LEARNING EVENT

DRR and CCA Basics for Mainstreaming

SWISS NGO DRR PLATFORM

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Content

1. Disasters – A threat to development
2. Definitions and Concepts
3. Measures – What can we do?
4. DRR and CCA in International Frameworks

10 things you should know about DRR

Watch this short movie from the Humanitarian Practice Network,
https://www.youtube.com/watch?v=y16aMLeh91Q

Disasters a threat to Development

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Recent Disaster Events

NEPAL EARTHQUAKE 2015

- Total Damage: $10 billion
- Fatalities: 8’964
- Injured: 21’952
- Homeless: 3.5 million
- Number affected: 8 million

© Plan

Recent Disaster Events

WESTERN BALKAN FLOOD 2014

- Total Damage: €3.3 billion
- Fatalities: 86
- Number affected: 30 million

© Caritas

Recent Disaster Events

TYPHOON HAIYAN PHILIPPINES 2013

- Total Damage: $2.86 billion
- Fatalities: 6’340
- Missing: 1’061
- Number Affected: 14 million

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Facts and figures

4.4

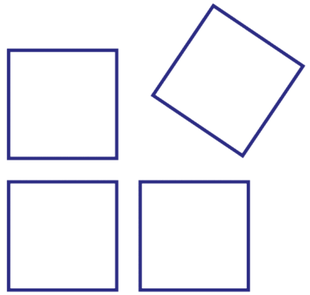
BILLION AFFECTED

Mainly by flood events. Equal to 64% of the world's population.

1.3

MILLION KILLED

Mainly by earth-quakes. This number is comparable to the number of passengers of 3125 jumbo jets.



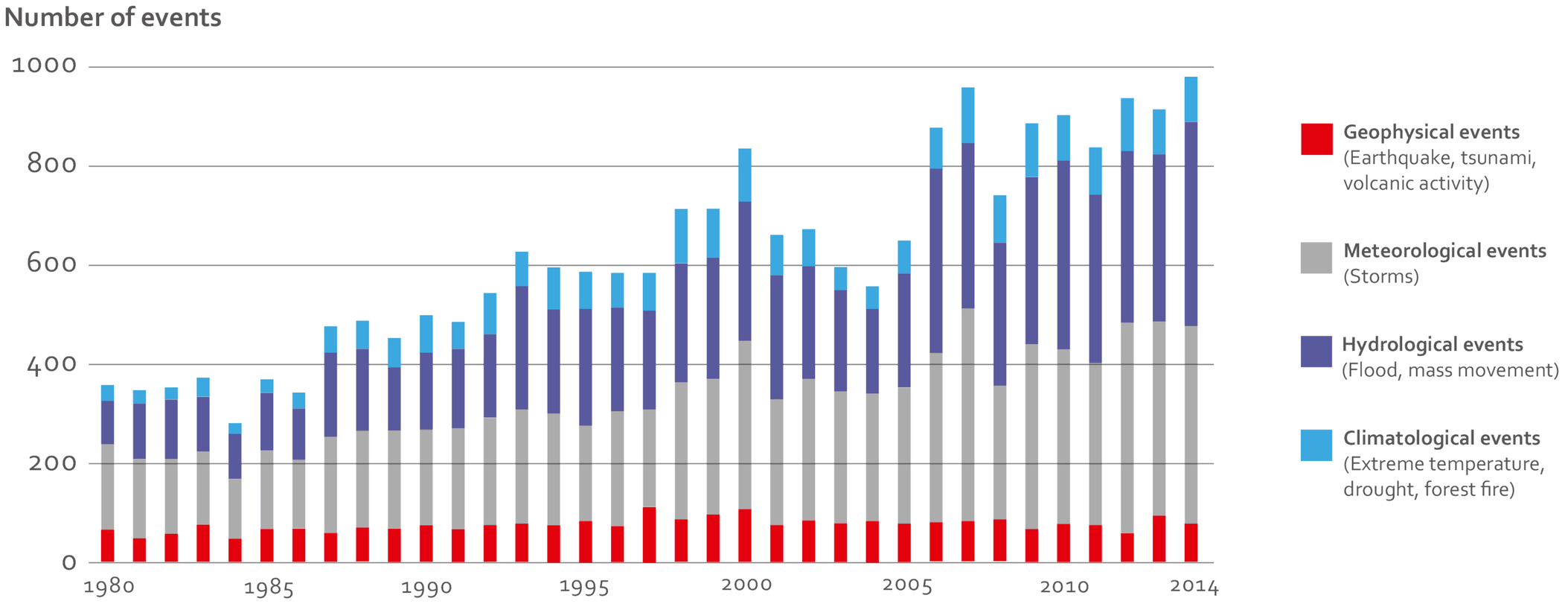
$ 2.0

TRILLION IN DAMAGES (USD)

Similar to 25 years of total Overseas Development Aid.

