

Disaster Risk Assessment: Understanding the Process

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Training Workshop on Drought Risk Assessment for the Agriculture Sector – Ljubljana, Slovenia, Sept.20-24, 2010

Session Outline



- What is Risk Assessment?
- What are the issues & challenges?
- How to design a disaster risk assessment?

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What is Risk Assessment?



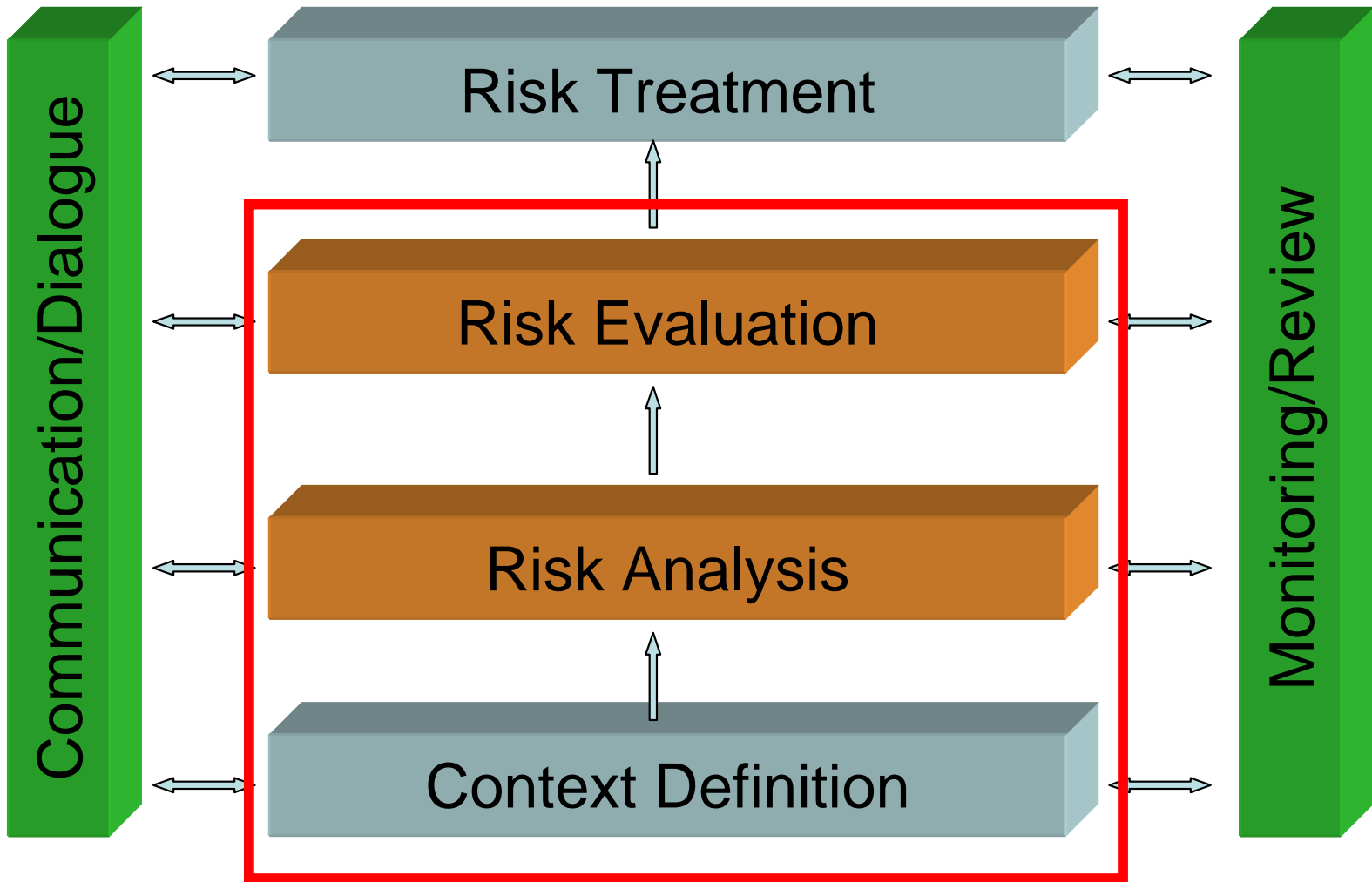
- Risk assessment is a multi-disciplinary process, rather than an activity, that allows for the identification, quantification and understanding of the nature and extent, and impacts of the risks a community or society is facing, which are associated with unanticipated extreme events and the vulnerability of the exposed community or society.
- Risk assessment is an integral part of decision/policy making processes and its implementation should involve and require close collaboration among all the sectors of society.

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Generalized Risk Management Framework



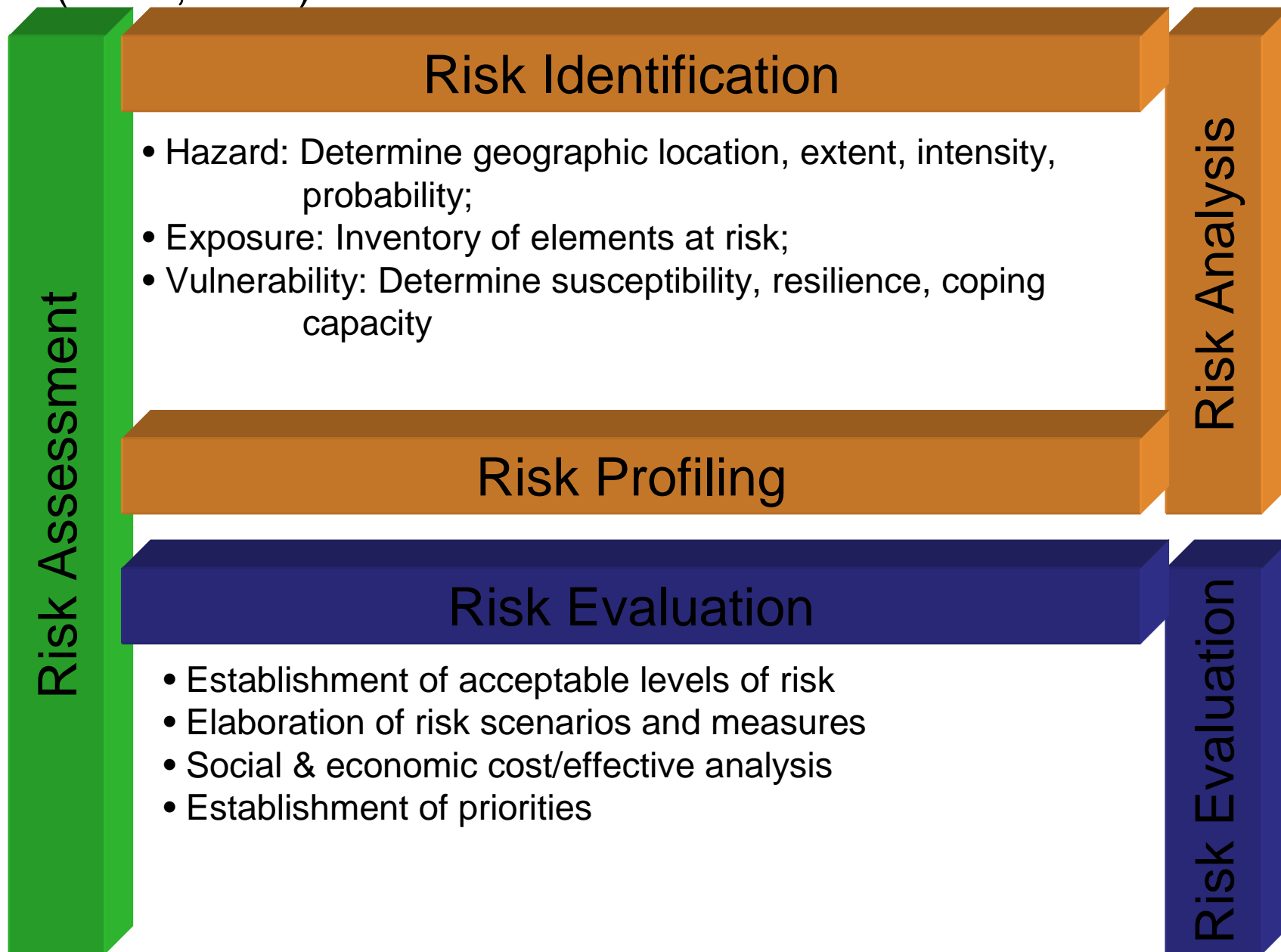
EMA (2004)



