

(Airline/Operator Internal)

Disaster Response Management

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

“Don't learn safety by accident.”

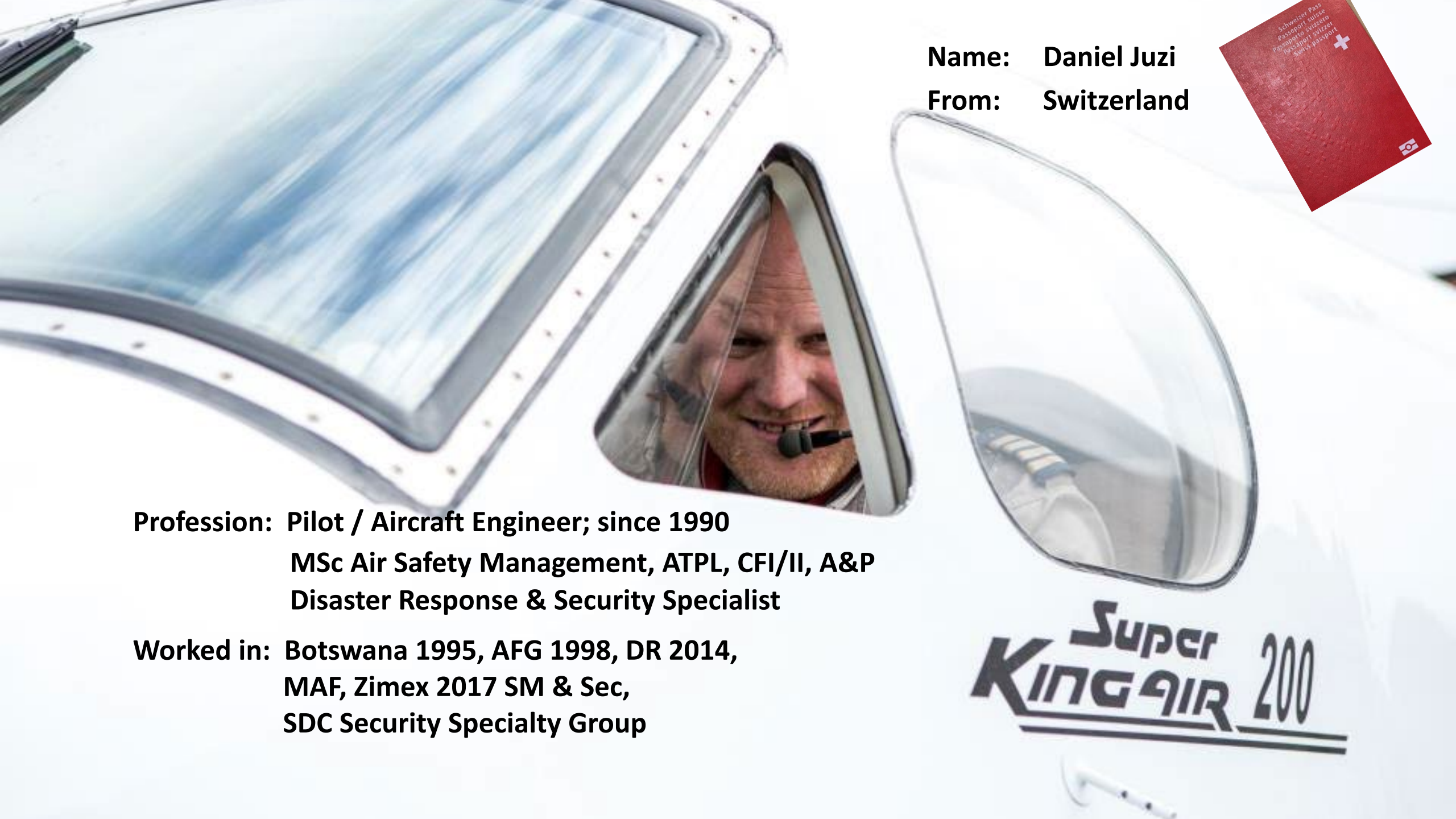
Daniel Juzi

MSc Air Safety Management & Security Expert

ATPL | CFI/II/MEI | A&P

Name: Daniel Juzi

From: Switzerland



Profession: Pilot / Aircraft Engineer; since 1990

**MSc Air Safety Management, ATPL, CFI/II, A&P
Disaster Response & Security Specialist**

**Worked in: Botswana 1995, AFG 1998, DR 2014,
MAF, Zimex 2017 SM & Sec,
SDC Security Specialty Group**

**Super
King Air 200**



Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

- Sitting together and talking about C/DRM or ERP is not going to be a quick fix



Let's Chat!

FREE 10-Minute Strategy Session
Phone Call with Lee Hayward

Register Below...



INSPIRING PHYSIQUE TRANSFORMATION



my journey from FAT to RIPPED

written by Rick Graham

Resources:

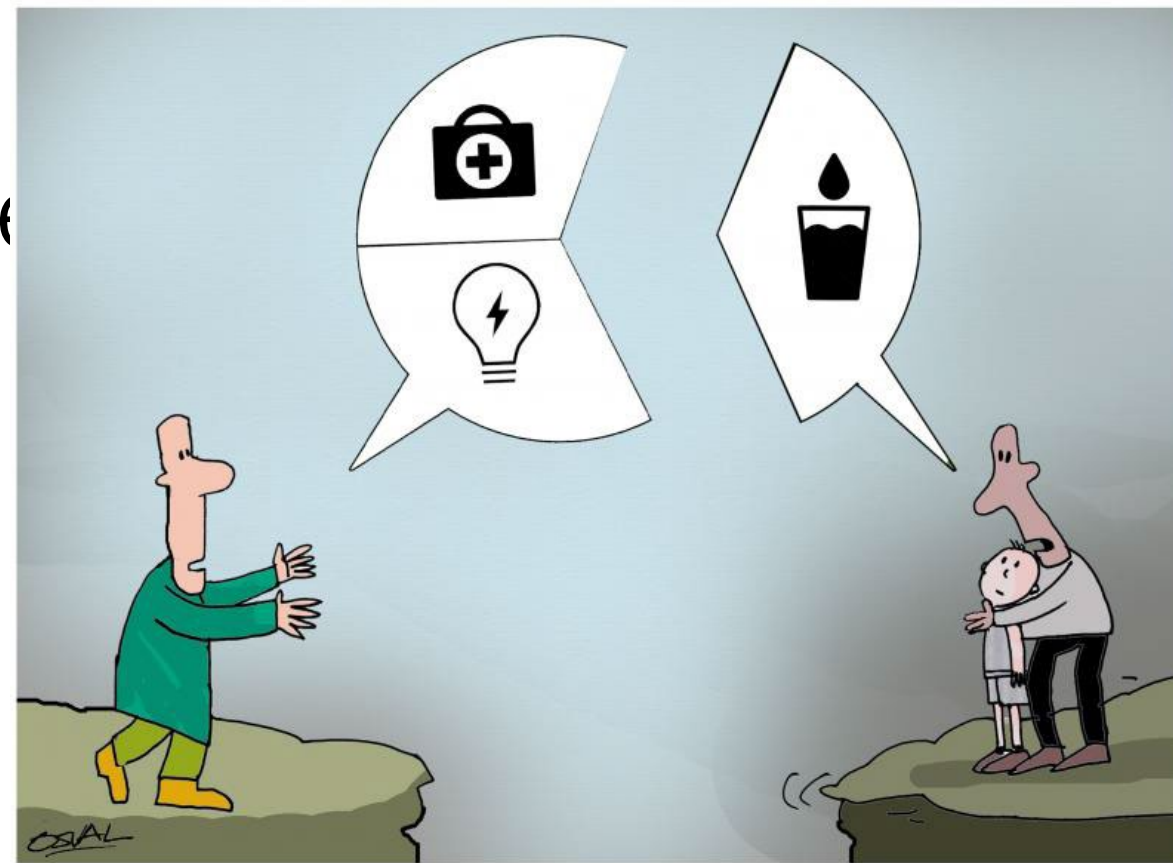
- Aviation Safety Network [Aviation Safety Network \(aviation-safety.net\)](https://aviation-safety.net)
- CAA Australia <https://www.casa.gov.au/>
- CAA Switzerland <https://www.bazl.admin.ch/>
- CAA United Kingdom <https://www.caa.co.uk/>
- CAA/FAA USA <https://www.faa.gov/>
- European Union Aviation Safety Agency <https://www.easa.europa.eu/>
- International Civil Aviation Organization <https://www.icao.int/>
- Skybrary <https://skybrary.aero/>

Reference Documents:

- ICAO Annex 19; Safety Management
- ICAO Annex 13; Aircraft Accident and Incident Investigation
- ICAO Doc 9859 ed. 4; Safety Management Manual
- ICAO National Aviation Safety Plan Kenya 2023 to 2025 Edition
- Eurocontrol Guidelines for Contingency Planning of Air Navigation Services

How we will work together

- Presentations (some theory... little)
- Workshops (active participation...)
- Q&A
- Discussions



- “The man who asks a question is a fool for a minute, the man who does not ask a question is a fool for life.” Confucius
- “The truth is not always beautiful, nor beautiful words the truth.” Laozi/Lao Tzu

What are your expectations for this 1 (one!) day

Why is / should this be relevant to you

- Understand / prepare for disaster
- Training and Response plan
- How to deal with actual disaster
- Definition of preparedness
- Harmonize preparedness
- Dealing with prolonged disaster
- Dealing with CMC and normal ops
- Deal with hostage situation
- Trends on DRM
- Panic management
- Effective preparedness
- Precursors
- Collaboration awareness
- Procedures for ERP
- Activate
- Gaps
- Networks during emergency
- Who do we train
- Applicability to private orgs & mx
- How to deal with failed redundant systems

Let me share, how I got into it... C/DRM - ERP

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”



My frustrations...

- Did not mind taking charge... hate it when the boss behaves like a wet floppy towel...
- 453 pages of manual never applied to the situation
 - Were impractical to access as you're dynamically moving



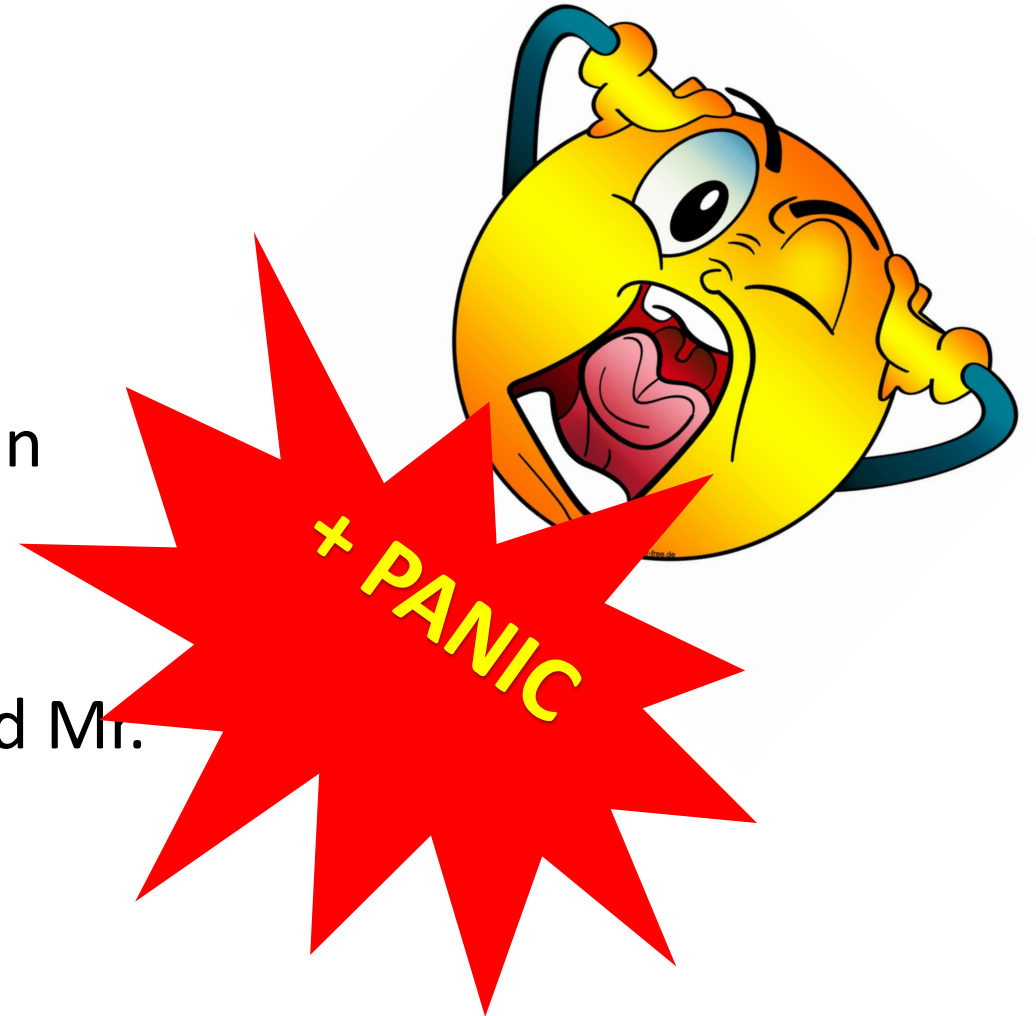


Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

- It assumes at least 3 things...
 - Disaster / Crisis / Emergency
 - Response
 - Management / Preparedness / Plan

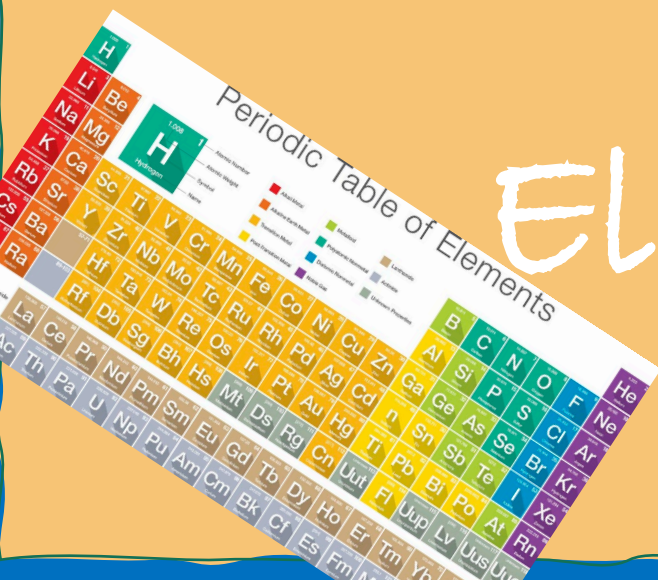
...however ever present is our Friend Mr.



