Urban vulnerability mapping

This tool consists of a short-guidance on how to plot urban vulnerable areas on the map. A set of key criteria and indicators, as well as possible sources of information, is suggested so you know what information to look for and where to find it in order to develop vulnerability maps.

### Map gridding

In order to make analysis easier, you can ‘break’ the city into grids corresponding to predefined areas, such as neighbourhoods, settlements or street groups; then assign a number/letter to each grid. This exercise can be based on official city maps or maps made available on the web: for example, on Google Earth (<http://www.google.com/earth>).

You should use the gridded map to discuss the socio-economic characteristics of each grid or area with local staff and community members. Discussions should take into account:

* population numbers and characteristics
* access to livelihoods, services and infrastructure
* social and human capital
* environmental issues.

On the next page you will find a table with possible indicators and sources of information.

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| TIPSIt is important to involve local staff and community members in the map gridding exercise, so you name landmarks, streets, neighbourhoods, and markets as locals do. Beware of inconsistencies between official and informal place names and boundaries. Some slums and informal settlements may not appear on official city maps.Census data can under or over-represent populations due to conflict and population displacements, for instance. A practical approach is to gather multiple population estimates, note discrepancies, and then decide on which numbers to use. |

### Mapping vulnerabilities

Data and discussions should be transferred to the map so that you can visualize over and under-populated areas, pockets of poverty, environmentally critical areas, etc. and can understand where the vulnerable areas are.

You may decide to overlay this vulnerability map with emergency-related information so you can visualize the most severely emergency-affected areas as well. Sometimes vulnerable and affected areas will coincide. Sometimes they will not.

The resulting map can help prioritize areas when resources are scarce.

Source: Cross and Johnston (2011)
Cash Transfer Programming in Urban Emergencies – A toolkit for practitioners

### Criteria, indicators and sources of information for urban vulnerability mapping

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| **Criteria** | **Indicators** | **Sources** |
| *Population numbers, concentration and characteristics* | Population numbers and densityMarked presence of ethnic, religious or migrant populationHigh presence of poor, homeless peopleLevel of migration from rural areasPresence of IDP camps and/or refugee neighbourhoods | Government branches responsible for statistics, urban planning, or census dataCluster systems, U.N. Humanitarian Coordination SystemSatellite imagery that remotely projects population and damage estimates  |
| *Livelihoods and industrial activity zoning* | Main economic activities in the area Distance from the main employment areas | National expenditure/income surveysLocal government departments of commerce and industryLivelihood and food security assessments |
| *Service provision (both government and commercial)* | Access to public services (electricity, water, sewage)Access to main markets and secondary markets | Health maps, GPS location of health centres, data  |
| *Access to infrastructure (e.g., transport, communications, housing, etc.)* | Access to and conditions of roads and public transportPresence of illegally occupied areas Average house rental costHousing quality (building material, respect of local construction norms) | Google EarthNational household surveysNational statistics institutes |
| *Social and human capital* | Types of political and community leadershipDegree of literacyProtection or security concerns | UN reportsMinistry of Education, Surveys MICS, DHS, LSMSInformation from communities, social services, police |
| *Environmental issues* | Presence of contaminated areas, open sewage, poor waste managementEnvironmental risks (e.g., floods) during normal times | UN-Habitat reports, Google Earth, official city maps |