

**Retrak** 

No child forced to live on the street

# ENUMERATING STREET CHILDREN

## ABOUT RETRAK

**Across the world, there are hundreds of thousands of children living on the streets. Every day they suffer hunger, poverty, abuse and violence.**

Retrak is a charity which reaches out to these vulnerable children to provide them with the food, medicine, clothing, hygiene and shelter which they desperately need. Beyond this, Retrak works hard to tackle the reasons why children end up on the streets - this means

helping families to heal rifts, enabling children to complete their education or gain a vocational qualification and providing children and parents with the means to earn a sustainable income.

This long-term approach helps to make sure that children never have to go back to living on the street, and it works; to date more than three-quarters of the children helped by Retrak have remained at home with their families.

### OUR VISION

**A world where no child is forced to live on the street.**

### OUR MISSION

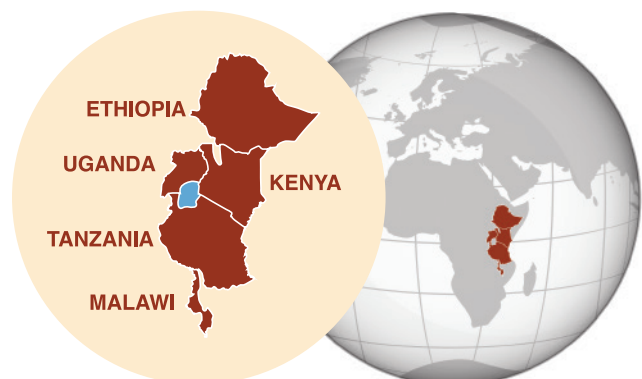
**Retrak works to transform highly vulnerable children's lives; preserve families; empower communities and give each of them a voice.**

**We put children at the very heart of everything we do and will be fearless and tenacious in defending and promoting their rights.**

## WHERE WE WORK

**Retrak has programmes where there are thousands of street children with nowhere to turn for help.**

We work in the countries shown here:



# ENUMERATING STREET CHILDREN

## 1. Why do we want to count children on the streets?

There is a growing demand internationally that development interventions, including those to assist children on the streets, are based on reliable evidence. Policymakers and donors increasingly require, and are willing to devote some resources to, assessments of the situation of beneficiaries before, during and after projects are implemented. This evidence is important to ensure that the right services are targeted to the right beneficiaries, that the quality of services provision is monitored and improved and that the impact of the intervention is fully understood. Practitioners, policymakers and donors must ensure that they have adequate information to make informed and accurate decisions about project planning and budgeting.

However, despite several local studies on the number and characteristics of street children<sup>1</sup> since the early 1990s<sup>2</sup>, there is still a widespread lack of reliable evidence to guide policy and project planning. In the past, “guesstimates” of large numbers of children on the streets of cities around the world have elicited support from governments<sup>3</sup> and donors, but have often led to large-scale and sometimes repressive responses by governments. As a result these children have been villainised, abused and pushed further to the margins. In recent years several local or national studies have sought to provide better evidence of the number and characteristics of these children, seeing this as the “first step” to providing effective assistance<sup>4</sup>. At an international level, the US Government’s Action Plan on Children in Adversity includes an objective to help governments to measure the population of children outside of family care, including children on the streets, in order to inform national advocacy, planning, implementation and evaluation. Guidelines have recently been published on undertaking such a national survey<sup>5</sup>.



## 2. What are the challenges in counting street children?

Despite the desire to provide evidence for policymakers and practitioners, there are still many challenges in enumerating children on the streets.

### 2.1. Definitions

A key challenge is defining which children will be included in a study. This is essential to accurate data collection and to ensuring usefulness of findings, however several studies have not provided a clear definition. There are multiple definitions in existence, many of which are contested<sup>6</sup>. Definitions often refer to a child’s separation from or interaction with their family and their connection with, and life on, the streets. A clear definition is needed in order to reliably enumerate children, for each study this definition needs to be carefully balanced between local needs and international recognition<sup>7</sup>. It is essential that the definition for a study is clear and workable so that enumerators can easily and accurately discern which children are actually to be counted.

<sup>1</sup> Retrak recognises the debate around the terminology to refer to children for whom the streets, rather than family, are a major influence. This paper cannot address that debate in full, but will use the terms ‘children on the streets’ and ‘street children’ interchangeably to refer to any child for whom the street is a major influence.

