

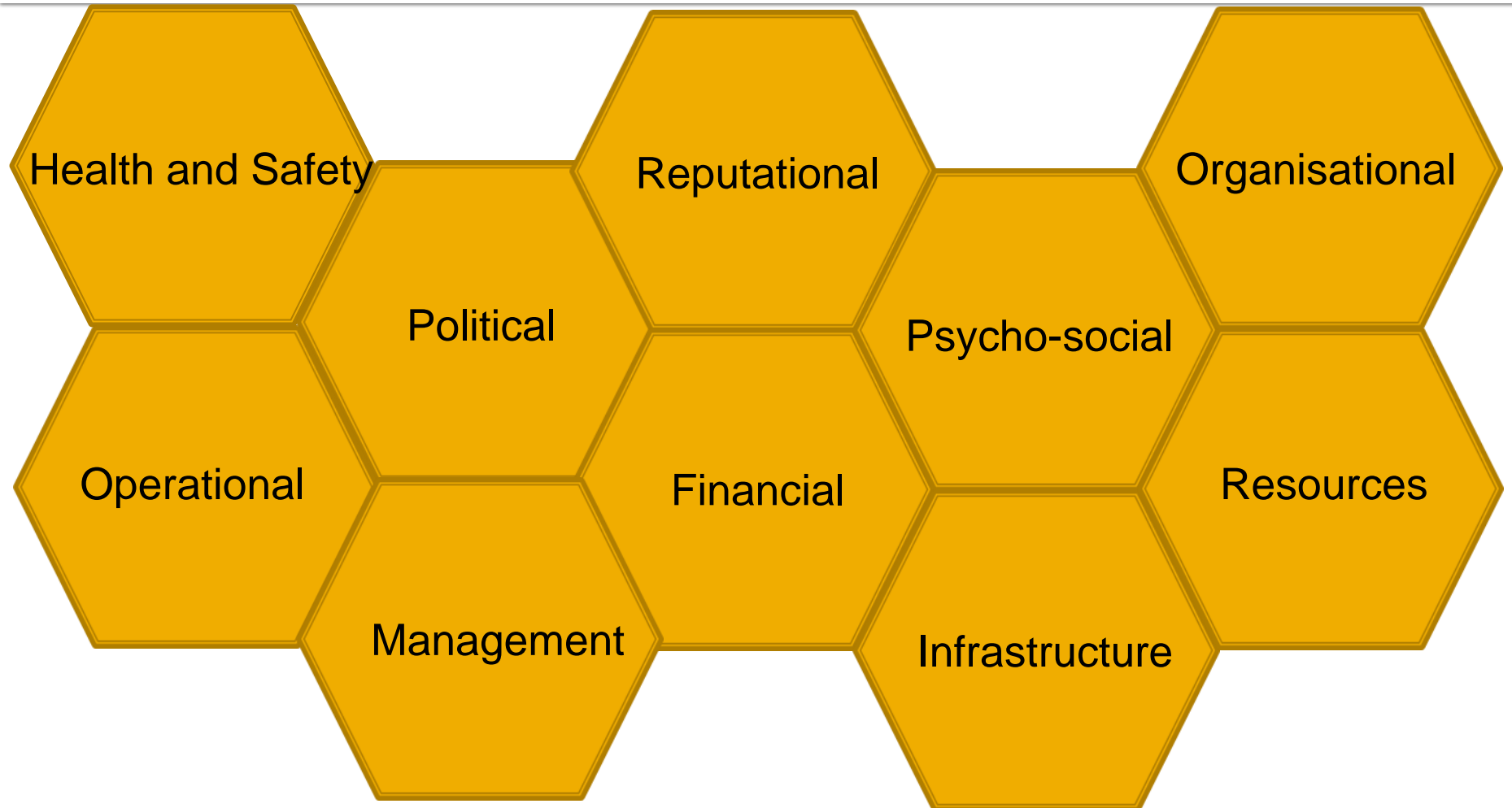
# An Introduction to Risk and Risk Assessment

Ken Roberts

# **It's Health and Safety Gone Mad!**

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# Types of Risk



# Useful References

- Matheson JIDM and Hawley A (Eds). *Making Sense of Disaster Medicine*. Hodder Arnold, London, 2010.
- Ryan JM, Hopperus Buma APCC *et al* Eds). *Conflict and Catastrophe Medicine A Practical Guide*. (3<sup>rd</sup> Edition). Springer, London, 2014.
- Lloyd Roberts D. *Staying Alive*. ICRC, Geneva, 2005.