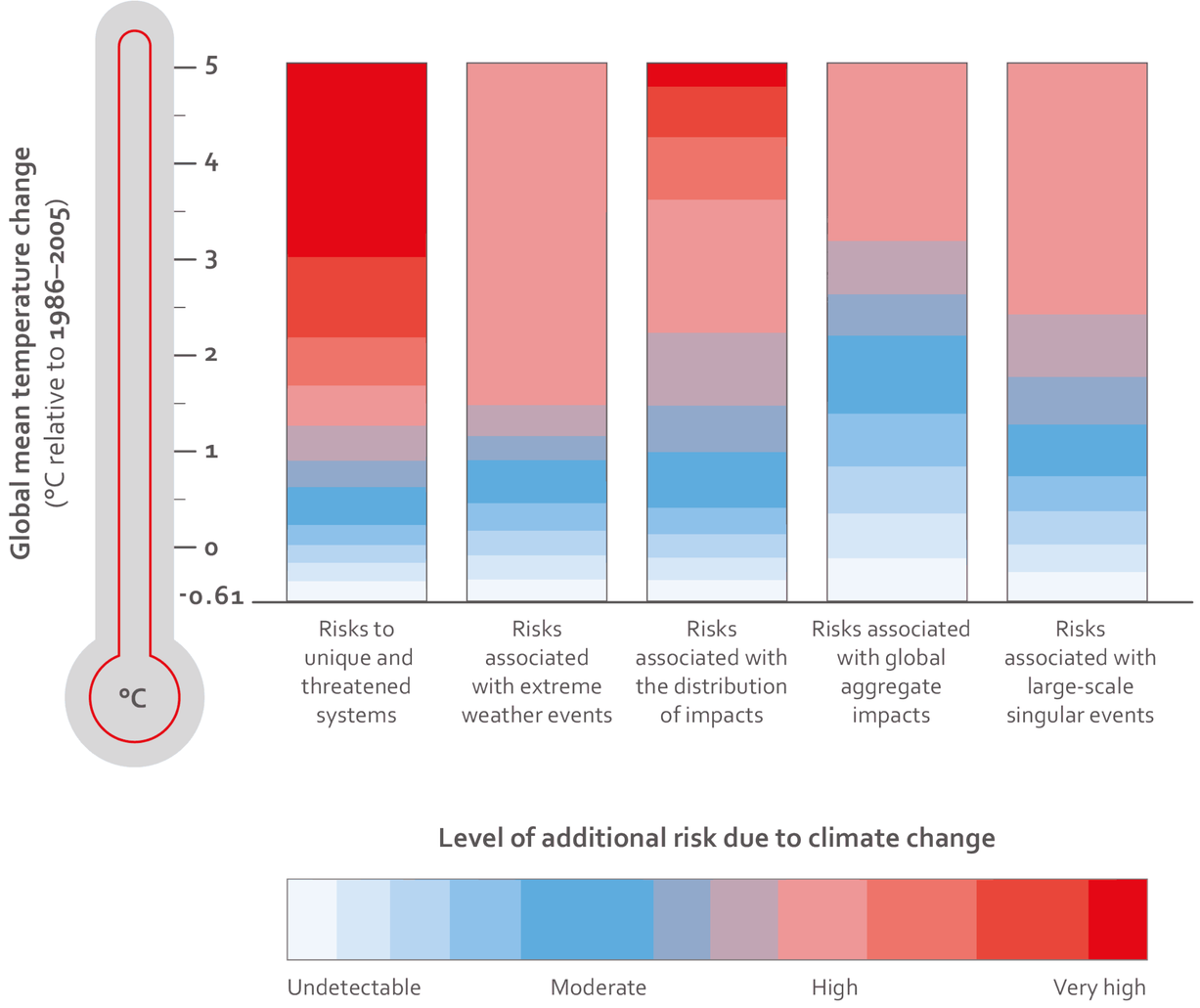
Facts and figures

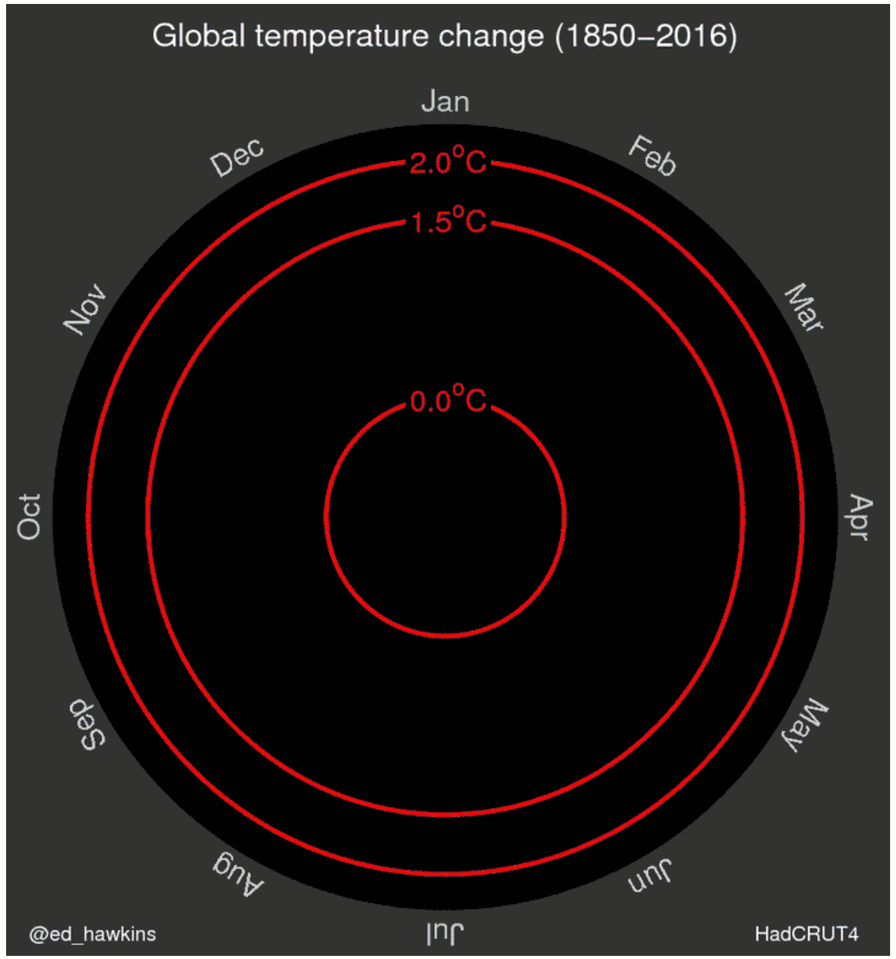
Loss events worldwide 1980–2014



Source: 2015 Munchener Ruckversicherungs-Gesellschaft, Geo Risks Research, NatCatSERVICE – January 2015

Climate change and disaster risks

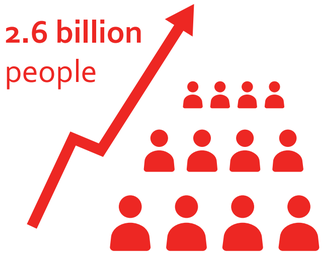




Climate change and disaster risks

- **Sea level rise** will cause the slow loss of land and increased flooding during tropical storms.
- **Heatwaves and extreme temperatures** will occur more often, will last longer and be harder to endure.
- **Droughts** will be longer and more extreme in many regions.
- **Extreme rainfall** will increase in many regions, causing disasters such as flooding and landslides and a shift in monsoon season.
- **Tropical storms** are expected to become more intense even though it is not possible to predict if there will be more tropical storms.