The

4 (four)
1,2,3, + 4

Elements

A periodic table of elements is shown, tilted at an angle. The title "Periodic Table of Elements" is written across the top. A large, stylized "EL" watermark is overlaid on the right side. The table includes element symbols and names, with a legend for element categories: Alkali Metals, Alkaline Earth Metals, Transition Metals, Lanthanides, Actinides, and Noble Gases. The elements are color-coded by groups: Group 1 (red), Group 2 (orange), Groups 3-10 (yellow), Groups 11-18 (green), and Groups 19-20 (purple).

Periodic Table of Elements

Legend:

- Alkali Metals
- Alkaline Earth Metals
- Transition Metals
- Lanthanides
- Actinides
- Noble Gases

Of SMS.



Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

- ICAO DOC 9859 ed. 4
- 9.3.7.1 By definition, an emergency is a sudden, unplanned situation or event requiring immediate action. Coordination of emergency response planning refers to planning for activities that take place within a limited period of time during an unplanned aviation operational emergency situation. An emergency response plan (ERP) is an integral component of a service provider’s SRM process to address aviation-related emergencies, crises or events. Where there is a possibility of a service provider’s aviation operations or activities being compromised by emergencies such as a public health emergency/pandemic, these scenarios should also be addressed in its ERP as appropriate. The ERP should address foreseeable emergencies as identified through the SMS and include mitigating actions, processes and controls to effectively manage aviation-related emergencies.

Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

- ICAO DOC 9859 ed. 4
- 9.3.7.2. The overall objective of the ERP is the safe continuation of operations and the return to normal operations as soon as possible. This should ensure an orderly and efficient transition from normal to emergency operations, including assignment of emergency responsibilities and delegation of authority. It includes the period of time required to re-establish “normal” operations following the emergency. The ERP identifies actions to be taken by responsible personnel during an emergency. Most emergencies will require coordinated action between different organizations, possibly with other service providers and with other external organizations such as non-aviation-related emergency services. The ERP should be easily accessible to the appropriate key personnel as well as to the coordinating external organizations.

Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”



- 4x C/DRM DRM, ERP,
- Due Diligence SRM, SAG,
- Model SPI/KPI, RA,
- DRR RCA, SM, MS,
- Impact SMS,
- Statement
- Bow-Tie Tool
- Promotion
- Initial-Residual-Effectiveness
- RA Process
- Terminology:

Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

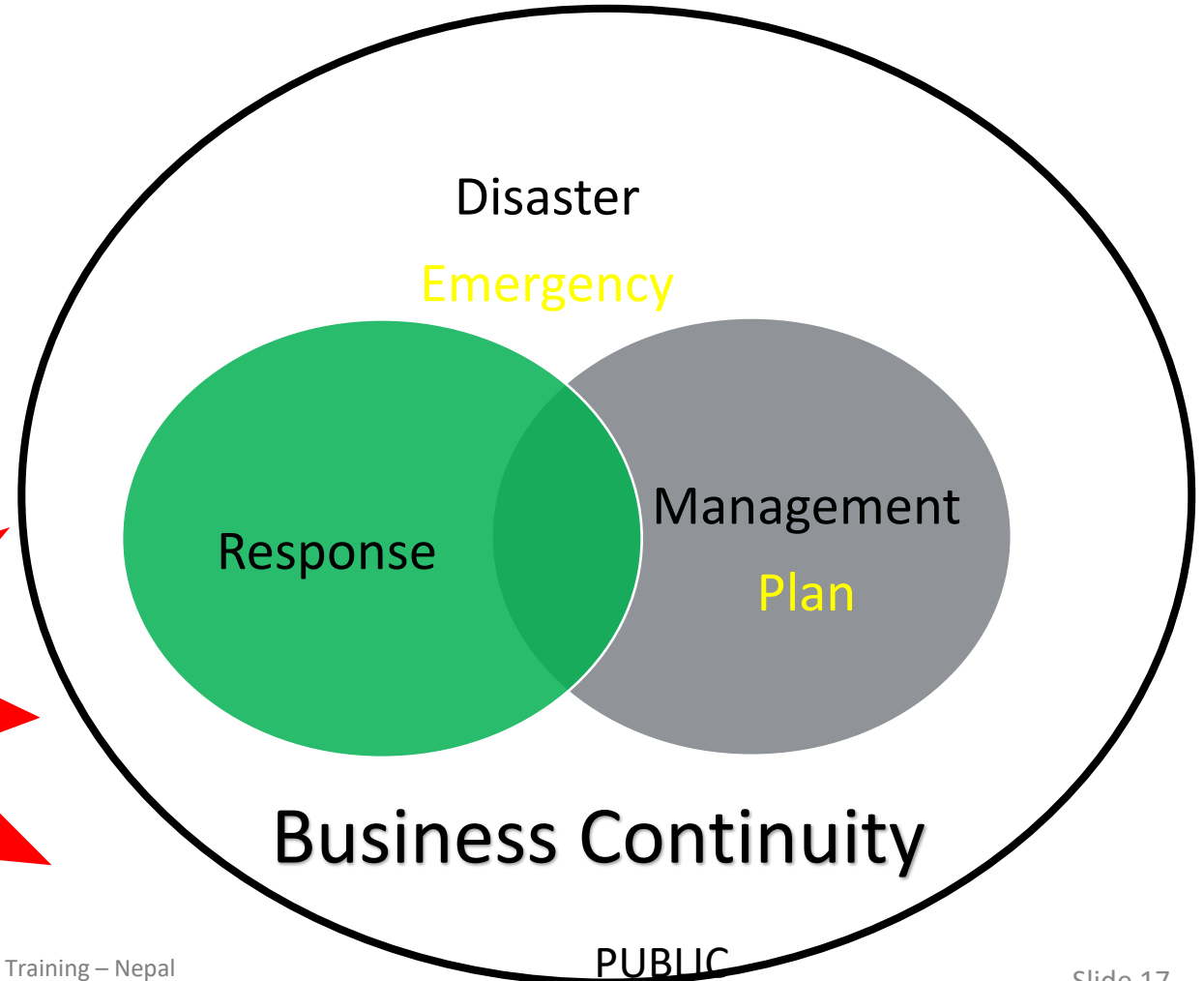
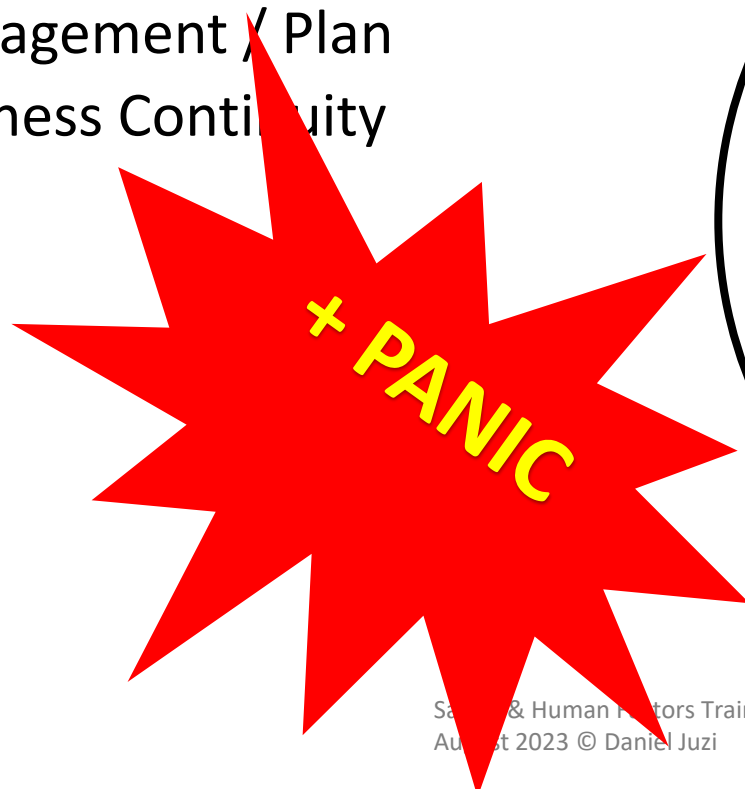
- It assumes at least 3 things...

Disaster / Emergency

+ Response

+ Management / Plan

= Business Continuity



Going back to basics...

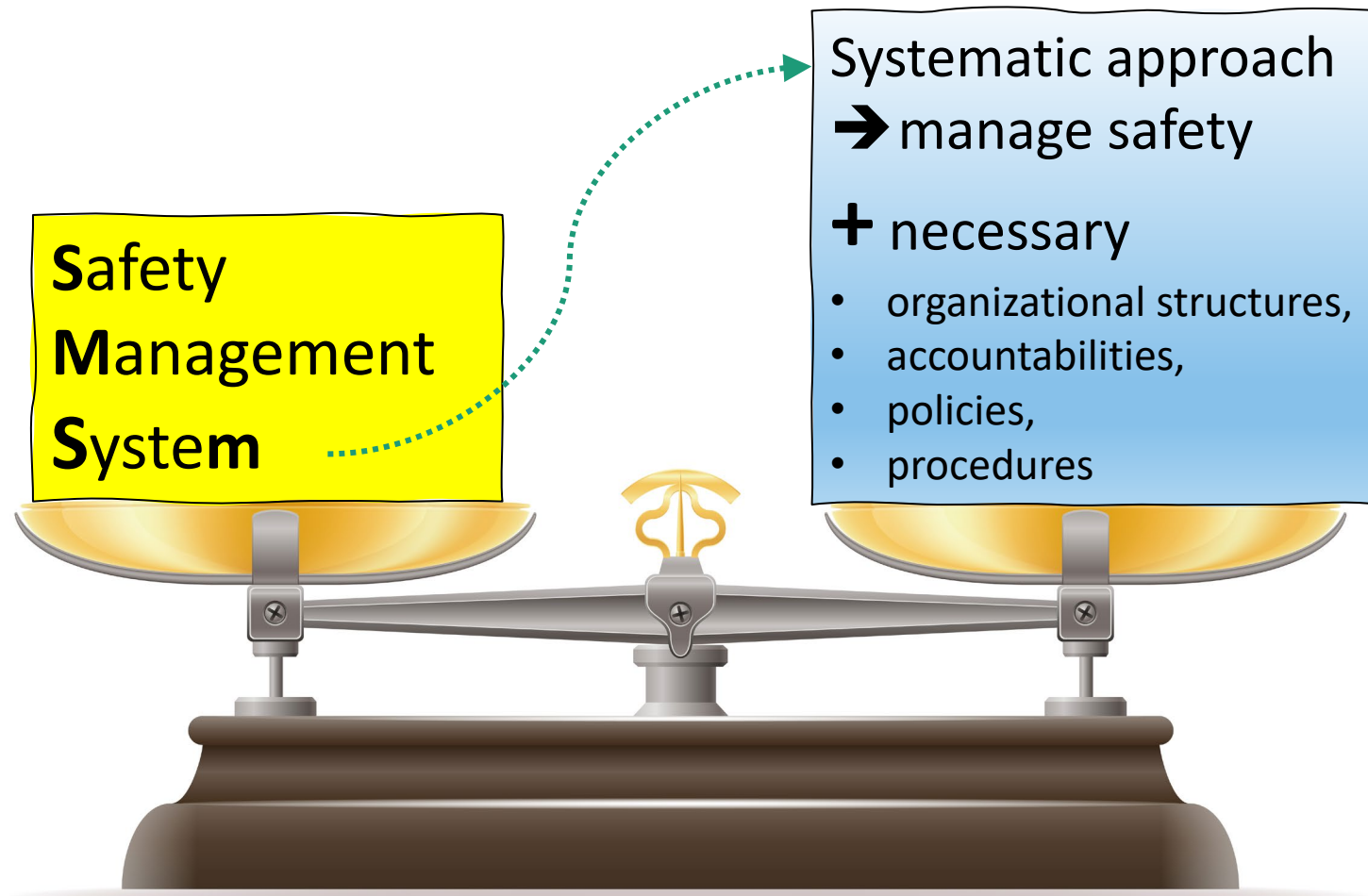
- Attempting to integrate DRM/ERP into SMS

What is SMS... can we define it?

