



Myndigheten för
samhällsskydd
och beredskap

Institutionalizing Gender Equality in Disaster Risk Reduction

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FORSKNING

Institutionalising Gender Equality in Disaster Risk Reduction: DRR challenges and impacts on women and men, girls and boys in the context of a changing climate

This report was written by a team of researchers at the Stockholm Environment Institute: Marcus Carson, Åse Johannessen, Atakilte Beyene, Cecilia Ruben, Elise Remling and Sophie Peter. The authors would like to thank MSB staff Ulrika Lindblad and Katarina Runeberg for their valuable support and feedback. They also gratefully acknowledge the openness and thoughtfulness of the MSB staff who were interviewed for this report.

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Acronyms

CC	Climate change
CCA	Climate Change Adaptation
COP	Conferences of the Parties of all member states to the Kyoto Protocol
DRR	Disaster risk reduction
EU/GFSP	Greening Foreign and Security Policy: The Role of Europe
HFA	Hyogo Framework for Action
ICRC	International Committee of the Red Cross
IFRC	International Federation of Red Cross and Red Crescent Societies
IDS	Institute of Development Studies
INGO	International Non-governmental Organisation
IPCC	Intergovernmental Panel on Climate Change
IWRM	Integrated Water Resources Management
MSB	Myndigheten för samhällsskydd och beredskap/Swedish Civil Contingency Agency
NGO	Non-governmental Organisation
Oxfam	Oxfam International (Oxfam UK also referred to)
PP	Public participation
SEI	Stockholm Environment Institute
Sida	Swedish International Development Cooperation Agency
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations International Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction
UNMAS	United Nations Mine Action Service
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
WFP	United Nations World Food Program

Summary

While MSB has many years of experience of implementing environmental and gender perspectives in its humanitarian work; disaster risk reduction (DRR) and climate change adaptation present a different set of opportunities and challenges. These further emphasise the inclusion of a social change component that overlaps somewhat with more conventional development work. MSB commissioned the Stockholm Environment Institute (SEI) to prepare this report, noting that women and men (as well as girls and boys) are affected differently by: i) the impacts of climate change, ii) efforts related to climate change adaptation (CCA), and iii) disaster risk reduction (DRR).

This report includes:

1. Clarification of the links between climate change adaptation (CCA) and disaster risk reduction (DRR) and how gender aspects relate to these working areas. Where do they meet? Are there gaps, overlaps, or different agendas? If so, how do they relate to MSB's mission?
2. An overview of primary ways in which a gender perspective informs CCA efforts and how these relate to MSB's missions.
3. An analysis and overview of the stakeholders, capacity, and main actors that are relevant for MSB's work linked to CCA, DRR and gender. A local, national and regional level focus is distinguished.
4. An analysis of MSB's role as an actor and of its operations in relation to the findings.

This report takes two complementary approaches to the gender issue. The first, commonly referred to as "intersectionality", examines gender in conjunction with other social structures. The second is a systems approach to understanding social stability and change, and brings to light the variety of ways social interactions can be structured.

Future trends that shape the world in which gender issues play out are also strongly influenced by climate and disasters, demographic changes and urbanization. The impacts of these will be felt differently across regions with diverse geographic characteristics – to a large extent determined by the impacts of climate change on the hydrological cycle. With this in mind, linkages with gender for different sectors are described in this report for: general environmental vulnerability and management; agriculture & food; early warning systems; search and rescue; early recovery; water, sanitation and hygiene (WASH); shelter; construction; logistics and transport; and information and communication technology (ICT).

It is clear from this brief review of the significance of gender in these different contexts that women are especially vulnerable. There is an urgent need to

incorporate a gender perspective in operations to identify women's different vulnerabilities and capabilities, and to better understand their needs as beneficiaries of disaster risk reduction efforts and their roles as actors in these efforts.

The implications of climate impacts for gender issues need to become an integral component in MSB's operations. Implementing gender policies and actions requires clarity, institutional change, and senior management buy-in, supported and informed by accurate sex-disaggregated information. The report addresses how to achieve this by formulating strategic areas for action, and describing potential activities under each. The strategic areas are:

- Political will and support from highest level of management
- Institutional culture
- Organizational approaches: merging agendas of sustainability and risk
- New partnerships
- Pooling of Swedish expertise in climate change adaptation and DRR
- Institutional and individual capacity building
- Adapting existing tools and practices

The most significant change in terms of climate impacts that MSB will be faced with is the need to increasingly address the underlying causes of vulnerabilities. This is fundamentally relevant for gender issues, which link the vulnerabilities seen in disaster response with the vulnerabilities that present challenges in development. It is evident, especially after the 2012 Rio+20 conference, that the global agendas of emergency response and DRR are becoming integrated into the sustainable development agenda. The reverse is also true, with mounting evidence to demonstrate that development cannot be sustainable without DRR or climate change adaptation included as basic building blocks. This would open up opportunities for new partnerships, funding streams and activities that could transcend the "silo" approach to humanitarian response work and long term development. The way that gender-informed DRR is developing means that it also will likely become a more attractive domain for female professionals, who for various reasons have been underrepresented in DRR work.

The stakeholder analysis included in this report identifies some of the major Swedish and international actors in the fields of gender, humanitarian efforts, development and climate, and offers suggestions for how MSB might best engage with them. There is broad opportunity for MSB to forge more innovative partnerships outside its comfort zone. Furthermore, there is an opportunity for MSB to provide internal training that can influence an organizational culture rooted in the male-dominated domain of rescue service, civil defense and engineering.

Svensk sammanfattning

MSB har god erfarenhet av att ta hänsyn till genus och miljö i sitt humanitära arbete. Katastrofriskreducering och klimatanpassning innebär dock nya utmaningar och möjligheter som sätter fokus på behovet att inkludera ytterligare sociala komponenter som redan praktiseras mer i konventionellt internationellt utvecklingsarbete. MSB gav i uppdrag åt Stockholm Environment Institute (SEI) att utveckla hur kvinnor och män, flickor och pojkar påverkas olika av i) påverkan av klimatförändringar, ii) klimatanpassningsåtgärder, och iii) katastrofriskreducering.

Den här rapporten innehåller:

1. Klargörandet av relationen mellan klimatanpassning och katastrofriskreducering och hur genus aspekter relaterar till dessa aktiviteter. Var finns beröringspunkterna eller eventuella svagheter i hur man hanterar frågan på ett övergripande sätt? Finns det olika intressen? Om så är fallet, vad har det för konsekvenser för MSBs uppdrag?
2. En sammanfattning av klimatanpassningsåtgärder sett ur ett genus perspektiv och om hur dessa relaterar till MSB's uppdrag.
3. En aktörs- och kapacitetsanalys med en översikt av de främsta aktörerna som är involverade i arbetet med klimatanpassning, katastrofriskreducering och genus, på lokal, regional och internationell nivå, med relevans för MSB.
4. En analys av MSBs roll som aktör och förslag på aktiviteter i ljuset av insikterna från tidigare frågor.

