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.

|  |
| --- |
| TIPS  It 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

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Indicators** | **Sources** |
| *Population numbers, concentration and characteristics* | Population numbers and density  Marked presence of ethnic, religious or migrant population  High presence of poor, homeless people  Level of migration from rural areas  Presence of IDP camps and/or refugee neighbourhoods | Government branches responsible for statistics, urban planning, or census data  Cluster systems, U.N. Humanitarian Coordination System  Satellite 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 surveys  Local government departments of commerce and industry  Livelihood 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 transport  Presence of illegally occupied areas  Average house rental cost  Housing quality (building material, respect of local construction norms) | Google Earth  National household surveys  National statistics institutes |
| *Social and human capital* | Types of political and community leadership  Degree of literacy  Protection or security concerns | UN reports  Ministry of Education, Surveys MICS, DHS, LSMS  Information from communities, social services, police |
| *Environmental issues* | Presence of contaminated areas, open sewage, poor waste management  Environmental risks (e.g., floods) during normal times | UN-Habitat reports, Google Earth, official city maps |