<sup>2</sup> Thomas de Benítez, S (2011) *State of the World’s Street Children: Research*, London, Consortium for Street Children

<sup>3</sup> *ibid*

<sup>4</sup> For instance: Gurgel, RQ, JDC da Fonseca, D Neyra-Castañeda, GV Gill, LE Cuevas (2004) ‘Capture-recapture to estimate the number of street children in a city in Brazil’, *Archives of Disease in Childhood*, 89, pp222-224; Hatloy, A & A Huser (2005) *Identification of street children: characteristics of street children in Bamako and Accra*, Fafo-report 474, Oslo: Fafo

<sup>5</sup> Stark, L, BL Rubenstein, K Muldoon and L Roberts (2014) *Guidelines for implementing a national strategy to determine the magnitude and distribution of children*

*outside of family care*, Washington DC, Center for Excellence on Children in Adversity

<sup>6</sup> Thomas de Benítez, S (2011), *op cit*

<sup>7</sup> Hatloy, A & A Huser (2005) *op cit*; Street Child of Sierra Leone (2012) *National Headcount of Street Children in Sierra Leone*, London: Street Child of Sierra Leone

## 2.2. Methodologies suitable for hard-to-reach groups

The nature of children's lives on the streets also poses challenges for enumeration, since it is difficult to design methods to count such hard-to-reach groups<sup>8</sup>. These are groups of people whose lifestyle and behaviour mean that they are mobile, hidden away or have limited access to services, and thus are unlikely to be reached through traditional surveys or censuses<sup>9</sup>.

Street children live very mobile and dynamic lives, moving around on the streets and between street and home. They are elusive, in that they reside in isolated locations which can be difficult to access, and may sometimes be illegal<sup>10</sup>. Children often avoid contact with governments and even NGOs, so that using service provision as an entry point may only include children who have sought assistance and thus miss some of the most hidden and vulnerable children<sup>11</sup>.

Some recent studies have used the methodologies of capture-recapture and respondent-driven sampling with children on the streets to overcome some of these challenges, building on their previous use with other hard-to-reach groups<sup>12</sup>.

## 2.3. Understanding children and gaining their trust

A successful methodology must ensure adequate access to the population in question and confidence in the information they provide. It has therefore been recognised in many recent studies that workers from NGOs or other agencies who are familiar with children on the streets are best placed to provide insights into their daily lives, which can inform the design and implementation of data collection. This might be through locating the places where they sleep at night or congregate during the day<sup>13</sup>, developing definitions and identifying children in line with this definition<sup>14</sup>, understanding and interpreting answers<sup>15</sup>, or determining the value and type of appropriate incentives<sup>16</sup>.

Furthermore, it is recognised in several studies that responses from children are not always accurate and may bias the findings of the study<sup>17</sup>. Indeed, some suggest that reliable enumeration can only be done

through observation alone<sup>18</sup> although this then raises different concerns around accuracy and the right of children to participate. Street children are often fearful of adults, due to their experiences at home and on the streets, and may not give correct personal information to adults they do not know. Therefore, it is vital that those involved in collecting data have already built trust with the children, or are able to put children at their ease through their behaviour and attitudes. Interacting with children on the streets should be on their terms; this means using their language, joining in with their activities and routines and respecting their choices. These are all core principles of outreach work with children on the streets<sup>19</sup>. However, there is little emphasis on this ability to build rapport in some of the studies to date.

Furthermore, any personal information gathered on children must remain confidential. There is often great distrust on the streets of local authorities and police, who may falsely accuse children or round them up arbitrarily. Children will not want to participate in any activity which they feel may bring them into conflict with the law.

It should also be recognised that most enumeration methodologies provide limited information on children's experiences and needs. Any quantitative work should always be complemented by a qualitative, and highly participatory study, which gives voice to children's views, feelings and experiences<sup>20</sup>.

## 2.4. Limited resources

Finally, whilst there is a growing desire to undertake enumeration studies with children on the streets, there are limited resources to do so. Some methodologies can be costly to implement and require input from large agencies (such as UNICEF or ILO) or academic institutions. It is currently unlikely that national governments will be willing and/or able to invest large sums to undertake one-off or regular counts in order to track the number and flow of children. There is a tension between the desire to understand the situation of children on the streets through robust studies, with accurate and reliable methodologies, and the amount of resources available.

<sup>8</sup> Guarcello, L & N Koseleci (2009) *A profile of Cairo Street Children*, Understanding Children's Work (UCW) Programme Working Paper Series November 2009, Rome, UCW; Hatløy, A & A Huser (2005) op cit; Johnston, LG, TR Thurman, N Mock, L Nano & V Carcani (2010) 'Respondent-driven sampling: a new method for studying street children with findings from Albania', *Vulnerable Children and Youth Studies*, 5(1), pp1-11

<sup>9</sup> As well as street children, this term is also used to refer to those who are marginalised for other reasons, for instance, due to drug use, HIV status or sexual orientation.