Increase of Exposure and Vulnerability



- Rapid urbanization leads to a concentration of population and assets
- Settlements are expanding in disaster-prone areas
- Inadequate land use planning, environmental degradation, poor infrastructure and poor risk governance are among the major drivers of vulnerability.
- Poor and developing countries are disproportionally affected by disasters

Why we have to act today

- Disasters and climate change impact on lives, livelihoods and economic development.
- People living in poor and developing countries bear the highest risk for disaster.
- Impacts of disasters and climate change set back and undermine development efforts.
- Climate Change is causing an increase in frequency and intensity of certain weather-related disaster events.
- Act now, save later – every dollar invested into Disaster Risk Reduction, 4 to 7 dollars can be saved in humanitarian response and rehabilitation

ACT Now, SAVE Later

Watch this short movie from the UN OCHA and UNDP,
https://www.youtube.com/watch?v=HhD85cQejTg

Definitions and Concepts

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Hazard

Hazard = A **potentially** damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

Examples:

Geophysical hazards: earthquake/tsunami, mass movement, volcanic eruption

Hydrological hazards: flood, landslide

Meteorological hazards: storm, cyclone, extreme temperature

Climatological hazards: drought, wildfire

Biological hazards: Epidemics, epizootics, pest

Technological hazards: technical accident, structural collapse, fire, explosion

Chemical/Radiological hazards: chemical/oil spill, radiological contamination, pollution

Exposure

Exposure = People, property, other assets or systems exposed to hazards.

Examples:

In areas with high population density in high-risk areas such as flood zones in Bangladesh, inhabitants frequently have their houses and assets exposed to the hazard of floods.

Vulnerability

Vulnerability **=** The **conditions** determined by physical, social, economic and environmental factors or processes, which **increase the susceptibility** of a community/individual to the impacts of hazards.

Examples:

Financial: lack of savings or access to credit

Physical: lack of protective infrastructure, adequate housing or inaccessible shelter

Social/human: lack of disaster awareness or lack of a support network due to marginalization or discrimination

Political: lack of policies and regulation

Environmental: degraded ecosystems

Disaster

Disaster **=** A serious disruption of the functioning of a community or a society due to *hazardous events* interacting with conditions of *vulnerability* and *exposure*, leading to widespread human, material, economic and environmental losses and impacts.

Examples:

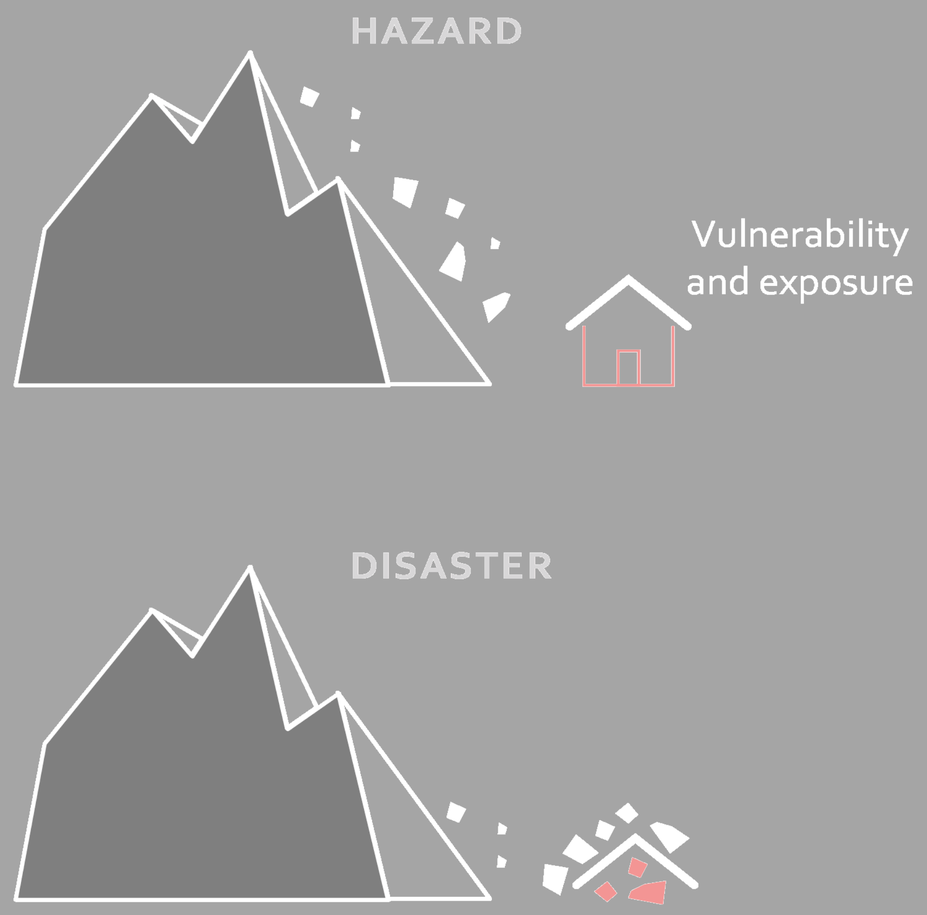
Geophysical disaster: Earthquake in Nepal in 2015

Hydrological disaster: Floods and landslides in Myanmar (2015)

Metereological disaster: Typhoon Hayan in the Philippines (2013), Tsunami in Indonesia (2004)

Climatological disasters: Drought in East Africa (2011)

Risk = Hazard x Vulnerability (x Exposure)