# Useful References

- *Security Risk Management: NGO Approach.* InterAction Security Unit, 2010.
- Bickley, S. *Safety First.* Save the Children, 2010.
- *Operational Security Management in Violent Environments.* Humanitarian Practice Network, 2010.
- *Generic Security Guide.* ECHO, 2004.
- **Fischhoff, B and Kadvany, J. *Risk: A Very Short Introduction.* OUP, 2011.**

# Risk Assessment and Management

- An essential component of the planning process.
- Hazard identification.
- Risk assessment.
- **Acceptance** of some risk.
- Residual risk.
- Residual risk management.

# Two very important terms

What is the difference between them?



 **HAZARD**



 **RISK**

**A BULL IS A POTENTIAL HAZARD?**



# Scenario One

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You are on  
the  
footpath  
outside of  
the field  
fence

# Scenario two

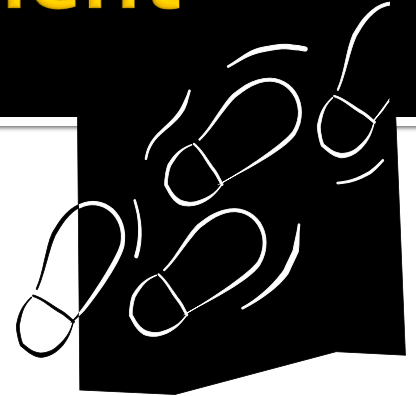
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You are  
the  
bullfighter

**Same Hazard in both scenarios**

But the **risk** to you in each  
scenario is very different

# Five Steps to Risk Assessment



**STEP 1: Look for the hazards**

**STEP 2: Decide who/what might be harmed and how**

**STEP 3: Evaluate the risks and decide whether the existing precautions are adequate or whether more should be done**

**STEP 4: Record your findings**

**STEP 5: Review your assessment and revise it if necessary**

# Evaluate the Risk - Step Three

- Evaluate the risks and decide whether the existing precautions are adequate or whether more should be done
- Some sort of simple scoring system for level of risk e.g.
  - 1 trivial risk
  - 2 tolerable risk
  - 3 moderate risk
  - 4 substantial risk
  - 5 intolerable risk
- Take action to eliminate or minimise the risk



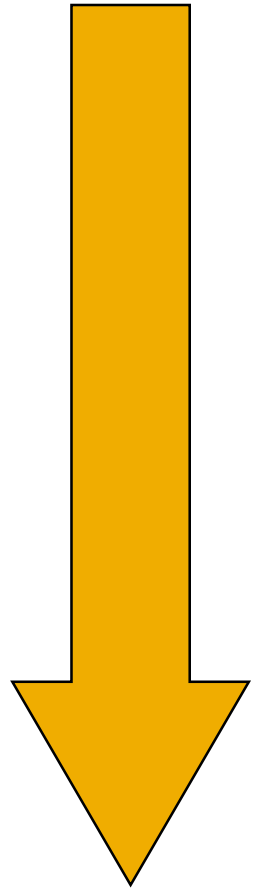
# Qualitative Risk Assessment

- Assessment of risk:
  - Impact
  - Likelihood

		I M P A C T				
RISK ANALYSIS TABLE		Negligible	Minor	Moderate	Severe	Critical
L I K E L I H O O D	Very Likely	Low	Medium	High	Very High	Very High
	Likely	Low	Medium	High	High	Very High
	Moderately Likely	Very Low	Low	Medium	High	High
	Unlikely	Very Low	Low	Low	Medium	Medium
	Very Unlikely	Very Low	Very Low	Very Low	Low	Low

# Evaluate the Risk - Step Three

- **What further action is necessary to control the risk?**
  - (1) Remove the risk completely
  - (2) Try a less risky option
  - (3) Prevent access to the hazard
  - (4) Organise the activities to reduce exposure to the hazard
  - (5) Issue personal protective equipment



# Residual Risks

- Even with all controls and preventive measures in place, some risks will remain.
- In a medical/health context, this helps drive the requirement for:
  - Diagnosis.
  - Treatment.
  - Recovery.
  - Evacuation of those who become ill/injured as a result of the residual risks.



# Risk

- 'Risk' is a social and cultural construct.
- There is no such thing as 'objective risk'.
- 'Risk' is modified by differing **perceptions** by organisations and individuals.