<sup>10</sup> Pullum, T, C Cappa, J Orlanda, M Dank, S Gunn, M Mendenhall & K Riordan (2012) 'Systems and strategies for identifying and enumerating children outside of family care', *Child Abuse & Neglect*, 36, pp701-710; Thomas de Benitez, S

(2011), op cit<sup>11</sup> Safe Families Safe Children (2011) *Breaking the cycle of violence – building a future for the most excluded*, Safe Families Safe Children coalition, p 21

<sup>11</sup> Pullum T et al (2012), op cit

<sup>12</sup> Guarcello, L & N Koseleci (2009), op cit; Gurgel, RQ et al (2004), op cit; Johnston LG et al (2010) op cit

<sup>13</sup> Hatløy, A & A Huser (2005) op cit; Koseleci, N, FC Rosati & M Tovo (undated, c2006) *Measuring the worst forms of child labour: the case of begging children in Dakar*, Pullum T et al (2012), op cit; Street Child of Sierra Leone (2012), op cit<sup>12</sup> Guarcello, L & N Koseleci (2009), op cit; Gurgel, RQ et al (2004), op cit; Johnston LG et al (2010) op cit

<sup>14</sup> Street Child of Sierra Leone (2012), op cit

<sup>15</sup> Koseleci, N, FC Rosati & M Tovo (undated, c2006), op cit

<sup>16</sup> Johnston, LG et al (2010) op cit

<sup>17</sup> Aptekar, L & P Heninonen (2003) 'Methodological Implications of Contextual Diversity in Research on Street Children', *Children, Youth and Environments*, 13(1); Hatløy, A & A Huser (2005) op cit; Koseleci, N, FC Rosati & M Tovo (undated, c2006), op cit; Street Child of Sierra Leone (2012), op cit

<sup>18</sup> Street Child of Sierra Leone (2012), op cit; UNICEF Ethiopia (2011) *Head Counting of Street Children in Addis Ababa and Adama (Nazareth) 2010/2011*

<sup>19</sup> Retrak (2014) Retrak technical note: *Approaching outreach work*, Manchester, Retrak

<sup>20</sup> Thomas de Benitez, S (2011), op cit



### 3. Accuracy and reliability in methodologies to enumerate children on the streets

Recent studies, often undertaken by NGOs and sometimes in collaboration with UNICEF or ILO, have used a variety of methods to count or estimate population size. While this is an encouraging step away from the guesstimates of the past, many methods used are not rigorous since they do not include measures that statistically verify the accuracy or reliability of their conclusions. In many studies the methodology is not adequately explained or uses unrepresentative or biased samples; other studies are limited by poor data collection, which reveals a lack of understanding of children's lives<sup>21</sup>.

These limitations mean that the results of such studies are less likely to achieve their aim of positively influencing practitioner, donors and policymakers. If the number of children in need of help has not been adequately measured and validated then policymakers and donors, however benevolently motivated, may be justifiably reluctant to support interventions; or may support interventions which have been designed inappropriately and which then fail to achieve expected results.

This paper is a contribution to building the evidence-base of good practice in determining the number and characteristics of street children. Our aim is to outline an approach to counting children on the streets that is methodologically reliable and accurate and take into account the challenges outlined above. Such measures of accuracy are at the heart of best statistical practice in conducting censuses of populations, and are equally informative when employed with surveys. The approach we set out and our recommendations are based on a review of relevant literature on enumerations of street children and similar groups, as well as drawing on the authors' experience in overseeing the statistical methodology used in national censuses and undertaking research with children on the streets<sup>22</sup>.

First we will discuss the options for undertaking an enumeration of children on the streets, along with a brief overview of the challenges of determining reliability and accuracy of such an enumeration. We will then outline one methodological approach – capture/recapture – that determines the accuracy of an enumeration study. We will describe the steps needed to conduct a comprehensive and statistically defensible enumeration; with an explanation of how to measure the accuracy of the results. Finally we will make some recommendations for future work in this area.

<sup>21</sup> Aptekar, L & P Heninonen (2003), op cit; Guarcello, L & N Koseleci (2009), op cit; Hatløy, A & A Huser (2005) op cit; Johnston LG et al (2010) op cit; Thomas de Benítez, S (2011), op cit

<sup>22</sup> David Whitford is a highly experienced statistician, working for thirty years with the US Census Bureau, as well as having experience of consulting around the world, including in Africa. Joanna Wakia has a decade of involvement of

monitoring, evaluation and research, mostly within the street child sector. Building on Retrak's experience, she has coordinated the documentation of Retrak's model and procedures, and their impact on children's lives.