Risk

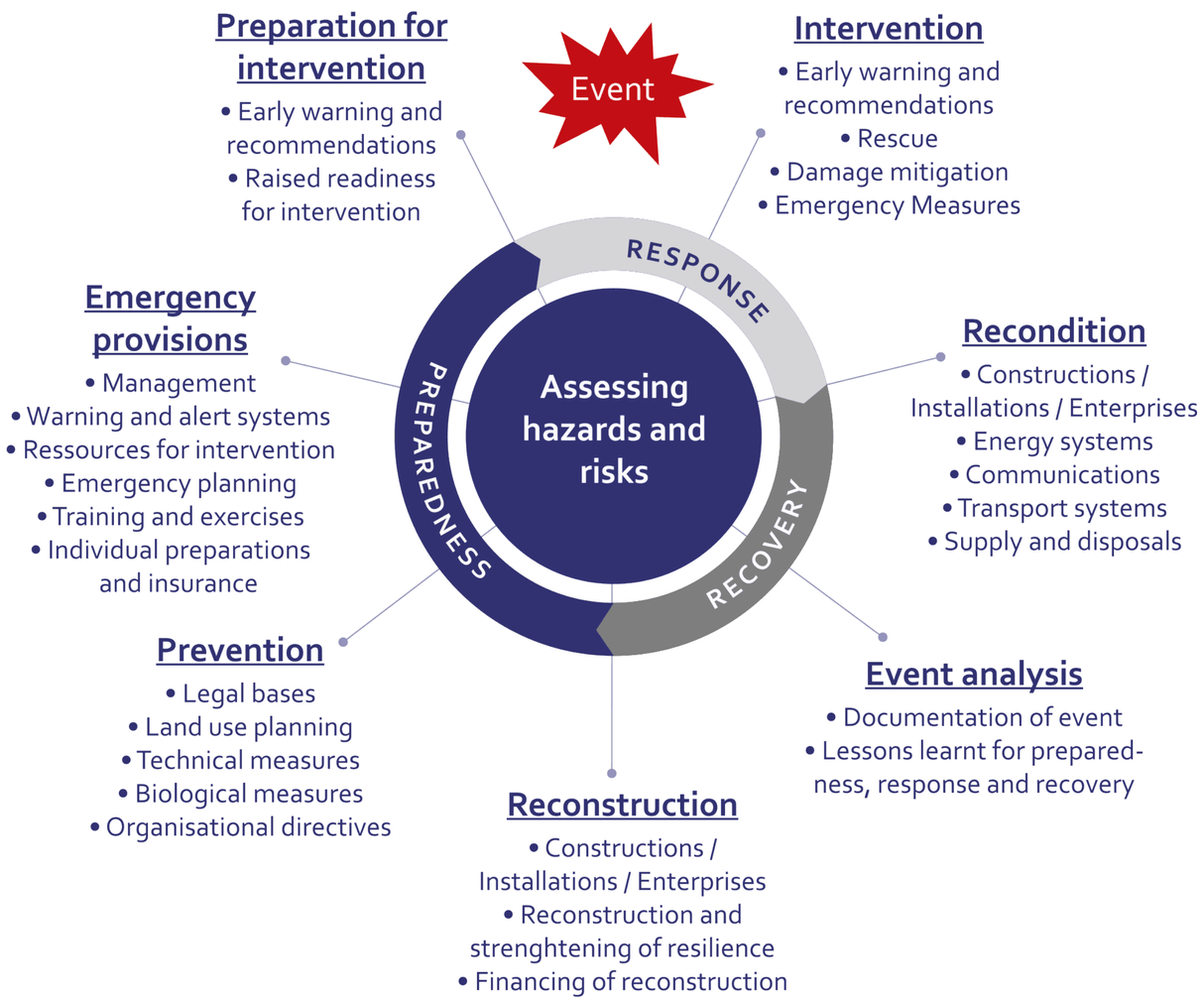
Disaster risks may be extensive or intensive:

- **Extensive risks** are low-severity, high-frequency disasters associated with highly localized hazards (recurring floods, landslides, storms or droughts characteristic of rural areas and urban margins with exposed and vulnerable communities).
- **Intensive risks** are high in severity and mid to low in frequency. They are mainly associated with major hazards (strong earthquakes, active volcanoes, heavy floods, tsunamis or major storms characteristic of large cities or densely populated areas with high levels of exposure and vulnerability).

Disaster Risk Reduction (DRR)

It is a **policy objective** that aims to prevent new disaster risk, to reduce existing disaster risk and to manage residual risk, all of which contributes to strengthening resilience (UNISDR 2015).

