Resilience Metrics

Job Aid: What Makes A "Good" Indicator?

Principles of Good Indicators: A Work in Progress

The indicators (and metrics) are …

1. **HAZARD-SPECIFIC** (i.e. related to a recognized risk or threat – Resilience to what? Safety from what?)

    Good example: "reduction in heat-related morbidity" (NYC) or "reduction in loss of physical structures from flooding"

    Less good example: Number of new trees planted

2. **GOAL-ORIENTED** (i.e. focused on the achievement of shared goals derived from a vision that matters to people)

    Good example: Percent of population that receives relief supplies post disaster event (adapted from Sandia Lab, 2014).

    Less good example: Quantity of stockpiled reserve supplies (although sometimes that is all you can measure in the absence of a storm)

3. **ACTIONABLE** (i.e. focused on and relevant to actual decisions or actions)

    Good example: Staffing is adequate* to enforce new building codes (NOAA Coastal Resilience Index) (* could be specified, such as "increased by 1.5 FTE")

    Less good example: Changes in regional climate (e.g. temperature, precipitation, extremes)

4. **DYNAMIC** (i.e. recognizes the changing nature of the risk due to climate and other changes)

    Good examples: Stormwater from a 10-yr storm event (as locally defined) can be handled underground; stormwater from a 100-yr flood (as locally defined) does not overtop curbs. (What a "10-year" or a "100 year" storm is will be updated every 5 years. Thus, the indicator makes your achievements always relative to the changing nature of the threat; and supports an adaptive approach to risk management over time.)

    Less good example: All culverts replaced with x inch diameter culverts by [year]

5. **CONTEXTUALIZED** (i.e. interpreted as part of a bundle of indicators or information that – together – tell a better story than one indicator alone)

    Good example: Multiple indicators are used to tell the story of a well-adapting city.

    Less good example: Adaptation efforts are reduced to one or two indicators (e.g., actions taken)

6. **INTEGRATIVE** (i.e. placed into the larger context – whole-system approach)

    Good example: Increase* in nature-based outdoor recreation in an economically deprived neighborhood (suggesting to the community that a) there is outdoor recreation opportunity, b) it is attractive and perceived as safe, and c) it is actively being used) (*could be specified by %)

    Less good example: Restored habitat (reflecting work done, not positive impact for community)

Good indicators are SMART!

The SMART acronym has been used in different contexts, a lot in international development. What each of the letters means varies by agency, but these are some of the attributes that keep coming up.

Specific | *Strategic*

Measurable | *Meaningful*

Assignable | *Attainable* | *Accessible*

Realistic | *Relevant* | *Reliable*

Time-related | *Transparent* | *Trackable*

Source: Adapted from Global Environment Facility, 2010

Background

What is an indicator?

- A quality or trait of something, which – in the case of adaptation progress or success – suggests ("indicates") the level of effectiveness or degree of progress (or lack thereof) toward shared goals.

What is a metric?

- A variable that can be measured (if quantifiable) or tracked (if qualitative) that represents the indicator.

Further reading: Moser, S. C. (2015). Why We Need to Do Better on Adaptation Indicators. SciDevNet. March 19, 2015. Available here: https://www.scidev.net/global/climate-change/opinion/better-climate-change-adaptation-indicators.html?stay=full