
# Regulations and Other Governance Elements

## A Resilient Future: Science and Technology for Disaster Risk Reduction

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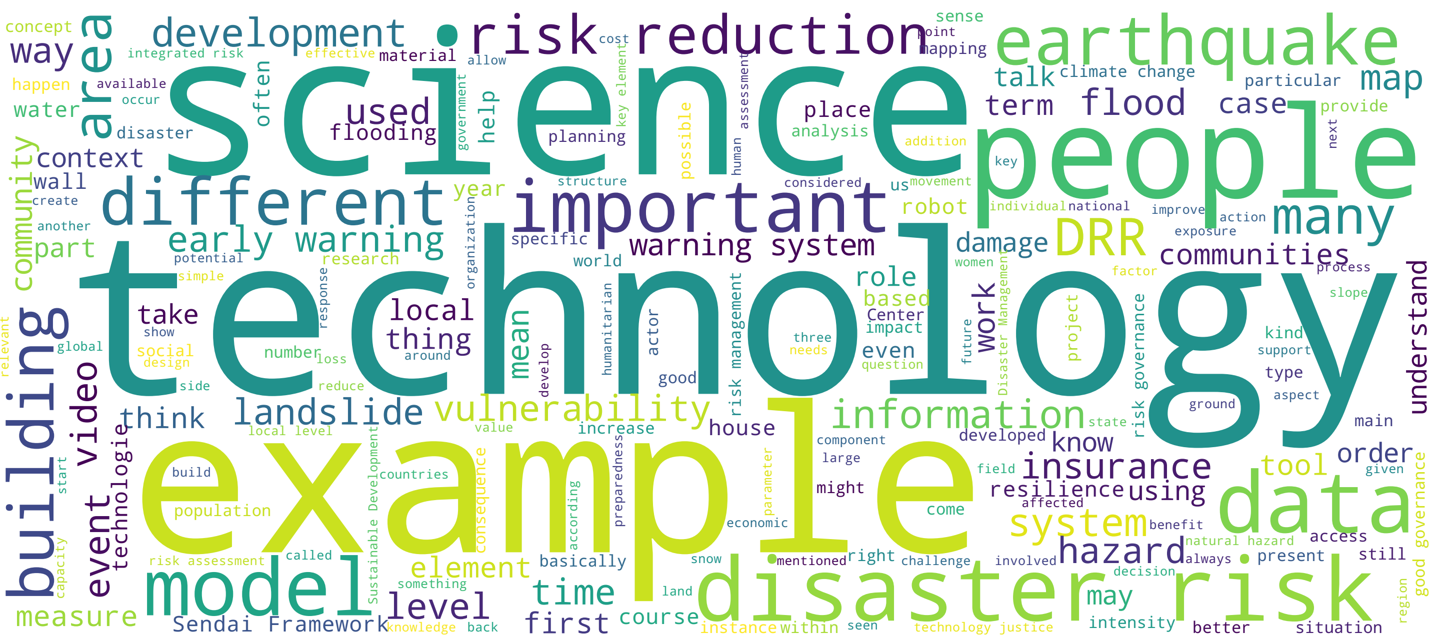


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# Outline

- Science and technology in DRR laws, policy, and frameworks
- Other main governance elements
- Technology justice
- Integrated risk governance
- Main points

