# Annex 3: Mapping urban populations affected by displacement

For use with the urban multi sector vulnerability assessment tool (UMVAT)



Source: Kilunda, Thomas 2015: Addis Ababa

Citation: Mohiddin, L and Smith, G (2015) Mapping urban populations affected by displacement. Guidance note for humanitarian practitioners.

## A-1. Background

NRC works in urban areas and with specific groups such as Internally Displaced Persons (IDPs), refugees and, host households..

The overall objective of the UMVAT is to:

Improve capacity to undertake urban population profiling, needs assessments, and where necessary, propose programme response recommendations.

The tool is designed to be applicable to NRC programme contexts including:

* Arrival in a new country: a new emergency where NRC lacks information
* Scale-up of programme activities: in an existing country/programme area
* Use in a protracted crisis: where NRC has engaged for a longer period but where there is interest in starting to engage in urban areas with people affected by displacement, and
* In contexts where there are security concerns and access limitations.

## A-2. Problem statement

Locating urban displaced and host community for inclusion in assessments poses significant methodological challenges for humanitarian organisations, especially when displaced populations are reluctant to step forward and be identified, as mentioned in Box 1. Further reading on challenges faced in identifying urban areas for assessment and programming means is available in Parker and Maynard, 2015.

**Box A3-1: Urban vulnerability and the humanitarian challenge; concepts, challenges, policy responses and operational tools**

In contrast to rural populations, the vulnerable urban communities that humanitarian actors seek to target are often geographically fragmented and widely dispersed across a city. Given the multi-dimensional character of urban vulnerability, different vulnerabilities are also widely dispersed across a city and within communities. Urban mobility, particularly amongst poor city dwellers, compounds the difficulty of mapping a durable picture of vulnerability.

A related point is that many of the most chronically vulnerable urban groups, for example undocumented refugees and IDPs, or those living in informal settlements without secure title to their housing or land, often wish to remain unidentified for fear of discrimination, harassment, detention and forced eviction. But concealment further underscores their vulnerability. Tackling this vicious circle is a major challenge for humanitarian actors seeking to identify vulnerable groups and to define the nature of their vulnerability. Often these hidden groups rely on community self-help support mechanisms and these may provide an entry point for humanitarian actors. Disaster and emergency conditions dramatically accentuate the complexity and impact of the chronic problems which these groups face in accessing public services or humanitarian assistance. This further underscores the need for innovative ways of understanding the distribution and the nature of urban vulnerability.

Source: Zetter, 2011.

## A-3. Guidance note: purpose and content

This guidance note applies methodologies aligned with the defining characteristics of an area-based approach (ABA) (Parker and Maynard, 2015), these being: geographically targeted, multi-sectoral and using participatory approaches.

Mapping as part of an ABA provides a solution to the problem of identifying the location of populations affected by displacement: including where they live, what services they use, what markets they visit, where they find work, and where their children play and go to school. The process of mapping also provides the opportunity to create dialogue between multiple stakeholders relating to displaced and host populations’ location, service use, relationships, legal status, and so forth.

**Box A3-2: Rapid humanitarian assessment in urban settings**

Mapping – both spatial and thematic – is a critical tool for understanding and navigating urban space. Maps provide a visual guide to how the city is organised, both physically and administratively, but can also be used to visualise social and economic networks. Maps improve situational awareness for assessment teams and decision makers, and can be used to engage affected communities.

Source: ACAPS, 2015

The purpose of this guidance note is to provide users of the NRC multi-sector assessment tool for urban contexts with step-by-step guidance **to enable the identification and mapping of areas in which persons affected by displacement (PADs) reside and any localised vulnerability** (such as fires, flooding, disputes, overcrowding, etc.). This is to facilitate the inclusion of PAD households, including those from host communities, in the multi-sector assessment. For this reason, this guidance note should be used in conjunction with the multi-sector assessment tool for urban contexts guidance note.