Disaster Management Cycle

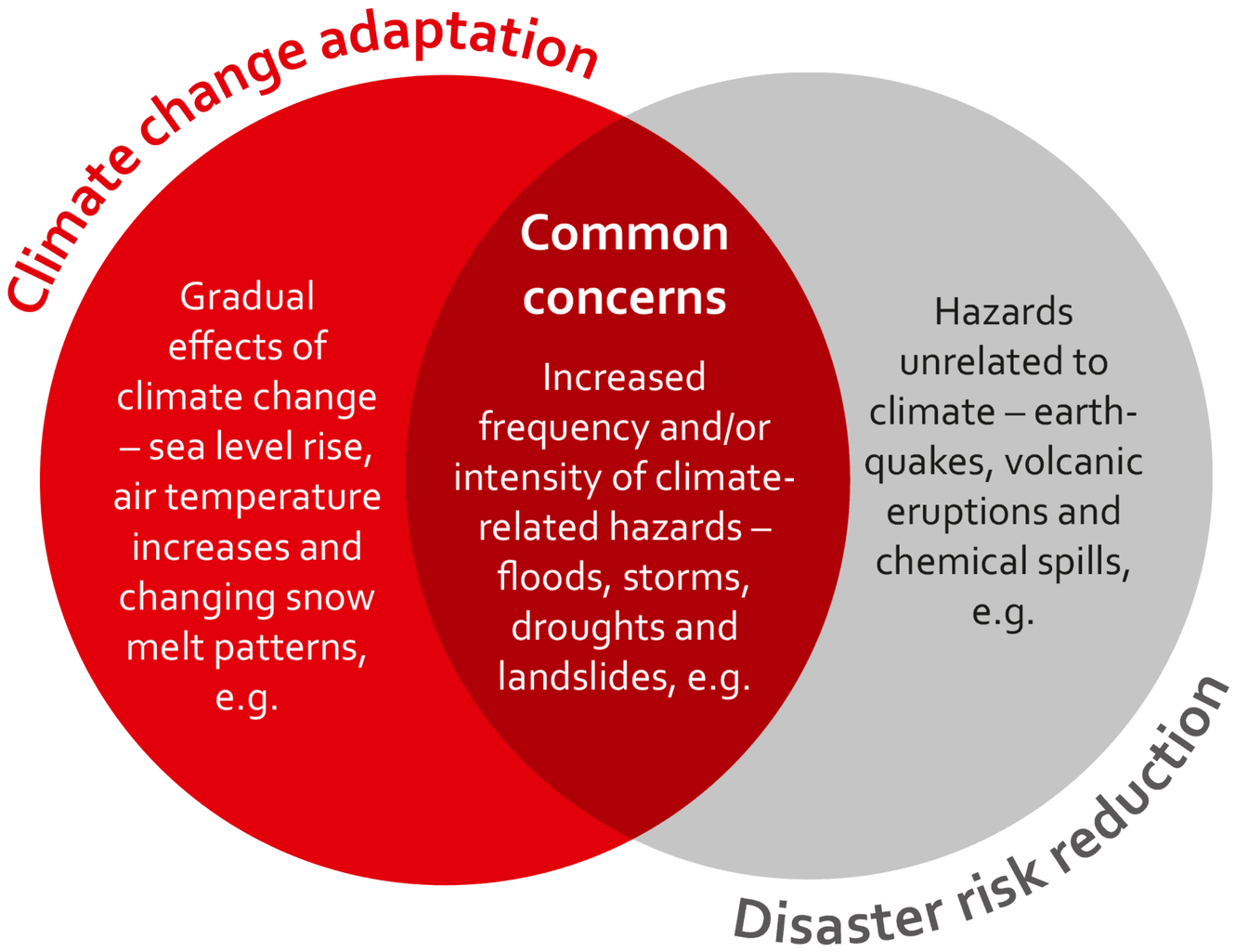


Model integrated risk management, Civil protection, Switzerland (FOCP 2001, revised in 2012)

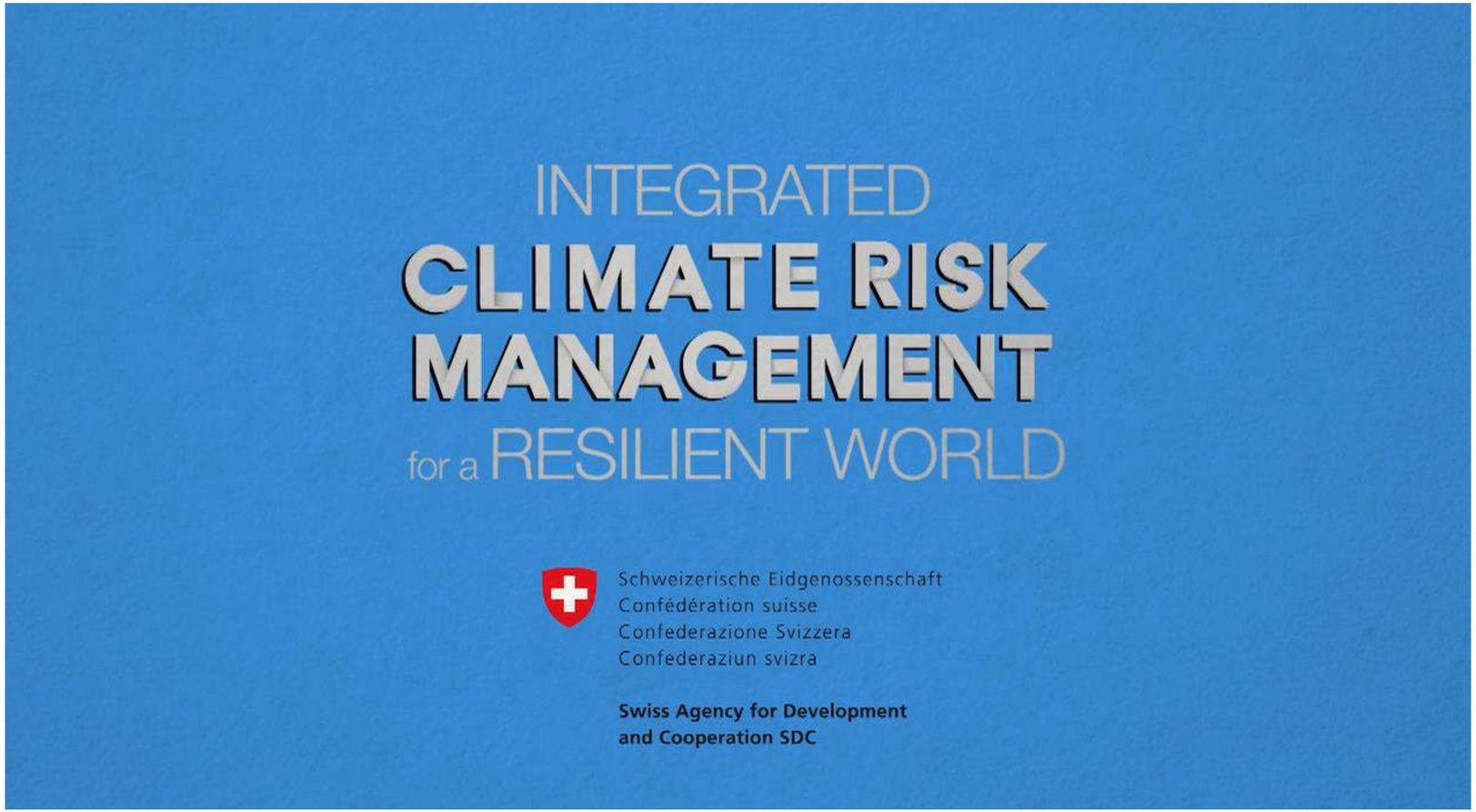
Climate Change Adaptation (CCA)

The process of **adjustment to actual or expected climate change** and its effects. In human systems, adaptation seeks to moderate or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects (UNISDR 2015).