Rapporten analyserar genus med hjälp av två olika synsätt. Den första betonar vikten av att analysera genus i samspel med andra sociala faktorer såsom etnicitet, ålder, utbildning, status etc. Det andra sätter genus in i ett system för att förstå social stabilitet och förändring, och illustrerar olika sätt att strukturera sociala interaktioner. Framtida globala trender såsom klimatförändringar, katastrofer, demografiska förändringar och urbanisering spelar roll för arbetet med genus. Klimatpåverkan manifesteras på olika sätt i olika geografiska regioner genom olika påverkan på den hydrologiska cykeln. Hur detta sedan påverkar genus beskrivs i rapporten för: Miljöförvaltning; jordbruk & matsäkerhet; tidiga varningssystem; sök och räddningsoperationer; tidig återuppbyggnad; vatten, sanitet, och hygien; boende; infrastruktur, logistik och transport; telekommunikation (ICT).

Det framkommer tydligt från den här studien att kvinnor - på många olika sätt - kommer att bli speciellt utsatta av klimatförändringarna och att det brådskar att inkludera hänsyn till genusfrågor i konkreta åtgärder för att möta deras behov.

Konsekvenserna av klimatförändringarna behöver integreras som en naturlig del av MSBs aktiviteter. Dock innebär den praktiska hänsynen till genusfrågorna ett antal utmaningar där behovet av tydlighet, anpassning av den institutionella kulturen och stöd från högsta ledarskiktet spelar en stor roll; uppbackat av information som skiljer mellan män, kvinnor, flickor och pojkar. Hur detta sedan ska göras i praktiken är formulerat utifrån olika strategier med några relevanta aktiviteter för att åstadkomma förändring:

- Politisk vilja och stöd från högsta ledningen i en organisation
- Institutionell kultur
- Organisationellt fokus: gemensam agenda för hållbarhet och risk
- Nya samarbetspartners
- Skapa en pool av Svensk expertis i klimatförändringar och katastrofriskreducering
- Institutionell och individuell kapacitetsbyggande
- Anpassning av existerande verktyg och praxis

Den mest betydande konsekvensen som klimatförändringarna har för MSBs strategier är ett ökande behov av att åtgärda de underliggande orsakerna till sårbarhet. Detta är fundamentalt viktigt för genusfrågan vilket också är ett tema för både humanitär respons och internationellt utvecklingsarbete. Det blir mer och mer tydligt, speciellt efter Rio +20 konferensen 2012 att den globala humanitära agendan och katastrofriskreducering inkluderas i den hållbara utvecklingsagendan. Det har också framkommit att hållbar utveckling inte kan möjliggöras om inte hänsyn också tas till riskreducerande och klimatanpassande behov. Det här öppnar upp för andra sorters partnerskap och innovativa sätt att finansiera aktiviteter som befinner sig i övergången mellan de olika sektorerna och arbetsområdena. Sättet som behövs för att angripa det här problemet är en traditionell domän för kvinnor, som är mer intresserade att arbeta med lösningar som handlar om sociala och ekologiska lösningar.

Aktörsanalysen beskriver några av de viktigaste aktörerna inom genus, humanitär verksamhet, utvecklingssamarbete och klimat och förslag till hur MSB kan på bästa sätt engagera sig med dem. Det finns en möjlighet för MSB att samarbeta med andra aktörer än de traditionella. Dessutom är det här en utmaning för MSB att påverka organisationskulturen eftersom den har sitt ursprung i mansdominerade sektorer som brandkår, civilförsvaret och ingenjörsvetenskap.

1. Introduction

1.1 Context and background

The Swedish Civil Contingencies Agency (Myndigheten för samhällsskydd och beredskap, MSB) is Sweden's premier agency responsible for risk preparedness and response in accident, disaster and crisis situations. This mission includes both domestic and international responses to disasters and crises. Much of its most important work takes place in the developing world, where human vulnerability is especially great. In conjunction with this core mission, MSB's work is guided by United Nations Security Council Resolution 1325, on Women, Peace and Security, and the Swedish Government's National Action Plan (NAP) for implementing this resolution, with ensuring a gender perspective is incorporated into all its activities, including in its disaster and risk reduction (DRR) operations. In addition, the Agency is required to report annually on the implementation of the National Action Plan. In keeping with these responsibilities, MSB has invested considerable effort in mainstreaming gender into its emergency response and DRR work, including training provided to staff working on MSB projects and those seconded to other agencies (usually UN agencies) using its Gender Equality Handbook (MSB 2009) as a guide. While including a gender perspective in its work is a responsibility of MSB, it is also an important tool for carrying out its core tasks more effectively in responding to crises and contributing to prevention work and preparedness.

Consideration of the risks and consequences of environmental problems is also expected to be mainstreamed into MSB's routines, practices and day-to-day work. Of the numerous environmental challenges, anthropogenic climate change (CC) is especially problematic in the way it increases exposure to an array of risks, in particular for more vulnerable groups including women, children (especially girls) and the elderly. The nature, scale and impact of climate change and its resultant social consequences vary across regions, societies and population groups. However, in terms of vulnerability to CC and its impacts, people in developing countries face the most severe challenges (Adger et al. 2007). Members of certain population segments have been identified as especially vulnerable.

MSB already has considerable expertise in both CC and gender issues. However, mainstreaming is a long-term process and the intersection of these issues poses new challenges for MSB in carrying out its mission. MSB wants to achieve a more systematic understanding of the interactions between these natural and social phenomena, and for this improved understanding to be more deeply operationalized in all phases of its work. Specific applications would include an analysis and examination of vulnerability, the protection of infrastructure and information, preparedness for interventions, capacity development, crisis reduction, overall coordination, and the agency's collaborations in the international arena. Some initiatives are already under

way, such as the so-called WASH and RESCUE project implemented by SEI which focuses on Water, Sanitation and Hygiene in RESilient Cities and Urban areas adapting to Extreme waters – reducing risk to human health and security by taking a holistic, environmental and socio-economic approach.

MSB has many years of experience of implementing environmental and gender perspectives in its humanitarian work, but DRR operations present a different set of opportunities and challenges. In contrast to emergency response operations, DRR includes a social change component that overlaps somewhat with more conventional development work. Reducing vulnerability to and improving preparedness for anticipated severe events and stresses provides important opportunities for capacity development among the more vulnerable groups in the countries in question, which include not only women, but also children and the elderly.

MSB has concluded that it could significantly enhance its planning, operations and follow-up by strengthening its capacity to employ a gender perspective in its analysis of the risks and hazards generated by CC. More specifically, MSB wants a better overview of the key issues regarding climate change adaptation (CCA) and gender, and the links between the related concepts of DRR, resilience and gender. It also wishes to undertake a stakeholder analysis as a framework for positioning its missions and operations. The MSB Plan of Action for 2012 states that it will continue to seek synergies and to identify a holistic approach within MSB and in the overall field of DRR. The intention is to approach matters in a comprehensive manner to strengthen the results of interventions and thereby to free resources for additional efforts.

MSB commissioned the Stockholm Environment Institute (SEI) to prepare this report, noting that women and men, and girls and boys, are affected differently by the impacts of climate change, and efforts related to CCA and DRR. Drawing on on going communications, meetings and a background report, this report seeks to broaden the perspective for promoting gender equality through an approach that combines DRR and CCA strategies. In particular, as per the MSB Plan of Action for 2012, the focus is on the interrelated aspects of the environment, gender, safety and health.