# Definitions – in a Disaster Context

- **Hazard/Threat:**

Any factors (actions, circumstances, or events) which have the **potential** or **possibility** to **cause harm, loss, or damage** to the NGO, including its personnel, assets, and operations, and to the Population at Risk (PAR).

- **Risk:**

The **combination of the impact and likelihood for harm, loss, or damage** to NGOs and their activities and to the PAR from the exposure to threats, and taking into account **infrastructure and resource vulnerability**. Risks are categorized in levels from Negligible to Critical for their prioritisation.

# Hazards/Threats – in a Disaster Context

## NATURAL

Climate

Disease

Topography

## MAN-MADE

Crime

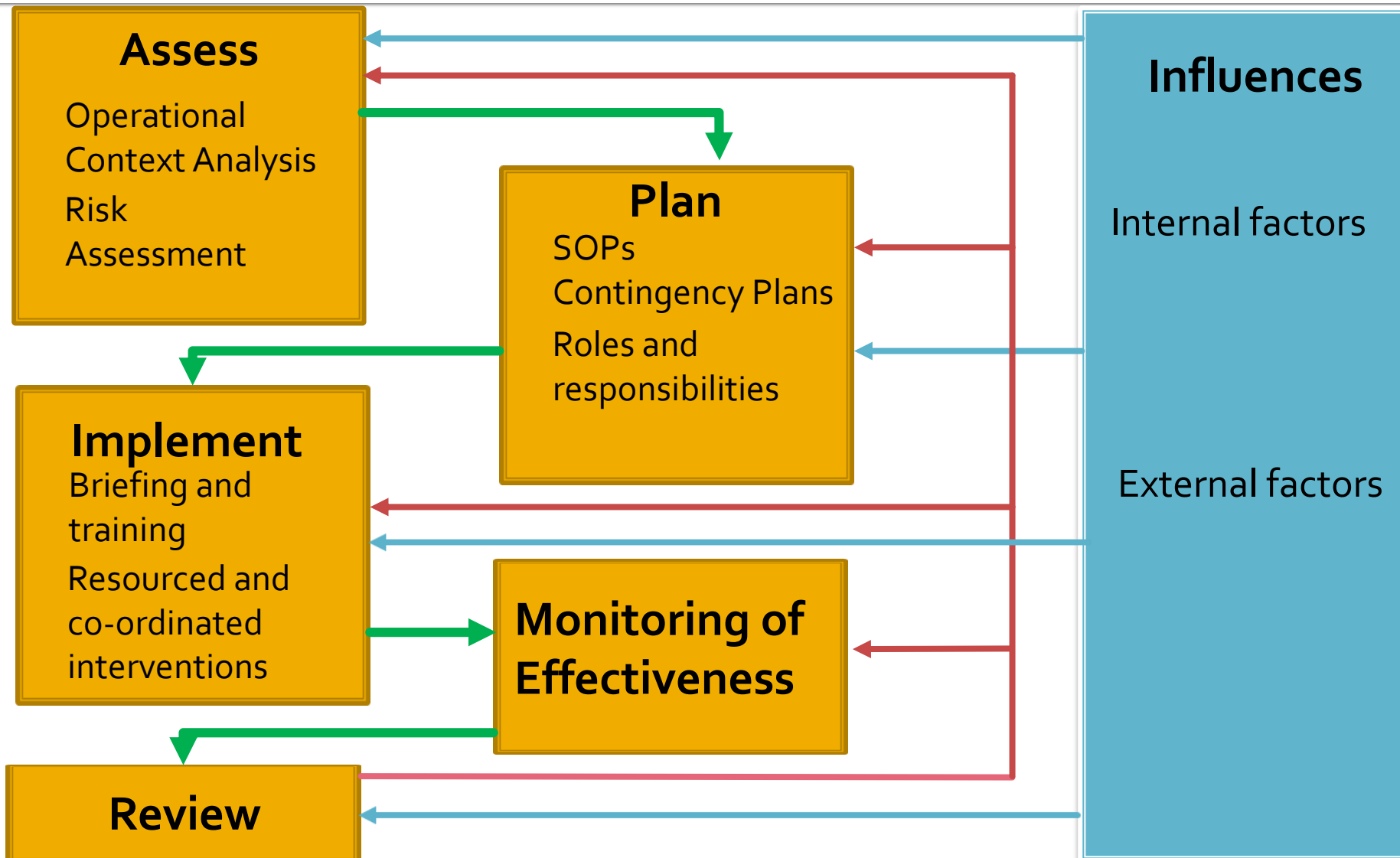
Violence

Infrastructure  
Damage

## Types of threats

Inherent threats (Non-targeted threats)	Targeted threats
<ul style="list-style-type: none"><li>• <b>Work and travel</b> – ill health; work place accidents; vehicle accidents; air crashes; boat accidents, etc.</li><li>• <b>Natural hazards</b> – earthquakes; floods; avalanches; wildlife, etc.</li><li>• <b>Wrong place, wrong time</b> – demonstrations and rallies; indiscriminate violence; looting; crossfire; military actions, etc.</li><li>• <b>Indiscriminate weapons</b> – mines and unexploded ordnance (UXOs); shelling and aerial bombardment; chemical and biological weapons, etc.</li></ul>	<ul style="list-style-type: none"><li>• <b>Crime</b> – armed robbery or theft; arson; ambush; carjacking; bribery, extortion and fraud, etc.</li><li>• <b>Acts of violence</b> – bodily harm; assault; sexual violence, etc.</li><li>• <b>Acts of terror</b> – bombs/improvised explosive devices (IEDs); suicide attacks; shootings/assassinations, etc.</li><li>• <b>Staff disappearance</b> – detention; arrest; abduction; kidnapping, etc.</li><li>• <b>Psychological intimidation</b> – harassment; death threats, etc.</li></ul>

