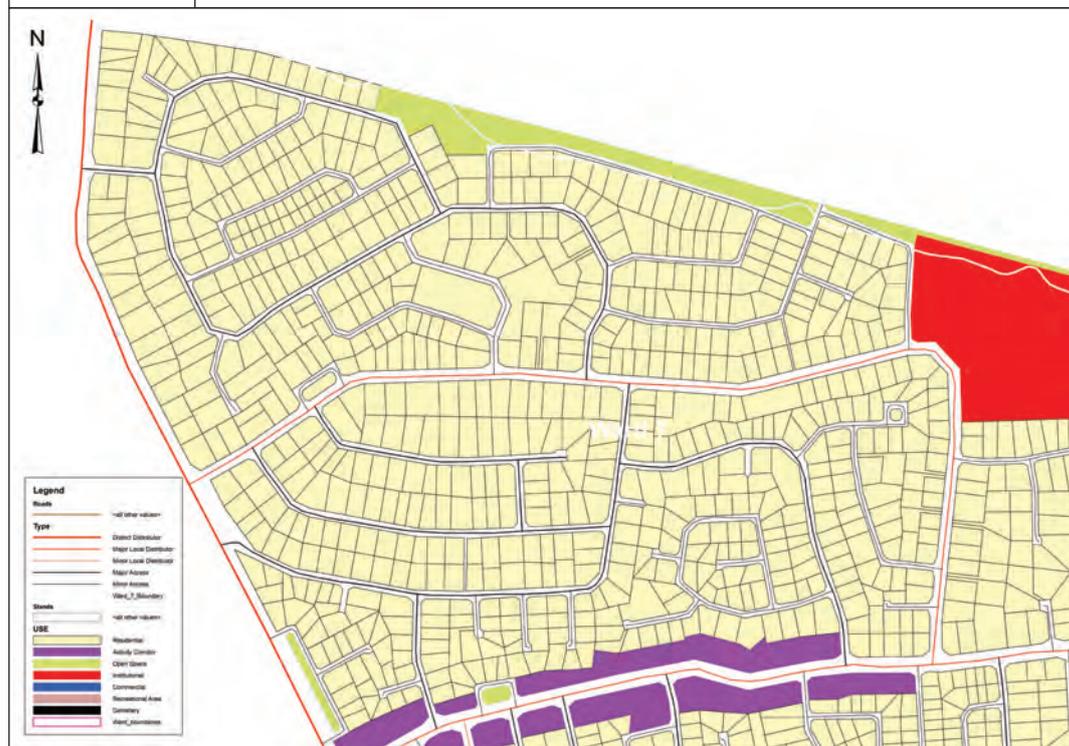


SOURCE: Dialogue on Shelter Trust

that they have and can mobilize. The surveys, enumerations and mapping have therefore become tools for learning, for group formation, for federating and for asserting their priorities.<sup>(10)</sup> This is often their first opportunity to engage in a settlement-wide discussion about their needs and priorities. Then the process of undertaking and completing the documentation helps build organizational networks, skills and confidence – and helps strengthen community organizations in each informal settlement (especially in expanding the number of savers and women's savings schemes). These information-gathering processes are also part of the federations' larger processes that include support for community savings groups as well as precedent-setting initiatives that they undertake themselves to develop and demonstrate their capacities. Getting government support for their work is much easier when politicians and civil servants can be shown the community toilets and washing facilities or the new homes that they designed and built and for which they have detailed costings.

The fact that these enumerations cover all households and include a lot of detail usually means that local government agencies accept them, especially if they have witnessed how the enumerations were planned and implemented. This helps increase the legitimacy of the settlements covered. This is also often the first time that detailed data are available for these settlements – and they can produce surprises for local authorities – for instance, in showing the amount of publicly provided infrastructure and services present (for example, electricity, telephone land lines, publicly provided water taps or points and toilets), which also increases a settlement's legitimacy.<sup>(11)</sup> In Old Fadama in Accra, the enumerations showed a much larger population than local government estimates. Along with showing the scale of residents' involvement with the local economy and the extent of public infrastructure and services, this information helped discourage successive governments from their intent to evict them.<sup>(12)</sup> By contrast, the enumerations in Joe Slovo (Cape Town) showed a smaller than expected population, which then made in situ upgrading more feasible – which is what the residents wanted as opposed to government plans to relocate them as part of preparations for the 2010 FIFA World Cup.<sup>(13)</sup> Increasingly, community-led documentation is a response to supportive local and sometimes national governments who want to work with the federations to improve housing and living conditions – as in Zimbabwe,<sup>(14)</sup> Namibia,<sup>(15)</sup> India,<sup>(16)</sup> and South Africa.<sup>(17)</sup> These examples are important in showing how it is generally cheaper and quicker to upgrade existing informal settlements rather than try to rehouse their residents elsewhere.<sup>(18)</sup> It is also usually much preferred by the residents, especially when relocation means being pushed to a new location far from their sources of income.