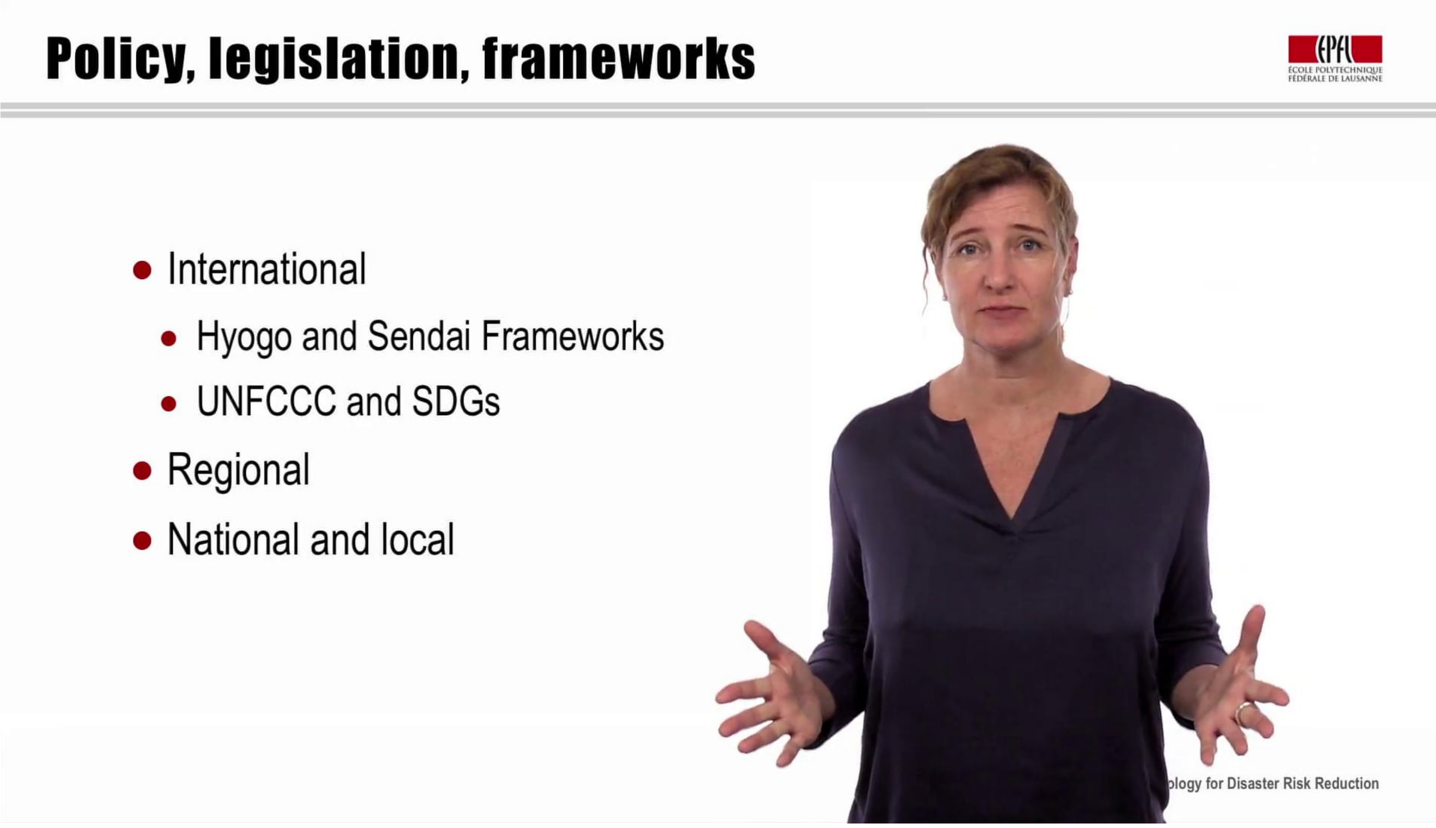
A Resilient Future: Science and Technology for Disaster Risk Reduction

Hello. In this video I will present science and technology integration and regulations at international, regional, national and local levels. Then, after listing other key elements of good governance, I will talk about the concepts of technology justice and integrated risk governance.

Notes

Summary

0m 04s




"Disaster risk reduction laws do save lives," concludes a 2014 joint comparative study by the International Federation of Red Cross and Red Crescent Societies (IFRC), and the United Nations Development Program (UNDP). Therefore, DRR policy, legislation, frameworks and regulations overall can and should be developed and implemented at all levels from the local to the international.