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Risk Assessment Process

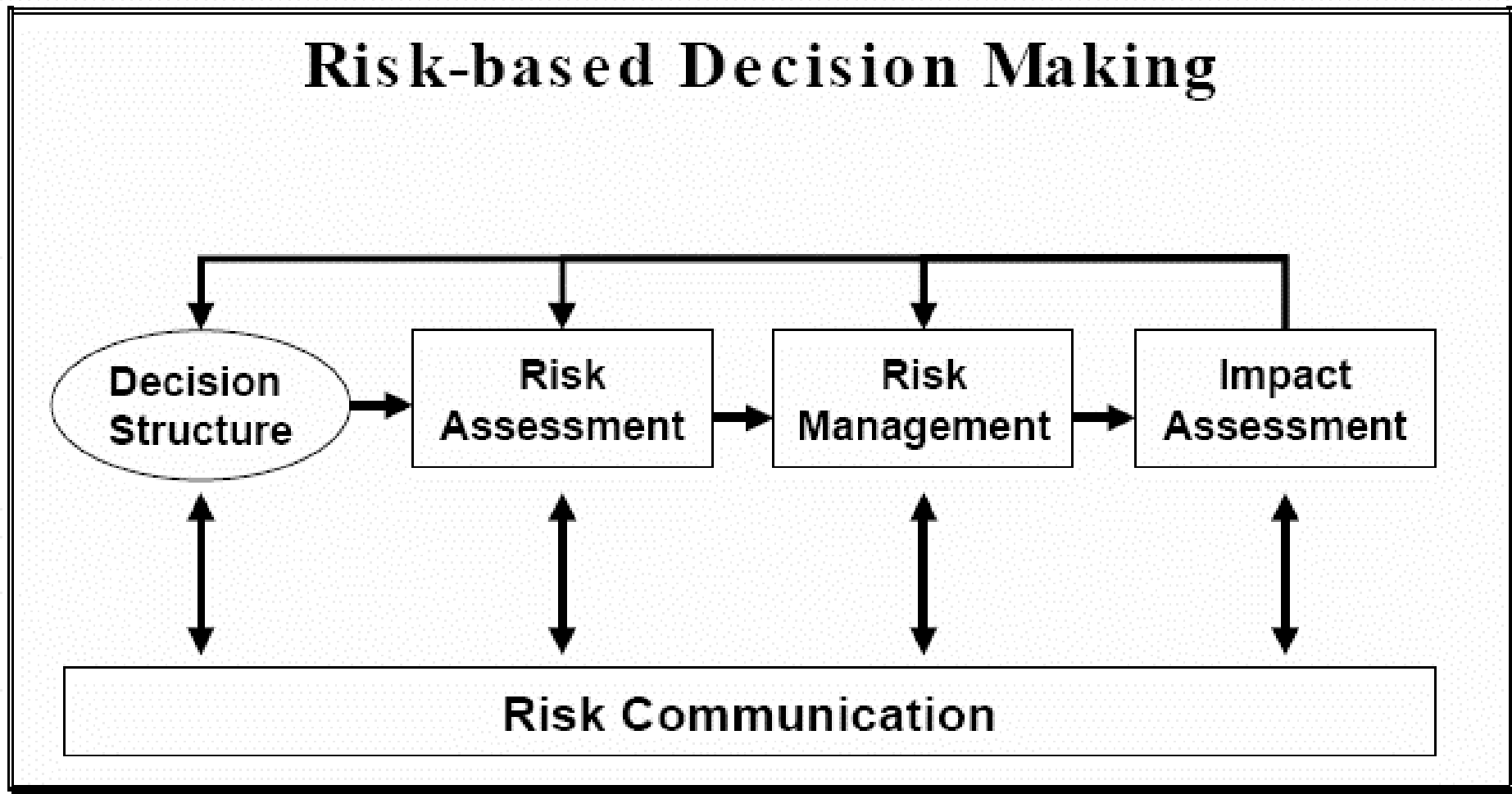
(ISDR, 2004)



Risk-based Decision Making



Risk-based Decision Making



(USCG)

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Context Definition



- Problem statement
- Decision making
- Needs and requirements for information
- Scientific conventions & criteria

Question: What decision needs to be made?