## 3.1. Approaches to conducting defensible enumerations

There are two ways to enumerate a population: a census or a survey. A census is an attempt to **count** everyone having certain characteristics in the defined universe. In our case the characteristics are children on the streets within a defined geographic area. A survey, on the other hand, attempts to **estimate** the number of subject people in the defined universe by enumerating a statistical sample of them and, by using appropriate methodology, “inflating” those results to estimate the universe population<sup>23</sup>.

As noted above, it is very difficult to enumerate children on the streets correctly since they are hard to reach and live highly mobile lives. Therefore, the dangers of not including some children and duplicating others, which have already been included, are large problems. This sometimes leads to challenges of accuracy: the degree to which the enumeration estimates “overcount” or “undercount” the population.

It is good practice to present a measure of **accuracy** along with any estimate. In our case, such a measure could be phrased as:

*Our estimate of the number of street children in city X is 5500. An evaluation of our initial count estimated that we undercounted 500 people; these undercounted people are included amongst the 5500 total.*

Statements like this obviously answer many potential criticisms or questions about census or survey results, for instance “How do we know that this 5500 is accurate?” Providing this information would differentiate a measurement of the number of children from many other previous studies.

In addition to establishing accuracy, undertaking a survey also requires that a sampling frame is established and that the variance of the estimate is determined. Any estimate from a survey always has variance: the measure of how much the estimate could vary if the sampling had been done over and over again. A well-executed survey would measure the size of the population of children in an area and

back-up its estimates with measures of reliability, by giving a confidence interval and variance. Since a survey starts by taking a sample this requires preliminary knowledge or reasonable assumptions about the distribution of people in the universe so that the sample can be designed cost-effectively. This usually necessitates some preliminary fieldwork to discern these distributions<sup>24</sup>. Establishing a sample framework for a survey of street children is difficult due to the hard-to-reach and mobile nature of the population. In this paper we will therefore focus on outlining a methodology which can be used to establish the accuracy of a census of children on the streets.

## 3.2. Using capture/recapture to measure accuracy

A statistical methodology called capture/recapture can be used to establish the accuracy of a census. It uses the overlap between the census and a second independent sample or re-enumeration of the population to estimate its size. This methodology was widely used in biology to enumerate animal or insect populations, but has more recently been applied to hard-to-reach groups for whom a comprehensive census (or reliable survey) is difficult and, therefore, where the need to establish accuracy is great. There have been a few recent attempts to use this methodology with street children in Ghana, Mali, Brazil, Egypt and Senegal<sup>25</sup>. These studies suggest that the capture/recapture approach is a useful methodology for establishing the true size of a street population in order to inform policy and practice (some of the limitations and challenges they face are discussed in the following sections).

The capture/recapture methodology follows on from an initial census, with the first step being a re-enumeration of a small sample of people. This re-enumeration must be **independent** of the census enumeration<sup>26</sup>. Re-enumeration of this sample can be achieved through another in-the-field count or by using administrative records. These are records concerning street children that have been independently compiled by government or non-governmental organizations. In either case the re-enumeration need not be complete, but as a sample it should, as in the first enumeration, cover the defined universe<sup>27</sup>. Achieving independence and complete coverage with existing records can be a

<sup>23</sup> For example, suppose a group of people were uniformly scattered among ten equal-sized sections of a stadium. One could count the people in two of the sections (a sample of sections) and multiply (inflate) the results by five to estimate the size of the total crowd.

<sup>24</sup> For example, if in city X an enumerator who has worked with street children only has a rough estimate of their number in the northern half of the city, then some investigation of the southern half of town would need to be undertaken

to (roughly) estimate the number of street children there. With this information the number of sample cases can be distributed cost-effectively between the northern and southern portions of the city.

<sup>25</sup> Hatloy, A & A Huser (2005), op cit; Gurgel, RQ et al (2004), op cit; Guarcello, L & N Koseleci (2009), op cit; Koseleci, N, FC Rosati & M Tovo (undated, c2006), op cit

<sup>26</sup> For instance, if the same interviewer who did the original enumeration was asked to re-enumerate that same exact

area during the re-enumeration, their tendency would be to look for respondents in the exact places where they were found before. The re-enumeration would be biased. An independent search by a different enumerator is necessary.