Synergies between DRR and CCA



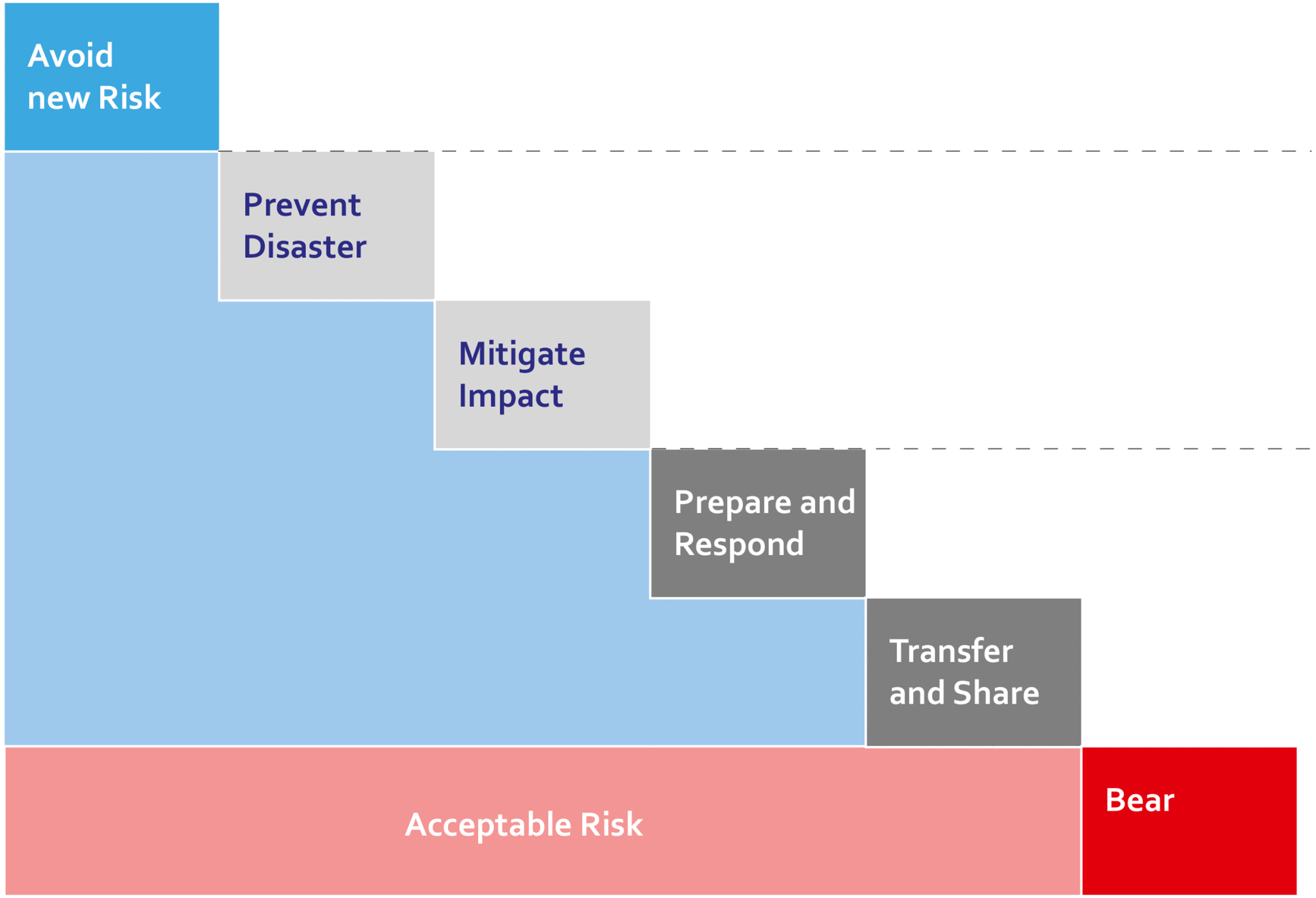
Integrated Risk Management



Watch this short movie from the Swiss Agency for Development and Cooperation,
https://www.youtube.com/watch?v=qy4_Wgiwwt4

Integrating Risk Reduction: Measures to Take

Risk stair case

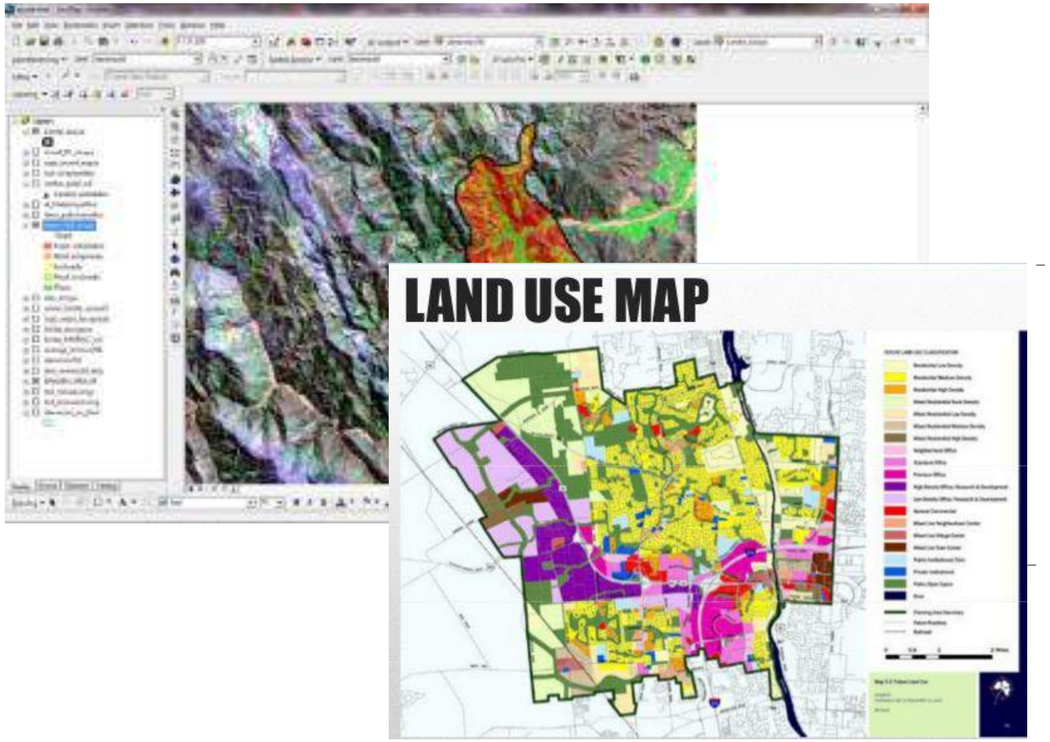


Disaster Impacts in the Agricultural Sector

- Direct loss of harvest due to floods, droughts etc.
- Shifts in weather patterns > more frequent and heavy events
- Shifts in seasons > shorter, more unpredictable rainy seasons
- Soil erosion, loss of fertility, water stress for cops and animal > Reduced productivity
- Soil and water contamination
- Outbreak of (new) pests, diseases and weeds
- Volatile prices for food and cash crops.