Requirements: Clear definition

Outputs: Scope & context

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Risk Analysis



- Hazard characterization
- Exposure assessment
- Vulnerability assessment
- Loss/impact assessment
- Disaster risk profiling

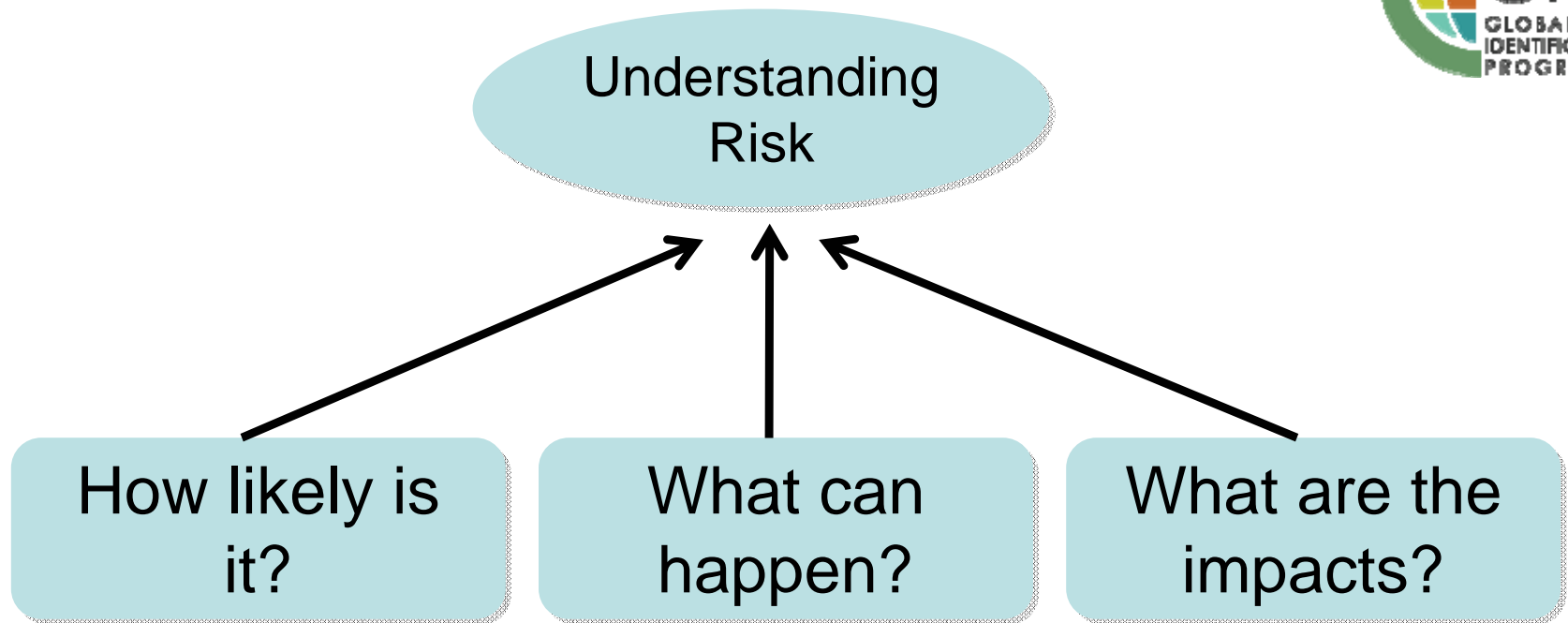
Question: What can happen?

Requirements: Facts

Outputs: Disaster risk profiles

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How to Understand Risk?



Risk Assessment Foundation

Historic
experience

Analytic
methods

Knowledge &
intuition

(Source: Mitchell, 2004)

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Risk Evaluation



- Concern assessment
 - Risk perceptions
 - Socio-economic concerns & impacts
- Situation assessment
 - Risk acceptability & tolerability
 - Needs for and capacity of risk reduction

Question: What may happen?

Requirements: Judgement & valuation

Outputs: Acceptable and tolerable risks

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Risk Evaluation

Informal risk evaluation
By individuals

Risk perception

Individual acceptance

Formal risk evaluation
By authorized experts

Laws, safety norm &
economic principles

Expert acceptance



Integration of public needs



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Sources: Bell et al. (2005) & Heinmann (2002).

Risk Treatment

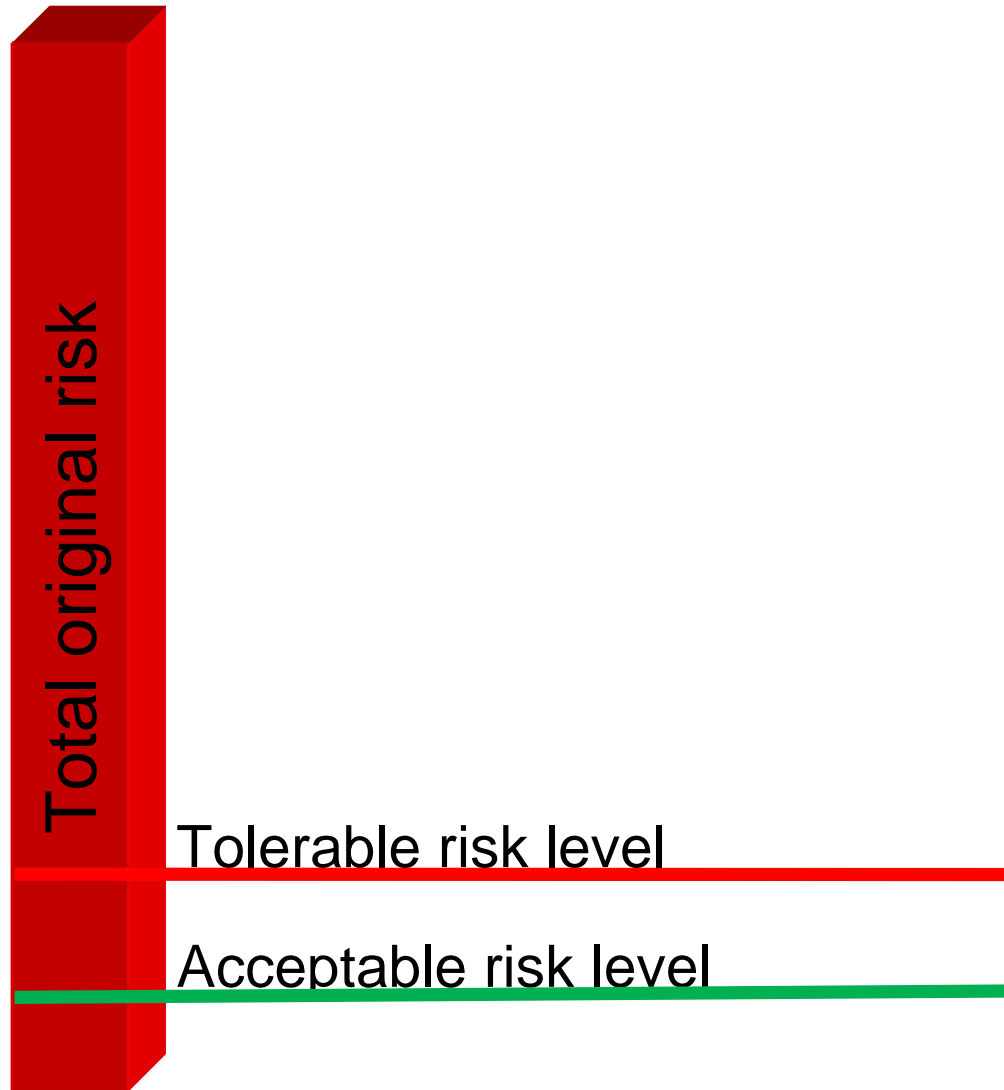


- Identification of all possible measures
 - Cost-effectiveness analysis of all measures
 - Establishing priorities
-
- Question: What can be done?
 - Requirements: Actions needed
 - Outputs: DRR measures

