

CHILDREN AGED 0-14 YEARS LIVING IN DISASTER-AFFECTED AREAS	
GENERAL CONSIDERATIONS	
<i>Issues</i>	Diarrhoeal diseases Physical injuries
<i>Type of indicator</i>	Exposure (distal/state)
<i>Rationale</i>	Natural disasters, such as floods, drought, earthquakes or landslides are a major cause of disease and death for children, not only directly – as a result of physical injury – but also because of their longer-term legacy. Indeed, diarrhoeal diseases, as a result of contamination of water supplies, breakdown of sanitation facilities and the need to scavenge for food, often take a larger toll of life than the original disaster. Nor are disasters restricted to natural events: war and social conflict can be equally devastating and prove even more intractable to resolve. The number of children living in disaster-affected areas is, therefore, an important indicator of risks to health and the need for international action.
<i>Issues in indicator design</i>	<p>The main problem in designing this indicator is the definition of disaster-affected areas and their associated populations. Not all disasters are sudden and acute events; most are chronic or endemic processes, that wax and wane according to the state of politics, climatic cycles or the level of international aid, but which persist in the background for years or decades. Disaster-affected areas thus have no clear boundaries in either time or space. Because one of the only available responses for those affected is to flee the area in search of safety, sustenance or help, the affected population is also fluid – and not confined to the immediate vicinity of the disaster. In defining this indicator, account thus needs to be taken of the displaced populations, as well as those who remain.</p> <p>A related difficulty is the availability of reliable data. Many of the most disaster-prone areas are also those in which basic statistical systems, such as population counts, are poorly developed; during prolonged periods of strife or natural emergencies they are likely to deteriorate further. Data are therefore scarce, and the data that do exist often of poor quality.</p> <p>An age range of 0-14 years is used for this indicator because risks remain more-or-less uniform (i.e. are not age-dependent) throughout the child's life.</p>
SPECIFICATION	
<i>Definition</i>	Numbers of children aged 0-14 years living in, or refugees from, areas affected by natural or human-made disasters
<i>Terms and concepts</i>	Disaster: a non-routine event or process of either natural or human origin that causes severe social disruption and physical harm to a large number of people.
<i>Data needs</i>	Extent of disaster-affected area Numbers of resident children, aged 0-14 years (including refugees)
<i>Data sources, availability and quality</i>	Data on the extent of disaster-affected areas are likely to come in most cases from the emergency and humanitarian aid agencies, especially international organizations. These may also be able to provide estimates of the numbers affected, either within the area or as refugees. In both cases, data are liable to be uncertain, due to problems of definition and the inevitable difficulties of acquiring reliable information in severely disrupted (and often remote) societies. Estimates thus provide only a general indication of the numbers of

	<p>children at risk. Routine procedures need to be established to acquire, process and validate these data in order to support this indicator.</p> <p>Use of satellite data can also be helpful in attempting to define more accurately disaster-affected areas, especially in relation to disasters that leave a clear signal on the landscape (e.g. due to vegetation deterioration or collapse of buildings).</p>
<i>Level of spatial aggregation</i>	Region
<i>Averaging period</i>	Annual (or shorter term in the case of acute events)
<i>Computation</i>	The indicator can be computed by summing the numbers of children aged 0-14 years both within, and displaced from, the disaster-affected areas. Often this can be done only approximately (e.g. based on assessments by workers in the field). In some cases, however, more reliable estimates can be made by intersecting maps of the extent of the disaster-affected area with data on population distribution (e.g. using GIS techniques).
<i>Units of measurement</i>	Number
<i>Worked example</i>	<p>Assume that the disaster is affecting three areas as follows. In A (which has a population of 320 000 children aged 0-14 years) it covers the whole area; in B (472 000 children), it covers 60% of the area; in C (198 000 children), it covers 85% of the area. The total number of children affected is thus:</p> $(1.0 * 320\ 000) + (0.6 * 472\ 000) + (0.85 * 198\ 000) = 771\ 500$
<i>Interpretation</i>	<p>This indicator provides a broad approximation of the numbers of children at risk from natural or human-made disasters. An increase in the indicator thus represents an increased risk, a decrease represents a reduced risk.</p> <p>Because of the inherently approximate nature of the data used to construct the indicator, only broad patterns and trends can be regarded as significant, and care is needed especially in the early stages of any disaster because of the potential for major errors in assessment.</p>
<i>Variations and alternatives</i>	<p>Various alternatives are possible for this indicator. It could, for example, be expressed in terms of the area affected rather than the numbers of children. Alternatively, separate estimates could be made for children still living in the disaster-affected area, and those displaced: this would enable different aspects of the disaster, and different needs for action, to be better specified. Separate indicators could also be developed, if appropriate, for different types of disaster (e.g. floods, drought, seismic events, war).</p> <p>A further alternative – as a measure of effect – is to define the indicator in terms of the numbers of deaths or injuries.</p>
<i>Examples</i>	None known
<i>Useful references</i>	<p>PAHO 2000 <i>Natural disasters. Protecting the public's health</i>. Washington: Pan American Health Organization.</p> <p>ReliefWeb: (http://www.reliefweb.int/)</p> <p>WHO 1990 <i>Emergency preparedness and response: introduction to rapid health assessment</i>. Geneva: World Health Organization.</p> <p>WHO-Afro 2000 <i>Environmental health hazard mapping for Africa</i>. Harare: World Health Organization Regional Office for Africa.</p>