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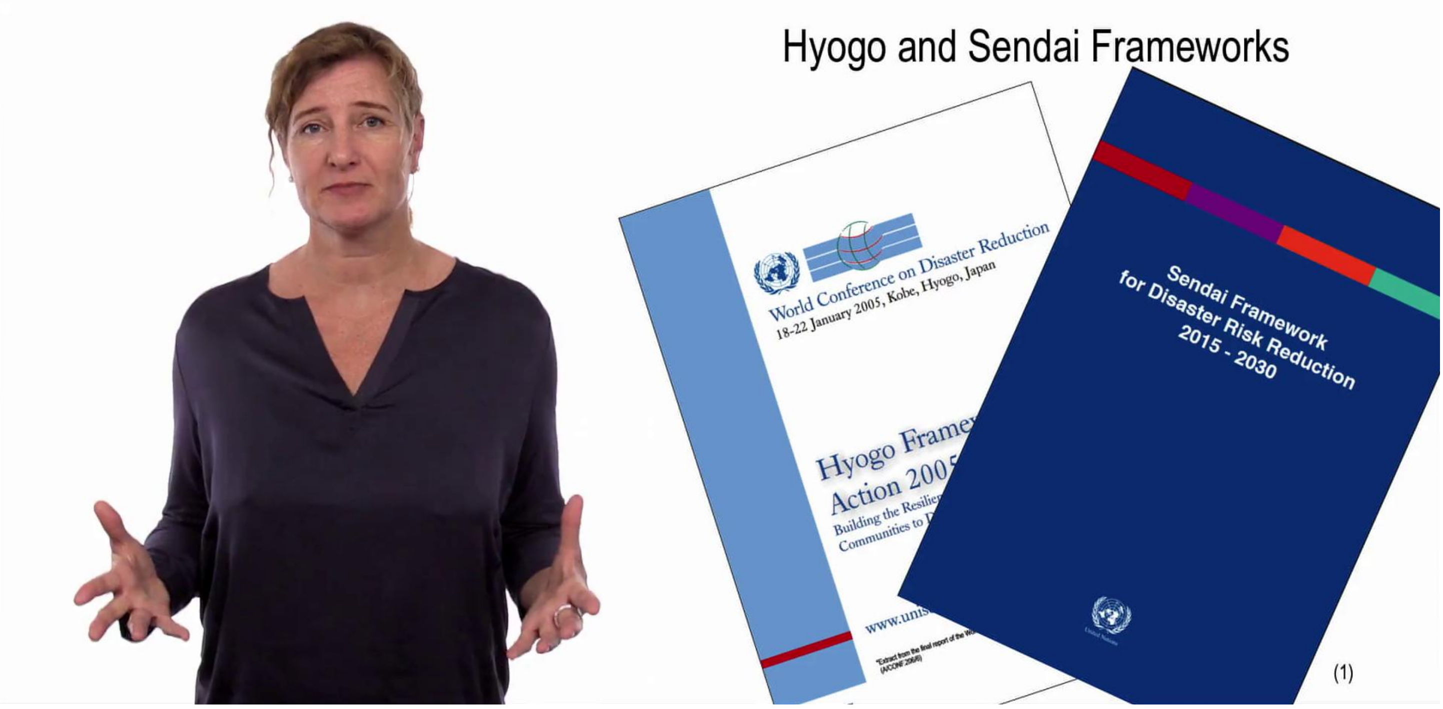
# DRR Frameworks: International




At the international level, first the Hyogo and now the Sendai Framework for Disaster Risk Reduction, 2015-2030, guide our work on DRR. A central aspect of the Sendai Framework in comparison to the Hyogo Framework for action, is the change of emphasis from managing disasters to understanding and managing risks. This change forces us to better understand risk and all the elements that affect risk, like hazards, exposure, and vulnerability. Therefore, the role of science and technology becomes more relevant in the Sendai Framework.

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# The Sendai Framework for DRR 2015-2030

Paragraphs: 19, **24, 25**, 30, 33, **36**, 40, 46, 47 and 48 …

**Global and regional levels**

**25.** To achieve this, it is important:

(a) To enhance the development and dissemination of science-based methodologies and tools to record and share disaster losses and relevant disaggregated data and statistics, as well as to strengthen disaster risk modelling, assessment, mapping, monitoring and multi-hazard early warning systems;

(b) To promote the conduct of comprehensive surveys on multi-hazard disaster risks and the development of regional disaster risk assessments and maps, including climate change scenarios;