<sup>27</sup> Some studies highlight that the use of administrative records from government or NGO centres will not be representative as they only include children who have sought support at the centres, for instance: Hatloy, A & A Huser (2005), op cit

challenge as there is often an inherent bias, such as targeting criteria of a programme, willingness of children to participate or the location of a centre. The mobility of the target population also means that records can become out of date very quickly. In general, for the sake of future research, possible biases in the samples need to be considered very carefully and, as appropriate, presented with results.

The next step is to compare or match the respondents from the re-enumeration sample to those enumerated in the initial census<sup>28</sup> in order to establish the overlap (more detail on the requirements for matching is given later). We use the resultant number of matches and non-matches to estimate the total population by adding the undercount or subtracting the overcount to/from the initial census. We will then be able to include in the published results a statistical measure of accuracy, as in the statement in the section above. A variance or confidence interval around the estimate, due to using a sample re-enumeration, can also be documented.

## 4. Steps in enumerating children on the streets

### 4.1. Step 1: Agreeing upon a methodology

Once a desire to establish the number of children on the streets of a certain area has been agreed upon by various stakeholders, it is usually the availability of resources that plays a large role in the choice of methodology. "Resources" can include money, time (deadlines are a negative state of the time resource), professional resources (e.g., to design and draw a re-enumeration sample), workforce (e.g. number of enumerators and their quality), and available information (e.g., administrative lists, other survey results).

In our opinion every effort should be made to obtain the resources to undertake a capture-recapture enumeration. Given the hard-to-reach nature of these children, undertaking more than a basic census is essential to producing an accurate and useable result. We believe the capture-recapture methodology provides this accuracy.

### 4.2. Step 2: Defining the methodology

After the methodology has been agreed upon, we need to define which children will be counted and how.

#### Inclusion and exclusion criteria

First we need to define criteria for inclusion. This definition is extremely important, since, as discussed above, there are multiple definitions of street children in existence. The definition agreed upon should be locally relevant but also allow for international recognition. Some studies have used official definitions from national or international laws or guidelines<sup>29</sup>, whilst others have been based on discussions amongst stakeholders<sup>30</sup>. Some studies have used very narrow definitions such as children begging on the street<sup>31</sup>, whilst others have had very broad definitions such as "any child whose life is controlled by the streets"<sup>32</sup>. The definition should also include an age category. An upper age limit may be given from a national definition of a child. However consideration should also be given of the lower age limit and the ethical implications of working with young children. The decision of a definition will depend on the purpose of the study and the needs of stakeholders, in order to ensure the count provides useful information. Nonetheless, it is extremely important that the definition be as easy as possible to apply correctly in the field. A section below discusses "screening questions" that will incorporate these criteria into the interview.

Complimentarily, we need to consider exclusions of interest. These document the limitations of the census. For instance, girls are often underrepresented in studies as they are usually less visible on the streets than boys. Girls tend to seek out safer shelter or are involved in domestic or commercial sex work<sup>33</sup>. Some studies have found that girls' employers may restrict their movements and therefore their ability to participate in a survey.<sup>34</sup> Other studies have experienced limitations such as not including children sleeping in shelters<sup>35</sup> or a bias towards certain ethnic groups<sup>36</sup>. Discussion of this and similar probable exclusions speaks to the completeness of the census, and often become the springboard for future work on the topic.

<sup>28</sup> The estimation portion of capture/recapture methodology is referred to as dual-system estimation.

<sup>29</sup> Hatløy, A & A Huser (2005), op cit

<sup>30</sup> Street Child of Sierra Leone (2012), op cit

<sup>31</sup> Koseleci, N, FC Rosati & M Tovo (undated, c2006), op cit

<sup>32</sup> Street Child of Sierra Leone (2012), op cit

<sup>33</sup> Hatløy, A & A Huser (2005), op cit; Haliu, T, J Tusingwire, J

Wakia & P Zacharias (2012) *Retrak research summary: The situation of street girls in Kampala and Addis Ababa*, Manchester, Retrak; Volpi, E (2002) *Street Children: Promising Practices and Approaches*, World Bank Institute Working Papers, Washington DC, World Bank; Thomas De Benitez, S (2011), op cit

<sup>34</sup> Institute for Human Development and Save the Children India (2011) *Surviving the Streets: A census of street children in Delhi*; Johnston LG et al (2010), op cit

<sup>35</sup> Save the Children, USAID & UNICEF (2009) *Don't Call Me a Street Child: Estimation and Characteristics of Urban Street Children in Georgia*

<sup>36</sup> Hatløy, A & A Huser (2005), op cit

## Geographic scope and timing

Careful geographic area definition has to be agreed upon. This not only includes defining the outside perimeter of the area within which people will be counted. It should also include the “enumeration districts” that will be assigned to each enumerator. Clear definition of such districts is very important since enumerators inadvertently crossing over into another enumerator’s district (and thus duplicating subject people) or misinterpreting their enumeration district boundary and not including all of their assigned area (undercounting subject people) are a large problem in many censuses. So, “clear definition” of these boundaries not only means delineating them clearly on a map, but sometimes it means ensuring boundaries are easily recognized so as to minimize these problems.