There may be challenges and limits to the depth and accuracy of information collected in this mapping process, particularly in fragile, poorly governed contexts or where PADs are a politically sensitive topic. However, by the end of the mapping process, NRC should be able to broadly answer the following questions:

* Where are the populations affected by displacement located (with detail relating to place of origin and length of displacement where appropriate and type of accommodation)?
* What are the key vulnerabilities (such as poor access to services, risks of natural disasters such as fire or flooding, health hazards and poor sanitation, overcrowding and low standard of shelter, clashes with host communities or authorities etc.) impacting upon the persons affected by displacement in these areas?
* Which persons affected by displacement are living with a higher level of vulnerability, and where are they located?
* Which geographical areas are likely to include a higher proportion of PADs that NRC needs to include in the multi-sector urban assessment tool?

With regards content, this guidance note presents:

1. An overview of the four recommended methodological steps to follow during the mapping process with a corresponding checklist of key actions per step
2. An overview of mapping approaches and tools, including weblinks to additional resources, as and where they exist, and
3. Detailed instruction for each step and sub-step for those that require additional guidance, in Annex 1.

This step-by-step guide has been developed taking into consideration a literature review and opinions of experts and practitioners in urban assessments.

## A-4. Considerations for users of the guidance note

Guidance note users should be aware of the following:

**1.** **Prior to using this guidance note,** **NRC would have decided to engage in a mapping exercise.** Based on an understanding of information needs, timeframes, and analysis of the resources and technical skills required and available, NRC should have decided whether to undertake the mapping exercise alone or as part of a joint assessment team.

**2. The methodology proposed in this document is participatory and iterative,** in the sense that the information collected is revised time and time again using new information sources, with the end point being more credible maps which have been triangulated using a number of sources and methods.

In a dynamic context of frequent population movements within short time periods, the mapping team may have to decide how much time and resource to invest in data collection, as created maps could be rendered invalid within a short period of time. Additionally, as PAD contexts often lack readily available information, this further underlines the need for ‘good enough’ sets of data to usefully inform the assessment – taking a `minimum data for maximum impact’ approach. For example, focusing on service provider use as an entry point may be necessary as although the residence of the PAD may change, their use of services may remain more static. Such decisions can be made with key informants and reviewing approaches used by other organisations.

Users are recommended to refer to ACAPS, 2014 for checklists and tools in taking a `good enough’ approach.

**3. ‘Persons affected by displacement’ is a blanket term;** meaning that the diversity within the larger displaced population can be lost by the use of this term. The User must realise that there is often significant cultural and linguistic diversity in displaced populations and reflect this in their analysis and methodological approaches used. Such displacement will (and should) affect decisions relating to data collection methodologies and key informant choices. A good example of this in practice can be seen in Pavanello *et al*., 2010, see Box A-3.

**Box A3-3: Hidden and exposed, urban refugees in Nairobi, Kenya**

The exact size of the refugee population in the capital city Nairobi is not known, with figures ranging from 45,000 to 100,000. Despite these high numbers, both quantitative and qualitative information available on these populations is scarce. In Nairobi, urban refugees are dispersed over the city, often highly mobile and reluctant to come forward for support due to fear that they could be deported or sent to refugee camps. This makes them a largely ‘invisible’ population, despite their significant need for protection and other support mechanisms.

The urban refugee situation in Nairobi is pan-African and complex in nature, with refugees from eight countries represented. Official and anecdotal information indicates that the Somali population is the largest followed by Ethiopians, Congolese, Sudanese, Ugandan and Rwandese, while smaller refugee groups residing in Nairobi include those from Eritrea and Burundi.

Source: Pavanello *et al.* (2010)

**4. The guidance note advises the inclusion of government stakeholders** in the mapping exercise when there are no (actual and potential) risks to PADs. The team leading the mapping exercise are advised to gauge what level of government (or military – in the case of Military rule) is appropriate. This is highlighted in Step 1 of this guidance note.