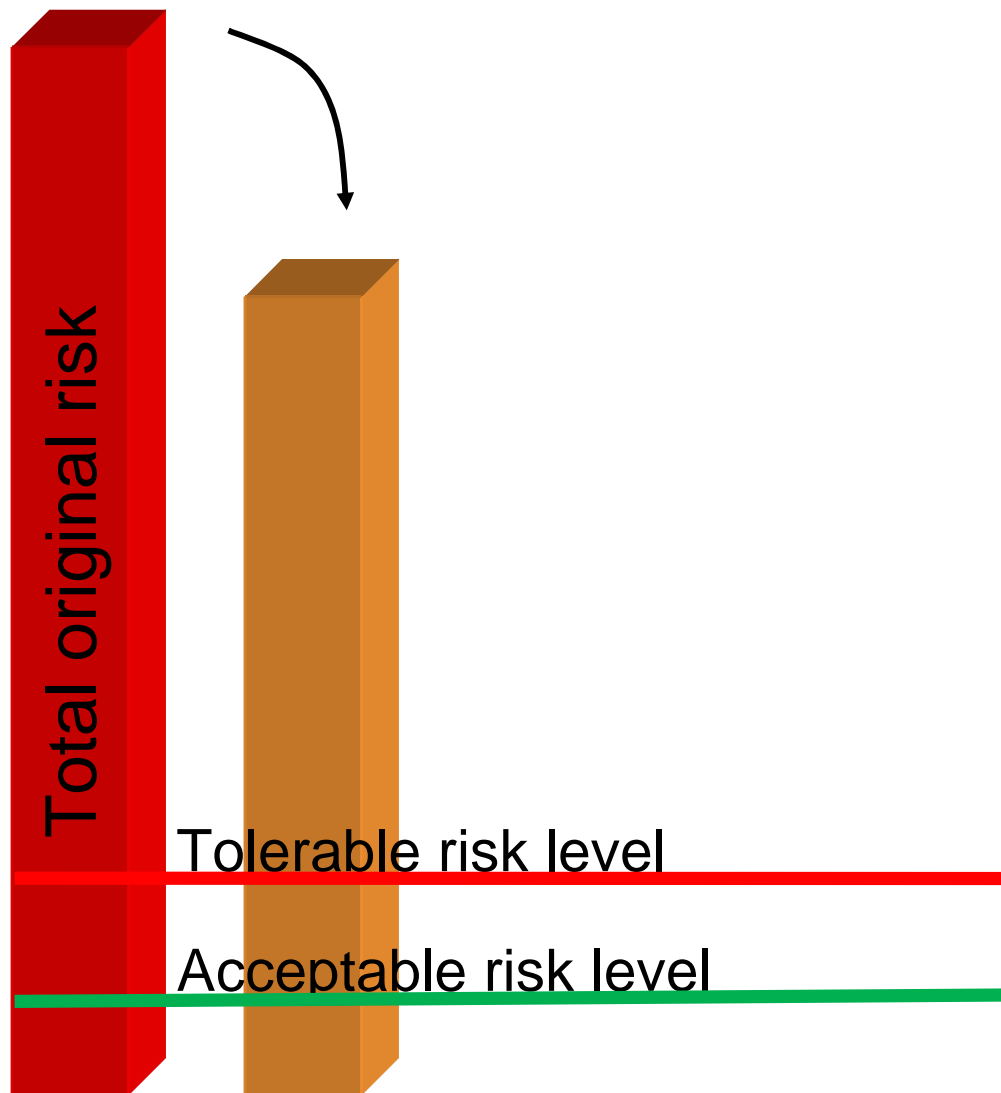
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Risk Treatment

Category	Measures
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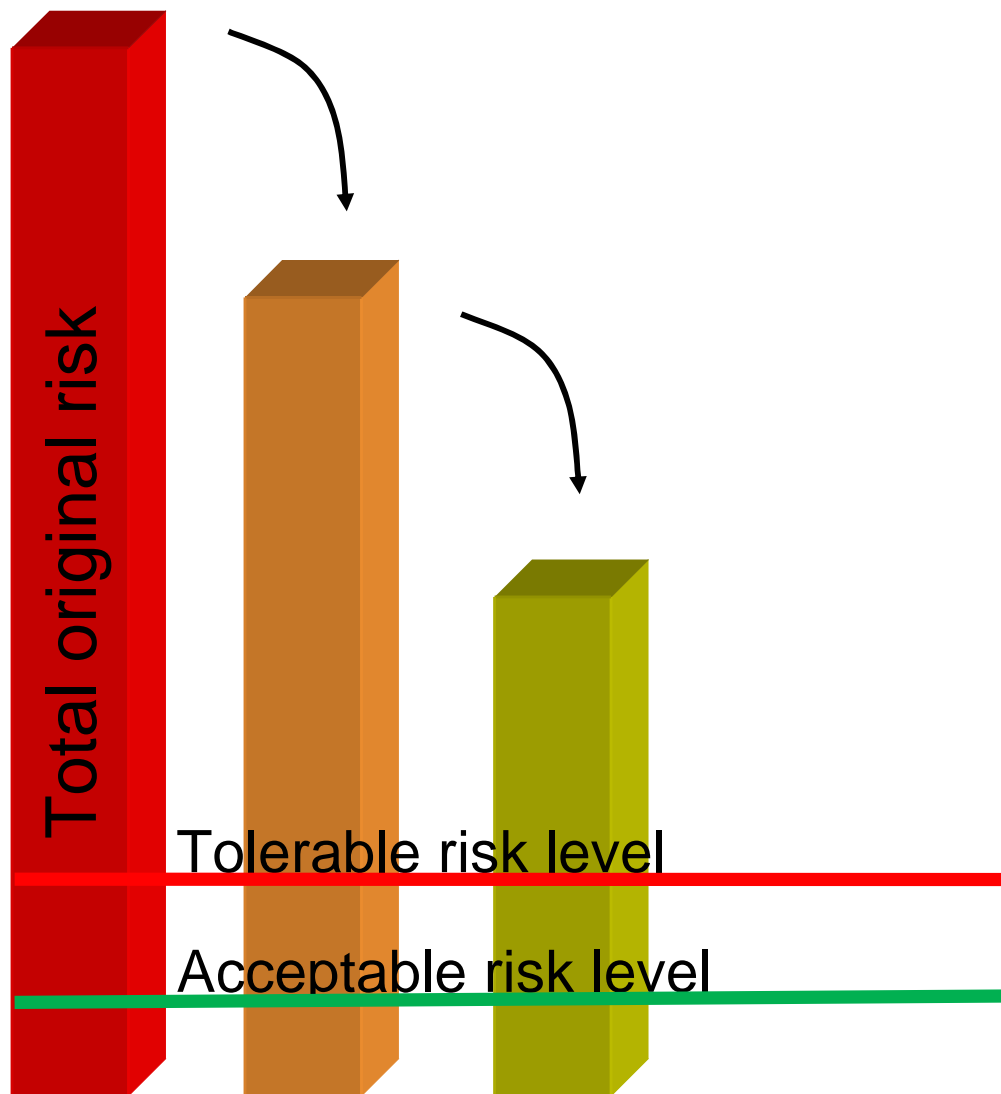