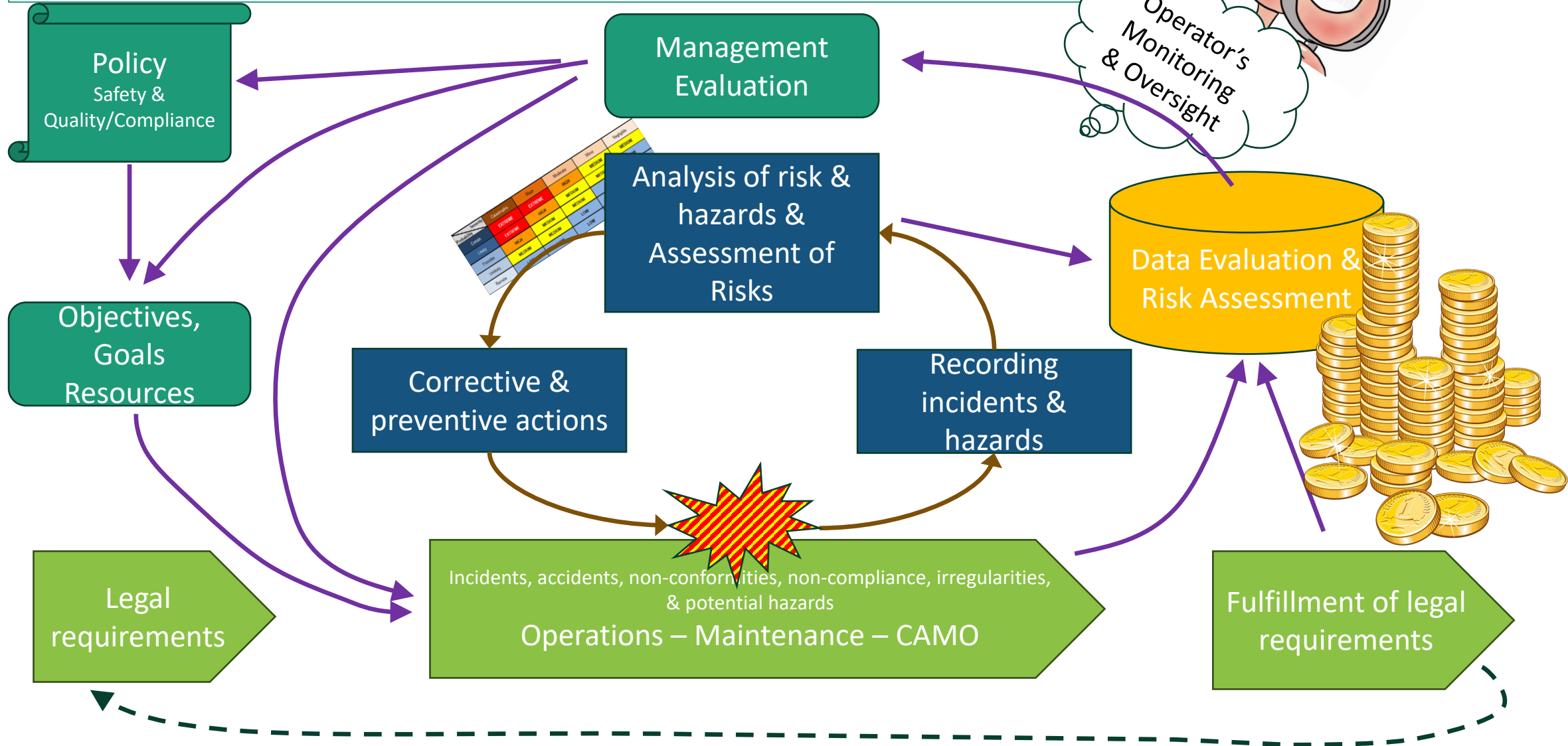
- At your tables, come up with a one (1) sentence definition (not Google!)
- Share with group your definition
- Safety management system (SMS): a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies, and procedures.

Definition of SMS

Why?



3 Loops: safety Management System

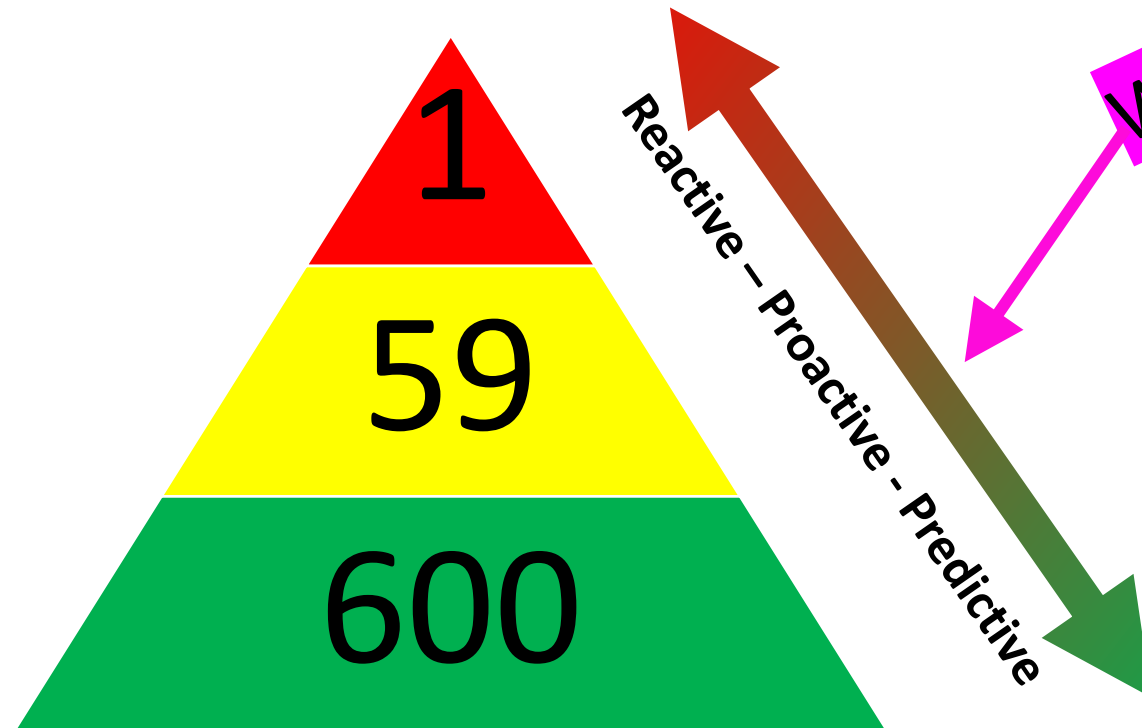


Safety Data is useful for:



- Policy:
 - Establishing policy guidelines
 - SPI
- Safety Risk Management:
 - defining safety risk management
 - identifying safety hazards
 - mitigating safety hazards and risk management
- Safety Assurance:
 - monitoring and measuring safety performance
 - safety audits and investigations
 - management of change
 - continuous improvement of your SMS
- Safety Promotion:
 - identifying training needs
 - creating a training plan
 - evaluating training effectiveness
 - safety communication strategies.

One of the Ice-Bergs...



What do we call this...?



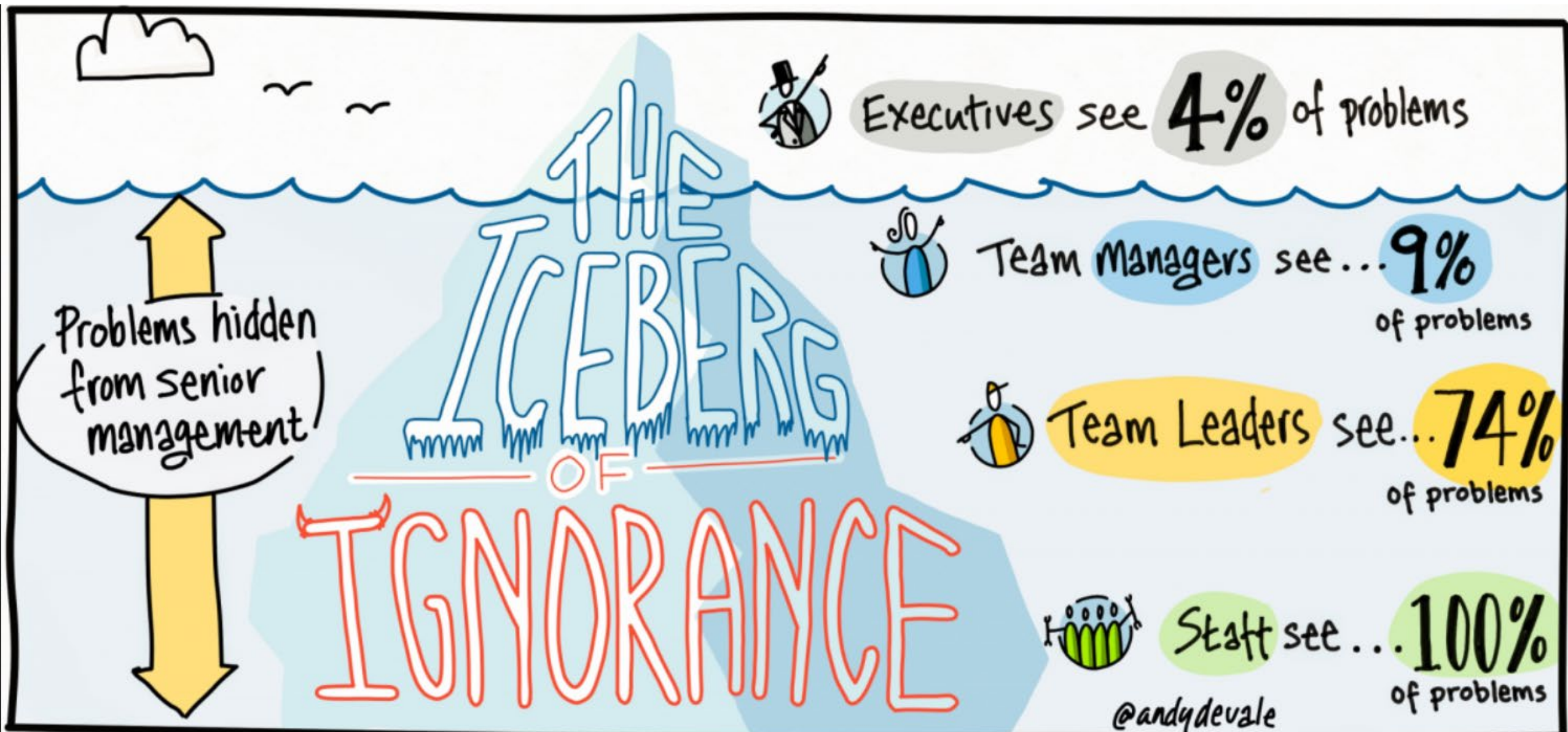
PYRAMID OF OCCURRENCE

Understand, that for every:

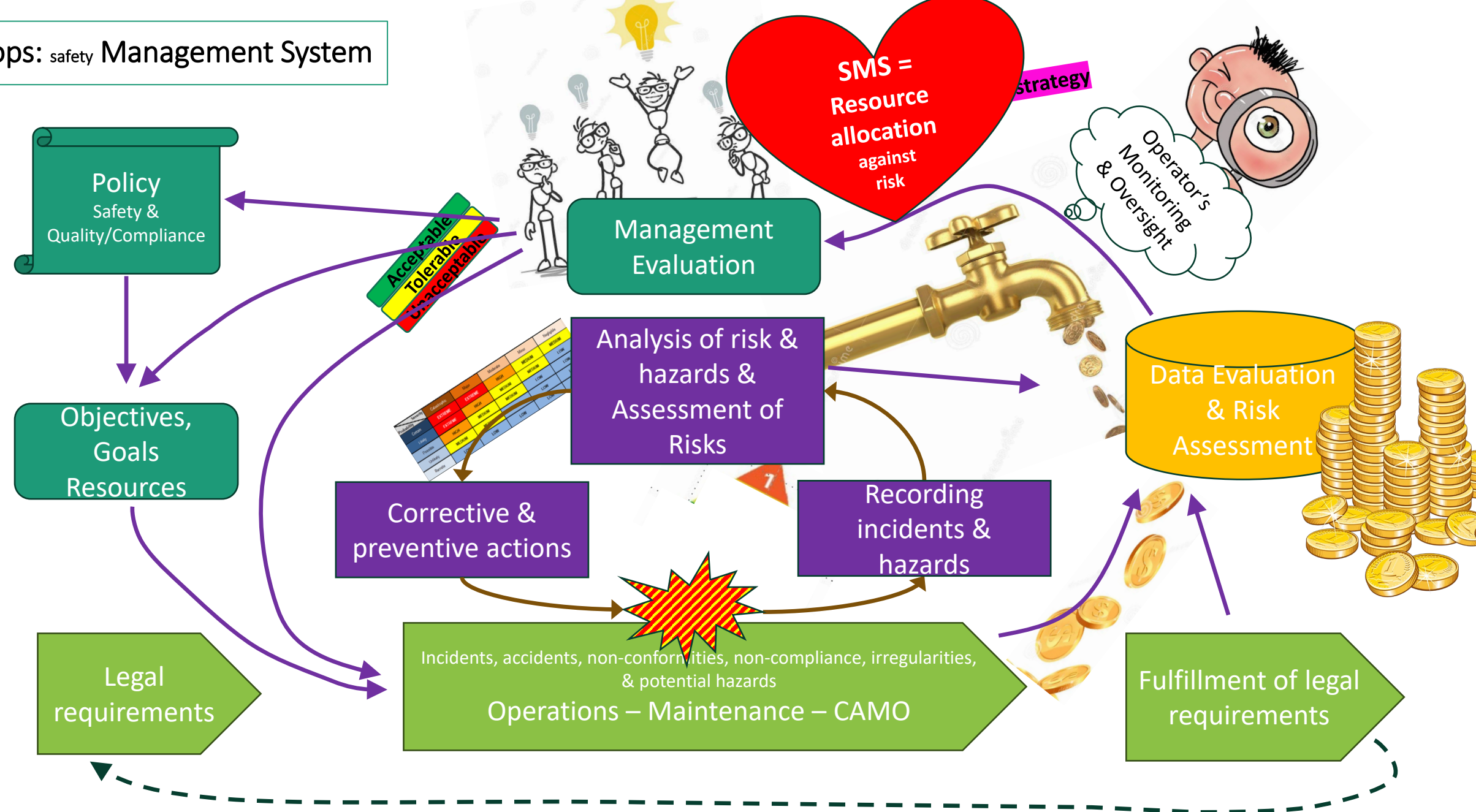
- 1 serious incident there are
- 59 minor incidents, and
- 600 conditions that lead up to it

often reported
<- mostly unreported

The other Berg...