**5. Due to diversity across urban contexts and the socioeconomic and cultural backgrounds of the populations of interest**, NRC would like to emphasise the need to think creatively and flexibly when applying these guidelines, and urges the User to modify them according to their context, and where possible consult with groups that reflect various ethnic, political or religious groupings as well as a broad range of refugee or IDP representatives.

**6. In contexts of poor access and high insecurity** (Wencel, 2014):When working in an area where there are high levels of insecurity and poor access, the User should consider the following guidance:

1. Build a team that you trust: It is critical to vet and train a network of enumerators and key informants that you can rely on.
2. Do not take unnecessary risks: Let staffs on the ground make the call regarding the personal safety. Local staff knows the situation best.
3. Devise a flexible sampling methodology[[1]](#footnote-1) based on access: You need to be realistic about what you can collect.
4. Be honest about the reliability of the data collected: Be transparent about any limitations; consider reliability scoring. The reliability of different sector maps may vary, so it is important to highlight the reliability.
5. Triangulate: cross-reference with remote analysis and secondary data review. Pursue mixed methods approaches.

**7. Timeline to complete the steps**: A timeline to complete the steps is not proposed as this depends on the human resources available (the need for IT support should be emphasised especially if geo referencing tools are to be used), the complexity of the context, and the depth and scale of information required by the user.

**8. Reaching out to a community of practice for assistance:** There are a number of dynamic online discussion groups that can provide invaluable assistance and advice to teams undertaking urban mapping for the first time, or for those facing difficulties. Such groups include the ALNAP Urban Humanitarian Response Portal[[2]](#footnote-2) that also includes a reference section.

## A-5. Methodological overview and checklist

Figure A3-1 provides an outline of methodological steps and corresponding checklist of key actions. Each step is further detailed in Section A-7.

Figure A3-1: An outline of methodological steps and corresponding checklist of key actions

## A-6. Mapping approaches and tools

If additional mapping needs have been identified in Step 2, and considering the resources and time frame available, this section introduces some of the tools that can be used to undertake the mapping process at field level. The NRC team may decide to use all the tools outlined in this section, or just a selection of them.

Recommendations from Matthew Wencel, REACH Initiative (Wencel, 2014):

a) **Take a modular approach**

Depending on time and resources available mapping teams can decide on what is feasible given their constraints.  Starting with lower resource tools such as: no mapping; key informant interview by urban 'area'; and moving up incrementally to higher-resource investments, such as detailed mapping, household interviews.

**b) Having a ‘window into the community’**

To locate people in urban areas you need a window to the community. To get the clearest picture with limited resources, you need very good key informants that represent a cross-section of the community.  Ideally, each KI would be responsible for reporting on a specific topic and/or, practical / realistically-sized area (conventional neighbourhood scale).  Due to constraints in Syria, it has been necessary to depend on key informants to report on large swaths of urban areas, which is ultimately unreliable.  Vetting key informants and building a good network is key.  Good KIs can in turn identify good candidates for focus group discussions and can aid in identifying affected households.

**c) Use local staff to identify potential challenges and disputes**

Mapping often entails moving outside officially (local government) recognised boundaries, which may lead to dispute. Dispute can also come from community members in certain places. You should have a good sense from staff on the ground if these sorts of situations will arise and what can be done to mitigate them.

**d) Using online mapping tools to create baseline maps**

As urban areas can get quite dense and complicated, it is important to have at least a simple base / reference map that divides up the urban space into broadly recognisable units (ie neighbourhoods).  This does not need to be technically heavy or time-consuming.  Open Street Map and Wikimapia are good and free resources to use.  Having urban needs assessment data disaggregated to the neighbourhood can be invaluable for programming. If GIS tools are used, it is important to keep in mind that differences in local and official boundaries will affect GIS mapping, which relies on conventionally agreed borders, so thinking through solutions will be required.

**Figure A3-2:** Mapping data collection tools and proposed order of application

**Figure A3-3:** Aspects that require consideration during the mapping process

### A-6.1 Mapping tools

#### A-6.1.1 Mapping tool: using secondary data review and ‘ground truthing’

This would involve building on the initial secondary data analysis outlined in Step 1 of this guidance note.