An additional purpose of this report is to extend the dialogue between departments and staff within the MSB, as well as with its professional resource base (which takes the form of a roster of experts) and its international partners. The gender perspective has been developed in Sweden over a period of many decades and represents an on going effort to strengthen equality between women and men in society. Developing and incorporating a gender perspective into MSB's work in the international arena cannot be accomplished overnight. It requires systematic effort and much practice to integrate it into on going activities. The need to more effectively combine a gender perspective with CC responses is not unique to the Swedish setting – other actors are grappling with the same issue. Thus, an expanded analytical framework is called for, along with applications and illustrative examples.

This report identifies the synergies and linkages in the areas of CCA and gender in relation to DRR. Drawing on these linkages, we suggest strategies to improve human resource capacity and good governance structures, which can help reduce disaster risks and enhance effectiveness in saving lives and alleviating suffering. The overall objective of the assignment is to provide an overview of existing knowledge on climate change and gender in terms of issues, concepts and stakeholders, and to make recommendations on how this knowledge might be used to more thoroughly mainstream gender into the work of MSB. The report:

Clarifies the links between CCA and DRR, and how gender aspects relate to these concepts. Where do they meet? Are there gaps, overlaps, or different agendas? If so, how do they relate to MSB's mission?

Provides an overview of the primary ways in which a gender perspective informs CCA efforts and how these relate to MSB's missions.

Provides a stakeholder and capacity analysis of the main actors relevant to MSB's involvement in CCA and DRR and its work on gender at the local, national and regional levels.

Analyses the role of MSB in terms of its operations in relation to the findings.

The terms of reference for the assignment are attached at appendix 3 and the background report is attached at appendix 4.

1.1.1 An interdisciplinary SEI research team, communications with MSB

Six SEI researchers contributed to the study – four women and two men. The team members come from different countries and continents and bring to the project a wide range of expertise on gender equity, CC and CCA, DRR, rural, urban and peri-urban perspectives, the study of organisations and institutions and their strengthening, policy development and capacity development. Work on the report benefited from ongoing and past SEI research on which members of this team have been or are currently engaged. SEI has a sizeable portfolio of research activities and applications closely linked to the complexities of CC, including CC mitigation and CCA, DRR and gender equity.

1.2 Integrating differing perspectives and communities of practice

DRR activities traditionally fall within the humanitarian agenda, involving preparations for disaster and crisis management that encompass an array of planning activities and engage many actors. Ideally, they should involve not just the beneficiaries, but all concerned actors. DRR preparations generally aim to provide the foundations for re-establishing essential services with a view to saving lives and providing relief. These planning efforts strengthen the capacity to carry out interventions and mitigate harm under calamitous conditions. The

built environment and communications infrastructure are traditionally given high priority, along with the provision of shelter, potable water, sanitation, roads, bridges, health care, electronic networks, electricity, and so on. In addition, ensuring the availability of food rations and cooking fuel are priority interventions. In some cases, ensuring the survival of domestic animals is also important. Many of these activities are currently approached in ways that are “gender blind”, either while planning and implementing operations or during the reconstruction phase.

There is a growing realisation that to be most effective, DRR needs to be integrated into the development agenda, take account of environmental considerations and take a gender perspective (UNISDR 2005, 2008, 2009). However, institutional structures (organisations, policies) and culturally embedded expectations (beliefs about how things are done) have made such integration a challenging task. Development actors, for example, often see DRR as a luxury, set against more pressing agendas to improve people’s livelihoods. However, evidence is emerging that development efforts are being undone by disasters, as is highlighted in a recent report by the United Nations International Strategy for Disaster Reduction (UNISDR) that plots GDP against disasters. In addition, “building back better” and the integration of DRR are seen as providing an assurance that investment will not be wasted. In the past, DRR actors have often felt that they have “fallen through the cracks” with donors, when their projects have been neither strictly humanitarian nor strictly developmental. Funding to improve resilience is now opening up this field. This is also true within the development sphere.

Environmental considerations are increasingly coming to the fore in DRR and disaster management. In particular, the growing awareness of CC and its expected impacts is being incorporated into the list of concerns to be addressed in planning and capacity development. As a risk multiplier, this issue is of particular concern for already vulnerable groups in developing countries and requires special attention. This problem is highlighted in the Intergovernmental Panel on Climate Change report, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, which highlights the role of vulnerability in both CCA and DRR, as well as the important commonalities between them both. Other cases in point include an SEI study, *Climate Adaptation in Southern Africa: Addressing the Needs of Vulnerable Communities* 2008 (ref CR), and the recently created network on “Building Resilience into Water Supply and Sanitation: Finding a Common Vision for Sustainable Communities and Ecosystems in Emerging Economies”. The importance is further reflected in MSB’s commissioning of a study to develop an environment handbook. A great deal of knowledge is already available and embedded in the discourse related to CC and CCA.

DRR and disaster management experts have been aware of the need to incorporate a gender perspective into their approaches for some time. Such an agenda helps to empower women by increasing their ability to influence decision-making and strengthen respect for women’s rights. Such processes are in part based on laws and regulations as well as various other mechanisms at

the national, regional and international levels. Thus, the gender-specific implications of DRR, disaster preparedness and interventions are already part of the humanitarian agenda. Women, men and children need different types of infrastructure and services.

MSB is guided by several documents to integrate a gender perspective into its policies and operations, including its *Gender Equality Handbook: practical advice for international assistance* (MSB 2009) and the “Myndighetsgemensam Avsiktsförklaring”. The latter is a shared commitment to pursue gender equality in all its activities, which is also co-signed by the Swedish Armed Forces, the Swedish Police and Sida. The content refers to collaboration in implementing the above-mentioned Security Council resolution on Women, Peace and Security. In May 2009, the MSB’s Director General, Helena Lindberg, stressed gender as a cross-cutting issue, emphasising the importance of mainstreaming gender considerations as well as equity to reduce vulnerability at all levels of MSB operations. Another important source for gender-focused perspectives is the Women for Climate Justice “GenderCC” platform for information, knowledge and networking on gender and CC, which aims to mainstream gender concerns into international CC policy.¹

MSB and others working with disaster and crisis management before, during and after the occurrence of disasters and crises – and increasingly with DRR – now strive to integrate CCA and gender perspectives into their operations. However, the integration of CCA and gender into an established mode of operation poses challenges, as the identification of links has not yet been adequately explored and developed. This is not surprising, as these two areas require quite different areas of expertise to those traditionally employed by these agencies. A recent study by BRIDGE and the British Institute of Development Studies (IDS) notes that:

one obstacle is that often staff working on climate change responses are more likely to have a background in natural science, technological or economic approaches to climate change and development and may be less aware of the social dimensions. [...] Gender specialists in turn often find it difficult to access the highly complex language, scientific debates and institutional structures and processes that have framed much of the national and international debate and processes linked to climate change until now. (Otzelberger 2001: 11)

¹ The GenderCC platform for information, knowledge and networking on gender and climate change. Online at: <http://www.gendercc.net/> (30 November 2012).

