



SWEDISH
WATER
HOUSE

Policy Report

Water and Risk: Developing Sustainable and Resilient Communities

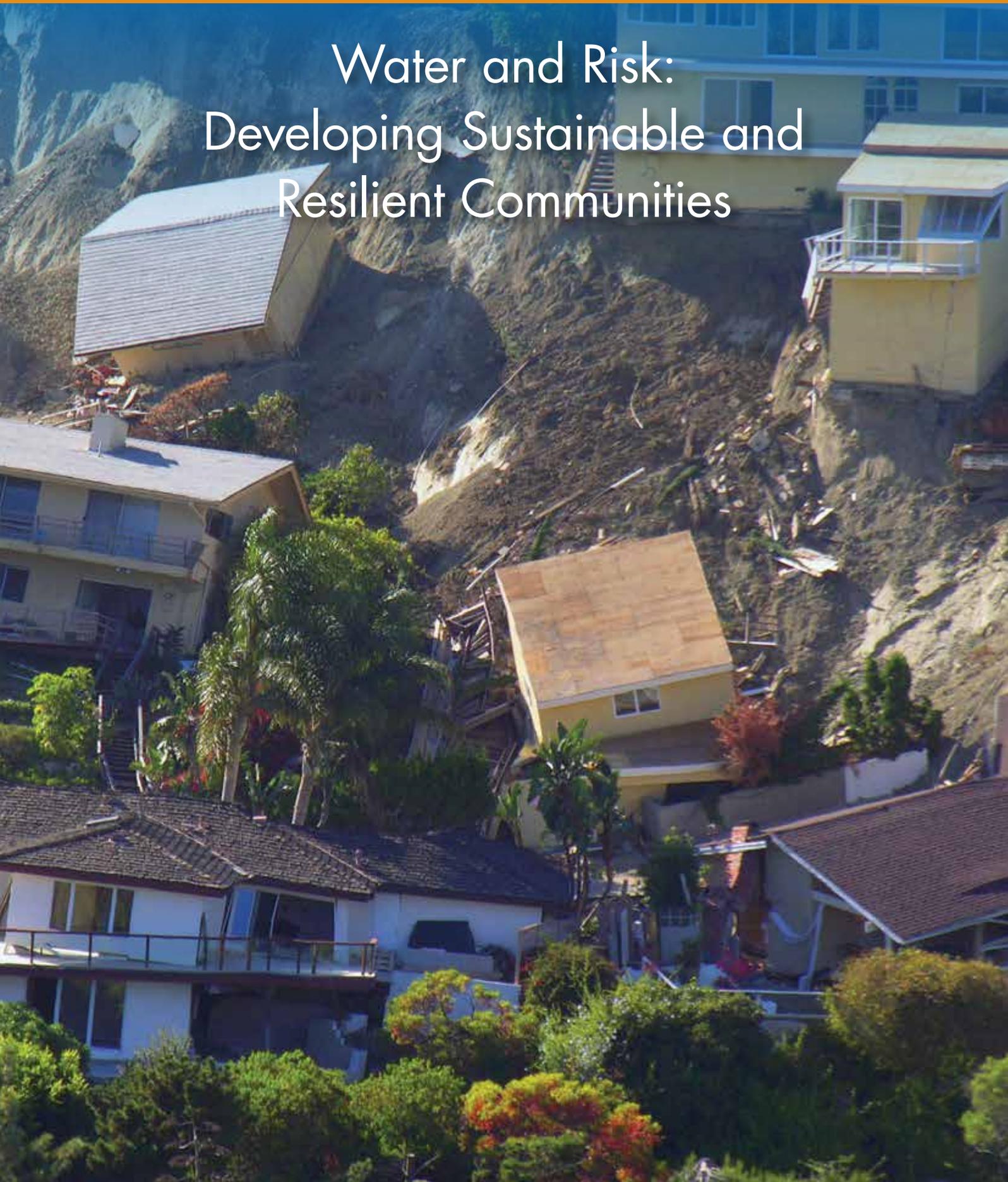




Table of Contents

Key Messages _____	4
What is Disaster Risk? _____	4
From Disaster Risk Reduction (DRR) to Resilience and Sustainable Development _____	5
Policy Implications _____	6
Policy Area 1: Addressing Risk before It is Created by Developing Resilience and Reducing the Need for Humanitarian Response _____	7
The humanitarian agenda dominates DRR and resilience _____	7
Addressing underlying risks – building resilience _____	7
Policy Area 2: Targeting the Most Vulnerable and Building Local Capacity _	8
Building local capacity _____	8
Policy Area 3: The Urban Challenge _____	9
References _____	10