‘Ground truthing’ relates to checking the accuracy of remotely sensed / discussed data (such as locations on maps) against data actually measured in the field. Checklists of what aspects to be verified can be made as an aid. GPS data can be collected simultaneously (if required).

Mapping teams will need to invest additional time and resources in requesting information from organisations (humanitarian and service providers and financial institutions) relating to any available PAD registration databases and such like to enhance their analysis. There could be challenges related to data protection that would need to be considered.

#### A-6.1.2 Mapping tool: online mapping resources

**This guidance note recommends the following user-friendly on-line open source mapping resources to the user,** especially to those that are not familiar with mapping techniques and technologies. Knowledge of on-line mapping would be beneficial to the assessment team, potentially saving the team time in understanding what data, in what format is required at various steps in the process. An example being that any GPS data (tracks and waypoints) needs to be converted in a GPX format for mapping purposes (this can be done using assistance available on this website: [www.gpsvisualizer.com/](http://www.gpsvisualizer.com/)).

* **Wikimapia** is a multilingual open-content collaborative map, where anyone can create place tags and share their knowledge <http://wikimapia.org/>. Guidance on how to use this user-friendly tool is provided (<http://wikimapia.org/docs/Quick_start>) as is a discussion forum where advice can be sought.

* **Open Street Map** is built by a community of mappers that contribute and maintain data about roads, trails, cafés, railway stations, and much more, all over the world ([www.openstreetmap.org/about](http://www.openstreetmap.org/about)). A learning module is available (<http://learnosm.org/en/>) and provides step-by-step learning on how to navigate the website, view maps, and sign up for a user account. The Humanitarian Open Street Map Team [HOT] applies the principles of open source and open data sharing for humanitarian response and economic development <http://hot.openstreetmap.org/>.

Additionally, the REACH-Initiative [www.reach-initiative.org/](http://www.reach-initiative.org/) and MapAction [www.mapaction.org/](http://www.mapaction.org/) provide a number of mapping products as well as an operational presence in humanitarian contexts. Making contact with in-country representatives is highly recommended not only to access data and key informants but also advice and expertise.

The following are also recommended for additional reference and guidance:

1. **Humanity Road** delivers disaster preparedness and response information to the global mobile public before, during and after a disaster: <http://humanityroad.org/>
2. **GIS Corps**: GIS professionals that provide a number of services: [www.giscorps.org/](http://www.giscorps.org/)
3. **Digital Humanitarian Network (DHNetwork):** The aim of this **network-of-networks**is to form a consortium of volunteer and technical communities and to provide an interface between formal, professional humanitarian organisations and informal yet skilled-and-agile volunteer and technical networks: <http://digitalhumanitarians.com/>
4. **Crisis Mappers Net** is the largest and most active international community of experts, practitioners, policymakers, technologists, researchers, journalists, scholars, hackers and skilled volunteers engaged at the intersection of humanitarian crises, new technology, crowd-sourcing, and crisis mapping: <http://crisismappers.net/>
5. **Esri** supports many global communities that are using GIS to increase spatial literacy, protect the environment, assist with disaster response, and support humanitarian affairs – making our world a better place: www.esri.com

#### A-6.1.3 Mapping tool: focus group discussions with key informants and outreach entry points

This would involve building on the initial key informant discussions outlined in Step 2 of the guidance note by organising additional, specific meetings focused on specific topics with key informants and/or outreach entry points (see Wencel, 2014 for advice on using key informants).

Entry points for outreach and relationship building can be provided by people such as religious leaders, civil society groups that interface on a regular basis with PAD. Private sector representatives (such as remittance company workers, traders and employers) should not be overlooked as entry points.

As mentioned above, ‘ground truthing’ may be needed following this exercise.