1.3 Unequal challenges caused by climate change impacts

Developing countries are likely to experience the effects of CC differently from developed countries. This is due not only to differences in the projected change in climate parameters, but also because vulnerabilities and adaptive capacities vary greatly between nations and regions (Adger et al. 2007). Mertz et al. (2009) provide four contributory explanations for this. First, large parts of developing countries lie in regions that already experience high temperatures so even a minimal increase in temperature is likely to cause significant evaporation losses. Rainfall is also often projected to decrease. The physical impacts are thus expected to be significant. Second, developing countries are often highly dependent on the agricultural sector as a means of income, livelihoods and employment. Third, people who are impoverished are already more vulnerable and thus will be hit harder by the impacts of a changed climate. Fourth, adaptive capacity is weak due to the limited economic and technological capacities. Climate change, then, is yet another stressor the system has to cope with, and functions as a hazard multiplier because it increases the number and severity of hazardous developments to which communities are exposed. Consequently, although it will affect all regions, CC can be expected to substantially increase the burden on those people who are already more vulnerable to climate extremes – and the major share of the applied load will be carried by these already sensitive regions (Adger 2006).

It is clear that national and international efforts, both humanitarian and development-oriented, must increase local, regional and global capacities to address these challenges. In Sweden, for example, issues associated with CC are clearly on the agenda. However, there have been only preliminary discussion and recognition of the gender dimension, for example, in women's generally greater concern about climate change (Naturvårdsverket 2009). Internationally, there is a growing debate and knowledge bank about the gender dimensions of climate change, motivated in part by women's vulnerability. Thus, diverse stakeholders are engaged in ensuring that a gender perspective on prevention, protection and adaptation is added to the colossal challenges presented by CC. MSB now strives to play a more active part in this international discussion to ensure that its own planning and interventions address the particular needs of women, men, girls and boys and that international collaboration is strengthened in this regard.

Much good work has already begun. For example, the internationally agreed Hyogo Framework for Action (HFA) identifies both gendered differences and cultural diversity as cross-cutting issues in DRR operations. Special reference is made to the following as priorities and general considerations: “A gender perspective should be integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training” (UNISDR 2005: 4).

1.4 Sweden in an international context

Several Swedish policies and instruments guide Sweden's international involvement in regard to humanitarian interventions, development cooperation and the objectives on gender equity and CC. For example, all Swedish Agencies, including MSB, operate with an overall mandate to integrate gender equality perspectives and climate change into national policies. The selection below describes the wider context in which MSB operates. Selected policies of relevance to this study are:

1. Saving lives and alleviating suffering: Policy for Sweden's Humanitarian Assistance, 2010–2016

The overall goal of Sweden's humanitarian assistance is to save lives, to alleviate suffering and to maintain human dignity for the benefit of people in need, who are or are at risk of becoming affected by armed conflicts, natural disasters or other disaster situations.

The overall goal of Swedish humanitarian assistance is to be achieved by focusing on three main areas:

- *Flexible, rapid and effective humanitarian response designed to meet the humanitarian needs of today and those of the future*
- *A strong and coordinated international humanitarian system*
- *Improved interaction with development assistance and with other types of interventions and actors.* (Department for Development Policy, Ministry of Foreign Affairs 2011 p. 6).

2. Swedish Policy for Global Development, 2003

Two fundamental perspectives guide the design of Sweden's development policy and they complement and support each other and partially overlap. The perspectives concern poverty reduction and the promotion of equitable and sustainable global development for poor women, men and children. Additionally, a human rights perspective puts human rights, democracy, gender equality and the rights of the child at the centre. Fundamental principles of the rights perspective are non-discrimination, participation, openness and transparency along with the principles of responsibility and accountability. (Government Bill 2002/03, Communication 2003/04:122. Department for Development Policy, Ministry of Foreign Affairs 2004)

In addition, the Government Communication on Policy Coherence for Development, 2010, states that:

climate change and environmental impact represent one of the greatest challenges currently facing the world. Vulnerability and deprivation, for instance, in connection with drought and flooding, tend to strike hardest at the poorest people and countries, since they have only limited means for dealing with climate change. (Meeting Global Challenges: Government communication on policy coherence for development 2010. Ministry for Foreign Affairs, p. 9)

3. On Equal Footing: Policy for Gender Equality and the Rights and Role of Women, 2010

Sweden's policy on gender and the rights and role of women in development focuses on four interrelated areas, concerning women's economic role and working conditions; sexual and reproductive health and rights; women's security, including combating all forms of gender-based violence and human trafficking. (Ministry for Foreign Affairs 2011)

4. U.N. Security Council Resolution 1325 and 1820

UN Security Council resolution 1325 was unanimously adopted in October 2000. A landmark legal and political framework, it acknowledges the importance of the participation of women and the inclusion of gender perspectives in peace negotiations, humanitarian planning, peacekeeping operations, post-conflict peace building and governance. UN Security Council resolution 1820 was adopted in June 2008 to address the issue of widespread sexual violence in conflict, both as used systematically to achieve military or political ends, and as an opportunistic act arising from cultures of impunity. Resolution 1820 identifies sexual violence as a matter of international peace and security that necessitates a security response, by recognizing that such acts can exacerbate situations of armed conflict and can impede the restoration of peace and security (UNIFEM website 2013).

1.5 Links between the environment, gender issues and DRR within MSB's vision, planning, interventions and follow-up

Sweden has taken on substantial responsibility regarding international development efforts and humanitarian interventions. Much of this support is channelled through the UN system, which was the conduit for approximately half the SEK 36.4 billion spent in 2011. Of the bilateral support provided in 2011, 18% of the amount was designated specifically for humanitarian interventions. Sida is the largest single funder of UNISDR and the second largest funder of GFDRR after the EU institutions (Global Humanitarian Assistance, GHA, 2012 "Aid investments in disaster risk reduction: rhetoric to action, Development Initiatives", <http://www.preventionweb.net/english/email/url.php?eid=29212>)

Humanitarian interventions differ from long-term development cooperation primarily in that they have their basis in the human rights conventions and are intended as short-term interventions to relieve extreme hardship. Development cooperation aims to contribute to partner countries' development in order to reduce vulnerability and poverty. Its capacity development goals also make it more process-oriented, which requires a longer-term perspective.

Sweden is interested in pursuing its development cooperation goals by addressing cross-cutting factors related to well-functioning public institutions,

supporting democratic governance and promoting issues related to human rights and gender equality, and responding to climate change and other environmental problems (Sida, *Swedish development cooperation: This is how it works*. 2009: 5]). There is a growing international discourse on building resilient communities. Thus, it has become apparent in Sweden and internationally that there is a gap between humanitarian assistance and development cooperation, which must be bridged to enable a more holistic approach to DRR.

In Sweden, MSB has reviewed its mandate and finds that it could contribute to bridging this gap through three of its many functions: risk assessment, capacity development and emergency preparedness. At the same time, MSB intends to mainstream both CCA and gender equity within its DRR work. In order to accomplish the planned change, major alterations must be accommodated within the agency that require review, new and amended guidelines, internal capacity development and in-depth evaluation. MSB has therefore commissioned several studies, of which this one forms a small part of the internal development process towards an increased focus on DRR, while mainstreaming CCA and gender.

2. A gender lens on climate change adaptation and disaster risk reduction

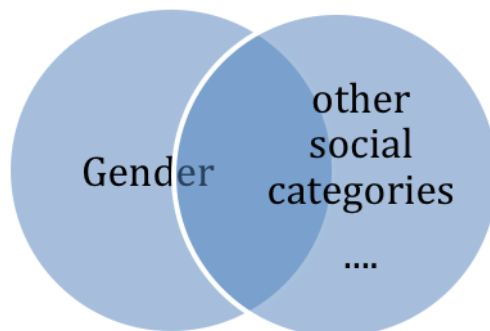
2.1 Gender as a cross-cutting social category: focusing the lens

Gender is a cross-cutting social category (Hausmann, Tyson, and Zahidi 2011). In the field of development studies, gender has long been acknowledged as a critical factor in the dynamics of poverty and poverty reduction strategies, economic development and good governance (Ahmed 2007; Lambrou and Nelson 2010). Gender is also increasingly recognised as an important component of understanding the particular needs generated by climate change (CC) impacts and in developing disaster risk reduction (DRR) strategies and adaptation mechanisms (World Bank 2011b).