How to Cite

Johannessen, Å., Wamsler, C., Becker, P., Fredby, J., Castell, O., Rottier, E., Sivertun, Å., Björklund, G., Roffey, R.
2014. Water and Risk: Developing Sustainable and Resilient Communities. Swedish Water House Policy Report/SIWI.

Copyright © 2014, Swedish Water House (SWH).

Design and production by Elin Ingblom, SIWI.
Cover Photo: Angela Jeu/www.sxc.hu.

Key Messages

- Sweden has an ideal opportunity to become a more important international partner in Disaster Risk Reduction (DRR) and resilience activities, originating from its strong history of donor support and long engagement in DRR.
- The Swedish Ministry for Foreign Affairs (MFA) plays an important role in contributing to relevant global processes; mainly the successor framework to the Hyogo Framework for Action (HFA2) the Post-2015 Agenda and associated Sustainable Development Goals. This document outlines some recommendations to this effect, reflecting the views of several Swedish organisations active in this area.
- Acting on this opportunity would enable timely Swedish contributions to the increasing global debate on the need to build resilience to a multi-risk environment. This includes small scale and slow-onset disasters, violent conflict, uncontrolled urbanisation, rising consumption, environmental degradation and climate change.

What is Disaster Risk?

Disaster risk is commonly understood as the result of an interaction between so-called “natural” hazards and vulnerability (UNISDR, 2009). “Disaster risk” therefore refers to a comprehensive understanding of risk related to climatic and non-climatic hazards, affecting lives, health status, livelihoods, assets and services (UNISDR, 2009). Climate change plays an important role in Disaster Risk, in that it exacerbates vulnerabilities, hazards, and consequently future disasters. Changes will be strongly felt through the water cycle (IPCC, 2013), underlining the important role of good water governance and management.

Recent events such as Typhoon Haiyan (also known as Yolanda) in the Philippines, Hurricane Sandy in New York, the Japanese tsunami of 2011 and floods in central Europe during 2013 illustrate that disasters are a global phenomenon which have not yet been sufficiently addressed in low, middle or high income countries. The worldwide rate of disasters has almost quadrupled in the last 30 years, resulting in escalating human and economic losses (UNISDR, 2012), not from the increase of “natural hazards” but from the increase of vulnerability (UNISDR, 2009). This connection is seldom articulated in the media where debate over disasters most often wrongly emphasises the “natural” hazard triggering the disaster. While disasters are still predominantly seen as exogenous and unforeseen shocks that affect supposedly normally functioning socio-economic systems and societies, the reality is that even hazards themselves are increasingly caused by human development, e.g. where

too many hard surfaces and inadequate management of runoffs cause flooding (Wamsler, 2014). Added to this is the growing consensus among scientists of the anthropogenic nature of climate change, and the hazards associated to it as illustrated by the SREX (IPCC, 2012) and IPCC Assessment Report 5 (IPCC, 2013). The identified increase in societies’ vulnerability is often caused by “risk blindness” apparent in rapid short term economic development, and in part, overconfidence in physical/structural security measures. As such, vulnerability and resultant disasters are often a sign of persistent development problems caused by unsustainable economic and social processes and ill-adapted societies (Lavell & Maskrey, 2013).

Over the last decade, Disaster Risk Reduction (DRR) has gained significant recognition as an effective approach to systematically identify, assess and reduce disaster risk. While original DRR approaches mainly addressed large scale rapid-onset natural disasters, the field has become increasingly comprehensive and inclusive of many anthropogenic drivers. This is in line with an increasing global debate on the need to build resilience to a multi-risk environment, including small scale and slow-onset disasters, violent conflict, uncontrolled urbanisation, rising consumption, environmental degradation and climate change. These global challenges are combined with economic and social fragility, inequality and high levels of poverty which often mutually reinforce each other.