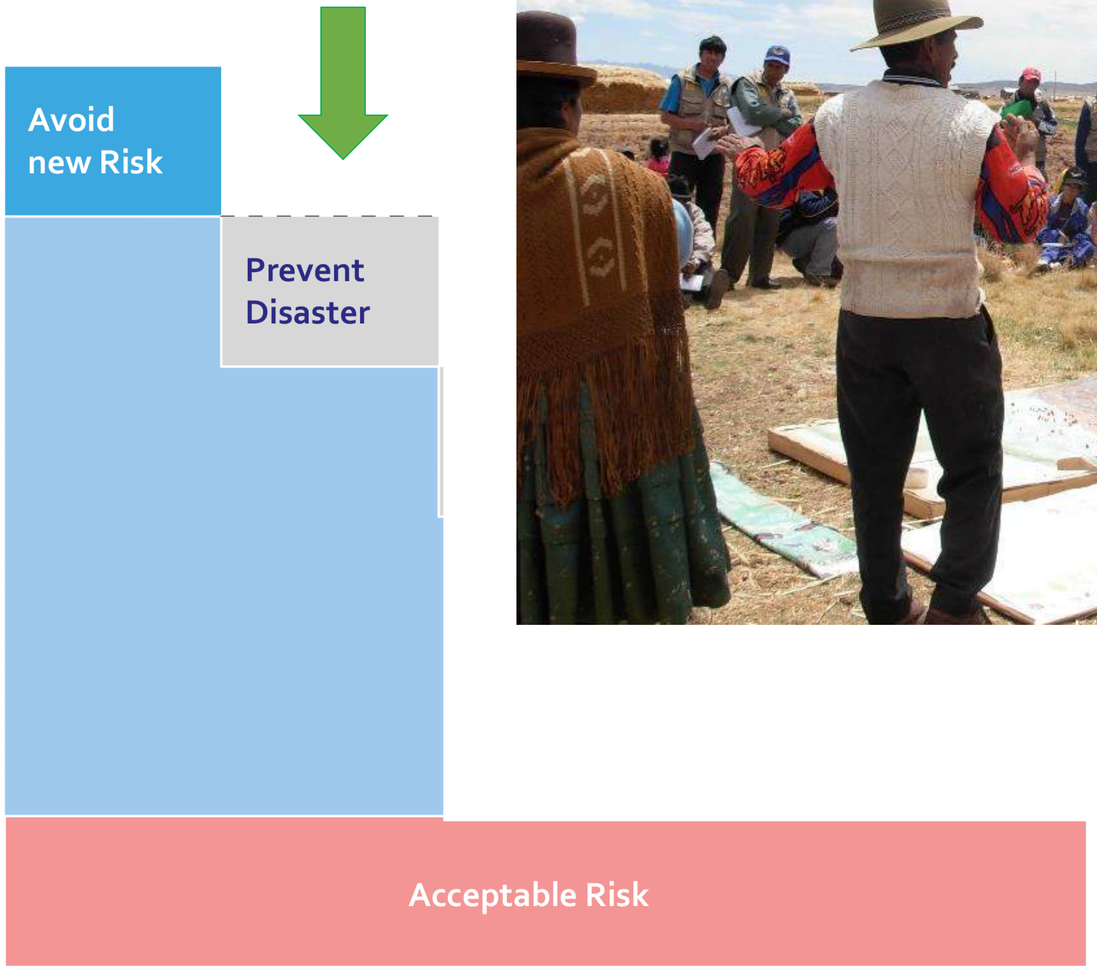
DRR mainstreaming agriculture

Avoid
new Risk



Acceptable Risk

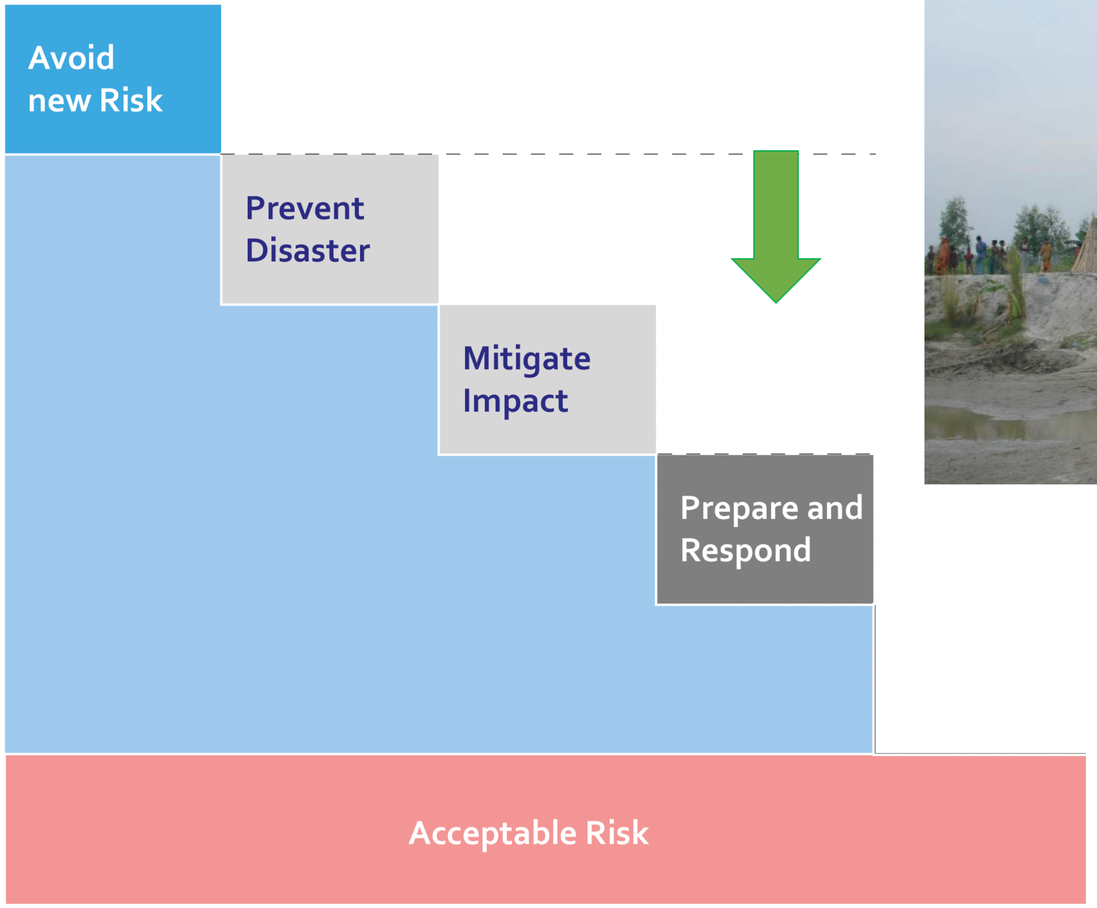
DRR mainstreaming in agriculture



DRR mainstreaming in agriculture

DRR mainstreaming
in sectors

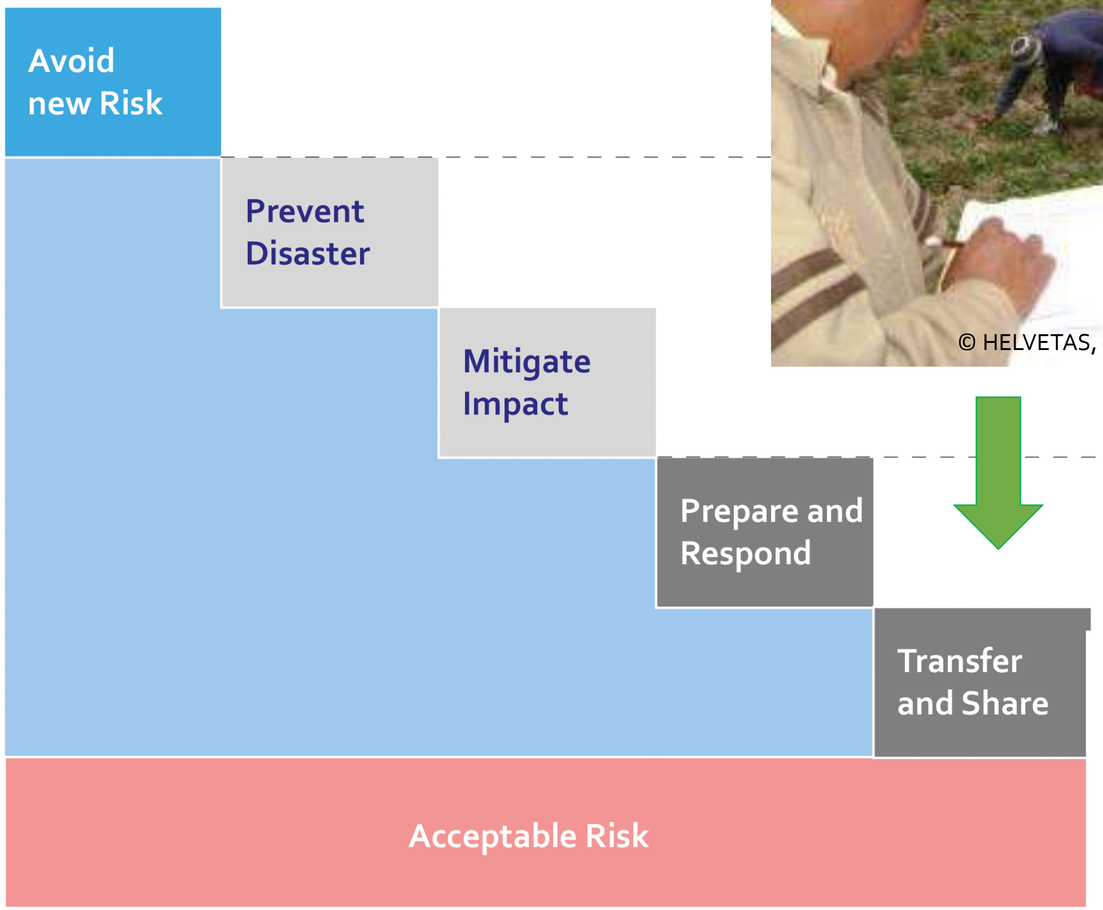
DRR mainstreaming examples in agricultural sector



© SRC - Training of local emergency response teams in Mekong, Vietnam

Source: Swiss Development Cooperation (SDC) adapted by Swiss NGO DRR Platform

DRR mainstreaming in agriculture



© HELVETAS, crop insurance for small-scale farmers

© Caritas, Bangladesh

International frameworks for DRR and CCA

© Plan

The Sendai Framework for Disaster Risk Reduction

Watch this short movie from the Sendai Framework for Disaster Risk Reduction,
https://www.youtube.com/watch?v=M9m6mb-blYM

The Sendai Framework for Disaster Risk Reduction

The Sendai Framework for Disaster Risk Reduction, the successor framework of the Hyogo Framework for Action, was adopted by 187 states at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan, in March 2015. The Framework is valid between 2015 and 2030, and is the responsibility of the United Nations Office for Disaster Risk Reduction, UNISDR.

UN World Conference on
Disaster Risk Reduction
2015 Sendai Japan

The Sendai Framework for Disaster Risk Reduction

1 Goal: …to prevent new and reduce existing disaster risk…

4 Priorities:

- Understand Disaster Risk: data and models on hazard characteristics, vulnerability, capacity, exposure.
- Strengthen disaster risk governance to manage disaster risk at the national, regional and global levels.
