SWISS NGO DRR PLATFORM

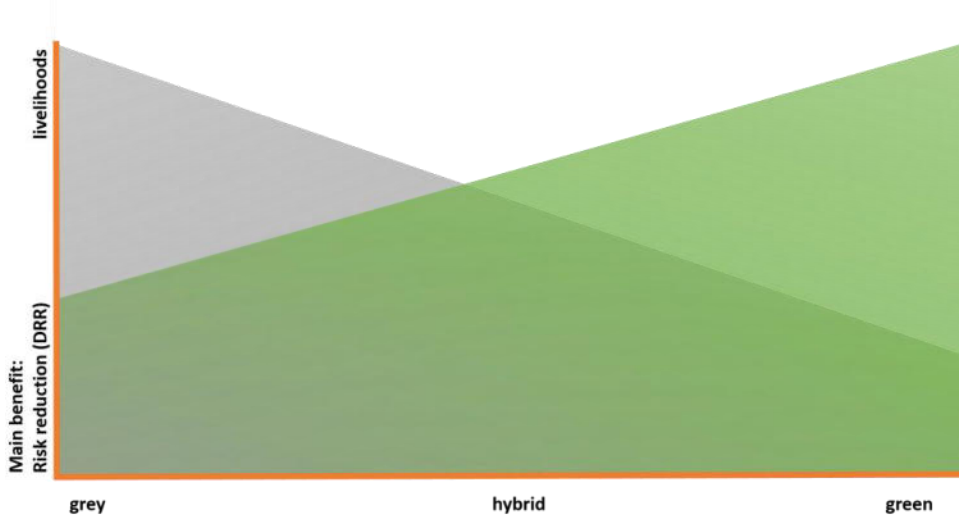
F2F Event 2017:

Grey, Green or Hybrid – The value of nature-based solutions for DRR

6 - 8 December 2017

Outline: So-called grey solutions; conventional civil engineering infrastructure for Disaster Risk Reduction (DRR) are often used to mitigate disaster impacts and protect people and assets. Nature-based solutions, on the other hand, refer to solutions using nature and its ecosystems services, which can complement or even replace grey measures as they are increasingly recognized as being more sustainable, providing tangible co-benefits and building more resilient systems.

This face-to-face event will draw on existing knowledge and experience of experts in Sustainable Land Management (SLM) and DRR to illustrate the multiple benefits of nature-based solutions for risk reduction, which yield co-benefits for agriculture, land management and water resources.



Further information via http://drrplatform.org/events/11-events/34-f2f-2017

SWISS NGO DRR PLATFORM

Programme

WORKSHOP DAY 1 **Wednesday,6 December 2017**		
Time	*Topic*	*Who*
8:30 – 9:00	Arrival of participants and welcome coffee/tea	
9:00 – 9:45	Welcome and introduction	Jana Junghardt, CARITAS
	Participants round: introduction and expectations	Babette Pfander, bp_consulting
	Guiding through the programme	Babette Pfander
Block I: Setting the Scene – Nature-based solutions for Disaster Risk Reduction		
9:45 – 10:45	What are nature-based solutions for DRR? Concepts, trends and figures	Karen Sudmeier-Rieux, consultant
10:45 – 11:15 Coffee / Tea		
11:15 – 12:15	A long-term perspective on investments in nature-based solutions for DRR – case study from Jordan	Peter Laban, consultant
12:15 – 13:00	The World Overview of Conservation Approaches and Technologies (WOCAT) – A tool to capture nature-based solutions for DRR?	Panel discussion between CDE and Swiss NGO DRR Platform
13:00 – 14:15 Lunch		
Block II: Along the continuum – Grey, Green and Hybrid approaches to DRR		
14:15 – 15:00	Teasers for WOCAT case studies	
15:00 – 16:45	Parallel session incl. group works: case studies for nature-based solutions *1.* **Swiss Red Cross**: Soil-bioengineering for DRR, Honduras *2.* **Tearfund:** Integrated Water Resource Management, Uganda *3.* **Caritas**: Rock Catchments, Kenya	Carlos Montes, SRC Philip Tibenderana, Tearfund Fredrick Ochieng, CARITAS
Coffee/Tea included		
16:45 – 17:30	Feedback to plenary: Golden nuggets and burning questions of parallel sessions	Rapporteurs
17:30 – 17:45	Wrap up of day one	Babette Pfander
19:00 Dinner		