From Disaster Risk Reduction (DRR) to Resilience and Sustainable Development



Photo: WaterAid

An overturned vehicle in the road between DG Khan and Rajan Pur, Punjab, Pakistan.

In recent years, important steps towards a more integral and comprehensive approach to DRR have been taken. This is illustrated in The Hyogo Framework for Action (HFA) (UNISDR, 2005), otherwise known as the global action plan for DRR. Too much focus however remains on the reduction or compensation of existing disaster losses and damage as opposed to transforming the underlying drivers that generate risk. When the HFA expires in 2015, the agenda replacing it will need to reinterpret risk reduction. To prevent the further creation of risk, DRR needs to become an integral part of development, and not an add-on separated from it.

Against this background, the focus at international DRR community level is increasingly expanding from DRR towards “building resilience” which is used as an antithesis to risk. Resilience is defined as characterising the ability to anticipate, recognise, adapt to and learn from variations, changes, disturbances, disruptions and disasters that are potentially harmful (Becker et al., 2011). It is therefore an approach appropriate for a constantly changing, sometimes risky environment, and also for sustaining development under uncertainty (Folke et al., 2002).

Although these ideas are developing at global and national level, in general, narrow response-oriented emergency management still characterises DRR actions on the ground, combined with little organisational capability to integrate DRR across society. Furthermore, much DRR work aims at reducing hazard exposure or the physical/structural vulnerability

of buildings and infrastructure instead of addressing weak governance capacity (institutional capacity, resources and enforcement) which has been identified as the major reasons for lack of action (Johannessen et al., 2013; Wamsler et al., 2013). The alignment of DRR and resilience to sustainable development in Swedish national and international policy will be important in order to develop long-term solutions which do not contribute to the creation of new risk. Having sustainable development as the centre point provides an important key principle in the dialogue between relevant governing bodies and involved stakeholders, often involving compromises between different policy goals. The Swedish approach to flood risk management is one example, where the implementation of the EU Flood Directive, which focuses on flood risks, is not yet aligned to the Water Framework Directive, which in turn, focuses on environmental and water quality goals (cf Swedish Water House seminar, Nov 12, 2013).

We therefore propose that the alignment of DRR and resilience to sustainable development goals is critical in Swedish international development cooperation work. We also believe that the role of social and institutional capacity development for DRR and resilience needs to be further emphasised to balance the current trend.

Policy Implications

A woman collecting water, Moshashoripur village, Koyra, Bangladesh, 2011.



Photo: WaterAid/GWB Akash/Panos

The Post-2015 Agenda dialogue and associated Sustainable Development Goals (SDGs) (cf High Level Panel, HLP, 2013) provide an opportunity to include and mainstream issues of DRR and resilience. Guiding the global risk agenda through the Post-2015 HFA framework (HFA2) can provide a more detailed plan of how to implement risk-related targets and goals contained in future SDG's.

Sweden is a generous donor to DRR, Sida stands out as the largest contributor to the United Nations Office for Disaster Risk Reduction (UNISDR) and after the EU institutions (GHA 2012) and Sweden is the second largest donor to the Global Facility for Disaster Reduction and Recovery (GFDRR). Sweden (via Sida) and the UK were the first countries in the EU to develop specific DRR policy/strategies (EU, 2009). This places Sweden at the frontline of actors in the DRR and resilience scene. However, currently the Swedish Ministry for Foreign Affairs has only briefly included DRR under the Government's Humanitarian Aid Policy (Skr. 2004/05:52). This means that an active and comprehensive Swedish foreign policy on DRR and resilience is missing (especially one which is aligned with sustainable development) this consequently hampers Sweden's possibilities to actively participate in the global debate on resilience, HFA2, the Post-2015 Agenda and associated SDG's.

To build on past efforts and take the opportunity to become a leading player, it is crucial that Sweden develops a policy statement providing a comprehensive approach to resilience building, focusing on the integration of DRR into development aid programming. This is crucial to ensuring that long term development is safeguarded from disasters by addressing underlying causes of risk, and that development and humanitarian programs do not create new forms of vulnerability and risk. Swedish actors with expertise in resilience and DRR need to be actively consulted and involved in the formulation of such policy.