(c) To promote and enhance, through international cooperation, including technology transfer, access to and the sharing and use of non-sensitive data and information, as appropriate, communications and geospatial and space-based technologies and related services; maintain and strengthen in situ and remotely-sensed earth and climate observations; and strengthen the utilization of media, including social media, traditional media, big data and mobile phone networks, to support national measures for successful disaster risk communication, as appropriate and in accordance with national laws;

(d) To promote common efforts in partnership with the scientific and technological community, academia and the private sector to establish, disseminate and share good practices internationally;

(e) To support the development of local, national, regional and global user-friendly systems and services for the exchange of information on good practices, cost-effective and easy-to-use disaster risk reduction technologies and lessons learned on policies, plans and measures for disaster risk reduction;

(f) To develop effective global and regional campaigns as instruments for public awareness and education, building on the existing ones (for example, the "One million safe schools and hospitals" initiative; the "Making Cities Resilient: My city is getting ready" campaign; the United Nations Sasakawa Award for Disaster Risk Reduction; and the annual United Nations International Day for Disaster Reduction), to promote a culture of disaster prevention, resilience and responsible citizenship, generate understanding of disaster risk, support mutual learning and share experiences; and encourage public and private stakeholders to actively engage in such initiatives and to develop new ones at the local, national, regional and global levels;

(g) To enhance the scientific and technical work on disaster risk reduction and its mobilization through the coordination of existing networks and scientific research institutions at all levels and in all regions, with the support of the United Nations Office for Disaster Risk Reduction Scientific and Technical Advisory Group, in order to strengthen the evidence-base in support of the implementation of the present Framework; promote scientific research on disaster risk patterns, causes and effects; disseminate risk information with the best use of geospatial information technology; provide guidance on methodologies and standards for risk assessments, disaster risk modelling and the use of data; identify research and technology gaps and set recommendations for research priority areas in disaster risk reduction; promote and support the availability and application of science and technology to decision-making; contribute to the update of the publication entitled "2009 UNISDR Terminology on Disaster Risk Reduction"; use post-disaster reviews as opportunities to enhance learning and public policy; and disseminate studies;

(h) To encourage the availability of copyrighted and patented materials, including through negotiated concessions, as appropriate;

(i) To enhance access to and support for innovation and technology, as well as in long-term, multi-hazard and solution-driven research and development in the field of disaster risk management.

(2)

There are many references to science and technology in the Sendai Framework. Science and technology are mentioned in many paragraphs, such as Paragraph 19 which specifies the guiding principles, Paragraphs 24, 25, and 36 and many others, as you can see in the additional material. For example, under Priority 1, "Understanding Disaster Risk", paragraph 25 (b) states: "To promote the conduct of comprehensive surveys on multi-hazard disaster risks and the development of regional disaster risk assessments and maps, including climate change scenarios." At the international level, and in addition to the Sendai Framework, the Sustainable Development Goals (SDG) and the UNFCCC acknowledge the use of science and technology.

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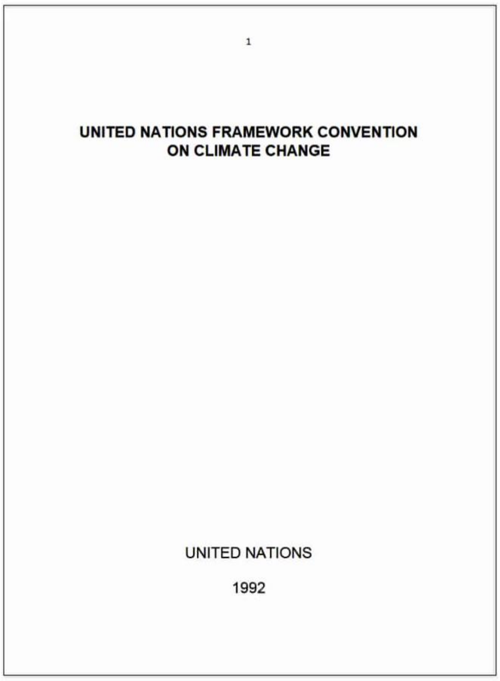
# Other international instruments


(3)



1

UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

UNITED NATIONS

1992

(4)

Science and technology for climate change and DRR are relevant for many SDGs.