Timing of enumerations must also be carefully considered and may reflect the definition criteria for inclusion. For instance, a definition focused on children living on the streets may need to include a night time count as the initial or re-enumeration. Two counts at the same time of day or night may miss children who are only present on the street at certain points in the day or night. Similarly if there is a seasonal influence on children’s street-involvement it might be necessary to repeat the enumeration at different times of the year.

## Characteristics for disaggregation

Lastly, we need to define the desired statistics that the census will be expected to produce. The content of the interviewing instrument obviously has to be consistent with the statistics to be published from the census, and any plans for disaggregating those statistics need to be clear.

### 4.3. Step 3: Implementing the census

#### Create interview instrument

The first step in implementing the census is to thoughtfully create the interviewing instrument(s) that will be used in the field. Being consistent with the

inclusions and exclusions we have defined earlier, we now define the content of the instrument and the screening questions that determine whether a respondent falls within the agreed definition.

Depending on the agreed definition, the screening questions might include: Where did you sleep last night?, How long have you slept on the streets?, What work have you done in the last week?, When did you last visit your parents?, Have you begged on the streets in the last week?

When capture/recapture is an element of the census sufficient information for matching people in the initial and re-enumeration is required, for instance, name (at a minimum); then, optionally, demographic variables such as nicknames, age (and/or birth date), last home address, parents’ and/or siblings’ names, etc. would improve matching accuracy<sup>37</sup>.

Questions to disaggregate statistics based on characteristics of interest also need to be included. This will likely include gender and age at a minimum, and may also include locally relevant questions such as ethnicity, home location, length or seasonality of street life, reasons for coming to the streets and occupation or activity on the streets.

It is important to consider the ethics of any instrument and overall methodology at the design stage, especially when working with vulnerable children. It is essential that the principles of “do no harm” and “best interests of the child” are respected at all times. The methodology and questions asked must obtain every child’s consent to participate, ensure that no child is put at greater risk by participating in the census, and that if any protection issues are disclosed an adequate response is available<sup>38</sup>. There is also some debate about the benefits and risks of providing incentives or compensating children for their participation. We are not able to address this issue here in detail, but do recommend that compensation should be discussed carefully to ensure children’s contributions are adequately acknowledged whilst not biasing the research or putting children at further risk<sup>39</sup>.

<sup>37</sup> We note that obtaining a respondent’s name is not required if one is only taking a census or survey and not measuring its accuracy.

<sup>38</sup> Further guidance on ethics of research with children is available in: Schenk, K & J Williamson (2005) Ethical approaches to gathering information from children and adolescents in international settings: guidelines and resources, Washington DC, Population Council

<sup>39</sup> Further discussion of compensation in research with street children can be found in: Hatløy, A & A Huser (2005), op cit and Koseleci, N, FC Rosati & M Tovo (undated, c2006), op cit



### Choosing and training enumerators

The quality of the data collection effort first and foremost depends on choosing the right enumerators. As discussed earlier the experience of street outreach workers, in understanding the location and culture of street children and building rapport with them, can make the difference between success and failure in achieving a robust enumeration. Therefore enumerators should have experience dealing with street children and be at ease in obtaining information from them. The skills and attitudes needed for successful rapport building should be thoroughly explored and practised during training<sup>40</sup>.

Training for enumerators must also include the understanding and skills to identify respondents, recognise the different geographic target areas, undertake the interviews and record the responses. Enumerators must also be aware of their role in children's safety and therefore they must receive training on child and vulnerable adult protection and the ethical guidelines to be followed.

### Data collection and quality control measures

During in-the-field data collection it is very important for the enumerators to consistently apply the criteria for inclusion of respondents in the defined universe. So quality control becomes central to the training and enumeration effort. Some possible quality control measures include:

- The supervisor of the enumerators observing each enumerator's interaction with respondents as early as possible;
- The supervisor physically reviewing all of the completed interviews that the enumerator turns in to see that they are complete and do not contain inconsistent information;
- Undertaking some re-interviews (a very small sample, perhaps only one per enumerator) by a quality control interviewer. This will help ensure that the content collected is accurate and that interview results are not just being made up. The supervisor should compare one of an enumerator's first interviews with the quality control interview to see if they are reasonably consistent. The supervisor will deal with problem results. Some re-training will be required in instances where the enumerator has made a reasonable mistake.



