World Health Organization

VULNERABILITY AND RISK ANALYSIS & MAPPING (VRAM)

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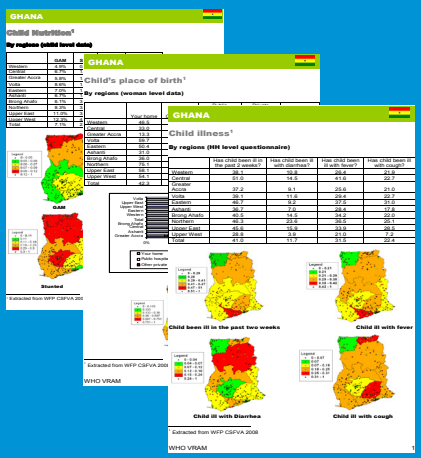


Working before disasters strike

The development of well-targeted programmes for health risk reduction, emergency preparedness and response in countries requires answers to the following questions:

1. What and where are the hazards to which populations are exposed to?
2. Where are the most vulnerable populations, health facilities and services exposed to these hazards?
3. What and where are the existing local capacities for emergency preparedness and response?

With the aim to help countries answer these questions before a disaster strikes, the World Health Organization (WHO) has established the Vulnerability and Risk Analysis and Mapping (VRAM) within the Mediterranean Centre for Health Risk Reduction (WMC) based in Tunisia.

Building risk assessment capacity in countries

The primary objective of the VRAM is to support Member States and partners to strengthen their capacity to assess, visualize and analyse health risks and incorporate the results of this analysis in disaster risk reduction, emergency preparedness and response programmes in line with WHO's six-year strategy for risk reduction and emergency preparedness.

At the same time, the application of the VRAM process allows for the compilation and homogenisation of baseline data, information and maps to help health authorities and partners to take informed decisions in times of crises.

To reach its objective, the VRAM coordinates a network of institutions capable of assessing countries' capacities and health-related vulnerabilities and risks while maintaining a core technical unit at WMC premises in Tunis. The VRAM unit is a multidisciplinary team including geographic information system (GIS), public health and statistics specialists providing expertise in assessing health risks. This expertise can be utilized by various partners (governments, UN agencies, research institutions, non-governmental organizations or others) for strengthening risk reduction, emergency preparedness and response programmes.

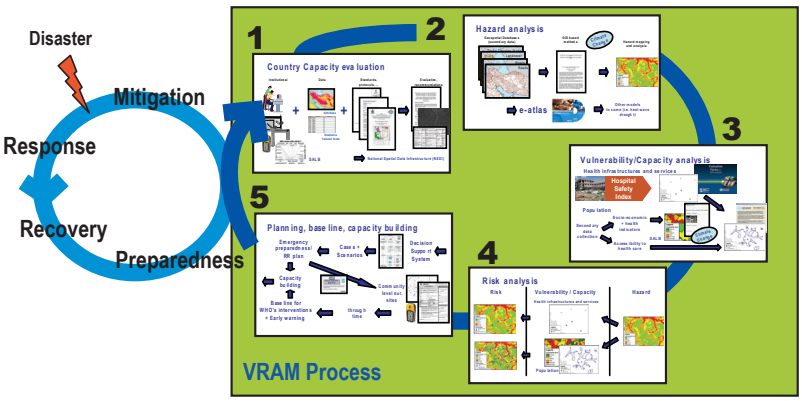
In countries, and in close collaboration with governments, the VRAM:

- Evaluates countries' technical capacity to assess and analyse hazards, vulnerabilities, capacities and risks;
- Supports the development of national and local capacity within ministries of health and other partners to enable countries to implement the VRAM process;
- Partners with local institutions to conduct and facilitates detailed assessments of potential hazards, associated health vulnerabilities, capacities and risks in countries most at risk;
- Develops, documents and shares methods, protocols and tools for the collection, mapping and analysis of health hazards, vulnerability, capacity and risk data and information taking climate changes into account;
- Integrates data coming from different sources in a way that answers countries and WHO's needs and supports evidence-based decision-making;
- Creates and maintains a network of institutions working in health hazard, vulnerability, capacity and risk analysis and mapping.

VRAM addresses risk as a function of the hazards to which a community is exposed and the vulnerability of that community, (both of population and infrastructures), modified by its capacity to manage the risk. It is expressed by the following notation:*

$$\text{Risk} \propto \frac{\text{Hazard x Vulnerability}}{\text{Capacity}}$$

To avoid duplicating effort, primary data collection is reduced to the minimum and emphasis is placed on reviewing and using already available data and information as well as establishing partnerships with institutions involved in data collection and vulnerability analysis.



Producing outcomes

VRAM ultimately maps and analyses hazards, vulnerabilities, capacities and risks to which the population, health infrastructures and health services are exposed to according to the "all hazards/whole public health" model.

In non-crisis periods, the application of this process result in baseline data and maps of hazards, vulnerabilities, capacities and risks to facilitate decision making as well as better planning and targeting of resources.

In the event of a crisis, all materials compiled and produced by the VRAM (baseline data, maps, etc.) can be used by local and national health authorities as well as other responding agencies to assess more effectively the health impacts of the crisis.

* Modified from: Office of the United Nations Disaster Relief Co-ordinator (UNDRO). *Mitigating natural disasters, phenomena, effects and options. A manual for policy makers and planners.* New York, United Nations, 1991.