At its most basic level, a gender perspective dispenses with the assumption that men's and women's social differences are a natural and normal outgrowth of sex differences (Mosse 1993). Gender differences are socially constructed and perpetuated by socially transmitted beliefs, formal laws and traditions, and power relations between individuals and between groups in society.

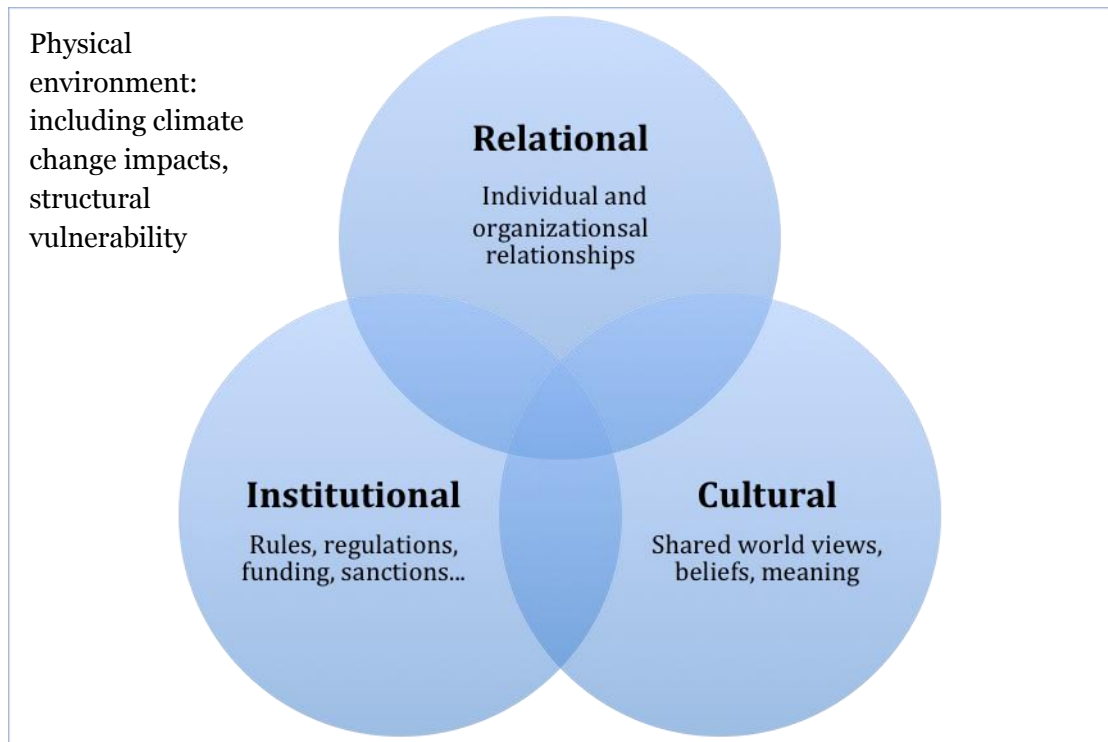
While gender can be understood in terms of the differing roles and relations between men and women, it also cuts across and interacts with other social categories such as class, ethnicity and religion – not least because each of these types of categories entails particular types of gender roles and relations. To identify and analyse the various manifestations of gender in a more fine-tuned manner, we use two complementary approaches, or lenses. The first, commonly referred to as "*intersectionality*", examines gender in conjunction with other social structures. Intersectionality approaches work from the recognition that gender differences may be expressed quite differently depending on other social categories that are part of the context within which gender interacts.

Figure 1: The intersection and overlap of gender and other social categories



The second central element of our approach is drawn from an analytical framework widely used in sociology, political science and economics. This framework, referred to as neo-institutionalism, represents a systems approach to understanding social stability and change, and brings to light the variety of ways in which social interactions can be structured. Here we emphasise three different types of social structure that interact to influence available choices and actions, and which also serve to influence policy options (Figure 1). These three categories highlight the types of social structure that work according to differing logics but interact, influence and overlap with one another. The various expressions of power and influence among and between individuals and groups constitute the *relational dimension*. In the *institutional dimension*, institutional rules such as laws, regulations and well-established social norms provide a more obviously structural logic. The *cultural dimension* highlights cultural, ideological or religious influences, where deeply held ideas and beliefs about women and men, about right and wrong, and about how the world works (or should work) influence how people navigate and interact in their environment. Taken together, these three dimensions constitute the broader context in which gender intersects with other specific types of social factors.

Figure 2: Three different types of social structure with gendered consequences



Source: Adapted from Carson et al. 2009.

One example to use the above framework is marriage. As an institution, marriage is a formal legal construct including specific duties, rights and responsibilities. On going political discussion about quite significant modifications to these rules illustrates their importance. Ideas rooted in cultural, religious or normative beliefs about what marriage is or should be provide the blueprint on which this formal structure is built. As these ideas and beliefs change, demands are often made to reflect them in “updates” to the formal structure, as has been the case with same-sex marriage. Social relations such as marriage are influenced by these two dimensions, but also by the various capabilities that individuals or groups bring to the picture that help to define a relationship. Even in formally equal societies, relations between women and men are not necessarily equal, just as the election of an African American president of the United States does not signal an end to racial prejudice or discrimination.

We provide additional background on *intersectionality* below as well as on the systems-theoretical framework provided by *neo-institutionalism*. We wish to emphasise, however, that this conceptual framework is intended not as a theoretical exercise but as a set of lenses to help focus on gender relations in their various forms, and identify those aspects that are most important to increasing preparedness in advance of and responding to crises and disasters.

2.1.1 Intersectionality

The limitation of gender as a single analytical tool is well recognised in the literature. It is overly simplistic to emphasise the category “men as a group” versus “women as a group” (Hebert 2007). For example, in poverty and development studies, the tendency to portray rural populations as relatively homogenous groups of men and women, where in-group differences are rarely explored, fails to provide an adequate understanding of practical complexities (Norris, Zajicek and Murphy-Erby 2010). Approaches that focus on “communities”, such as community-based natural resources management, are another problematic area in development studies. These approaches are challenged because such concepts do not explicitly address the complexity and differentiation that exist within communities (Valdivia and Gilles 2001).

To address such shortcomings, gender needs to be conceptualised as neither a stand-alone nor a monolithic social category, but as one that interacts with class, caste, religion, race, ethnicity and other variables (Yuval-Davis 1997). Complexities of oppression and privilege are also brought into the intersectionality matrix to improve assessment of inequality and marginalisation (Garry 2011). This cross-cutting and overlapping nature of gender is referred to as intersectional. These perspectives situate gender as a way of thinking that goes beyond the age- and sex-differentiated understanding of power relations and inequalities between men and women. In addition, recent studies on risk assessments and the ranking of hazards indicate that while gender is a major dividing line, other parameters such as ethnicity, education and geographic location may be equally significant (e.g. Becker 2011).