<sup>40</sup> For further discussion on training on rapport building for street outreach workers see: Henry, P, S Morgan & M Hammond (2010) 'Building Relationships through Effective

Interpersonal Engagement-A Training Model for Youth workers', *Youth Studies Ireland*, 5(2) pp25-38; McEvoy, D, S Morgan, S McCready, J Bennett and P Heany (2013)

'Working with Street-Connected Children: A Training Model for Street Work Practice', *Practice: Social Work in Action*, 25(4), pp233-250

## Data processing

Processing is the next large step in implementation. The first step in processing after initial census interviews have been returned from the field is to capture the data so that they can be tabulated. This data capture needs to be of the highest quality, so, a quality control operation needs to be included in the process.

If capture/recapture is part of the methodology, matching of results from the initial enumeration and the capture/recapture re-enumeration, as previously defined, needs to be done to evaluate the census. As mentioned above, the re-enumeration sample can be either another interview<sup>41</sup> or a set of administrative records that is independent of the initial census. Automated matching programmes are available to facilitate the matching effort, but some cases will need human decision-making<sup>42</sup>.

Duplicated and out-of-scope cases in the initial enumeration also need to be discerned. So while the matching is underway, the census also needs to be matched against itself. Out-of-scope cases include respondents who should not have been included in the census. For instance, when, in reviewing the forms or in the matching operation, it is clear that a mistake with respect to the definition of a child has been made, that respondent should be removed since (s)he is out-of-scope.

It is necessary that the search for duplicates and the search for matches between the initial enumeration and re-enumeration be done at the same level of aggregation. Given the potential for extreme mobility among street children, it seems that these matching operations might need to encompass everyone included in the census and in the re-enumeration. Thus the need for automated matching programmes.

Some censuses to which capture/recapture is being applied have resources enough to support a follow-up in the field of non-matches or possible matches. For instance, an effort might be made to follow-up on severe spelling differences between two names to see if the versions represent the same person. Of course, the follow-up can only include people already interviewed in the initial or re-enumeration.

## Estimation

Finally in implementation, we come to the estimation step. At this point all of the quantitative information gathered above is used to estimate the number of people in the defined universe. First we compile the initial census information and then, from the re-enumeration results, we include the additional undercount or overcount estimate to determine the adjusted population total. This process determines a result such as:

*Our census estimate of the number of street children in city X is 5500. Our evaluation of our initial census estimated that we undercounted 500 people, these undercounted people are included amongst the 5500 total.*

With results like this, we have met the goal of this methodology: to not only measure the number of children but also to have evaluated and published how accurate that measurement is.

Here is a summary of the quantitative information we have gathered that is used in this estimation step:

- The gross number of respondents from the initial census who met the criteria for being included in our universe of street children.
- The number of these that, during processing and matching, were found to be duplicates or out-of-scope. These are subtracted from the gross number of street children to get the net number of street children correctly counted (we will call this N).

This net number (N) is the end result of our initial census work. To include the capture/recapture evaluatory work, we have some further quantitative information:

- The gross and net number of respondents from the re-enumeration.
- The number of matched (M) and non-matched respondents (NM) from the comparison of the initial census and the re-enumeration.

<sup>41</sup> This capture/recapture interview should not be mistaken with the quality control re-interview mentioned immediately above. Quality control and capture/recapture are separate processes.

<sup>42</sup> Some guidelines for determining whether there is a match need to be set. Street children, especially if interviewed by unknown adults, are likely to give differing answers even when asked to give information such as their name or age

(Hatloy, A & A Huser (2005), op cit). Therefore guidance will have to be given to the "human decision-makers" on how close names or ages need to be for them to be considered a match.

By using this additional information we are able to estimate of the true number of street children in the universe and adjust the initial census for inaccuracies. This is done by taking the ratio of the matched (M) plus non-matched (NM) respondents divided by the number of matched respondents (M) and multiplying by the net number of respondents in the initial count (N).

This “dual system estimate” of the population can be expressed as  $N \cdot (M + NM) / M$

For instance, to produce this accurate estimate of the number of street children in a place, one could count them through an initial census, say that 5000 were correctly enumerated (N). The re-enumeration sample could then be tallied and the results compared to the initial census to see how many children were captured in both. Say that this re-enumeration counts 4000 children: 3636 children who were also counted in the first count (M) and 364 children who were not (NM).

