



ADVANCING STATISTICS FOR DEVELOPMENT

Defining Disaster Occurrence for Statistical Purposes

Teerapong Praphotjanaporn
Statistics Division, ESCAP

**First meeting of the Expert Group on Disaster-related
Statistics in Asia and the Pacific**
Sendai, 27 - 29 October 2014



If we want to have statistics on disasters, collect 'disaster' data.



Some existing disaster definitions...

- **UNISDR**: A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources. (Similar to the UN1992's definition)
- **ECLAC handbook**: A consequence of natural phenomena unleashing processes that lead to physical damage and the loss of human lives and capital, while also disrupting the lives of communities and individuals and the economic activity of the territories affected.
 - Recovery from such events requires action by governments and, in many countries, external resources without which it would probably not take place.
- **GRIP**: A phenomenon, whether natural or not, which causes a disruption of the functioning of a community or a society OR adverse effects on human lives, health and/or social, environmental, material or economic infrastructure.

..not suffice to avoid subjectivity..



Operationalization of disaster definitions

- Common understanding is that disasters (as opposed to hazards) must cause adverse effects to people.
 - *If volcanoes erupt in a location where nobody lives, the volcano eruption is just a natural hazard, but not a disaster. But if people living around the volcanoes are affected and even killed by the volcano eruption, in this case, the volcano eruption becomes a disaster (ISDR).*
- One approach to operationalize a disaster definition is to establish a set of impact criteria that is:
 - Objectively and specifically defined
 - Observable
 - Feasible
- The criteria should help determine whether or not the event is considered a disaster, and thus data about the event (occurrence and impacts) should be collected.



Operationalization of disaster definitions (continued)

- CRED/EM-DAT example
 - **Disaster definition:** Situation or event, which overwhelms local capacity, necessitating a request to national or international level for external assistance.
 - **Criteria to** (at least one has to be met):
 - Ten (10) or more people reported killed.
 - Hundred (100) or more people reported affected.
 - Declaration of a state of emergency.
 - Call for international assistance.



Operationalization of disaster definitions (continued)

- Other possible criteria:
 - Observed damage to economic assets
 - Observed environmental (ecosystem) impacts
 - Government interventions
 - Others?



Questions to the Expert Group

- Should the distinction between disasters and hazards be made by setting a set of impact criteria?
 - If yes, why do you think so? And, what should be the criteria?
 - If not, how to make sure that data on disasters, not hazards, are collected?
- Should the occurrence of disasters be determined before or after collecting data on their impacts?
 - If before, what criteria can be used to determine the occurrence of disasters?
 - If after and the event does not meet the disaster impact criteria, how should non-disaster data be recorded and reported?
- Should a disaster event be defined as a discrete event?
 - If yes, how should the beginning and end of a disaster period be defined? And, how should information about a disaster be recorded when it impacts, for example, more than one provinces or administrative areas?
 - If not, how should slowly evolving disasters (e.g. prolonged droughts) be recorded?