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2m 14s

# Policy, legislation, frameworks: Regional


(5)

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At the regional level, for example, the Disaster Reduction Program of the Applied Geoscience and Technology Division of the Secretariat of the Pacific Community offers technical and policy guidance to support disaster risk management practices in the Pacific Island countries and territories.

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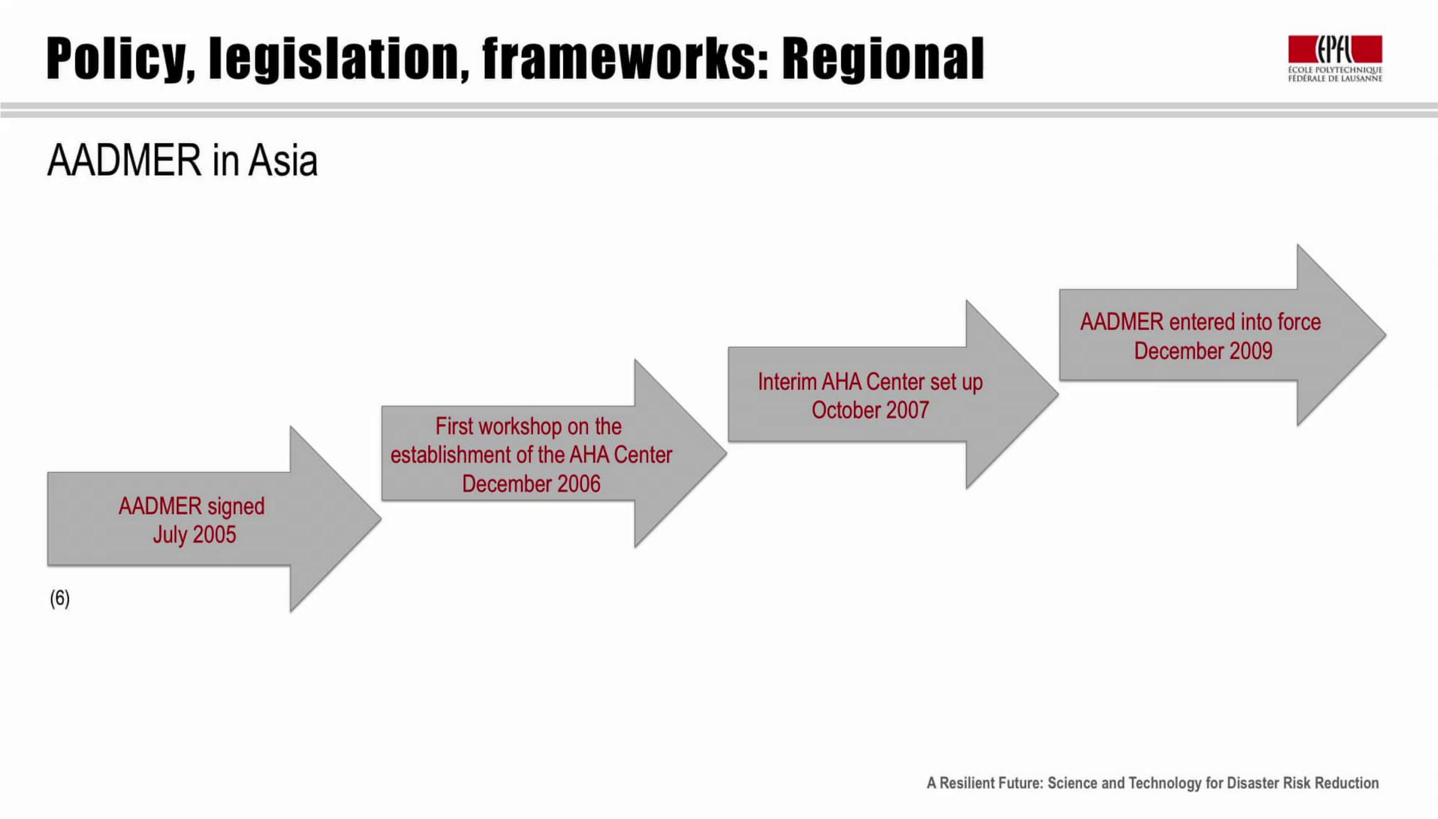
2m 20s