This view is supported by an evaluation in 2010 of Sida's work where it is recommended that "Sida should work to become a leading donor on DPRR (Disaster Preparedness and Risk Reduction), promoting cooperation between humanitarian and development staff members and working with the MFA to take advantage of the less politicised space available for improving policy and practice on DPRR at global and field level" (Mowjee & Randel, 2010:26).

Policy Area 1: Addressing Risk Before It is Created by Developing Resilience and Reducing the Need for Humanitarian Response

The humanitarian agenda dominates DRR and resilience

Between the years 2000-2009, 4,484 natural disasters affected 2.2 billion people worldwide, causing almost 840,000 deaths and costing at least US\$891 billion in economic damage (Kellett & Sparks, 2012). Despite these numbers DRR is a relatively marginalised issue. Why? One of the global problems lies in how DRR activities are organised, as being largely owned by the humanitarian sphere, the topic when discussed is isolated from dialogue on climate adaptation and sustainable development. As mentioned, Swedish policy for DRR is currently only included in the Government's Humanitarian Aid Policy (Skr. 2004/05:52) and the Humanitarian department of Sida is the only one with any activities labelled DRR. This is not a Swedish phenomenon but a global one, as in 2009 68 per cent of DRR financing came from humanitarian funds (Kellett & Sparks, 2012). Integrating DRR and resilience components in humanitarian funding provides an opportunity for change. However, humanitarian funding, with its relative short term planning and engagement is consequently considered unsuitable for long term risk reduction and resilience building. This puts a strain on the expectations of such financing, which cannot cover all investments needed.

The DRR and resilience agenda, largely owned by the humanitarian sector, is comprised by the need of spending on response. This is illustrated by the fact that for every US\$100 spent on response, less than 90 cents were invested in DRR (2009 figures in Kellett & Sparks, 2012). However, there are signs of change in this trend, appearing as part of Post-2015 discussions, led by countries like UK, Japan and the Netherlands. In addition, according to Open Aid, DRR activities receive an increasing share of Swedish aid, with 5 per cent going to humanitarian assistance in 2012, compared to 1 per cent in 2007. A quick look at global spending on DRR shows that only 19 of 40 humanitarian recipients are in the top 40 for overall development aid, suggesting that many countries that should be eligible for financing to develop long term DRR and resilience are missing out. Only one of the top ten countries for number of people affected, disasters and mortality – Bangladesh – made it to the top ten list for DRR financing. In addition, the distribution of available funds is concentrated

on a few countries, mainly Pakistan, India, Indonesia and Bangladesh. Much of the funds spent on DRR go to a few projects which do not always reflect investment need (Kellett & Sparks, 2012). It is important to be aware that the most significant investment in disaster risk reduction is made by national and local governments themselves. The poorest countries are the least able and willing to invest in risk reduction. Considering the urgency of everyday needs faced by these countries, the onus for risk reduction and resilience should rest more on the international community (Wahlström, 2012). A Swedish policy on DRR and resilience could contribute to in terms of setting the direction and to help convince beneficiary countries of the value of a risk reduction and resilience approach.

Addressing underlying risks – building resilience

Underlying risks (Priority 4 of the 5 priorities of HFA) is a challenging area illustrated by the fact that the progress in this area is lagging behind both at national and local government level (Johannessen et al. 2013).

Addressing underlying risks is a core challenge for future DRR agenda and should be a key focus of a Swedish DRR and resilience policy. This requires platforms of collaboration and dialogues on resource use dilemmas or "hydro-diplomacy". Activities under the EU Water Framework Directive are an example of this aim. A Swedish DRR and resilience policy needs also to promote the development of capacity in providing and promoting operational tools and indicators of gradual change and early warning signals of loss of resilience.

Swedish Best Practice: Analytical tools

Tools which support risk and resilience analysis and monitor gradual changes include risk assessment and evaluation. Sweden has a long tradition in land surveying and modelling of multiple risks, such as mud streams related to flood etc. (cf Sdao et al., 2012).

Policy Area 2: Targeting the Most Vulnerable and Building Local Capacity



Photo: WaterAid/Eva-Lotta Jansson

Francisco Mario's daughter Maninha washing up outside her home next to the flooded road, Manhaua, Quelimane, Zambezia, Mozambique.