WORKSHOP DAY 2 Thursday, 7 December 2017		
Time	*Topic*	*Responsible*
8:00 – 8:15	Review of day 1	Babette Pfander
Block III: Assessing the value of nature-based solutions to bring them to scale		
8:15 – 9:00	How to assess the value of nature-based solutions for DRR?	Peter Laban
9:00 – 9:45	Poster fair: What's happening in NbS for DRR (2 rounds à 20') 1. IUCN: Helping nature help us – EPIC Report 2. Swiss Red Cross : Climate change observatory using bio-indicators, El Salvador 3. Helvetas: Green and Grey measurs for Aksu watershed, Tajikistan 4. Terre des hommes: Keyhole gardens, Bangladesh 5. Worldvision: Farmer Managed Natural Regeneration 6. CARITAS: Integrated Watershed Management in disaster-prone contexts, Tajikistan 7. HEKS: Increasing food security in Niger 8. CDE: Making the Sendai framework for DRR work for sustainable mountain development	Poster presenters Round 1 Round 2
9:45 – 11:00	Group work :"Burning questions: How to apply and integrate nature-based solutions for DRR"	Moderated by Babette Pfander
11:00 – 11:30 – Coffee/Tea		
11:30 – 12:30	Feedback session from group work: Steps towards more "green" in DRR	Moderated by Babette Pfander
12:30 – 13:00	Reflection, key messages and closing of the workshop	Jana Junghardt,
13:00 – 14:15 Lunch		
14:15 – 16:30	Afternoon excursion to Kanderdurchstich, close to Spiez **Please bring good shoes and warm clothes**	Markus Zimmermann, NDR Consulting
16:30 – 18:00	Apéro & Winetasting at Winery in Spiez	
19:00 Dinner		

PUBLIC DAY **Friday, 8 December 2017 - Hotel Kreuz, Bern**		
Time	*Topic*	*Responsible*
09:00 – 09:30	Arrival of participants and welcome coffee/tea	
9:30 – 9:45	Welcome	
09:45 – 10:00	Report back from F2F workshop and key messages	Jana Junghardt, CARITAS Switzerland
10:00 – 10:40	Keynote address: "Eco-DRR – a nature-based solution for one of the gravest challenges faced by societies: Disasters"	Radhika Murti, IUCN
10:40 – 12:00	Panel discussion: Nature-based solutions: A trend or a hype?	Moderated by: Nina Saalisma, zoï environment network Panel members: Radhika Murti, IUCN Tatiana Fedotova, World Business Council for Sustainable Development (WBCSD) Hanspeter Liniger (CDE) Carlo Scapozza (FOEN)
12:00 – 12:30	Launch of publication «Where people and their land are safer» CDE/WOCAT and Swiss NGO DRR Platform	Nicole Harari (CDE) Swiss NGO DRR Platform
12:30 Lunch Apéro		

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F2F Event 2017
Grey, green or hybrid? The value of nature-based solutions for DRR

Public Day

Nature-based solutions for DRR – a trend or just a hype?

8th December 2017, 9:00 – 14:00
Hotel Kreuz Bern, Switzerland

So-called grey solutions; conventional civil engineering infrastructure for Disaster Risk Reduction (DRR) are often used to mitigate disaster impacts and protect people and assets.Nature-based solutions, on the other hand, refer to solutions using nature and its ecosystems services, which can complement or even replace grey measures as they are increasingly recognized as being more sustainable, providing tangible co-benefits and building more resilient systems.