Garry (2011) argues that there are important benefits in adopting intersectional analyses. First, individuals have many important facets to their identities and are differently affected by multiple interacting systems of oppression and privilege depending on their various qualities. Second, intersectionality helps to identify fruitful and complex marginalised locations, including marginalised groups of people and issues. On a similar note, Bowleg (2012, p. 1267) posits that “the multiple social categories (e.g., race, ethnicity, gender, sexual orientation, socioeconomic status) intersect at the micro level of individual experience to reflect multiple interlocking systems of privilege and oppression at the macro, social-structural level”. The application and significance of intersectionality analysis to CCA and DRR need to be seen as highlighting rather than disregarding these complexities, which are essential to understanding the contexts of inequality and the marginalisation of different groups. Among other things, intersectionality exercises can be used to chart the different issues, potentials and constraints at the different nodes of intersection across social factors. Such a disaggregated approach helps to deconstruct homogeneous categories such as women and men and to recognise fundamental differences within and across categories.

2.1.2 Institutional analysis: a framework for analysing stability and change

While intersectional approaches emphasise the overlap of different categories, institutional analyses go a step further to examine the underlying structure that supports these categories and the different logics by which those structures operate. Institutional approaches emphasise factors that contribute to continuity and/or change – above all through processes in which organised or individual actors seek to either maintain or alter the established order (Steinmo, Thelen and Longstreth 1992). The institutional framework we employ emphasises the structured, rule-based nature of social interactions (Burns and Flam 1987; North and Naishul 1992). From this perspective, institutions are comprised of systems of rules that both facilitate and constrain actor choices. Both individuals and groups move within this socially constructed matrix in which particular roles are defined that individuals must generally relate to: masculine and feminine, children and parents/adults, employee and employer, teacher and student, expert and layman, supplier and receiver, and so on. The rules that structure these various roles may be formalised in law, as is often the case with employer/employee roles. They may also be embedded in “culture” – in the ways societies perceive and understand the world around them – and expressed in the form of powerful informal norms reinforced by beliefs about what is “normal” or “natural”. Institutionalised rules and cultural norms can also be changed through formal policymaking, or lobbying and protest activities by actors or social movements. One especially relevant type of pressure for change can occur where formal laws and traditional laws and practices contradict one another.

Cultural “structure” can be identified in concepts such as belief systems, world views or policy paradigms (Campbell 2002; Carson, et al. 2009). Here we find beliefs about “natural differences” between the sexes, ideas about women’s and men’s roles in the family and working life, religious beliefs, and beliefs about the role of the state or community, who should wield power and how (Weber, 1948), and what is considered “normal” or “correct”.

These “structures” do not exist independent of people, but are rather produced and reproduced through the day-to-day activities of individuals and groups. Agency is exercised by organisational actors pursuing ideal and/or material interests or, as is often the case, by individuals carrying out the activities of daily life or attempting to respond to unexpected challenges for which the usual script does not apply. Examples of organised actors include NGOs, commercial actors, business or public administration, municipalities, nation states and international bodies. Here, too, there is structure, conceptualised in terms of organisations and individuals, in their networks of relationships (Sabatier and Jenkins-Smith 1993).

Relational dimensions include social capital in cooperation and networking between the different actors. Which organised groups wield power and in

what kinds of networks and alliances are they found? What power relations are systematically found between individual women and their partners, parents, other women, children, people in other defined roles and other members of society? The basic dimensions of the framework take account of: culture and ideational structure, in terms of the way public problems and remedies are defined; institutional structure, as laws and regulations; and relational structure, as networked configurations of actors.

2.1.3 Mainstreaming gender

The need to mainstream, or institutionalise, gender emerged in response to the challenges and complexities of ensuring that women and other systematically disadvantaged groups and individuals benefit from development interventions. Development interventions (particularly in the 1970s and 1980s) perceived the primary challenges facing third world countries to be related to the issue of under development, and this was very much seen in economic terms (Kabeer 1999). The focus on and use of the term and narratives of development were problematic because many development projects operated within male-dominated economic and policy arenas that reinforced existing economic structures. Policymakers and economists generally ignored feminist concerns by simply assuming that gender biases did not exist (Sittirak 1998). These approaches were criticised by many feminists for being exploitative as they sought to involve women without guaranteeing the mechanisms through which women could benefit from the projects. The call was for the focus to shift from the integration of women into development projects to changing the prevailing system of inequality and exploitation (Momsen 1991; Moser 1989). To address this, gender mainstreaming is seen as a crucial component of development interventions.

As is indicated above, gender as a cross-cutting social category implies that gender intersects with a number of issues, and these issues need to be incorporated into planning for CCA and DRR in order to develop equitable and effective interventions (Lambrou and Nelson 2010). Gender mainstreaming is recognised as central to this (Schalkwyk, Thomas, and Woroniuk 1996; BRIDGE 1997). The primary reason why gender should be mainstreamed into DRR activities is that disasters affect diverse groups of people and individuals differently because of the distinct roles and responsibilities they have – and in post-disaster contexts these different groups of people and individuals can vary widely in their needs, capacities and level of vulnerability. Enarson (2000) identifies a number of reasons for women's higher vulnerability in disasters: women have less access to resources; women are victims of the gendered division of labour; women are responsible for domestic duties and do not have the liberty to migrate to look for work following disaster; and when women's economic resources are taken away, their bargaining position is adversely affected. In addition to these factors, women in post-disaster situations face sexual and domestic violence. While these impacts on women are well recognised, similar trends across other social groups (such as minorities, elders and children) are also important and need to be included in the mainstream of disaster management strategies.

Table 1: Reasons for integrating gender into climate change and disaster risk management

- Women and men – in their respective social roles – are differently affected by the effects of climate change and variability.
- Women and men – in their respective roles – are differently affected by climate protection instruments and measures.
- Women and men differ with regard to their respective perceptions of and reactions to climate change and variability.
- Women’s and men’s contributions to climate change and variability differ, especially in their respective carbon dioxide emissions.

Source: UNDP 2009.

Gender mainstreaming implies that gender perspectives are made an integral part of development and intervention decisions (Swedish Government Official Reports 2007). This means enabling women to reduce their vulnerability by identifying their specific needs at the disaster management planning stage. However, women’s projects on their own are limited in their ability to bring about fundamental change for women (Derbyshire 2012). Gender mainstreaming can also refer to fostering awareness about gender equality and equity, through which both men and women can influence, participate in and benefit from interventions. These approaches imply that interventions are analysed from clear gender and equity perspectives, and that how they affect girls/women and boys/men is understood before decisions are made. Seen from this perspective, mainstreaming is more than adding a "women's component" to an existing initiative, activity or organisational process. Mainstreaming goes beyond increasing the participation of women/girls. It implies that the experience, knowledge and interests of girls/women and boys/men are central to the development and intervention agenda, and that everybody is given a part in the decision-making processes.

2.2 Methodological notes

The research for this report takes an interdisciplinary approach and makes extensive use of the diverse sources of peer reviewed research articles and research reports, as well as primary data sources such as government documents (primarily Swedish), international agency documents and NGO/INGO publications. In addition, nine semi-structured informant interviews were conducted with relevant MSB staff and international experts. The names of the nine individuals interviewed are listed in Appendix 1. However, even though confidentiality did not arise as a serious concern, we have chosen not to attribute comments or observations to any particular individuals in the interest of more open discussion. The published version of the report may include attributed comments with the permission of the relevant individuals.