**FIGURE 1B: Final regularized layout plan with community participation**



SOURCE: Dialogue on Shelter Trust

19. See reference 3, Patel, d’Cruz and Burra (2002).

20. See the paper by Diane Archer, Chawanad Luansang and Supawut Boonmahathanakorn listed on the back page.

21. See the paper by Anna Muller and Edith Mbanga listed on the back page.

22. See the paper by Beth Chitekwe-Biti, Patience Mudimu, George Masimba Nyama and Takudzwa Jera listed on the back page.

23. See reference 10, Appadurai (2012 forthcoming).

In cases where in situ upgrading was not possible, community-led documentation provided the information base that allowed a better deal to be negotiated for rehousing and for managing the resettlement – as in the enumeration of households in Mumbai that were living on land owned by the railways next to the tracks.<sup>(19)</sup> The process of community mapping is different when the community is relocating and the residents need to develop an understanding of their new location while retaining the values that matter to them from their old one. A mapping process in their current community can help identify clusters of households that want to stay together and also common problems that could be addressed in the relocation. The new site may house families from different communities and so community network meetings should take place, and possible relocation sites can be chosen drawing on the citywide map.<sup>(20)</sup>

In some cases, settlement profiles, enumerations and mapping have influenced national government policies. For example in Namibia, the Namibian Homeless People’s Federation and the national government are working together on the Community Land Information Programme (CLIP). Through this programme, the federation has worked with the residents of more than 200 informal settlements (totalling more than half a million inhabitants) to develop settlement profiles and hold discussions about their priorities. When the community presented the results of their settlement profile to the city and municipality, it was a statement not just of ownership of the data but also that the residents of informal settlements needed to be more involved in the planning and development of the city.<sup>(21)</sup> In India, the Alliance between two federations (the National Slum Dwellers Federation and Mahila Milan) and the NGO SPARC has helped influence the setting up and orientation of a national government of India fund to support community-driven in situ upgrading of informal settlements. The settlement profile, enumeration and mapping of Magada in Epworth (Zimbabwe) helped produce the first local government agreement to support in situ upgrading, and the settlement plan that developed from this is the first to include meaningful participation by residents in articulating their own development priorities and in influencing the design.<sup>(22)</sup>

But these tools for self-enumeration have an importance beyond the information they produce. They generate new knowledge and they assert the right of their inhabitants to have their research taken seriously.<sup>(23)</sup> The organizations formed by residents of informal settlements judge the information gathering to be worthwhile. Very large numbers choose to take part – to be trained as enumerators, to undertake the data gathering, its compilation and analysis, and present it back to their neighbours (with all the discussions that this also generates). This involves a very considerable commitment of time, which is indicative of the value that communities attach to the process and outputs.

24. See the paper by Avery Livengood and Keya Kunte listed on the back page; also Adelekan, Ibidun (2010), "Vulnerability of poor urban coastal communities to flooding in Lagos, Nigeria", *Environment and Urbanization* Vol 22, No 2, October, pages 433–450.

25. See the paper by Anna Muller and Edith Mbanga listed on the back page.

26. See the paper by Avery Livengood and Keya Kunte listed on the back page.

27. See the paper by Beth Chitekwe-Biti, Patience Mudimu, George Masimba Nyama and Takudzwa Jera listed on the back page.

28. See the paper by Jack Makau, Skye Dobson and Edith Samia listed on the back page.

29. See reference 3, Karanja (2010).

30. See the paper by Michael Hooper and Leonard Ortolano listed on the back page.

Community-driven documentation can also contribute much to mapping risk and vulnerability in relation to extreme weather. The fact that many informal settlements are on sites at high risk of flooding or landslides has been documented for more than 30 years. But there is often very little documentation of these risks. The residents may consider these as unavoidable or as "acts of god", and rarely realize that they can be much reduced. But when interviewed, residents of informal settlements have shown how they can provide detailed answers to questions such as: when did your settlement last flood, how high did the waters come, how long did it last, what did you do to protect your home and property, what did you lose or was damaged...? These questions often show the sensible, effective and pragmatic responses by households in order to reduce impact. Drawing on the responses to such questions from all the informal settlements provides a very detailed citywide understanding of floods and their impacts, and could be very useful in planning risk reduction strategies.<sup>(24)</sup>