Risk Treatment



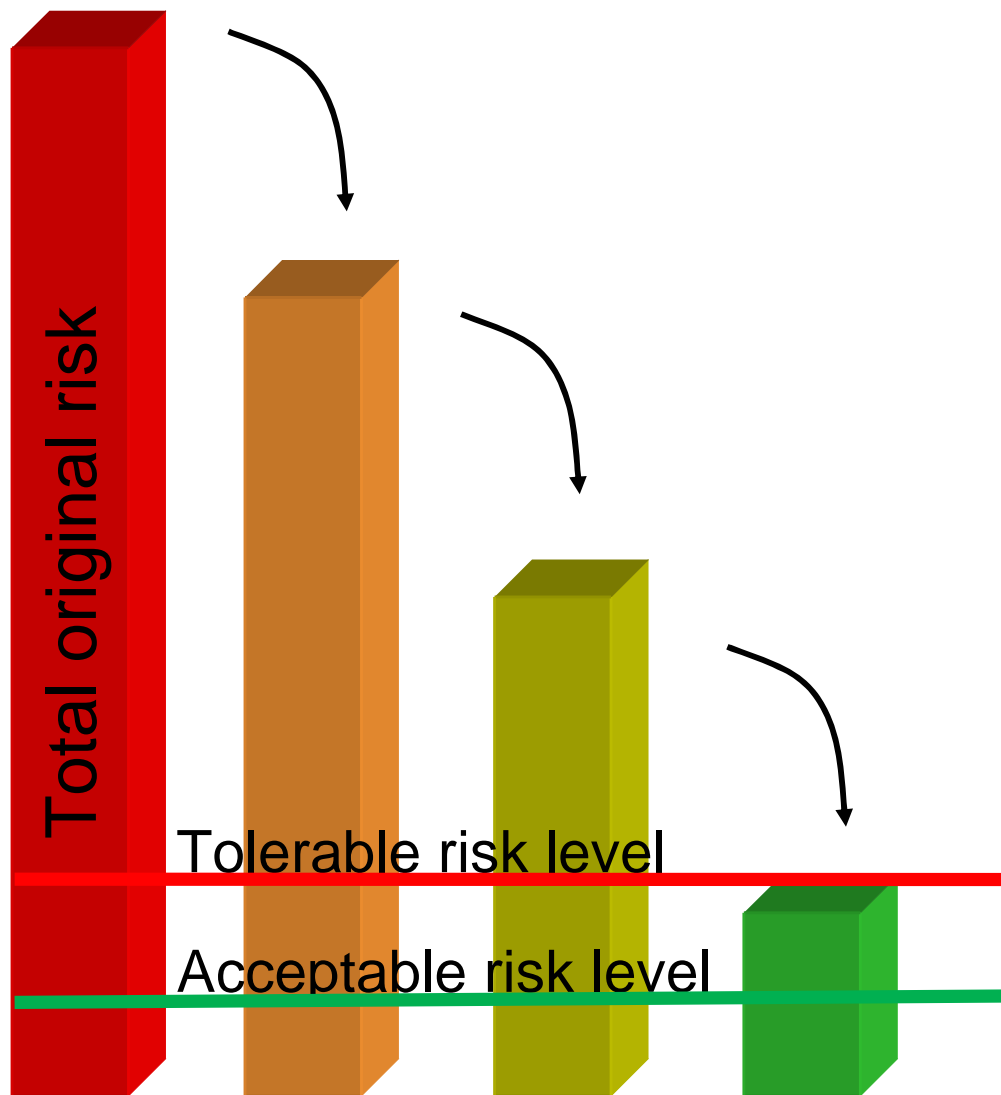
Category	Measures
Risk prevention	Policy, regulations, land use planning