Communications between MSB and SEI have taken the form of meetings and telephone conversations as well as email exchanges. The face-to-face sessions have been especially important in sharpening the focus of the research, because

of the interdisciplinary nature of the issues in question, and the breadth of the activities into which gender is being mainstreamed.

2.2.1 Quality assurance

As part of SEI's standard procedure, an SEI senior researcher is involved in the project with responsibility for ensuring quality in the final product.

3. Framing the discussion: vulnerability, climate change adaptation and disaster risk reduction

Early climate change (CC) research focused primarily on measuring physical changes in the climate, but questions concerning the impact of CC on societies have now developed into one of the major research topics in the field. This is especially true within the United Nations Framework Convention on Climate Change (UNFCCC) and among development specialists (Janssen et al. 2006). This section draws on a review of the current literature to highlight three core concepts and discusses some of the key commonalities and differences between them. In doing so, it aims to shed light on the gendered vulnerabilities that are especially relevant to climate change adaptation (CCA) and disaster risk reduction (DRR) efforts.

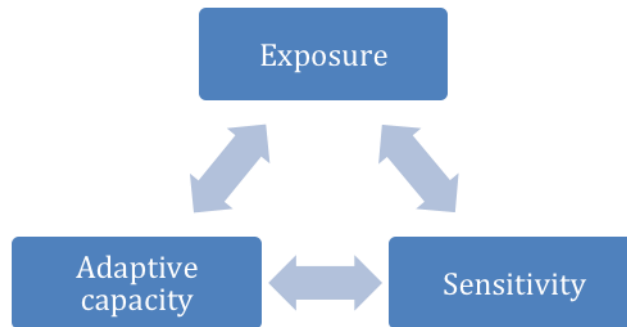
3.1 Vulnerability

Various definitions of vulnerability have been adopted by different disciplines and scholarly communities (for an overview see Adger et al. 2009; Mearns and Norton 2009). The term is used in economics, psychology and anthropology, and conceptualised and interpreted in many different, sometimes incompatible, ways (Adger 2006; Füssel 2007). Gallopín (2006, p. 294) states that “[d]epending on the research area, it has been applied ... to the societal subsystem, to the ecological, natural, or biophysical subsystem, or to the coupled SES [socio-ecological systems], variously referred [to] also as target system, unit exposed, or system of reference”. This variation has led to different strategies for addressing vulnerability, and contributed to a lack of coherence in operational work. This report is concerned with the vulnerability of human systems to global change. It originated as a topic of study in geography and natural hazards research (Füssel 2007).

The definition most often used is that of the Intergovernmental Panel on Climate Change (IPCC) (2007, p. 27), which defines vulnerability as a function of “the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity”. Thus, vulnerability involves the capacity to adapt and respond to “actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (Ibid.). The IPCC proposes that vulnerability is “the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes (2007, p. 883). Vulnerability to climate change as defined here is broken down into three

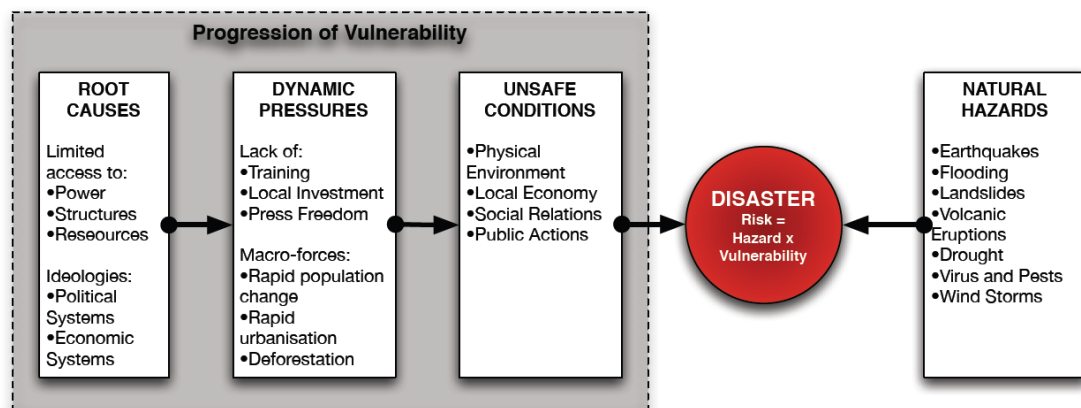
parameters: exposure, the sensitivity of a system to the impact and its ability to cope (also referred to as adaptive capacity, see Figure 3 below).

Figure 3: Social vulnerability to climate change



Source: adapted from Gallopín (2006), IPCC (2007), IPCC (2012).

Figure 4: Progression of vulnerability



Source: Blaikie et al (1994)

In an early attempt to define vulnerability in societal terms, Blaikie et al. (1994, p. 275) described it as the “characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of a natural hazard.” Thus, vulnerability is understood to depend on the societal unit, the type of event and the actions taken against the hazard. More recently, Füssel (2007, p. 156) argued that: “[...] ‘vulnerability’ can only be used meaningfully with reference to a particular vulnerable situation”. Thus, vulnerability is closely linked to a place as well as to the natural and social environment in which a specific system exists.

Several different ways can be distinguished of framing vulnerability in the scientific literature as well as in policy and practitioner communities, two of which are discussed below: “contextual vulnerability” and “outcome vulnerability”. According to Füssel (2009, p. 4) they “are based on different conceptual frameworks [...] and they suggest different strategies for reducing vulnerability”. The differentiation between vulnerability as an outcome of climate change and contextual vulnerability as setting the frame in which

climate risks are then dealt with and adapted to, suggested by O'Brien et al. (2007), roughly corresponds to the end-point and starting-point distinction proposed by Kelly and Adger (2000). The differences between the two interpretations are summarised in Table 2.

For agencies such as the MSB, it is important to be aware of these interpretations (or framings) of vulnerability and adaptation, as they are associated with different practices and influence policy and project development in response to climate change. Although often not explicitly discussed (parties might not even be aware of their own framing), these interpretations can create a “problem of conceptual confusion” (Bisaro, Wolf and Hinkel 2010) or even collide when communities of practice interact while adopting contrasting standpoints. This can cause misunderstandings in communication and affect aims when collaborating and integrating between organisations.

Table 2: Two interpretations of vulnerability

	Outcome/End-point interpretation	Contextual/Starting-point interpretation
Root problem	Climate change	Social vulnerability
Policy context	Climate change mitigation, compensation, technical adaptation	Social adaptation, proportion of sustainable development
Policy question	What are the benefits of climate change mitigation?	How can the vulnerability of societies to climatic hazards be reduced?
Research question	What are the expected net impacts of climate change in different regions? What can be done to protect the population?	Why are some groups more affected by climatic hazards than others? What can be done to strengthen people's own capacity to respond and adapt? What determines levels of vulnerability?
Vulnerability and adaptive capacity	Adaptive capacity determines vulnerability	Vulnerability determines adaptive capacity
Reference for adaptive capacity	Adaptation to future climate change	Adaptation to current climate variability
Starting point of analysis	Scenarios for future climate hazards	Current vulnerability to climatic stimuli
Analytical function	Descriptive, positivist	Explanatory, normative
Main discipline	Natural sciences, engineering, other technical professions	Social sciences
Meaning of 'vulnerability'	Expected net damage for a given level of global climate change → linear result of the projected impacts of climate change on a	Susceptibility to climate change and variability as determined by socioeconomic factors → process and multidimensional

	particular exposure unit	view of climate–society interactions
Policy intervention	<p>Minimise particular impacts that have been quantified and measured → reducing greenhouse gas emissions (mitigation)</p> <p>Reduce exposure → through technical and sectoral adaptation measures to limit negative outcomes, e.g. introduce drought-resistant seeds or infrastructure changes</p>	<p>Broader scope of policy interventions → alter the context in which climate change occurs so that individuals and groups can better respond to changing conditions</p>

Source: Own representation, adapted and expanded from Eriksen and Kelly 2007; Füssel 2007; O'Brien et al. 2007.