## V. CHALLENGES

Not all surveys begin with cooperation from city authorities. But community-led documentation is intended from the outset to be useful to local governments and serve as a way of developing good relations with government agencies. The documentation from these community-driven processes would have been far more expensive if done by professionals. Consider how expensive it would be to contract a company to undertake interviews with the inhabitants of 200 informal settlements from all over Namibia,<sup>(25)</sup> or to produce the profiles and mapping for 330 informal settlements in Cuttack (India)<sup>(26)</sup> – or even the household survey covering the 7,000 inhabitants of Magada in Epworth (Zimbabwe).<sup>(27)</sup> The professionals would find it difficult to work in settlements with no maps, no list of buildings, often no street names or details of where the settlements' boundaries are located. There would be pressure on the interviewers to work quickly in order to limit the time spent interviewing each person or household. Many professionals would also not want to work in informal settlements.

In most informal settlements, there are people who feel threatened by any outsider asking questions – for instance, those who fear eviction, those engaged in illegal activities, illegal immigrants... In many settlements, there are the uncertainties over plot tenure – whether the household members interviewed consider that they are owners of the land on which the structure is located, or owners of the structure, or tenants or sub-tenants. Landlords will fear any survey or enumeration that might weaken their control of land and house plots. Tenants who have lived in a structure for many years may have invested more in the structure than the structure owner, and feel that they have an equal claim to land tenure. And there are also obvious difficulties for any externally managed survey in knowing how to verify the data collected

Some of these difficulties also face community-driven surveys. For instance, a community-driven enumeration of Kisenyi in Kampala in 2003 highlighted the complexity of land tenure arrangements with a mix of customary ownership rights, informal structure owners and tenants.<sup>(28)</sup> A community-driven enumeration in Kisumu (Kenya) faced similar complications.<sup>(29)</sup> In Dar es Salaam, the residents of an informal settlement initially suspected those undertaking a community-driven documentation of working for government, developers or land speculators.<sup>(30)</sup> But community-driven enumerations have managed to overcome these issues by having a strong local organizational base that includes residents. Before any enumeration, there are many community meetings and discussions with residents and community leaders. Local residents and leaders are also involved in planning for the enumeration and in validating the data collected by returning it to each household and to community organizations for local review and discussion. Resident associations behave differently when they are clear that they own the data that the city will also verify but are confident that they will finally have the same information as the city, on the basis of which negotiations for various entitlements begin.

## VI. SOME CONCLUSIONS

The inhabitants of informal settlements are rarely seen by governments and international agencies as providers of solutions. But their capacity to produce relevant, up-to-date, detailed data about their settlements through surveys, mapping and enumerations is one of the powerful ways in which they do contribute to solutions – and get their voice heard and respected. Much progress has been made through community-led documentation and mapping its success in any nation or city also brings pressure to increase scale, to make sure that it covers all informal settlements and brings their inhabitants into discussions about city level plans

Drawing on the growing number of examples of community-led documentation, some general lessons may be drawn. Certainly in most nations, such documentation has contributed to giving identity to informal settlements – as these become "federated communities". It usually helps build better relations between those in informal settlements and local governments, as well as greater

political legitimacy for the residents. In some cases, it has contributed to positive changes in local and national government policy, and one of the most important has been the greater acceptance by national and local governments of the need for/justification of in situ upgrading of informal settlements. The work of the shack/slum dweller federations and the settlement profiling, enumeration and mapping have certainly helped support this shift in policy and practice in many nations, and are also providing the information base for such upgrading.

But there is also a need to recognize the complex and constantly changing local and national contexts that influence what can and cannot be done. Recent successes need to be understood in light of long struggles and long-sustained processes by the federations and their support NGOs. For instance, in India, the influence of the National Slum Dwellers Federation, Mahila Milan and SPARC on city developments and on state and national support programmes has evolved over 30 years, during which time there have been many setbacks.<sup>(31)</sup>

As Arjun Appadurai's commentary on community-led documentation notes, this is no longer research as an external force allied to alien interests that invades and disturbs the lives of residents of informal settlements.<sup>(32)</sup> Development interventions and the surveys associated with them are often termed participatory. But assessing participation in documentation should include an assessment of whether those whose lives are being queried are involved in setting the questions, whether they have ownership of the information generated and whether they own and can use the knowledge that the research, surveys and data collection produces. Unlike the community-led documentation described in this Brief, not many documentation processes would be assessed positively according to these three criteria.

31. See the paper by Jockin Arputham listed on the back page.

32. See reference 10, Appadurai (2012 forthcoming).

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