In 2016 and 2017, members and partners of the Swiss NGO DRR Platform have documented over 30 good DRR practices worldwide, applying standardized procedures from WOCAT (World Overview of Conservation Approaches and Technologies). The core of this good practice collection forms Eco-DRR measures, which, in other words, are nature-based solutions for DRR.

This face-to-face (F2F) event will draw on existing knowledge and experience of experts in Sustainable Land Management (SLM) and DRR to illustrate the multiple benefits of nature-based solutions for risk reduction, which yield co-benefits for agriculture, land management and water resources. The workshop participants will explore new options to assess and evaluate the pros and cons of nature-based solutions in comparison with grey and hybrid options, and lastly to support the related policy and decision-making.

Taking forward the outcomes and key messages from the F2F 2017 workshop with regards to how nature based solutions can improve DRR from an NGO perspective, the Public Day of the F2F Event 2017 will elaborate on if and how nature based solutions are the future of efficient and effective DRR and look specifically on the following questions:

- Which hazards can be managed better more cost efficient and effective by nature based solutions? What are the key benefits of nature based solutions compared to grey?
- Who is financing and investing in nature based solutions for DRR?
- How much is there interest in the private sector on nature-based approaches to DRR; what are the drivers of this interest?
- What are the linkages between Sustainable Land Management practice and eco-DRR? What kind of research evidence is available on ecosystem-based approaches?

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Programme

09.00-09.30 Arrival of participants and welcome coffee/tea

09.30-9:45 Welcome

9:45 – 10:00 Reporting back from F2F workshop: findings and key messages

10.00-10.40 Keynote speech by Radhika Murti, IUCN: Nature-based solutions for one of the gravest challenges to society: disasters

10.40-12.00 Panel discussion on 'Nature based solutions for DRR – a trend or a hype?' with participation of:

- **Radhika Murti –** International Union for the Conservation of Nature (IUCN)
- **Dr Hans Peter Liniger,** Center for Development and Environment (CDE), University of Berne
- **Carlo Scapozza,** Federal Office for the Environment (FOEN)
- **Tatiana Fedotova,** World Business Council for Sustainable Development (WBCSD)

12:00 – 12:30 Launch of publication "where people and their land are safer" by Swiss NGO DRR Platform and Center of Development and Environment (CDE)

12.30-14.00 Lunch-Apéro riche

The Public Event will be moderated by Nina Saalismaa, ZoÏ Environment Network.

Registration

Please register via http://drrplatform.org/events/11-events/38-registration-f2f2017

SWISS NGO DRR PLATFORM

F2F 2017

Grey, green or hybrid? The value of nature-based solutions for DRR

This overview paper will address what are….

- Nature-based Solutions? How do they complement or substitute grey DRR-measures?
- Linkages between Nature-based Solutions and Sustainable Land Management?
- Challenges and opportunities for practical implementation of Nature-based Solutions for disaster risk reduction and adaptation, and why is valuation of ecosystems important?
- Ways forward? How to capture on synergies between these related communities of practice?

Background note

- **Introduction and rationale**

Ecosystem-based approaches to reduce disaster and climate risks have emerged over the past decade as an alternative to grey infrastructure, or engineered approaches, such as sea dykes and walls. Europe has been leading the way, following a number of large flooding events in the 1990s but in the U.S., the U.S. Army Corps of Engineers is also developing guidelines on ecological engineering for disaster risk reduction (DRR). Developing countries are taking heed, with cues coming from international agreements such as the Sendai Framework for Disaster Risk Reduction 2015-2030, the Convention on Biological Diversity, the Ramsar Declaration, and the Sustainable Development Goals. These frameworks have since 2014/2015 adopted various degrees of decisions on ecosystem-based approaches to reducing disaster and climate risks, or "Nature-based Solutions" (NbS) (Monty et al. 2017).