'We lost in 72 hours what [has] taken more than 50 years to build'. These are the words of President Carlos Flores, after Hurricane Mitch struck Honduras in 1998. While disasters affect rich as well as poor, the largest toll is paid by the poor and most vulnerable people and countries. Children are disproportionately affected by death and injuries as well as indirect conditions exacerbated by disasters, such as malnutrition, poor water and sanitation. Disasters disrupt education, separate children from their families and increase their vulnerability to trafficking, exploitation and abuse. Over 95 per cent of people killed by natural disasters are from developing countries (World Bank, 2009). A flood, a storm or an earthquake can have profound impact and create critical setbacks which destroy affected families' homes and livelihoods. In these countries, vulnerable populations often live on marginal or inadequate lands, where they lack basic facilities such as housing, clean water and sanitation, infrastructure (roads) and electricity. This vulnerability, combined with weak government capacity for planning, response and recovery, can easily turn a natural event into a disaster (GHA, 2012).

Building local capacity

There are effective ways of helping the most vulnerable; involving for example assisting communities to develop their own capacity. Many organisations are currently promoting such activities aiming for a disaster-resilient society, e.g. Community Based Water Resource Management (WaterAid, 2013b). Implementation at the local level is challenging in terms of building capacity and transparency in local governments.

When working through and collaborating with legitimate local authorities, international organisations need to actively work to sustain local capacity building efforts over the long term. However, the development community is struggling to create such local ownership and capacity building, partly originating from donor requirements on reporting and results. There are many alternatives, such as peer to peer learning (or twinning) which has proven to be one of the most appreciated support mechanisms (says Helena Molin Valdes former head of the Resilient city campaign and former Deputy Director at UNISDR). There are Swedish well-functioning twinning initiatives that could be further promoted (e.g. the National Water Catastrophe group, VAKA).

Sweden needs to continue to learn and strategise how to best target the most vulnerable by addressing the underlying root causes of risk and increasing local capacities. Swedish institutions (mainly MFA and Sida) need to commit to support capacity development of local communities, institutions and at-risk groups which implies focusing on long term results which are not always visible in project results or easy to monitor.

Swedish Best Practice: Peer to peer support network

VAKA – National Water Catastrophe group – is a Swedish initiative consisting of experts from different organisations and municipalities providing support to municipalities in Sweden with incidents or accidents related to the drinking water supply.

Policy Area 3: The Urban Challenge



Urban small scale drainage in Maputo, Mozambique.

Photo: Åse Johannessen

There is widespread consensus that urban disasters are increasing exponentially, resulting in escalating human and economic losses (Wamsler, 2014). Due to urbanisation, the current 50 per cent of humanity living in cities will increase up to 67 per cent by 2050 on average (UNDESA, 2012). Substantial growth of populations is occurring in risky areas, particularly through unplanned urban development. With an influx of poor and marginalised groups the proportion of at-risk populations increases. There are immense challenges in providing everybody with adequate housing, clean drinking water, and improved sanitation. Existing waste and waste water treatment systems are often inadequate, and blocked drains create breeding grounds for disease which can quickly spread. The increase in urban risk is also driven by more and more complex and interdependent urban systems, related urban-rural interlinkages and dependencies on critical centralised services and volatile economic systems. The development in the upstream river basin may, for instance, affect the downstream urban areas (e.g. flooding). At the same time neither the humanitarian, nor the development sectors, always have the capacity to respond adequately in urban systems (Wamsler, 2014). For example, the capacity to provide basic sanitation and repair existing water and urban sanitation systems has regularly been identified as a major gap in delivery of emergency aid, because existing systems are dysfunctional even before the disaster (Heeger et al., 2011).

The UNISDR launched in 2010 the "Resilient cities" campaign promoting DRR in urban areas. Sweden is taking part, engaging in city to city exchanges with other countries which are on par with Swedish socio-economic development. Sweden is often identified as a role model in "future cities" and is therefore in a position to increase its support to the "Resilient cities" campaign.