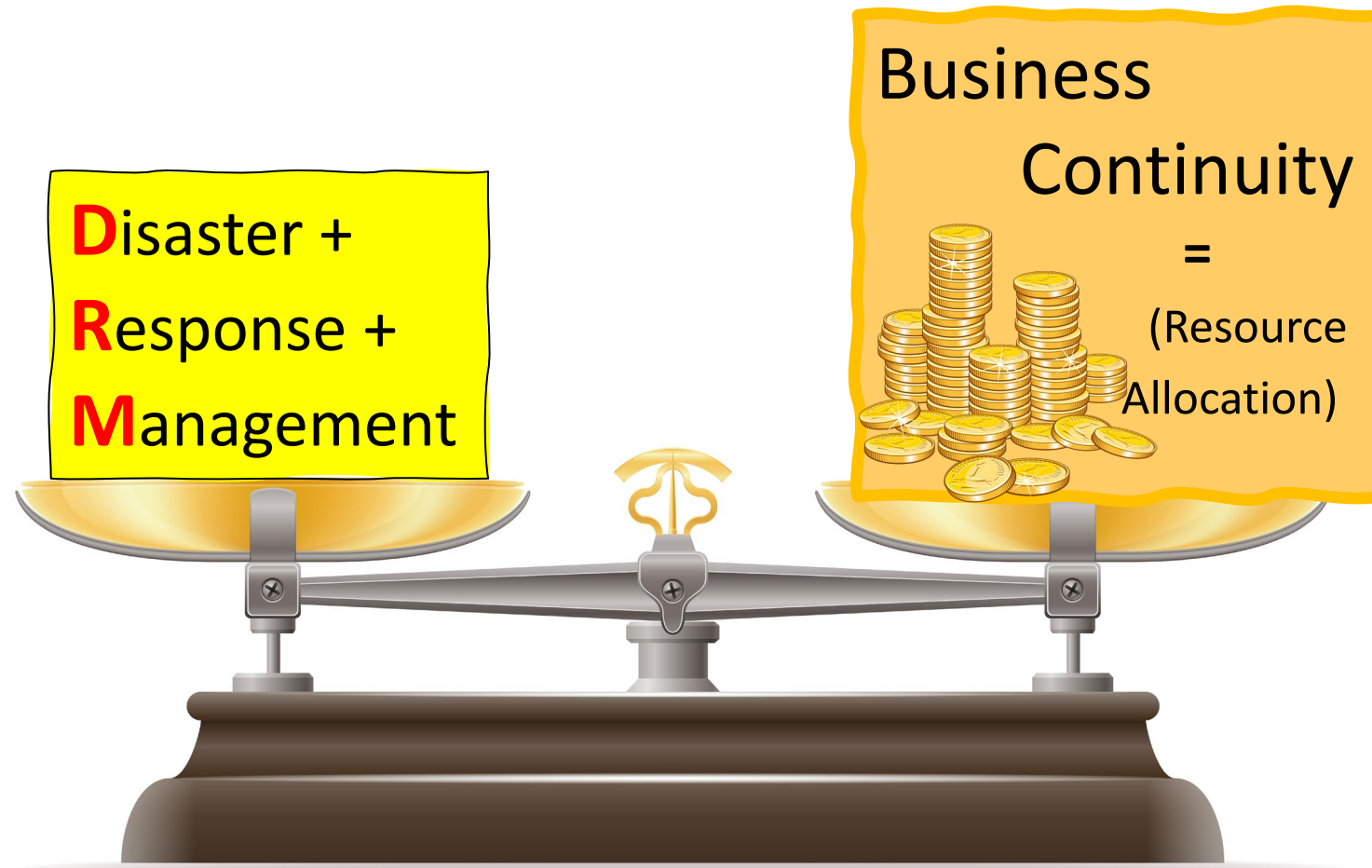


3 Loops: safety Management System



Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”



The connection of SMS and Crisis/Emergency

- Safety & Crisis Emergency are distinct but also interdependent...
→ do you agree?
- (I hope you agree...) How would you define the interdependence? Come up with 2 sentence

→ No effective safety program stops at identifying risks and controls. It must also establish what to do when those safety controls fail. In return, an emergency response's learning outcomes must contribute to the organization's understanding of risks, safety gaps, operational constraints, and oversights.

Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

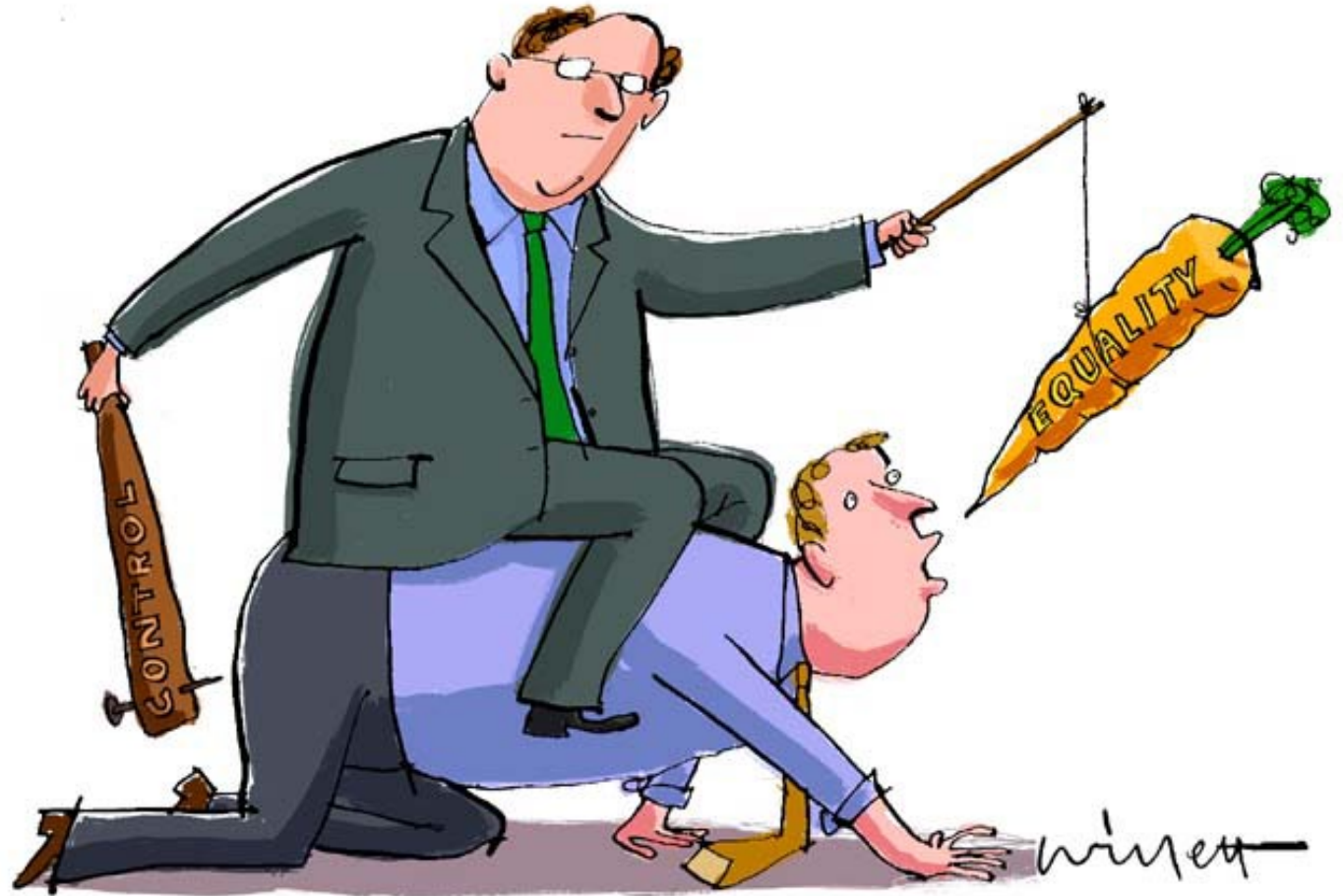
- Tools will be useful if we understand:
 - ➔ What our build-objective is
 - ➔ “Due Diligence”
 - ➔ Business Continuity



Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

- My observation:
 - People don't run away
 - We jump in and “do”
 - Rarely do we stop and think:
➔ How did we do?



Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

- It assumes at least 3 things...
 - Disaster
 - Rapid onset for a population segment
 - Slow onset and the realization causes distress
 - Response
 - The government does not know what to do... is overwhelmed
 - The responding agencies are out of their league
 - Management
 - There are not enough hours, people, resources to manage the response

Disaster Response Management – DRM

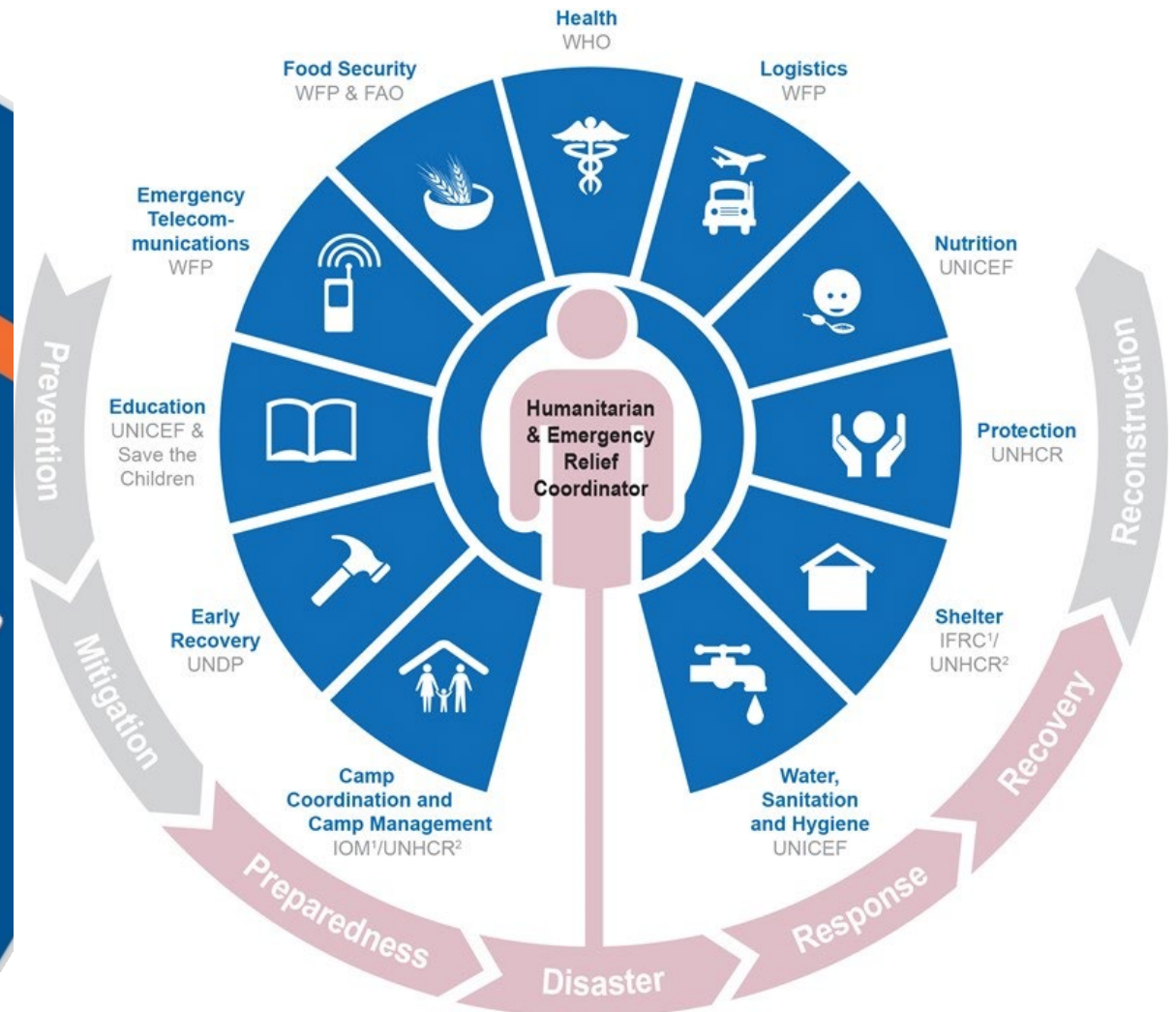
“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

- It also strikes me... ideally there are a few key concepts that lend themselves well for DRM:
 - Preparedness
 - Strategy (knowing what you want and are able)
 - Resilience
 - (Extra) capacity
- I think we are talking about: Pre-disaster planning for post-disaster recovery (in the context of “normal” humanitarian response flying).

Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

Sendai Framework
for Disaster Risk Reduction
2015 - 2030





- UNDRR

- Prevention – Mitigation – Preparedness

- **Prospective DRM:** avoid development of new or increased disaster risks. Focus on disaster risks that may develop in future if disaster risk reduction policies are not put in place. E.g. Better land-use planning or disaster-resistant water supply systems.
 - **Corrective DRM:** remove or reduce disaster risks which are already present & which need to be managed & reduced now. E.g. Retrofitting of critical infrastructure. Relocation of exposed populations or assets.

- Residual Risk Management

- **Compensatory DRM:** strengthen social & economic resilience of individuals & societies in the face of residual risk that cannot be effectively reduced. They include preparedness, response and recovery activities, but also a mix of different financing instruments, such as national contingency funds, contingent credit, insurance & reinsurance & social safety nets.

Disaster Response Management – DRM

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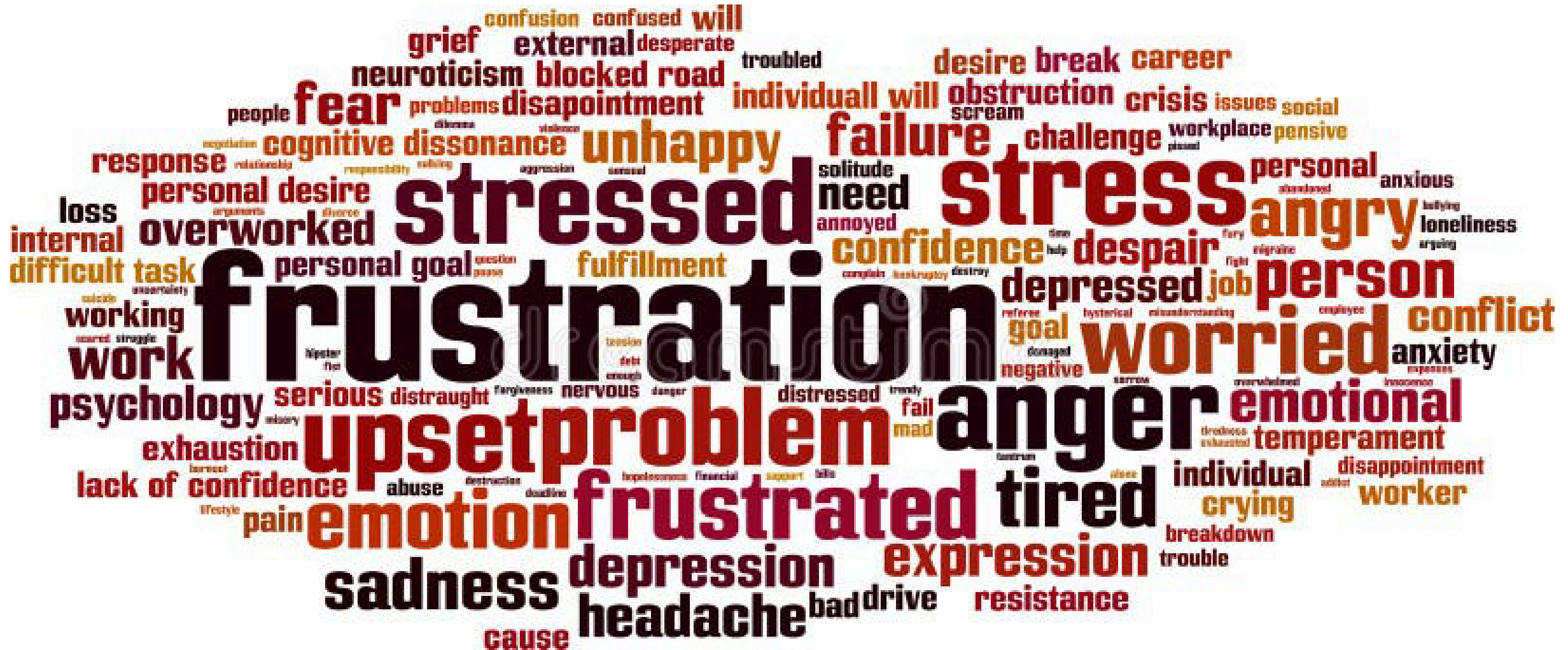


Disaster Response Management – DRM

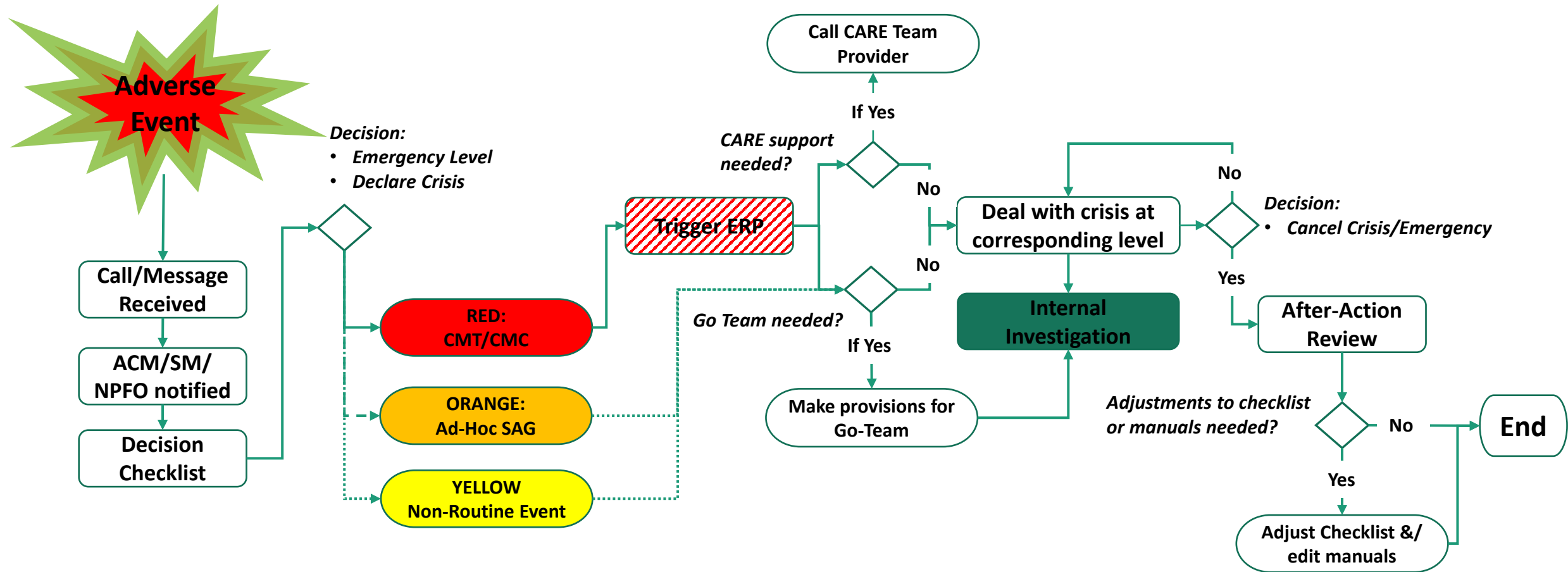
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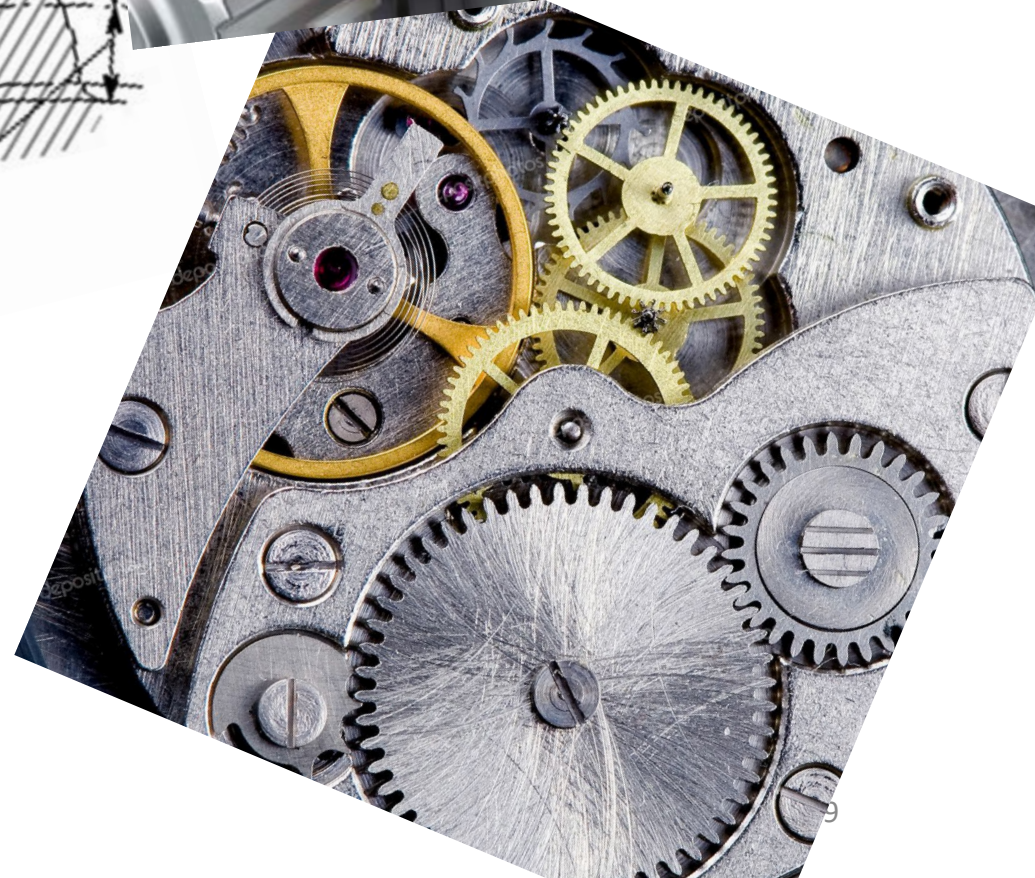
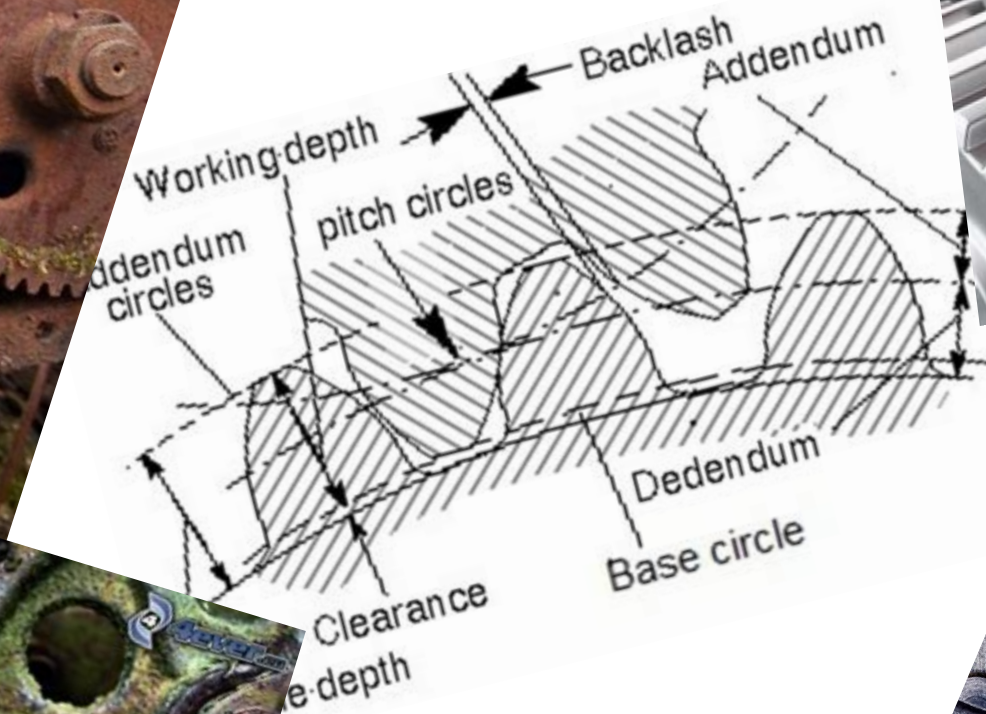
- DRR and “Classical” DRM model is fine...
- ➔ however... as aviation organizations we sit on top, underneath, on the side... somewhere... with our requirements...