Risk Treatment



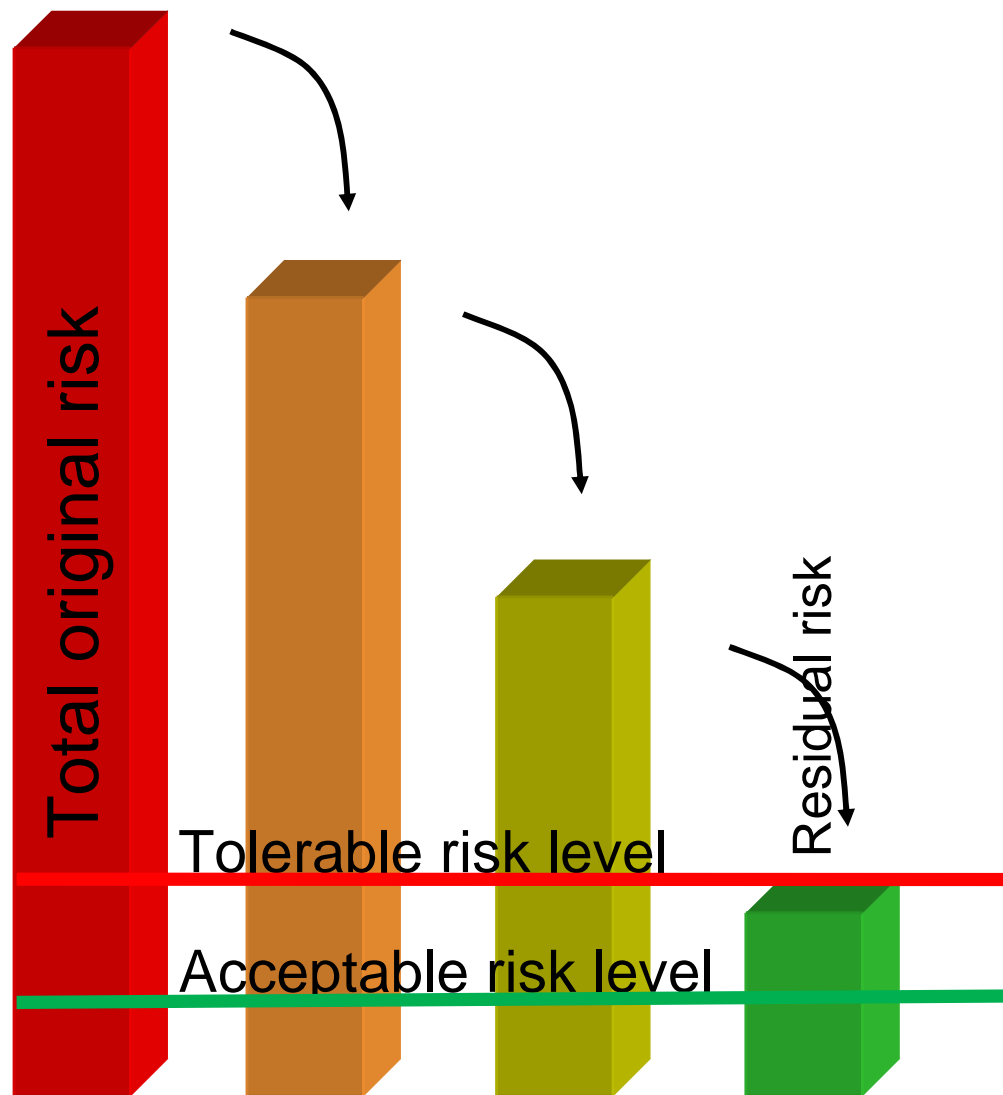
Category	Measures
Risk prevention	Policy, regulations, land use planning
Risk Reduction	Technical Measures, Preparedness

Risk Treatment



Category	Measures
Risk prevention	Policy, regulations, land use planning
Risk Reduction	Technical Measures, Preparedness
Risk Transfer	Insurance

Risk Treatment



Category	Measures
Risk prevention	Policy, regulations, land use planning
Risk Reduction	Technical Measures, Preparedness
Risk Transfer	Insurance
Risk Retention	Living with Risk with or Without caution

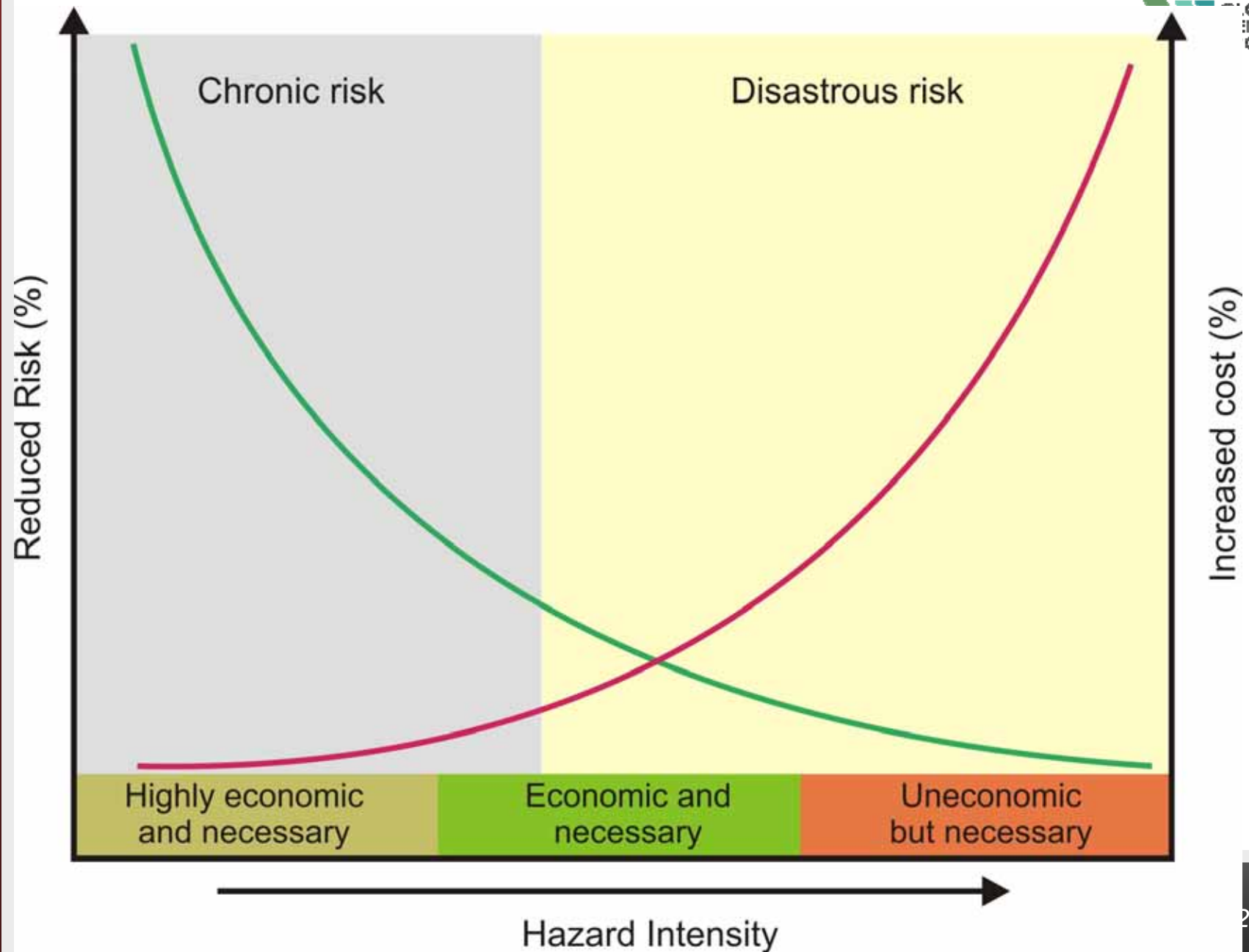
Key Requirements for Risk Reduction



- As low as reasonably possible (ALARP)
- Technically feasible and economically reasonable
- Cost-effective
- Uncertainties should be as small as possible
- Sustainable
- Quantifiable effects of measures