- **What are Nature-based Solutions (NbS)?**

IUCN defines Nature-based Solutions as "*actions to protect, sustainably manage and restore natural or modified ecosystems, which address societal challenges (e.g. climate change, food and water security or natural disasters) effectively and adaptively, while simultaneously providing human well-being and biodiversity benefits*" (Cohen-Shacham et al., 2016: p. 5).

The term is however subject to debate and multiple interpretations. The European Commission (EC) defines Nature-based Solutions in broader terms as: *"actions that aim to help societies address a variety of environmental, social and economic challenges in sustainable ways"* (EC, 2015, p.5). NbS have gained considerable importance within EU policies and research and have recently been adopted as the main thematic area of research related to disaster risk under the EC Horizon 2020 programme (EC, 2017). It is in particular focusing on 're-naturing' cities and engaging with the private sector.

NbS can be considered as an umbrella concept, with ecosystem-based disaster risk reduction (Eco-DRR) and ecosystem-based adaptation (EbA), as more focused sub-sets of NbS (see box 1).

Nature-based Solutions/IUCN umbrella approaches:

(i)Ecosystem restoration
(ii)Issue specific/ ecosystem-related (e.g. Eco-DRR, EbA)
(iii) infrastructure-related (e.g. natural & green infrastructure);
(iv) ecosystem-based management (e.g. integrated coastal zone management and integrated water resources management);
(v) ecosystem protection (e.g. area-based conservation including protected area management).

(Adapted from Cohen-Shacham, et al. 2016)

- **What are the linkages between Nature-based Solutions for disaster risk reduction and Sustainable Land Management?**

SLM can be defined as the use of land resources - including soil, water, vegetation and animals - to produce goods and provide services to meet human needs, while ensuring the long-term productive potential of these resources and sustaining their environmental functions (WOCAT, 2017). In this context, we can consider that many SLM practices contribute to the same goals as NbS, whether SLM Technologies (a physical practice that controls land degradation and/or enhances productivity, consisting of one or several measures) or an SLM Approach (ways and means used to implement one or several SLM Technologies). Examples of SLM technologies that contribute to NbS include any land management practices that contribute to reducing disaster risks (e.g. slope bioengineering which combines deep-rooted grasses with simple civil engineering structures) or for reducing climate change impacts (e.g. drylands agricultural- and water management practices). An example of SLM approaches may include integrated watershed management which brings together stakeholders from various sectors to manage water for livelihoods as well as disaster and climate risk mitigation.

- **What are the challenges and opportunities for practical implementation of Nature-based Solutions for disaster risk reduction?**

*The main challenge is that NbS are still not fully mainstreamed in DRR planning and disaster response***.** Although the concept of Eco-DRR/CCA is now internationally recognized with robust knowledge and practice, Eco-DRR/CCA approaches are not yet fully mainstreamed into national development policies and programmes. There are several reasons for this:

- Disaster risk management in most countries is still *reactive and engineering-focused* rather than preventive or based on planning, sound development planning and use of natural landscape features to prevent disaster risks (Sudmeier-Rieux et al., 2013).

- There is a *lack of ecological engineering designs* for "green infrastructure", or "green defences" for various types of hazards and ecosystem types that provide policy-makers with quantifiable, evidence-based guidelines for selecting such solutions over grey infrastructure, which have been tried and tested by engineers around the world. One of the few examples is from New York City, which decided to develop a green infrastructure plan for the city based on a cost-benefit analysis (see Figure 1). *Hybrid approaches* which combine both may be optimal but are not well documented.

- There is an equal *lack of cost-benefit methods* and examples for comparing green versus grey infrastructure for DRR. This starts by valuing the protective values of ecosystems for reducing impacts of hazard events. (See text box). Green infrastructure may cost more upfront to install and maintain but its benefits will increase over time and extend beyond just protection against hazards to also providing co-benefits and livelihoods support (Sudmeier-Rieux et al., 2013, see box 2). Examples include protection forests on steep slopes which provide firewood and other wood products, or wetlands which can absorb excess rain water but also fish and fibers.