Sweden needs to actively provide tailored support and practical tools to local governments who commit themselves to resilience building. In addition, more active support for urban development programs in general is needed to target the root causes of risks faced by the most vulnerable, the urban poor. For that, Sweden needs to mobilise Swedish actors, including the private sector. There is a range of different efficient support models, such as co-funding by structural funds, city to city exchanges or twinning.

Swedish Best Practice: DRR design

The Swedish Civil Contingency Agency (MSB) has developed a disaster waste management guideline for UNEP-OCHA adding to the coordination and further development of field practices after a disaster.

International Best Practice: DRR design

In Nepal, WaterAid's work with raising latrines and water points to reduce disaster risk alongside programs to raise awareness in communities about preparedness for flooding, is illustrating the importance of integrating DRR and resilience aspects in technical design and infrastructure development (WaterAid, 2013a).

References

- AusAid 2009. Investing in a Safer Future – A Disaster Risk Reduction policy for the Australian aid program, June 2009. www.ausaid.gov.au/Publications/Documents/disasterriskreduction.pdf.
- Becker, P., Abrahamsson, M., and Tehler, H. 2011. An emergent means to assurgent ends: Community resilience for safety and sustainability. In: Proceedings of the fourth Resilience Engineering Symposium [Hollnagel, E, *et al.*, (eds.)], June 8-10, 2011. (pp. 29-35). Sophia Antipolis: MINES ParisTech.
- Folke, F., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, CS., and Walker, B., 2002. Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations. *Ambio* Vol. 31 No. 5. www.ima.kth.se/utb/mj2694/pdf/Folke.pdf.
- Global Humanitarian Assistance (GHA) Development Initiatives (DI); 2012 Aid investments in disaster risk reduction: rhetoric to action. <http://tinyurl.com/o48qwlh>.
- Heeger, J., van Koppen, P., and van Staveren, M. 2011: Explorative study into the provision of emergency and rehabilitation assistance by the Dutch government and water sector. Partners voor Water and the Ministry of Foreign Affairs. <http://tinyurl.com/mm3h4q6>.
- High Level Panel (HLP) 2013. A new global partnership: eradicate poverty and transform economies through sustainable development. The Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda. <http://tinyurl.com/k8y69nt>.
- Johannessen, Å., Han, G., Rosemarin, A., Panda, A. 2013. Urban Disaster Risk Reduction (DRR) and resilient cities – Progress of 121 Local governments An UNISDR and SEI report. Draft final report submitted to UNISDR October 2013.
- Kelleit, J., & Sparks, D. 2012. DRR: Spending where it should count. Briefing paper. Development Initiatives. Global Humanitarian Assistance. <http://tinyurl.com/onfb4vo>.
- Lavell & Maskrey. 2013. The future of disaster risk management: An on-going discussion. <http://tinyurl.com/pupo98b>.
- IPCC, 2012. Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation [Field, C.B., *et al.*, (eds.)]. A Special Report of Working Groups I and II of the IPCC. Cambridge University Press, pp. 1-19. www.ipcc-wg2.gov/SREX.
- IPCC, 2013. Working Group I Contribution to the IPCC Fifth Assessment Report Climate Change 2013: The Physical Science Basis, Summary for Policymakers, September, Stockholm.
- Majwe T., Randel, J. 2010. Evaluation of Sida's Humanitarian Assistance. 2010:4. Sida evaluation. <http://tinyurl.com/nfkjzkz>.
- Sdao, F., Sivertun, Å., Sole, A., Albano, R., Pascale S., Giosa, Luciana. A (2012) GIS Implementation of a Model of Systemic Vulnerability Assessment in Urbanized Areas Exposed to Combined Risk of Landslide and Flood. In *Development and Economic Planning: New Technologies*, edited by Dr. Borruso, G., Bertazzon, S., Favretto, A., Murgante, B., and Maria Torre, C. IGI GLOBAL (pp. 1-411). DOI: 10.4018/978-1-4666-1924-1.
- Skr. 2004/05:52, The Government's Humanitarian Aid Policy. www.government.se/sb/d/574/a/93693.
- UNDESA, 2012. Population Division (2012): World Urbanization Prospects, the 2011 Revision. New York.
- UNISDR, 2005, Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters. World Conference on Disaster Reduction, 18-22 January 2005, Kobe, Hyogo, Japan. <http://tinyurl.com/kdrltk2>.
- UNISDR, 2009. UNISDR Terminology on Disaster Risk Reduction. United Nations. <http://tinyurl.com/kz554c4>.
- UNISDR, 2012. 2011 – Disasters in numbers, UNISDR, USAID, CRED.
- Wahlström, M., UN Special Representative of the Secretary-General for DRR, quote on blog post:2013-10-31. <http://tinyurl.com/n9xj5pj>.
- Wamsler, 2014. *Cities, disaster risk and adaptation*. Routledge.
- Wamsler, C., Brink, E., Rivera, C. 2013. Planning for climate change in urban areas: From theory to Practice" *Journal of cleaner production*. <http://dx.doi.org/10.1016/j.jclepro.2012.12.008>.
- WaterAid, 2013 *Disasters Framework*, WaterAid, London, UK. <http://tinyurl.com/mlszwjo>
- WaterAid, 2013. Strengthening WASH Services and Community Resilience through community based water resource management. Briefing Note, WaterAid Burkina Faso. www.wateraid.org/~media/Publications/strengthening-WASH-services-and-community-resilience.ashx.
- World Bank, 2009. *Disaster Risk Management, 2009*. <http://go.worldbank.org/BCQUXRKXOW0>.