In Asia the Agreement on Disaster Management and Emergency Response (AADMER) was signed by heads of the ASEAN Member States in 2005. The AADMER is the first binding agreement on managing disasters regionally. The agreement aims to help member states to move from a reactive to a more active prevention approach towards disasters. Among other actions, ASEAN members are required to identify high-risk areas, establish early warning systems and cooperate with each other on scientific and technological research.

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2m 38s


At the national and local levels we find countries with disaster risk management laws. For example, Algeria's Law on the Prevention of Major Risks and Disaster Management in the Context of Sustainable Development of 2004". This law comprises requirements for risk assessment and mapping, land-use planning and building safety.

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3m 14s

# Policy, legislation, frameworks: National and local

Japan: “Disaster Countermeasures Basic Act of 1961” and municipal ordinances


The frequently-updated Japan's "Disaster Countermeasures Basic Act of 1961", which is complimented by municipal ordinances, includes requirements for the compilation of hazard data and mapping and in establishing early warning systems.

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3m 37s


The backbone of Vietnam's early warning system is the legally mandated system of flood and storm Committees found at all levels. At the local level the Committees are involved in the alert system.

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3m 54s


When we talk about regulations and law, it is important also to talk about customary law. The comparative study completed by IFRC and UNDP found that customary law and traditional authorities in DRR can be found in Ethiopia, Madagascar, Namibia, New Zealand, Nicaragua and South Africa. In South Africa, traditional authorities and customary courts participate from the national to the municipal level disaster advisory forums. Disaster risk management law requires that indigenous knowledge is considered in compiling national and provincial disaster management frameworks and plans.

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4m 06s

# Customary law and science and technology for DRR

Ethiopia: water resource management customary rules; the kebele; informal traditional approval processes for new buildings

In Ethiopia, most pastoral and agro-pastoral land tenure is based on customary law. However, there are customary rules on water resource management at the community level. The *kebele*, which is the communal authority, has by-laws on water, pasture and grazing. Also, informal traditional approval processes for new buildings exist at the community level.

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4m 47s


Overall, and according to the IFRC-UNDP study, low-income countries' lack of adequate financial, human, and technical resources is one of the main causes of less than effective DRR legislative systems. Even in countries with well-developed legal systems, such as Germany and Austria, competencies assigned to different actors at different levels, and the lack of coordination coherence between individual risk-reducing laws in different sectors and different provinces, hinders more effective risk reduction.

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5m 12s


Also mentioned in relation to early warning systems, the following recommendations provided by IFRC and UNDP also concern other science and technology regulations for DRR. These consist of including science and technology in DRM legal frameworks and establish clear roles and responsibilities, for example, by including the roles of communities to provide bottom-up information.