Valuing ecosystems for disaster risk reduction

Three main types of ecosystem valuation include: direct market valuation; indirect market valuation; and survey-based valuation (i.e. contingent valuation and group valuation) (DeGroot, 2010). If data are lacking, economists often use "replacement or avoided costs". This refers to the cost that would be incurred if an ecosystem (i.e. coral reefs) is destroyed and has to be replaced by an engineered structure (i.e. seawalls). Replacement costs also refer to the cost of having to rebuild infrastructure (i.e. roads, housing) that are no longer protected by ecosystems (i.e. forests on mountain slopes). Emerton (2009) estimated that along the coast of Indonesia, the cost of replacing roads and houses in the event of strong waves is estimated at US$50,000/km, and the cost of maintaining sandy beaches for tourism is US$1 million/km, both are protected and maintained naturally by coral reefs (Emerton, 2009), saving society large sums of money.

Figure 1. Green versus grey infrastructure cost-benefit analysis for New York City. Source: NYC, 2010

- **Ways forward? How to capture on synergies between these related communities of practice?**

To address these challenges, a number of exciting initiatives on NbS, in addition to the above mentioned, are currently underway at the global and local levels. Examples at the global level include the Global Facility for Disaster Reduction and Recovery (GFDRR) and the World Bank. Guidelines on NbS, Eco-DRR, EbA and ecological engineering are being developed and several first time Eco-DRR and EbA projects are being implemented by international actors who have demonstrated benefits and paved the way for greater up-scaling. At the local level there are many good NbS being practiced by NGOs and communities, based on indigenous know-how which could be captured and more systematically replicated. We conclude that at the local level, communities usually do not distinguish between NbS, Eco-DRR or EbA, while at the global level, communities of practice and policy arenas differ between NbS subsets: Eco-DRR (Sendai Framework for DRR), EbA (UNFCCC) and SLM (UNCCD). However, there are more overlaps than differences and multiple opportunities for creating further synergies, if we are willing to step across our institutional boundaries. One example is the success of the Partnership for Disaster Risk Reduction (www.pedrr.org) which brings together 24 international members, including IUCN, UN Environment, and the World Business Council for Sustainable Development and the Swiss NGO DRR Platform, which advocates for Eco-DRR at the local and global levels.

References:

Cohen-Shacham, E., Walters, G., Janzen, C. and Maginnis, S. (eds.) 2016. *Nature-based Solutions to address global societal challenges*. Gland, Switzerland: IUCN. xiii + 97pp.

de Groot RS, Kumar P, van der Ploeg S et al (2010) Estimates of monetary values of ecosystem services. In: Kumar P (ed) The economics of ecosystems and biodiversity: ecological and economic foundations. Earthscan, London

EC [European Commission] (2017) Research and Innovation. Website accessed 20 September, 2017 https://ec.europa.eu/research/environment/index.cfm?pg=Nature-based solutions

EC [European Commission] (2015) In: Innovation, D.-G.F.R.A. (Ed.), Towards an EU Research and Innovation Policy Agenda for Nature-based Solutions & Re-naturing Cities - Final Report of the Horizon 2020 Expert Group. European Commission, Directorate- General for Research and Innovation, Brussels, p. 74.