"Crisis/Disaster Management" – "Disaster & Emergency Preparedness"



DRM / ERP – Process (embedded crisis)







Theory to practice... (...don't learn safety by accident)

- “Watch your thoughts, they become your words

→ Watch your words and they become your actions

→ Watch your actions and they become your habits

→ Watch your habits and they become your character

→ Watch your character and it becomes your destiny

Lao Tzu

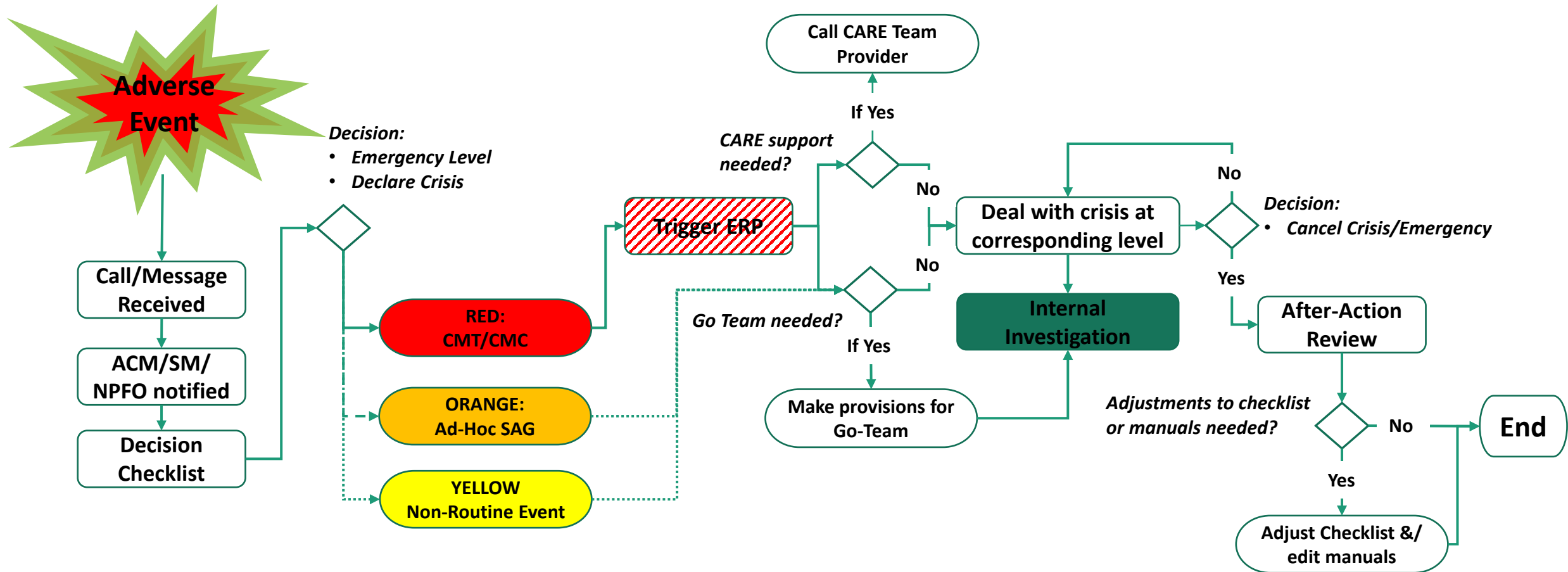
Moving along...



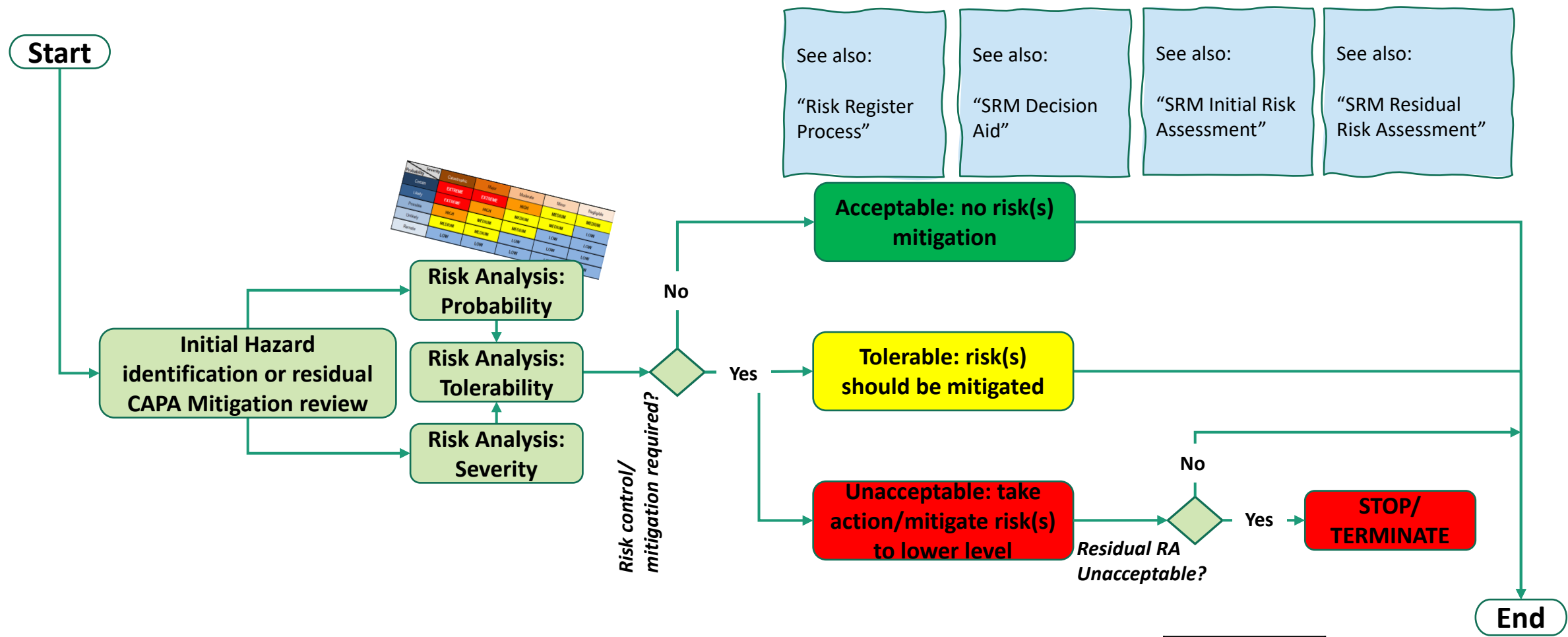
Value of output of this exercise...?

- Identification of existing fences and their effectiveness
- Brainstorming of possible new preventions and mitigations

DRM / ERP – Process (embedded crisis)



Hazard Identification & Risk Management



AE (or PH)
Responsible (PH)
S (or SQC)

A little terminology:

- **Threat:** events or errors beyond the influence of an operational person, which increase operational complexity and should be managed to maintain the safety margin.
- **Consequence:** actual or potential outcome or impact of a hazard or event:
 - there can be more than one consequence of one event
 - consequences can be positive or negative
 - consequences can be expressed qualitatively or quantitatively
 - consequences are considered in relation to the achievement of objectives.
- **Risk Mitigation:** the process of incorporating defenses, preventive controls, or recovery measures to lower the severity or likelihood of a hazard's projected consequence.
- **Hazard:** a source of potential harm. A condition or an object with the potential to cause or contribute to an aircraft incident or accident.
- **Latent conditions:** existing conditions in the system that can be triggered by an event or a set of events whose adverse consequences may lie dormant.

Workshop – Investigation Tools

- Defining the problem: Impact Statement
 - Helps to focus and create **synopsis** of event
 - Helps to distance ourselves and create **objectivity** and **buy-in**

Impact Statement

What: Poorly executed / absent C/DRM-ERP

When:

Where:

Who:

(Potential) Impact on:

Safety:

Reputation:

Production:

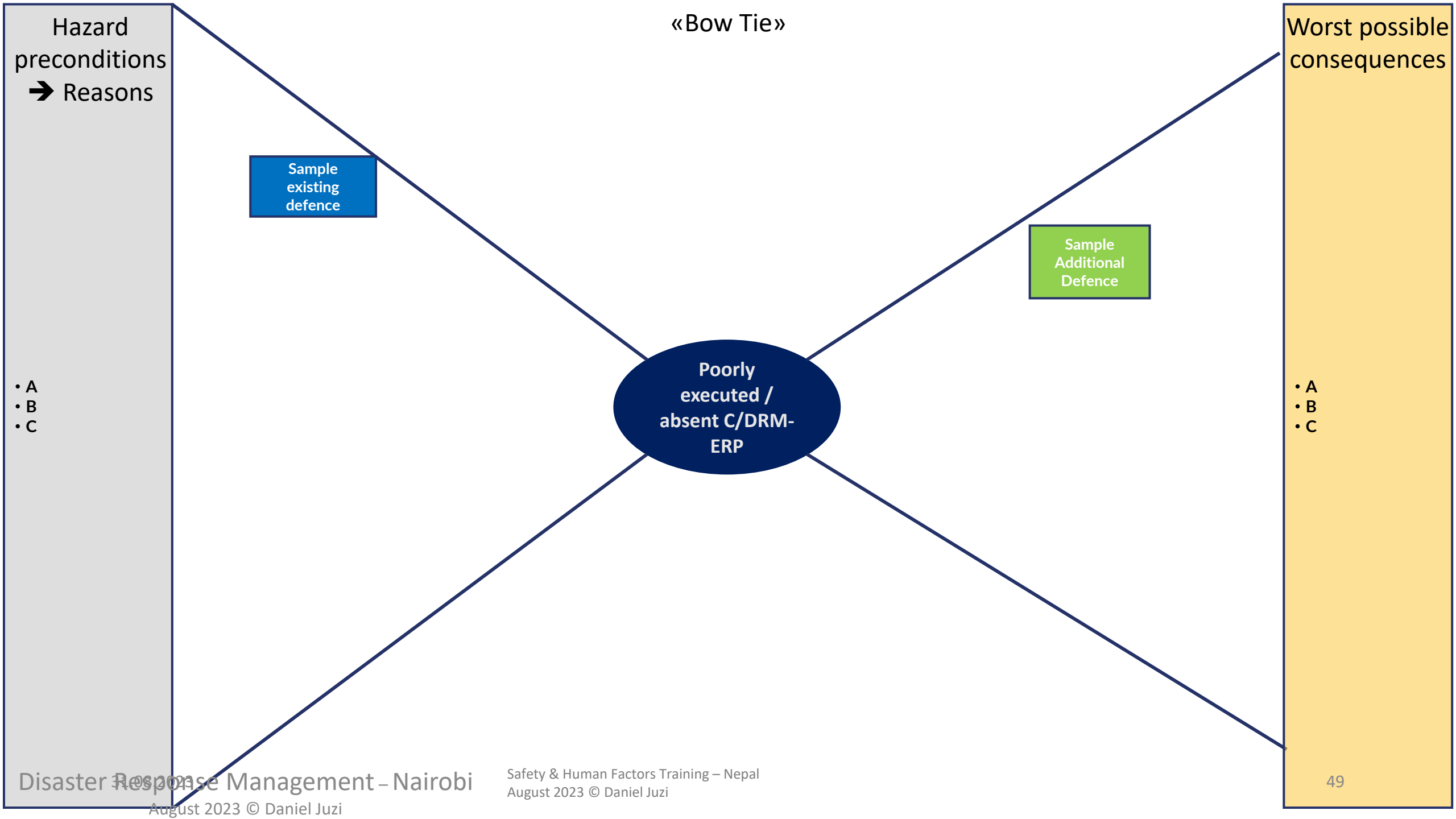
Maintenance:

Quality/Compliance:

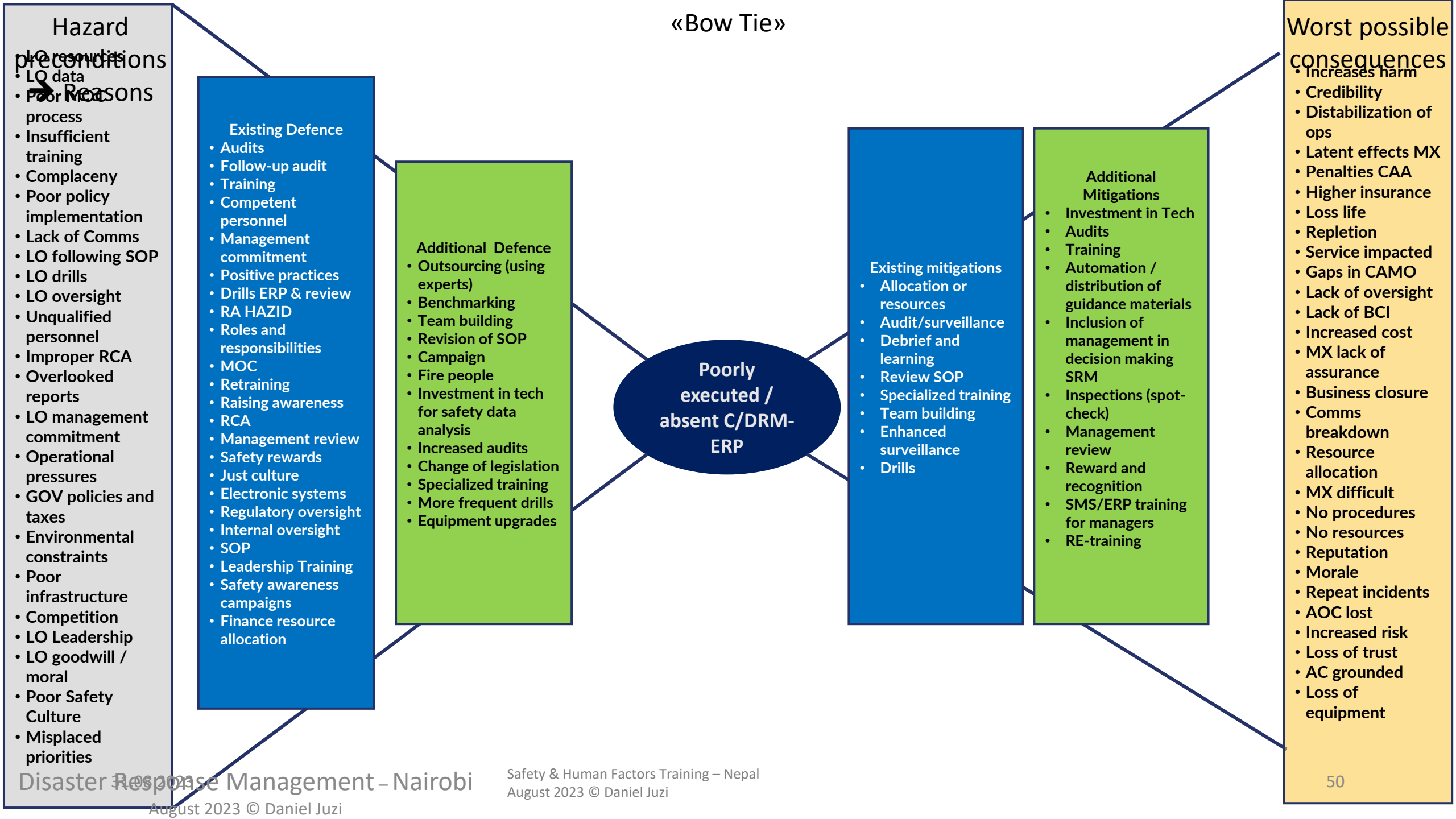
Financial:



«Bow Tie»

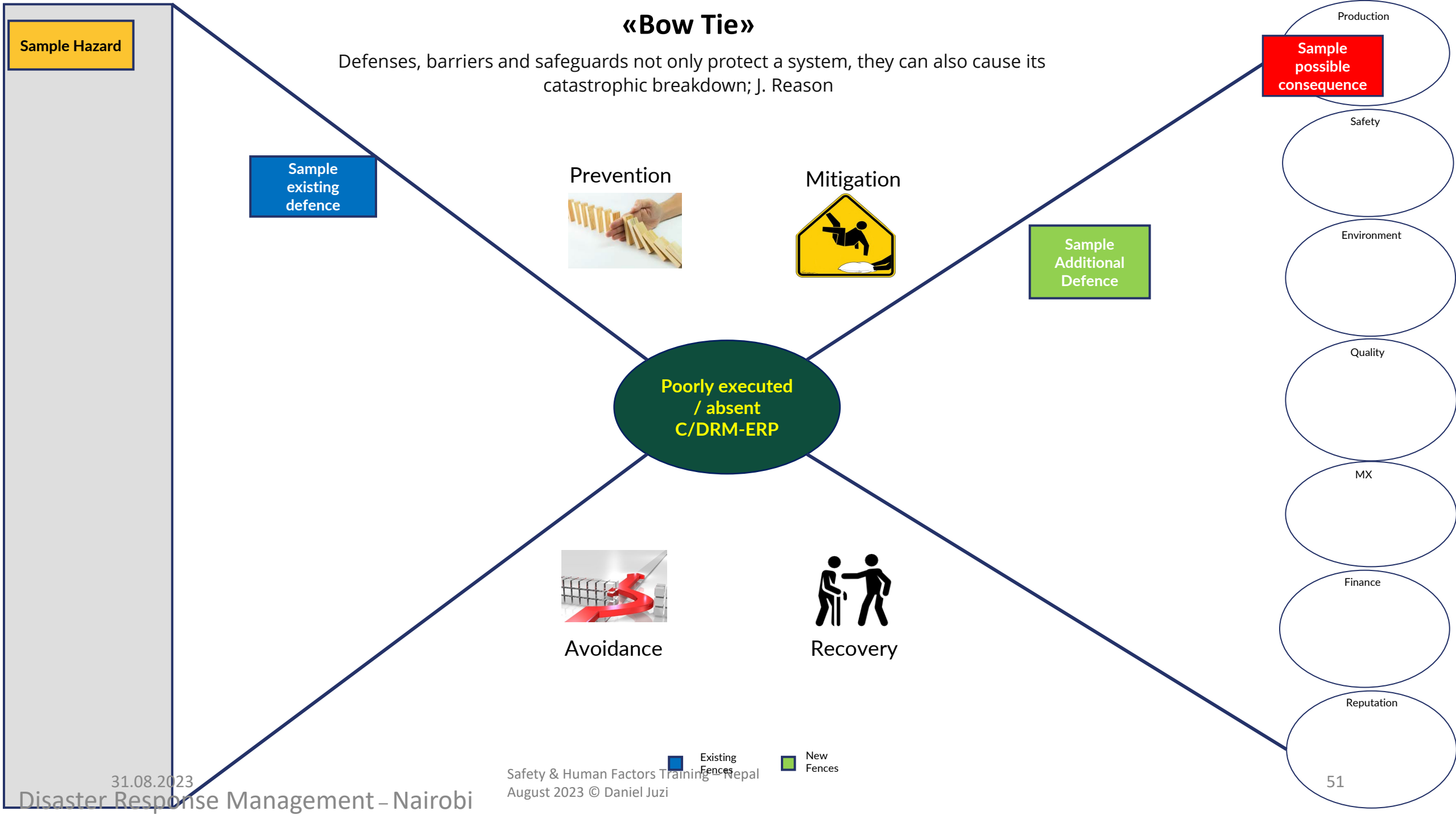


«Bow Tie»



«Bow Tie»

Defenses, barriers and safeguards not only protect a system, they can also cause its catastrophic breakdown; J. Reason



Sample Hazard

Sample existing defence

Prevention



Mitigation



Sample Additional Defence

Sample possible consequence

Production

Safety

Environment

Quality

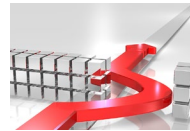
MX

Finance

Reputation

51

Poorly executed / absent C/DRM-ERP



Avoidance



Recovery

Existing Fences
New Fences

Impact statement

What **consequences** could a poor reporting culture have on a company?

- Think about the consequences this would have
- Think about the reasons (cause) this could be
- How could we prevent (avoid) this from happening?
(Existing fences / New Fences)
- What could we do to mitigate (recover) from this
happening? (Existing fences / New Fences)

Value of output of this exercise...?

- Identification of existing fences and their effectiveness
- Brainstorming of possible new preventions and mitigations
- What did we learn?

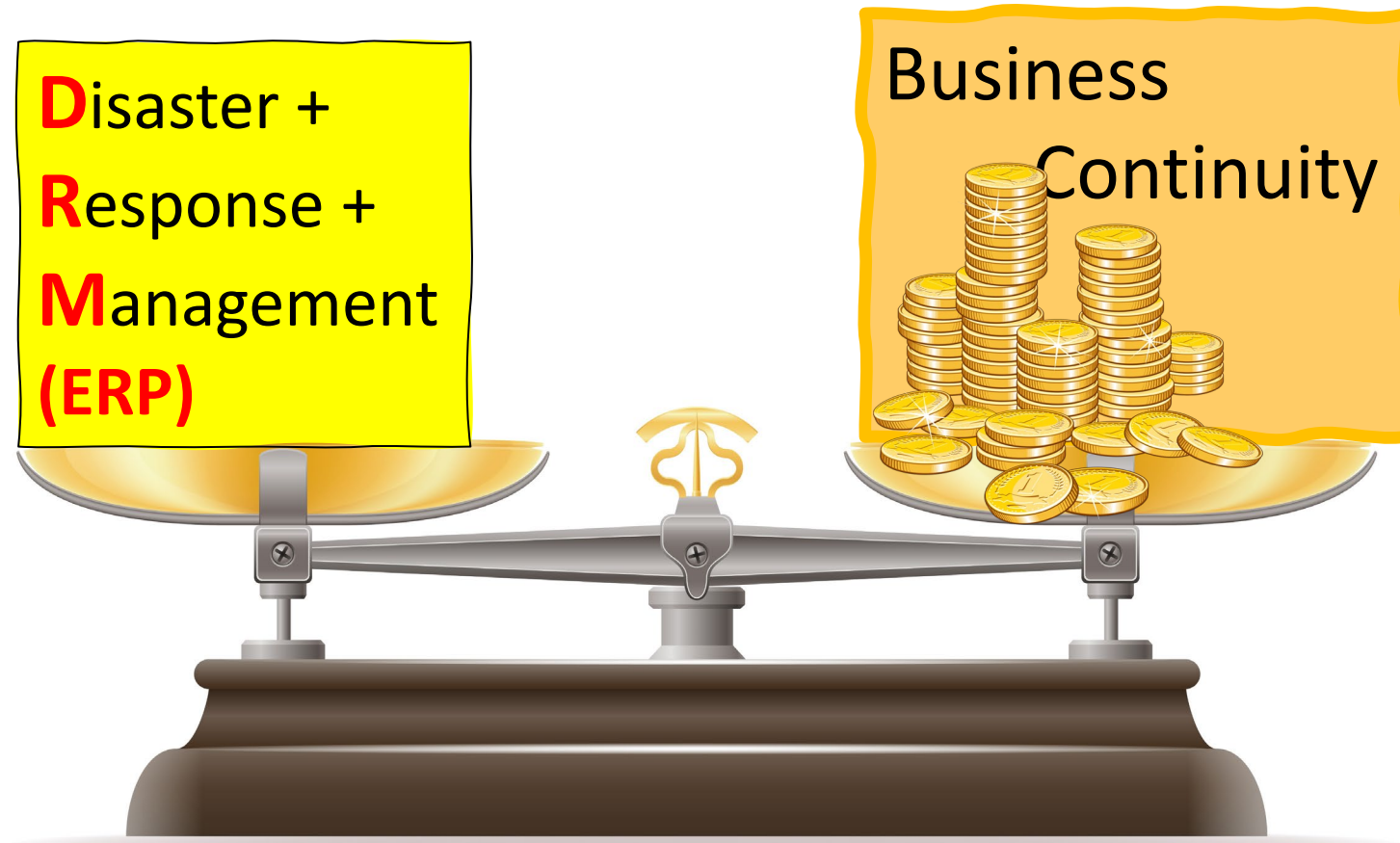
Why lessons learned...?

- Life can only be understood backwards; but it must be lived forwards.

Soren Kierkegaard

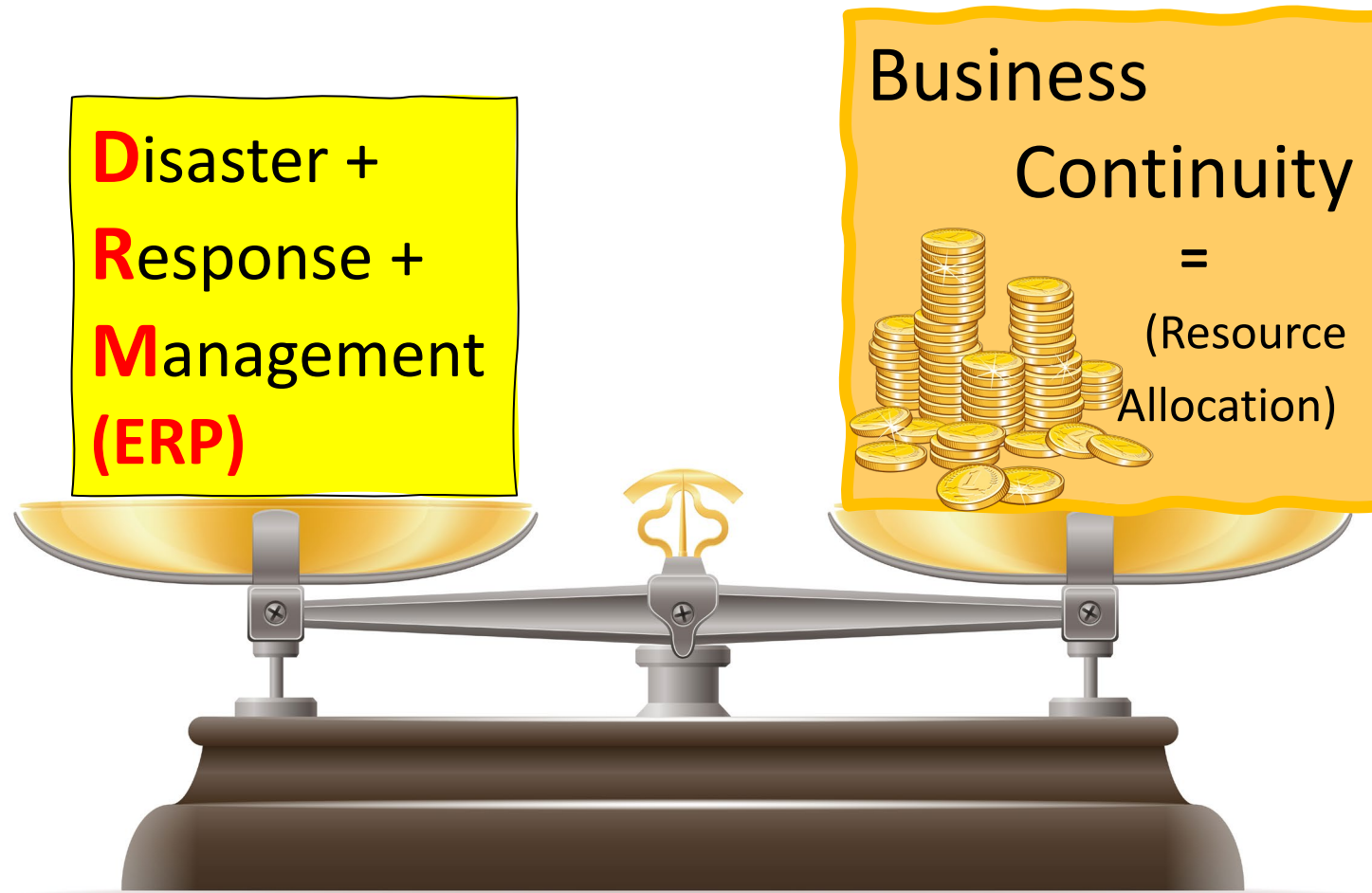
Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”