The dual system estimate is then worked out as  $5000 \cdot (3636 + 364) / 3636 = 5500$

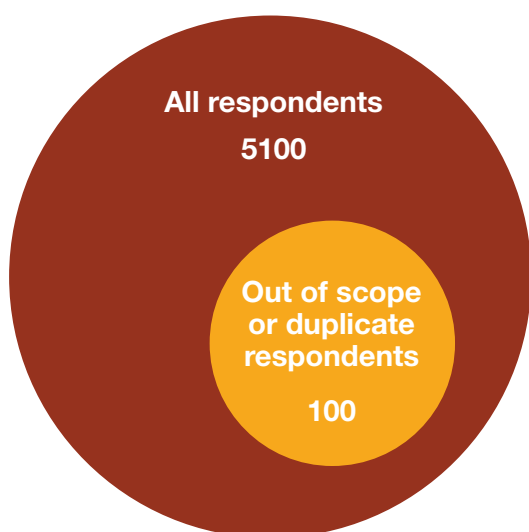
#### 4.4. Step 3: Publication

The main publication product of the census is what we have referred to as the accurate number of street children correctly counted. The publication product would be, to use our example:

*Our census estimate of the number of street children in city X is 5500. Our evaluation of our initial census estimated that we undercounted 500 people, these undercounted people are included amongst the 5500 total<sup>43</sup>.*

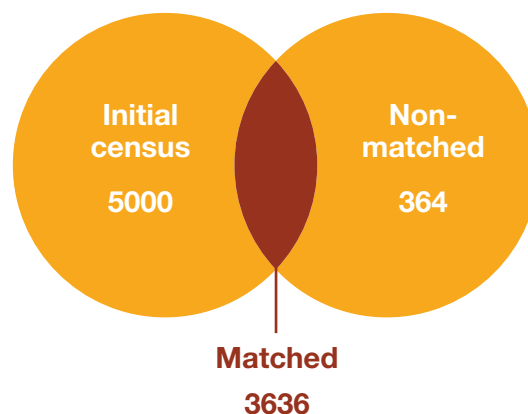
This final presentation is complete. The people counted in the initial census are included and the capture/recapture evaluation accounts for errors in implementation (inaccuracies).

#### CENSUS ALONE



Correctly counted = 5000

#### CENSUS WITH CAPTURE/RECAPTURE



$\text{Initial census} \cdot (\text{Matched} - \text{Non-matched}) / \text{Matched}$   
 $5000 \cdot (3636 + 364) / 3636 = 5500$

<sup>43</sup> As previously mentioned, results such as these represent best statistical practice for censuses around the world, such as the 2011 South African Census. The steps involved

when capture-recapture methods are applied to national censuses are documented in Whitford, DC & JP Banda (2001) “Post-Enumeration Surveys (PES): Are They Worth it

or Not?,” United Nations Statistics Division, Invited Paper at the United Nations Symposium: Global Review of 2000 Round of Population and Housing Census Mid-decade

## 5. Recommendations

Understanding the size of the street children population in a city or country can help inform the policy and practice designed to assist these children. It can also form a baseline from which to track the impact of interventions and enable learning about the quality and appropriateness of interventions. This information is greatly lacking at the moment and many studies that do exist are not able to establish the accuracy or reliability of their results.

This paper presents an approach to counting children on the streets which is methodologically reliable and accurate and takes into account the challenges of such an undertaking. Our key recommendation is that any enumeration exercise should always include measures of accuracy, where resources allow. We recommend the use of the capture-recapture methodology, which can be applied to a census. The resultant estimate of overcount or undercount of the census results is a measure of bias or the deficiency of the census count results. The initial results can be adjusted by the overcount or undercount to obtain a more accurate result.

In addition we emphasise that it is good practice to:

- Ensure that supervisors and enumerators have a good understanding of street child culture and locations, the right skills and attitudes to build rapport with vulnerable children and a thorough training in the methodology and tools to be used;
- Ensure child protection procedures are planned for and followed during field work;
- Put in place adequate quality control measures, this should include having a supervisor for enumerators who can observe interviews, check completed interview forms and undertake some re-interviews to confirm content is correct; and
- Adequately describe methodology in the final publication so that the robustness of the study can be judged and the limitations understood and learnt from.

Finally, given the intention of nearly every study to influence governments, practitioners and donors in favour of street children, it is important that any study is followed up in order to track impact on policy and resource allocation. We acknowledge that this is not an easy thing to do, but given the resources involved in undertaking robust studies, it is important to judge their impact and effectiveness in order to justify such allocation of resources.

*This paper was written by David Whitford and Joanna Wakia, October 2014. © Retrak, 2014*