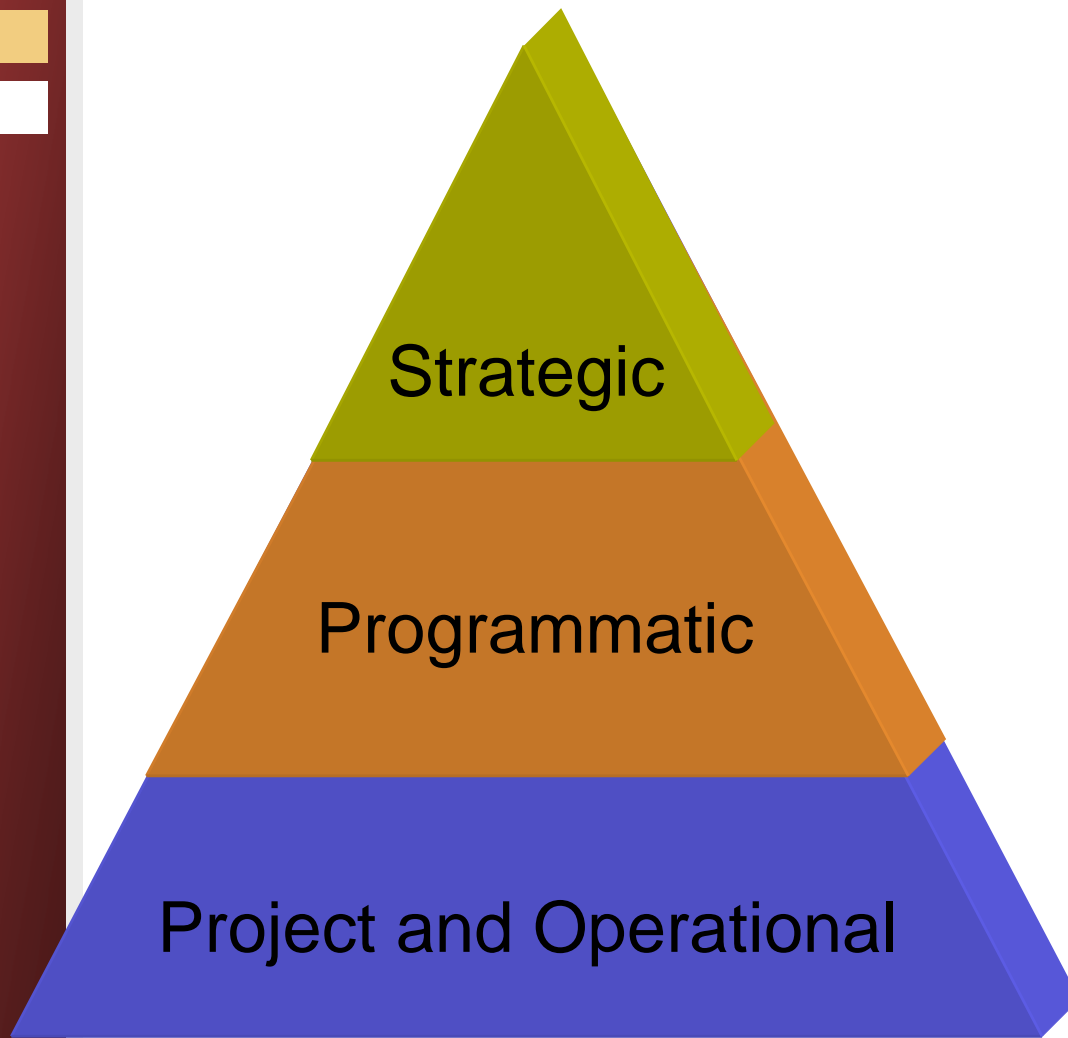
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Cost-Effective Risk Reduction



24, 2010

Levels of Decision Making



Examples

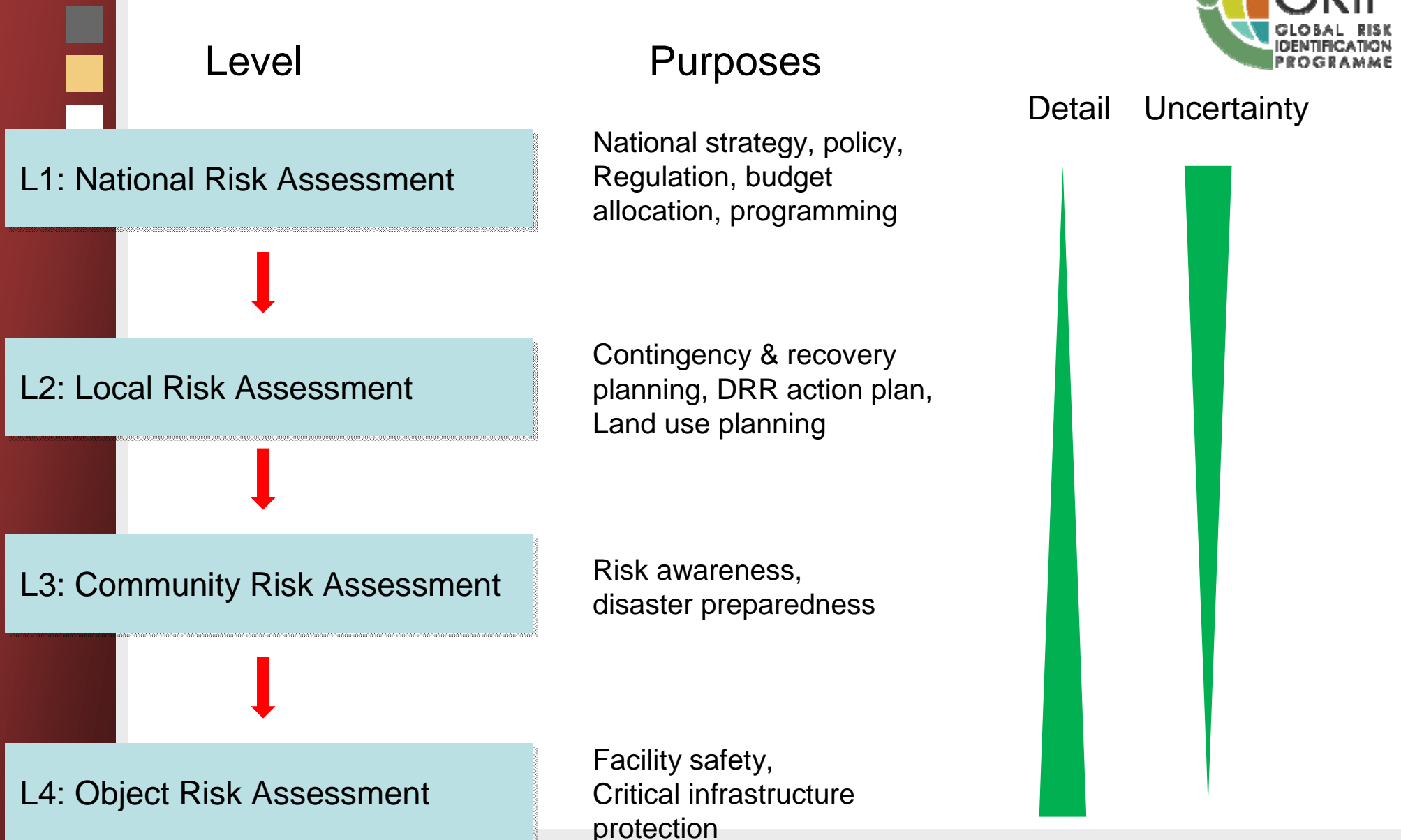
National DRR Strategy
Policy & regulation