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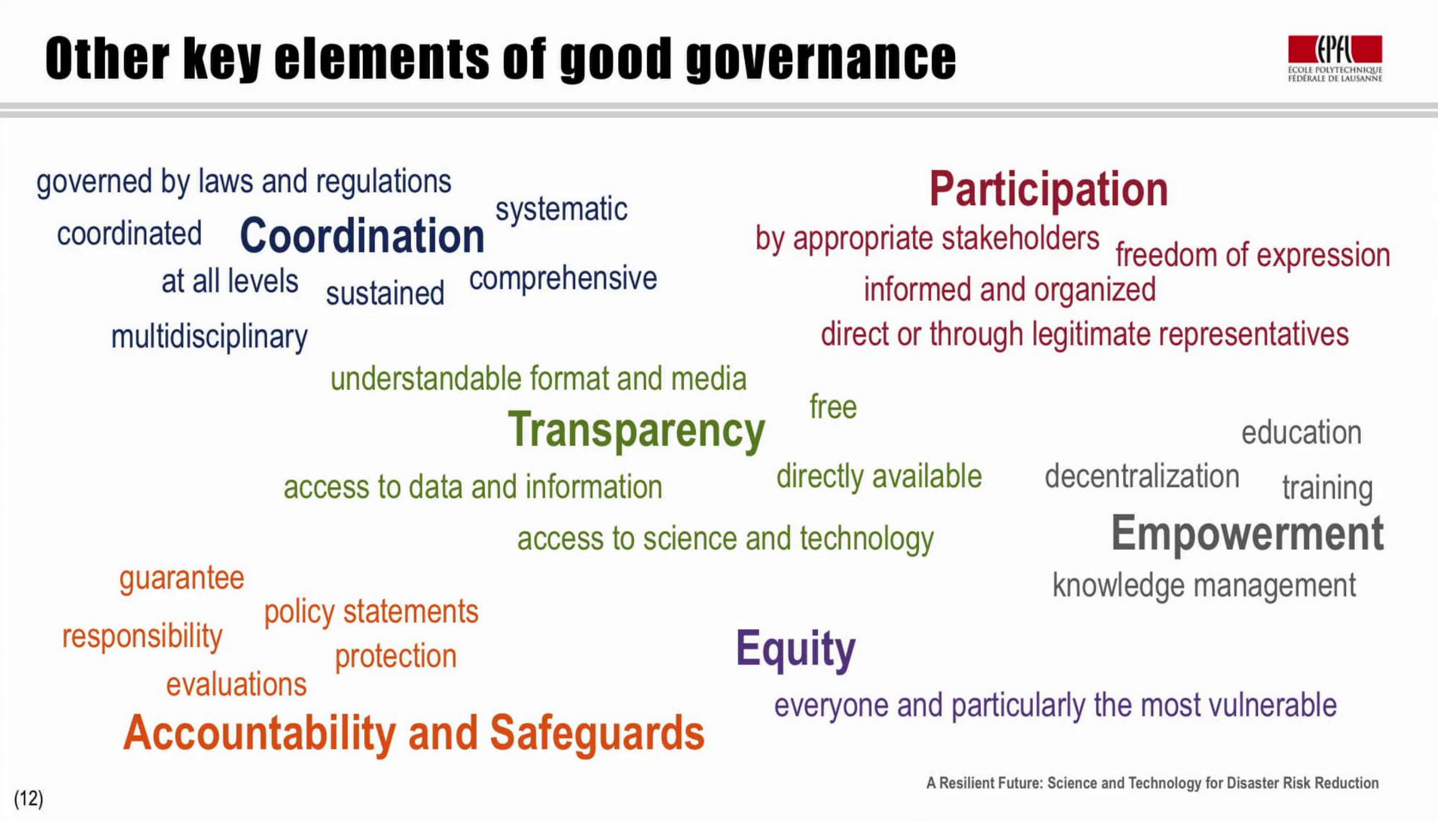


In addition to policy, legislation and frameworks, other key elements of good governance include: Transparency, for example, access to data; Accountability and Safeguards, for example, who is accountable for the implementation of safeguards when developing and using technologies? Empowerment. How is the scientific knowledge produced, shared and managed? As well as linkages on participation, equity and coordination in the development and use of science and technology for DRR.

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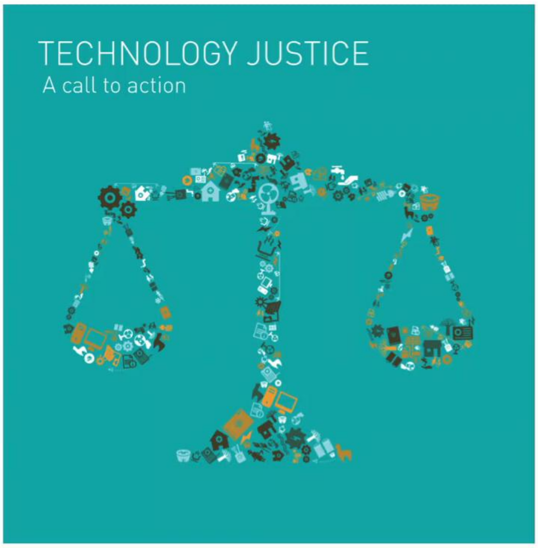
# The concept of Technology Justice



(13)

“Technology Justice is:

- Allowing people to choose and use technology to improve their lives
- Focusing research and innovation to meet humanity’s basic needs and protect the planet
- Making sure that technologies don’t harm others, now or in the future.”

