
Tool Name: Risk Mapping

What is it?	Risk mapping is a visual method of showing local perceptions of areas or people in a community (such as settlements, infrastructure, and resources) that face different levels and types of risk.
What can it be used for?	<ul style="list-style-type: none">• identifying and addressing (through solutions or precautions) risks• identifying hazards (such as rivers that might flood or areas at risk of landslides)• providing the authorities and local organizations with shared criteria for decision making
What does it tell you?	<ul style="list-style-type: none">• records of locations of historical events that have had a negative impact on the community• areas, buildings, or people that face different types and levels of risk• the likely impact on risks presented by a proposed policy change
Complementary tools	Community resource mapping, social mapping, seasonal calendar, time line, risk matrix, causal-flow diagrams
Key elements	This participatory data generating process uses local perceptions of risk.
Requirements	
Data/information	This tool generates data and information; the only prior information required is for sampling analysts.
Time	1 to 3 hours (depending on whether a community resource map exists)
Skills	Good participatory facilitation skills and knowledge
Supporting software	No software needed
Financial cost	This study will cost \$30,000 to \$100,000, when conducted as part of a participatory study, depending on the number of communities sampled and the geographical scope of the study.
Limitations	This study might focus predominantly on physical or natural risks (such as flooding, landslides) rather than other risks (such as health, social, financial), which might be less easy to include on a map.
References and applications	ISDR (International Strategy for Disaster Reductions). 2002. <i>Living with Risk: A Global Review of Disaster Reduction Initiatives</i> . Tearfund. 2003. "Risk Mapping." In <i>Learning from Disasters</i> . Footsteps 56, September.

Risk Mapping: Procedures and Examples

Time, Materials, and Skills Needed

Allow two to three hours to produce and analyze a participatory risk mapping exercise and to ensure that a full discussion occurs with local analysts.

Markers and large sheets of paper are required. Notebooks/paper and pens will be needed to for local analysts to make notes/lists and for the note-taker to record the discussion generated. The map can also be drawn on the ground; if this is the case, then a large area will be needed as well as various objects such as sticks, stones, leaves, seeds, colored powder, and so on, which the analysts can use to represent features on the map.

The discussion group will include a facilitator, observer/note-taker, and selected local analysts. The facilitator and observer/note-taker should be experienced in both the principles behind the use of participatory tools and methods as well as in their practical use.

Possible Approach

The following approach is a general example that can be adapted to suit the local context, views of local analysts, and the research objectives.

Step 1: Select Local Analysts. Identify the groups of people to talk to about their perceptions of risk. These decisions will be based on the objectives and depth of information required for the research. For example, separate gender groups might be useful to obtain different perspectives regarding the types and importance of various risks. However, it might also be necessary or useful to break down the population into further categories (such as occupation, location, and age). Separate groups of five to ten local analysts should reflect any relevant and important social divisions.

Step 2: Provide Introductions and Explanations. When working with each group, the facilitator and observer/note-taker should begin by introducing themselves and explaining carefully and clearly the objectives of the discussion. Check that the local analysts understand and feel comfortable with what will be discussed.

Step 3: Produce a Risk Map. The first stage is the same as for producing a community resource map. If a community resource map has already been produced by local analysts, then it could be used as the basis for the risk mapping.

First decide what type of area the map will show or any limitations, that is, a village, an indigenous ancestral domain, a watershed, and so on.

With the help of local analysts, select a suitable place and medium, which could be on the ground using stones, seeds, sticks and colored powder; on the floor using chalk; or directly onto a large sheet of paper, using pencils and pens.

Ask the local analysts to start by preparing the outline or boundary of the map. It might be helpful for them start by placing a rock or leaf to represent a central and important landmark. Although it might take some time to get going, the process should not be rushed.

Ask the analysts to draw other things on the map that are important to them. It is not necessary to develop an absolutely accurate map; the goal should be to get useful information about local perceptions of resources. Local analysts should develop the content of the map according to what is important to them, which might include infrastructure and services (such as roads, houses, bridges, schools, health clinics); water sites and sources; agricultural lands, forest lands, grazing areas; soils, slopes, elevations; shops, markets; churches; and special places (such as sacred sites, cemeteries, bus stops).

Once the map is underway, sit back and watch; only interrupt when absolutely necessary or if the analysts stop drawing. Alternatively, it might be helpful to actually go away for a time and come back later.

Once a map with important key features has been produced, ask the analysts to consider the different risks and hazards that might face the area. A discussion of previous events that have occurred with negative impacts might be helpful. It might be also useful to ask them to discuss their perceptions of what “risks” are and then arrive at a consensus that they feel comfortable with first.

Ask the analysts to shade in areas, buildings, or homes using colors and symbols to indicate different types and levels of risk. For example, red could be used for high-risk areas, yellow for medium-risk areas, and green for relatively risk-free areas.

If the map is being drawn on the ground, ask the local analysts to start making a copy on to paper (indicating which direction is north) once the broad outline has been established. This process is important because extra information and corrections can often arise as a result. Once the local analysts stop, ask whether there is anything else of importance that should be added. When the map is completed, facilitators should ask the analysts to describe it. Ask questions about anything that is unclear. Also ensure that a copy or permanent record of the map is available to them if they want it.

Step 4: Analyze a Risk Map. Once the map has been completed, use it as a basis for conducting semi-structured interviews on topics of interest (such as, which community areas, infrastructure or settlements, and groups would be most at risk to particular events? Why?) and for enabling local analysts to conduct their own discussions and analysis. These discussions should be noted or recorded.

It might be useful to have a list of key questions to guide a discussion about community resources. Key questions might include the following examples:

- What are the main risks faced by the community? Are they same as in the past?
- How did the people in the community cope with risks in the past?
- Which areas were most at risk in the past? Are they the same areas now? Why (not)?
- Are there seasonal variations in the risks identified?
- Which structures or buildings would be most at risk?
- Which people would be most at risk?
- What would be the impacts if different risks occurred on their lives and livelihoods?
- How can the likelihood of different risks occurring be reduced?

- How can vulnerable people be supported?
- What impact would a particular policy change or implementation have on the risks people faced and their level of vulnerability to them?

If there are several different groups, ask each group to present its map to the others for their reactions and comments. Are there serious disagreements? If so, note these and whether a consensus is reached.

Step 5: Conclude the Activity. Check again that the local analysts know how the information will be used. Ask the analysts to reflect on the advantages, disadvantages, and the analytical potential of the tool. Thank the local analysts for their time and effort.

Points to Remember

Good facilitation skills are key. The approach outlined above is a general guide; be flexible and adapt the tool and approach to local contexts and needs.

Case Study Example: Participatory Risk Assessment in Peru

Lima, the capital of Peru, is very prone to earthquakes. There is also a risk of fires, landslides, and flash flooding that result in death and destruction every year. These inner-urban risks have increased in both frequency and severity due to rapid inward migration and urban growth.

A number of high-risk concerns were highlighted in the local community, including houses on the banks of a river were exposed to the threat of collapse during floods or landslides, human settlements were situated in areas prone to landslides and periodic earth tremors, and informal markets and commercial centers were densely crowded and highly vulnerable to fire.

Community meetings were held where local analysts used their local knowledge to map threats, vulnerabilities, and capacities. The outcome of the process was the establishment of volunteer brigades specialized in emergency rescue and the relocation process of settlements along the river by a neighborhood committee working in collaboration with local and central government authorities.

In the context of poverty and social impact assessment, participatory risk mapping such as this enables an assessment of the potential impact of policy changes or implementation on the risks faced by local people.

Source: ISDR 2002.