- Invest in Disaster Risk Reduction for Resilience: housing, health, water, ecosystem management, environment, livelihoods.
- Enhance disaster preparedness for response and to "build back better": early warning, structural standards, drills, civil defense.

7 Targets:

By 2030 …

- ↓ Disaster mortality
- ↓ Number of affected people
- ↓ Economic losses
- ↓ Infrastructure damage
- ↑ National/local structures for DRR
- ↑ International cooperation
- ↑ Early Warning and Disaster Risk Information

Sustainable Development Goals – SDGs

Sustainable Development Goals – SDGs

There are 25 targets related to DRR, CCA and resilience in 10 of the 17 SDGs (strong colors)

Key Messages

- Disasters are not purely the results of hazardous events, but have a social, political and economic component. They have the heaviest impact on poor and developing countries, with poorest people being hit the hardest and everyday small-scale disasters causing the most harm.
- The effects of climate change increase the impact of disasters on the most vulnerable.
- Appropriate measures can prevent or reduce the impacts of hazardous events and have the potential to avoid disasters. DRR and CCA can save lives and livelihoods and aim to strengthen the resilience of communities.
- Disasters can be causes and consequences of development failures. Development can increase or decrease disaster risk. Development activities need to be risk-informed.
- DRR is cost effective: investment in prevention, preparedness and awareness raising can limit expensive reconstruction and rehabilitation costs.