(Practical Action, 2016)

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These key elements of good governance bring us also to the discussion of the term and concept of *Technology Justice*. So, what is technology justice? Practical Action, and international NGO that uses technology to challenge poverty in developing countries, states that "Technology Justice is allowing people to choose and use technology to improve their lives. It is focusing research and innovation to meet humanity's basic needs and protect the planet.

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# Integrated risk governance

- Integrated risk governance
- Integrated Risk Governance Center
  - Make sense of emerging technological opportunities
  - Identify and analyze existing and emerging risks
  - A platform for dialogue on opportunities and risk related to science and technologies

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And it is making sure that technologies don't harm others, now or in the future." I would also like to present another concept, and one of the institutions that are relevant when discussing risk governance and science and technology. It is the concept of *integrated risk governance*. One of the institutions that works on integrated risk governance is the Integrated Risk Governance Center, here at EPFL. The mission of this Center is to make sense of emerging technological opportunities that the public sector can benefit from and should therefore support. The Center also identifies and analyzes existing and emerging risks that both industry and public authorities should be aware of in order to assess and make decisions about those risks.

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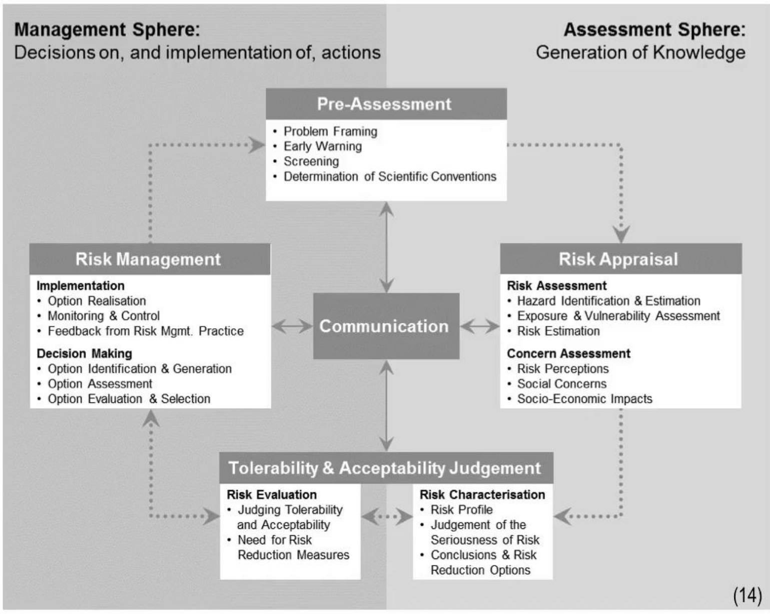
Integrated Risk Governance Center: Risk Governance Framework




The Center is a platform for dialog on opportunities and risks related to science and technology with the aim of providing recommendations for their governance.

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8m 04s


According to the IRGC, governing risk and managing technology includes understanding that technology must emerge, be encouraged and nurtured. There is also a need to make sense of technology by balancing opportunities, risks, and governance challenges. It is important to realize that we need to influence the development of policy, and regulatory frameworks, towards evidence-based policy.

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8m 17s

# Main points

- Communities, national governments, international institutions are all developing DRR regulations that include S&T guidelines/aspects
- There is still work to be done:
  - Access to technical resources
  - Coordination among different actors to improve coherence between laws
- Good governance is important in S&T, but S&T is equally important in achieving good governance

In this video, we saw that communities, national governments and international institutions are developing DRR regulations that include science and technology aspects. However, there is much work still to be done. For example, we need to increase access to technical resources. We need to strengthen coordination among different actors and establish clear roles and responsibilities, and improve the coherence among laws. Finally, we also discussed that good governance is important in science and technology use and development, but also that science and technology could be important elements through which we can achieve good governance.

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