#### A-6.1.4 Mapping tool: using participatory mapping techniques

“Participatory maps provide a valuable visual representation of what a community perceives as its place and the significant features within it. These include depictions of natural physical features and resources and socio-cultural features known by the community. Participatory mapping is multidisciplinary. What makes it significantly different from traditional cartography and map-making is the process by which the maps are created and the uses to which they are subsequently put” ( IFAD, 2009). Additional guidance is available at IFAD, 2010.

The process of participatory mapping can generate a shared perspective and consensus between various stakeholders (local government, PADs, non-PADS, key informants, service providers and such like) and as such, can be a powerful tool and create a platform for further discussions.

Participatory mapping can be useful for (and not limited to):

1. Contexts where no useable maps are available, or where the locations have altered dramatically due to a shock.
2. Illustrating population movements and land use (actual and changes).
3. Highlighting boundaries between neighbourhoods. These boundaries are not often defined physically.
4. Identifying (current and future) residential areas inhabited by PADs, non-PADs, services used (schools, markets, health centres and such like). Identifying ‘safe areas’ for children to play and adults to relax.
5. Highlighting hazards and high-risk locations; such as areas prone to flooding, fires, congestion and over-crowding.

Following the participatory mapping process, mapping teams may want to (Wencel, 2014):

1. Undertake some ‘ground truthing’ in which the developed maps are validated with the reality and if needed, adjusted accordingly, and,
2. Triangulation and cross-referencing with remote analysis and secondary data reviews. Where possible mixed methods approaches should be used.
3. Digitising the maps. However, going through the participatory mapping process and then digitizing boundaries can be time and resource intensive.

Mapping teams should be aware of potential resource needs, time implications and ensure that the assessment/ programme requirements justify the potential costs.

#### A-6.1.5 Mapping tool: household interviews

Household interviews can be used to collect additional, perhaps more sensitive data in relation to locations of specific PAD types (in the instance of their being greater vulnerability), protection issues, conflict or disputes over land and shared resources.

The mapping team would have to decide whether or not these household interviews would relate to mapping information needs – or if they could be used to collect additional data relating to household demographics, accommodation and registration status, protection concerns, displacement profile, and needs/ access to basic services can also be collected. Additionally, these households can be used to identify other similar PAD households for interview.

Household interviews should be (as was advised for key informant meetings) well thought through with information gaps and data collection methods identified.

# A-7: Methodological steps in detail

Each of the four methodological steps presented in Figure A3-1 are broken down into smaller sub-steps. **Please note that each item on the Figure A3-1 checklist corresponds to a sub-step.** The purpose of the sub-step is highlighted on the left, and the actions required or aspects that require consideration are listed on the right. Any key decisions that need to be made are highlighted in red, as are outputs, in green. Where weblinks provide an additional resource, these are also included.

**Scope of work (SoW):** In the process below, the use of a SoW is recommended to the user; mainly as a tool to document findings and decisions between the assessment team and NRC managers – and within the assessment team.

#### Step 0: Identify mapping team and available resources

Prior to engaging in the vulnerability mapping exercise, a dedicated team to lead the exercise is required. Human, logistical, technical and financial resources will be required throughout the mapping process. Step 0 takes the user through this process.

#### Step 1: NRC mapping information needs and key informants identified

Steps 1a to 1d assist programme staff to gain an understanding of the mapping information needs within NRC (and any other participating stakeholder) and to align these needs with the resources available. Step 1e is a preparatory sub-step for Step 2, where discussions with key informants are a core activity.

#### Step 2: Elaborate map with key informants and secondary data

Mapping teams need to keep in mind that PADs may occupy various localities depending on their country of origin, urban security levels, socio-economic status, length of displacement and such like. The purpose of Step 2 is to enable the mapping team to have a better understanding of the context prior to undertaking more detailed mapping ‘field work’ in Step 3.

#### Step 3: Mapping finalised using additional tools

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1. See NRC M&E Guidelines Module 4 for information on sampling techniques. [↑](#footnote-ref-1)
2. [www.urban-response.org](http://www.urban-response.org/) [↑](#footnote-ref-2)