Emerton, L. (2009). Investing in Natural Infrastructure: the Economic Value of Indonesia's Marine Protected Areas. Bali, Indonesia: Coral Triangle Center, The Nature Conservancy

Monty, F., Murti, R., Miththapala, S. and Buyck, C. (eds). (2017). Ecosystems protecting infrastructure and communities: lessons learned and guidelines for implementation. Gland, Switzerland: IUCN. x + 108pp. https://portals.iucn.org/library/sites/library/files/documents/2017-045.pdf

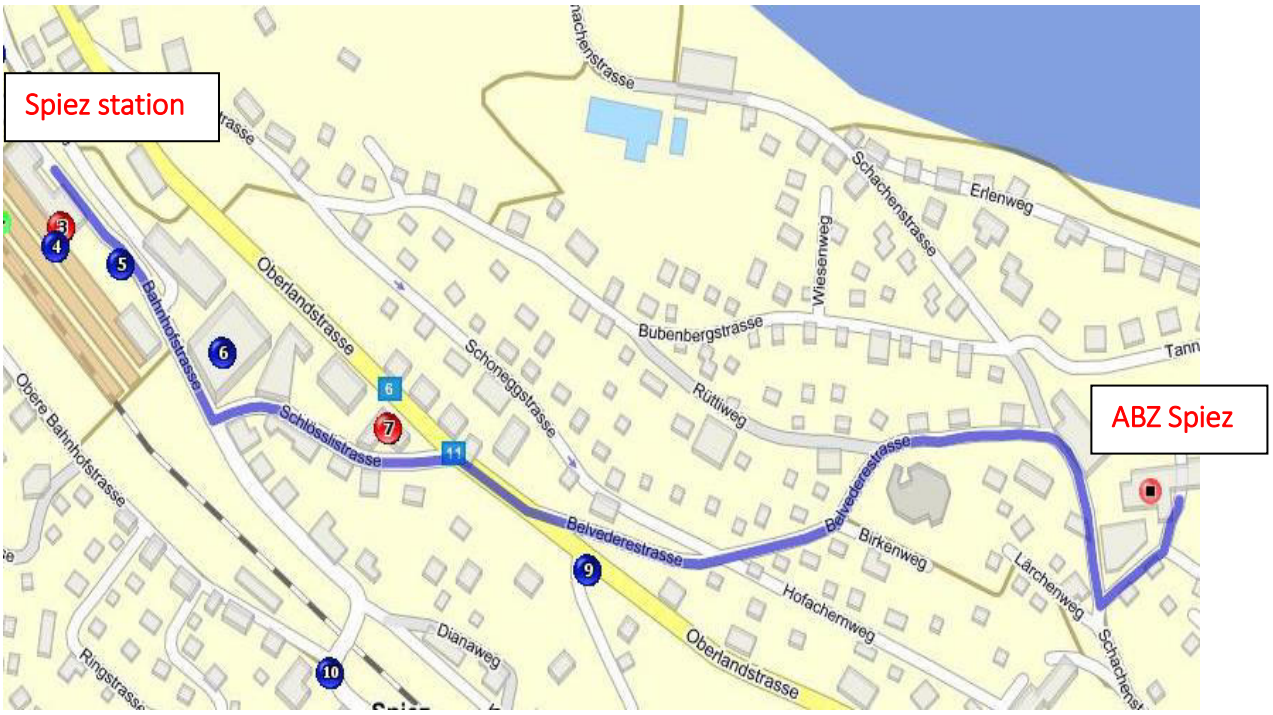
Sudmeier-Rieux, K., Ash, N, and R. Murti (2013) Environmental Guidance Note to Disaster Risk Reduction, Revised. Gland: IUCN, 40p. https://www.iucn.org/sites/dev/files/content/documents/2013_iucn_bookv2.pdf

WOCAT [World Overview of Conservation Approaches and Technologies] (2017) https://www.wocat.net/. Website accessed on November 15, 2017

Directions from Spiez station to ABZ Spiez

ABZ Spiez
Schachenstrasse 43
3700 Spiez

Phone: 033/6508181



Spiez is a main stop for IC as well as EC trains and profits from a very frequent connection in all directions. The ABZ is situated in walking distance from the station – about 850m.

- **By bus**: directly from Spiez station to bus stop **Spiez, Grueb** (departure hourly hh:49) Bus nr. 65 direction to «Faulensee»

- **By car / walking**: map