- DRM Programming
- Budget Allocation

- DRR measures
- Action plan
- Development planning

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Levels of Risk Assessment



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Issues in Risk Assessment



- Risk assessment is not being utilized in decision making processes. Many activities and projects are implemented, and many resources utilized, without even knowing if they are solving the problem or not. In many cases, they may be even worsening the situation.
- End users, the people and institutions that would actually be implementing DRR actions, are not involved in the risk assessment process. They are not able to provide their inputs in the diagnosis and the development of solutions but, more importantly, they have no opportunity to understand the problem and the effectiveness of the risk reduction options. As a result, there is no utilization of the risk assessment studies.

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Issues in Risk Assessment



- There are no sustainable mechanisms. Risk assessment, when done, is considered a one-time effort, forgetting its vital role in tracking the effectiveness and progress of DRR programmes. As a result, there is no way to show the impact of DRR investments and justify the continuation of those investments.
- The local capacity needed to ensure validity of the assessments, effectiveness of the solutions, and sustainability of DRR programmes is lacking. Consequently, external consultants unfamiliar with local realities produce reports that nobody understands, takes ownership or applies. Local capacity development should be the first priority of any risk assessment project.

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Challenges in Risk Assessment



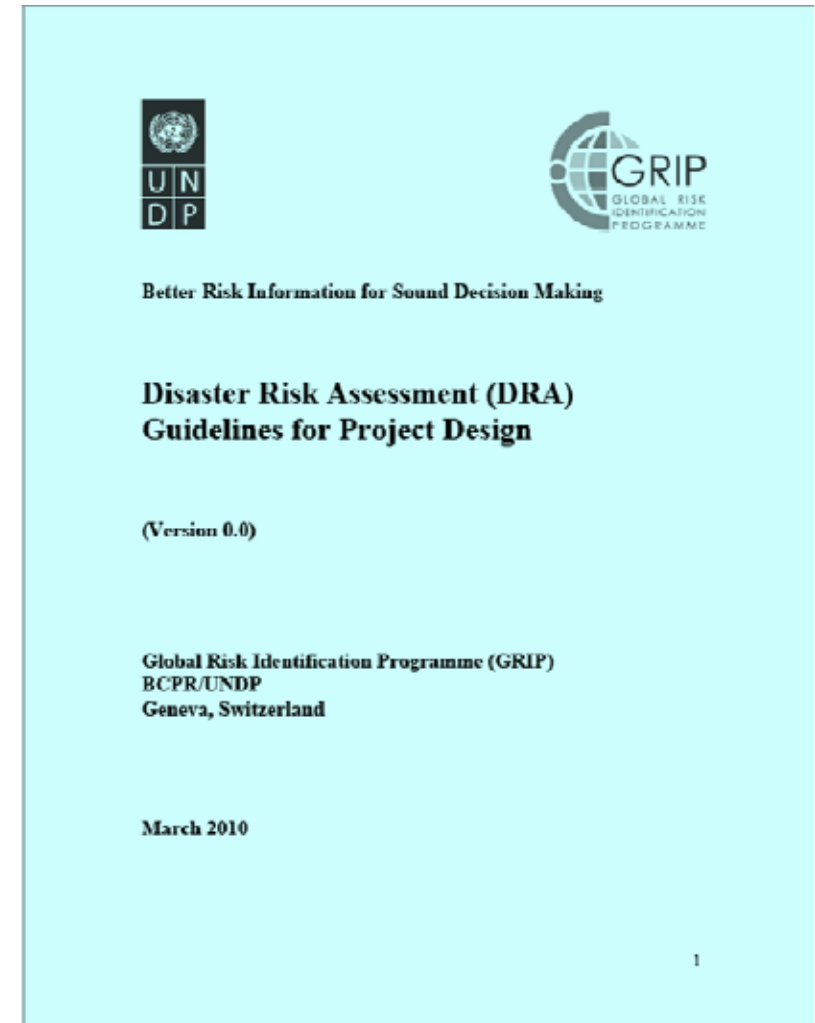
- Different understanding of the concept of risk
- Different understanding of risk assessment
- Data and information integration
- Capacity of coordination
- Urgent demand for risk information

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Design a DRA Project



- **Scope and Context**
- **Implication on DRR**
- **Target Groups**
- **Partners and Stakeholders**
- **Implementation Strategies**
- **Typical outputs**
- **Indicative Activities**
- **Specific M&E Considerations**
- **Useful tools and resources**



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Useful Tools & Resources



- To better understand the thematic area – Risk Identification and Assessment, please visit GRIP site: <http://www.gripweb.org>.
- To better design thematic area specific interventions, please refer to the following materials that are available upon request.
 - Booklet on GRIP service package
 - Concept paper on GRIP country support
 - Concept notes on National Risk Assessment Framework



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Useful Tools & Resources *(cont.)*



- Template ToRs for SIERA, NRA, NDO, URA projects
- Guidelines for implementing NRA, NDO, and URA
- Concept notes on national workshops on SIERA, NRA, NDO
- Sample applications of risk assessment
 - National DRR strategy
 - Urban planning
 - Pre-disaster shelter planning
 - Climate change adaptation
 - Poverty - disaster nexus
- Methodologies
 - RAIDUS tool
 - Flood Risk Assessment Tool
 - SIERA methodology
 - National disaster coding system
 - Hazard categorization and definition



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Summary



- Risk assessment is an integral part of decision making process.
- Risk assessment is a 2-step process – risk analysis and risk evaluation.
- A principle of RA is that it is better to be roughly right than exactly wrong.

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Any Questions?

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