# Risk Management Framework



# Threat and risk analysis/assessment is key

Descriptor	Expected impact to NGO Activities:		
	Operations	Personnel	Assets
<b>Negligible</b>	Minor disruptions	No injuries	No damage
<b>Minor</b>	Limited delays	Some minor injuries / possible stress	Possible damage or loss
<b>Moderate</b>	Delays	Non life threatening injuries/High stress	Some loss
<b>Severe</b>	Severe disruptions	Severe injuries	Significant loss
<b>Critical</b>	Cancellation of activities	Death and severe injuries	Major or total loss

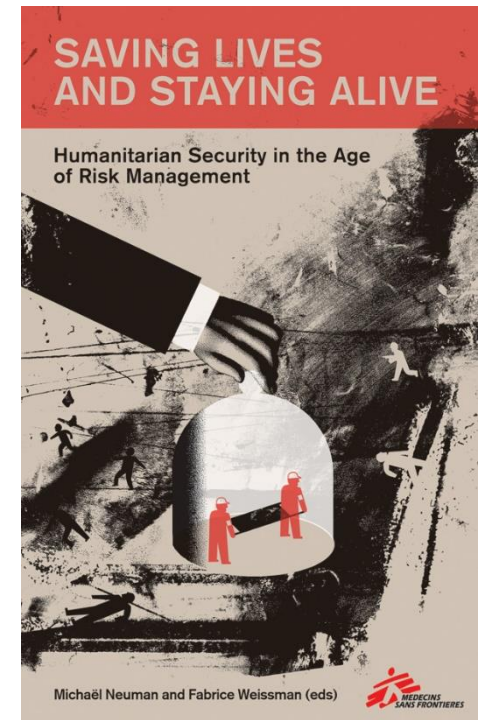
Source: *Generic Security Guide* ECHO  
(2004)

# Differential Risk

- The risk posed to the Population at Risk (PAR), and NGOs are likely to differ, and should be assessed differently.
- Factors:
  - Different baselines.
  - Different levels of exposure to hazards/threats.
  - Different thresholds of risk acceptability.

# An Alternative View

- Neuman M and Wiessman F (Eds). *Saving lives and staying alive. Humanitarian Security in the Age of Risk Management*. London, Hurst and Co, 2016.
- Authored by MSF.





# Arguments Against 'Risk Management'

- Historically normalised exposure to 'perils' by treating them as a 'risk', and making them acceptable by:
  - Regulation
  - Compensation
- 'Managerial approach' to risk management

# Critiques of Risk Management Methodologies

- Data are probably not accurate/complete.
- Too many uncertainties/imponderables.
- Inappropriate use of actuarial techniques:  
*'Not everything that counts can be counted.'* Albert Einstein.
- Residual risk. 'Implies danger and sacrifice are acceptable, provided procedures are followed and cost-benefit ratio is favourable.'
- Difference in risk perception, assessment and acceptability differs between 'HQ' and 'Field'

# Summary - Risk Management

- Assessment of risk:
  - Impact
  - Likelihood
  - Vulnerability
- Risk mitigation measures
- Residual risk, and its acceptability
- Residual risk management
- Importance of planning

# Any Questions?