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Disaster Response Management – DRM

“Crisis/Disaster Management” – “Disaster & Emergency Preparedness”

- Need to simply break down “Doing Crisis Management” (C/DRM – ERP) into easy useful elements



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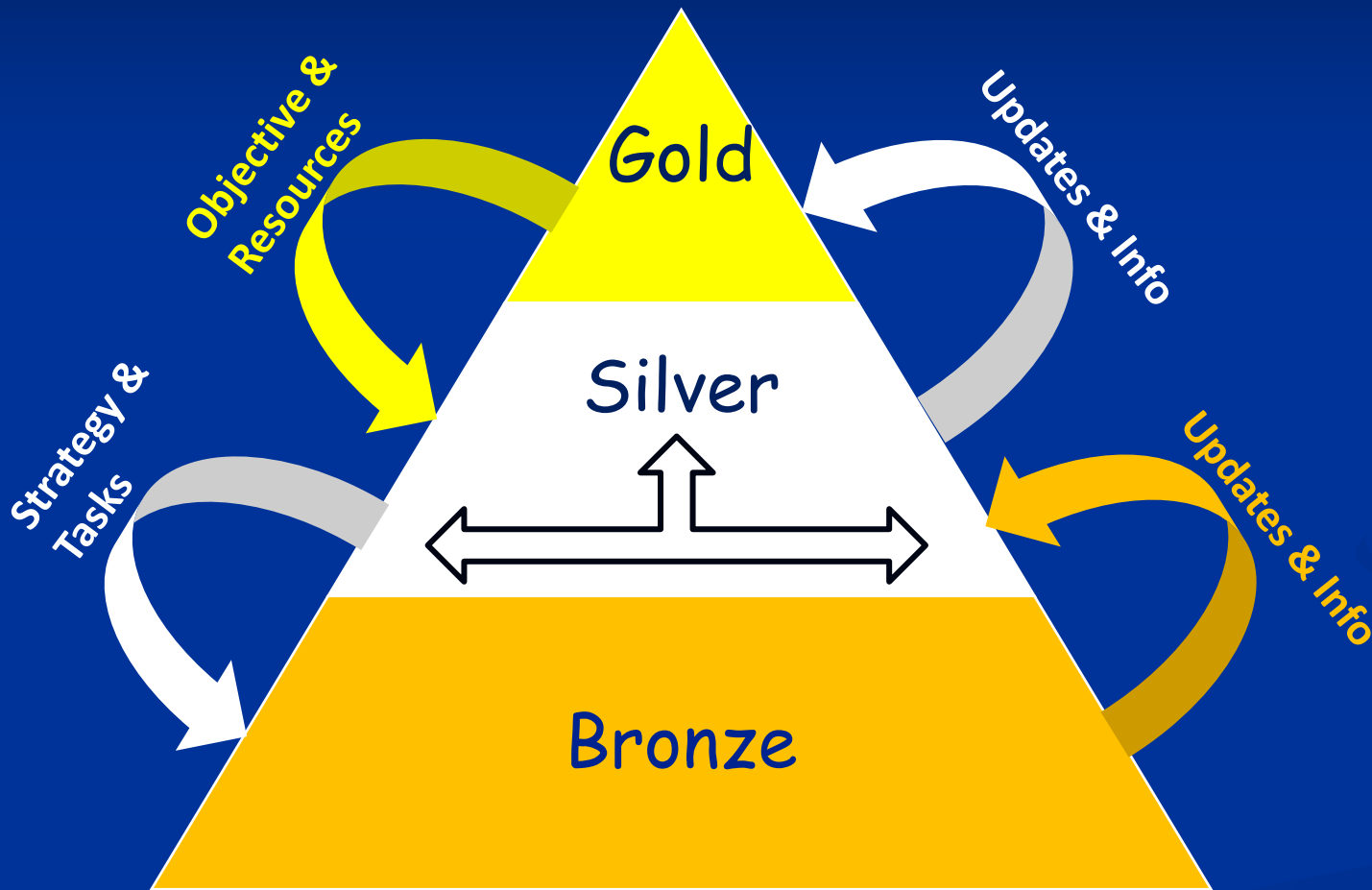


1. Manage Crisis
 - CMT (composition & structure)
 - ERP, IRH
 - “Tools” (**communication**, -& backup, secure location, food & drink, white boards, clean accounts,)
 - Continuity management of CMT
2. People (get this right → good; get this wrong... → **BAD**)
 - Who all is affected (actor mapping & relationships)
3. Media (**= the way the “world” perceives you** – your actor map)
 - Canned media statements
 - Internal communication
 - Friends & family, etc.
4. Business Continuity (usually not with CMT as far as business or organization; however... business continuity for CMT...)

• Crisis Management:

- Management:
 - Guidance, knowledge, support, COMMUNICATIONS, Team Skill Resources Coordinator (leader)
 - CMT (composition & structure)
 - ERP, IRH
 - “Tools” (communication, -& backup, secure location, food & drink, white boards, clean accounts,)
 - Continuity management of CMT
- People: (get this right → good; get this wrong... → BAD)
 - Members in crisis (initially not known if dead), team members, employees, family members (have the right to info), friends (have the right to info), members of the public (might want to provide info)
 - Who all is affected (actor mapping & relationships)
- Media (in the widest sense): «the way the world perceives you»
 - Who is this world? Friends & family Community Coworkers The Media (don't be scared of them – use them)
 - = the way the “world” perceives you” – your actor map
 - Canned media statements
 - Internal communication
 - Friends & family, etc.
 - External statements (press)
- Business Continuity – we understand now... = resource allocation in the big picture of ops

Gold/Silber/Bronze Principle – Crisis Leadership - Management



1. Gold Members:

- Set objective / criteria
- Decide on resources (allocation)
➔ **Business Continuity overview**
- ...SRM happens here...

2. Silver Members:

- Decides on Tactic
- Defines Strategy / accountable to Gold
- ... he/she is CMT leader...

3. Bronze Members:

- Carries out onsite tasks
- Identifies show stoppers
- Works in real-time / accountable to Silver



Tool to be used today: «3 Aspect Crisis Managment»

- Leadership/Management
 - People (actor mapping/affected people)
 - Media – in the widest sense
-
- Business Continuity

Pick a scenario – also new one is fine, here some ideas

- AC accident in SSD
 - Showing up in Nepal not enough capacity and you need to charter in a local operator
 - Engine needs changed and you can only source one in 2 weeks
 - Crew member contracts Ebola
 - You have received an unconfirmed report that one of your aircraft have been shot down over E-DRC
 - A massive cyclone is approaching Madagascar and Mozambique. You know the cluster system will be activated and have air assets you would like to offer
- **Don't rush:**
 - Define: gold objective, think about silver strategy using M-P-M-Bci
 - Actor Map to project
 - Media (internal/external considerations)
 - Internal statement after 1hr
 - External (press) statement after 1hr

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When:

Where:

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(Potential) Impact on:

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Financial:

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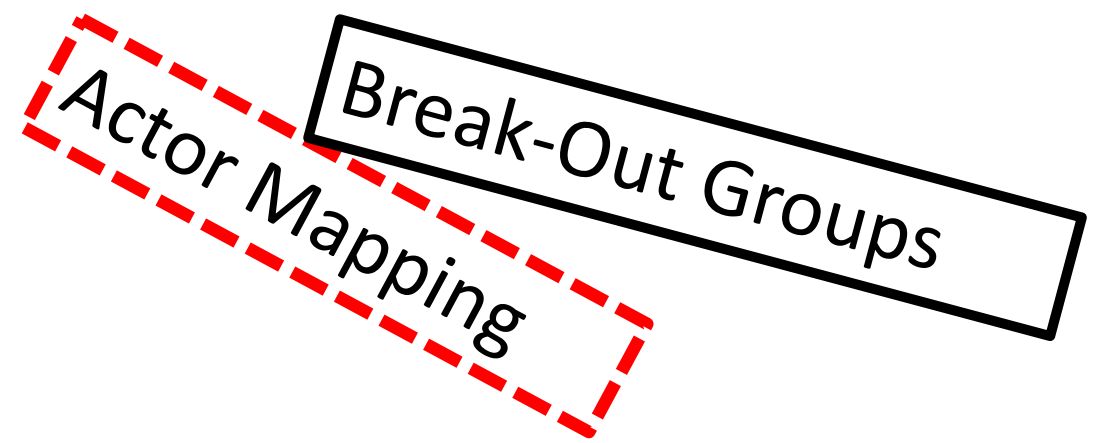
«Rewinding...»



- Defining the crisis right:
 - What did you name the crisis/disaster/emergency for your organization?
 - What exactly is/was the crisis/disaster/emergency for you?
 - What exactly is/was the crisis/disaster/emergency for your organization?

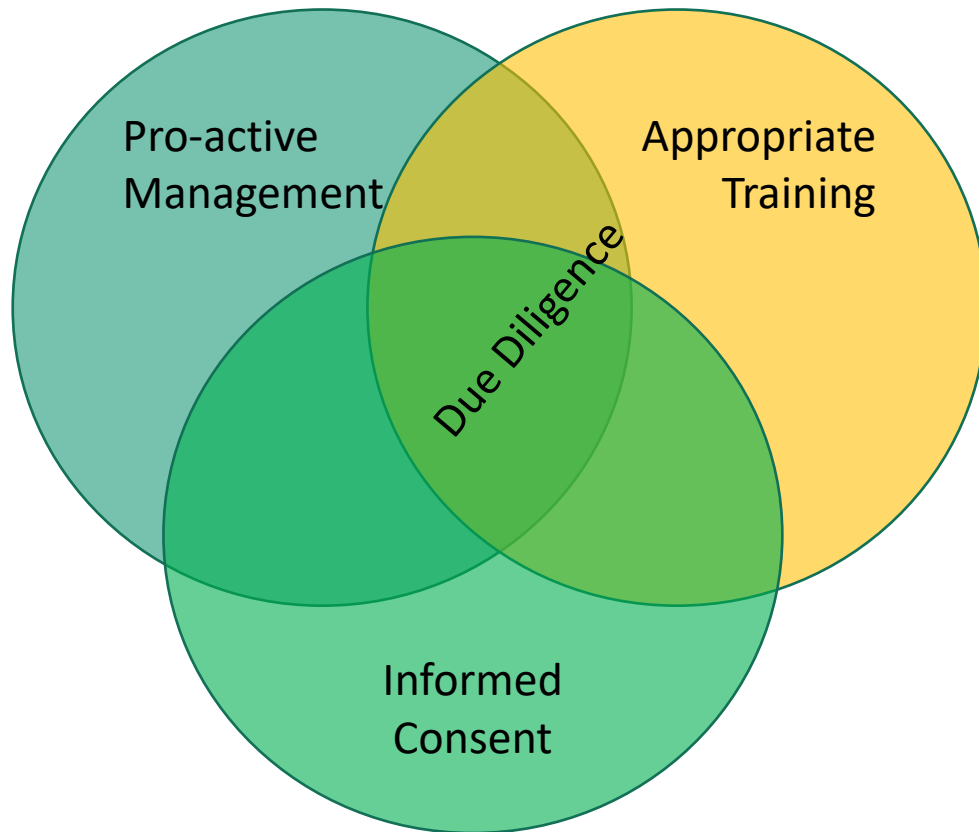
People:

(if possible... please don't use hindsight/outcome bias)



- Actor mapping:
- Who are (really) the actors or affected people in this crisis for your organization?

Due Diligence in context of C/DRM - ERP



1. Pro-Active Security Management
 - Documented Processes
 - Information gathering and event tracking
 - Risk Assessment (threat based)
 - Active information dissemination
2. Appropriate Training
 - E.g. HEAT (Hostile Environment Awareness Training) appropriate to possible threats
3. Informed Consent
 - Individuals need understand and accept established procedures and adapt posture appropriate to threats

➔ ALL 3 points together give you “Due Diligence”