When collecting water women from the local community must walk across an area of barren ground that has been contaminated with saline after cyclone Aila struck in 2009, Koyra Number 4, Ward 7, Koyra, Bangladesh, 2011.

Swedish Water House Cluster Groups

Cluster groups are small, interdisciplinary networks that bring together experts and practitioners by focusing on a specific issue for a period of two to three years. The meetings become an arena for stakeholders interested in building bridges between research, development, private sector, policy and decision making. Results can be varied, ranging from a final conference or policy brief to a report or even actual guidelines. All output is aimed at highlighting Swedish recommendations, practices and expertise which could be shared with international actors.

This policy report and recommendations was written on behalf of the cluster group for Water and Disaster Risk Reduction, DRR. It directs itself towards Swedish authorities and organisations engaged in DRR, resilience and climate change adaptation, including the Ministry for Foreign Affairs (MFA), Ministry of Defense, Ministry of the Environment, Swedish Environmental Protection Agency, Sida, and Swedish Civil Contingencies Agency (MSB), and also towards corresponding institutions in other donor countries in the EU.

Read more about cluster groups at:

www.swedishwaterhouse.se/en/cluster_groups

Water and Risk: Developing Sustainable and Resilient Communities

We Recommend:

- The Ministry of Foreign Affairs (MFA) to develop a policy statement which builds on a comprehensive understanding of Disaster Risk Reduction (DRR) and resilience and outlines priority areas.
 - Sida to incorporate these elements in its country policies, influencing the partners of Swedish development cooperation.
 - Sida and MFA to adjust the institutional hosting of DRR and resilience so that it becomes more integrated in sustainable development oriented departments.
 - MFA to continue to influence the Post-2015 Agenda and associated SDGs to include DRR and resilience building targets.
 - MFA to emphasise the need to more actively address critical areas such as urban development, the role of urban governance and related social and institutional capacity development.
- All target audiences to address the underlying and structural causes of risk and vulnerability in DRR and resilience work, to ensure that development and humanitarian programs do not create new forms of risk. This includes monitoring gradual change and loss of resilience.
- All target audiences to promote effective ways of reaching the most vulnerable as this has proven a challenge, for instance by developing local capacity for self help; local community participation and adequate local governance structures.
 - All target audiences to work in collaboration with Swedish governmental and NGO actors in DRR and resilience, and strive to actively coordinate efforts at Nordic, EU and Global level (SDGs, HFA, UNISDR, GFDRR).

This report was produced by the parties illustrated below. It is directed to Swedish authorities, agencies and organisations engaged in Disaster Risk Reduction.



The Swedish Water House is part of SIWI

Stockholm International Water Institute, SIWI
Linnégatan 87A, SE-115 23 Stockholm, Sweden
Phone +46 8 121 360 00 • Fax +46 8 121 360 01
siwi@siwi.org • www.siwi.org