The outcome or end-point perspective sees vulnerability as a linear result of the impacts of CC and aims to reduce these direct and indirect impacts, for example, by mitigating GHG emissions. It follows that, while the starting point conceptualisation refers to vulnerability as being defined by fairly generic determinants, end-point interpretations connect determinants to a particular context or hazard type (Füssel 2007; O'Brien et al. 2007; O'Brien and Wolf 2010). Starting-point and contextual vulnerability define vulnerability “as a pre-existing state generated by multiple factors and processes, such as political or economic marginalisation, that conditions the ability to respond to stress” (Eriksen and Kelly 2007, p. 505). Thus, any policy response would aim to reduce vulnerability as part of a broader social development and as such consider the role of rights and entitlements, governance and institutions relevant to the internal characteristics of the vulnerable system or community, thereby reaching beyond the immediate impacts of CC.

Both perspectives propose that a group's vulnerability is not determined solely or primarily by climate, but rather by a range of social, economic and political factors inherent in the system that can be considered key to understanding how countries cope with and adapt to CC and related variability. According to Brooks et al. (2005, p. 153) “[...] these are developmental factors including poverty, health status, economic inequality and elements of governance, to name but a few”. These different generic determinants of vulnerability hint at what might be the root causes of a limited adaptive capacity, and thus provide a foundation on which specific measures for reducing vulnerability and facilitating adaptation can be established. The “[...] assessments of ‘generic’ vulnerability can tell us how well equipped a country is to cope with and adapt to climate hazards” (ibid., p. 153). However, from a starting-point perspective, top-down adaptation projects are likely to fail if they leave these structural factors fundamentally unchanged, because they frame the vulnerability of a community or household. If adaptation approaches are to be meaningful, the structural factors hindering the advancement of vulnerable groups need to be addressed.

While both the concepts presented above are useful, we argue here, in line with Barnett (2010), that end-point interpretations are of less use for the purposeful adaptation of social systems because they tend to overlook local factors that might be as important for adaptation as the biophysical impacts. Such a

perspective might reduce adaptation by building local capacity through technological adaptations, such as dams, irrigation schemes or drought tolerant crops, instead of addressing the fundamental causes of vulnerability (O'Brien et al. 2007). What adaptive capacity do people have and what are the factors that prevent people from taking action?

Vulnerability is a dynamic concept that changes over time according to the stimulus and its impact, its sensitivity and the response of the system (Smit and Wandel 2006). Adger (2006, p. 274) appropriately describes vulnerability as “[...] a dynamic phenomenon often in a continuous state of flux. Both the biophysical and the social processes that shape local conditions and the ability to cope are themselves dynamic”. The harm that human actions can or cannot mitigate depends on the magnitude of the climatic impacts, as well as on the adaptive capacity.

Consequently, it is important to note that vulnerability cannot be generalised (i.e. to an entire country). Instead, it is closely linked to a place as well as to a specific social system. Another important aspect which is often overlooked is the fact that individual vulnerabilities can vary to a great extent even within a single community: “The poor and wealthy, women and men, young and old, and people of different social identities or political stripes experience different risks while facing the same climate event” (Ribot 2010, p. 49).

3.2 Adaptive capacity and climate change adaptation

Adaptive capacity (or adaptability) relates to a system’s capacity to respond effectively to the impacts or transformations related to climate change, moderate potential damage, take advantage of opportunities and cope with the consequences. More generally, it describes “the ability of a system to evolve in order to accommodate environmental hazards or policy change and to expand the range of variability with which it can cope” (Adger 2006, p. 270). The recent report, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, defines adaptive capacity as “[t]he combination of the strengths, attributes, and resources available to an individual, community, society, or organisation that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities” (IPCC 2012b).

Locally, *adaptive capacity* can be shaped “[...] by such factors as managerial ability, access to financial, technological and information resources, infrastructure, the institutional environment within which adaptations occur, political influence, kinship networks, etc.” (Smit and Wandel 2006, p. 287). Other factors that influence a person’s or community’s adaptive capacity include poverty, gender, state support, economic opportunities, the effectiveness of decision-making, social cohesion and other societal conditions. In other words, the social constellations present have an impact on the outcome of a certain change. While some decisive factors are set at the local

scale, *adaptive capacity* is also reflected in broader conditions on a wider scale, such as the political or the socio-economic system (Smit and Wandel 2006). In sum, this means that in order to build *adaptive capacity*, factors that limit adaptive capacity across all levels must be addressed alongside actions that actively build capacity to adapt to CC.

The *adaptive capacity* discussed above provides the basis for *climate change adaptation*, which is the actual process of adjusting human or natural systems to actual or expected climate stimuli or their effects in order to moderate harm or exploit beneficial opportunities (IPCC 2012). Simplified, the aim of adaptation is to ensure that an adequate range of coping mechanisms is established. Therefore, the presence of adaptive capacity is a necessary precondition for the design and implementation of adaptation strategies. As such, adaptation decisions also take place within an institutional, economic, social, cultural and political context, which can act either to facilitate or to constrain adaptation (Adger and Vincent 2005). Hence, the form of social interaction and roles in society significantly determine the efficiency of adaptation, and either restrain or expand the adaptive capacity of each individual.

It goes without saying that it is important to identify the timescale under consideration when referring to adaptation. Most commonly there is a differentiation between *coping* and *adaptation*. Eriksen and Kelly (2007, p. 506) note that “[w]hile often not explicitly addressed, and often assumed to be synonymous, the two are associated with different time scales and represent different processes” (see Table 3).

The first strategy, *coping*, is considered a temporary, reactive response to address, manage, and overcome adverse conditions, such as rainfall variability or drought, with the aim of maintaining the basic functioning of the system, it is of short or medium term duration (IPCC 2012). Coping strategies are not necessarily planned or related to global warming as such, but are usually involuntary reactions and adjustments.

The second strategy, *adaptation*, is associated with longer time scales and includes adjustments to fundamental changes to systems and practices, processes or structures in response to changes in mean conditions which can be related to actual or expected climate change and its effects (IPCC 2012). While the former does not fundamentally alter the system, *adaptation* refers to the establishment of a new coping range and thus a change in the system state (Gallopín 2006; Mertz et al. 2009; Smit and Wandel 2006). It is important to note that both processes are closely related. Coping mechanisms are an important factor in adaptation. If, for example, recurring stress forces people to constantly apply coping mechanisms, these might develop into durable adaptation strategies (Eriksen and Kelly 2007). If these short-term coping mechanisms have positive outcomes for communities, they might develop into long-term changes in the human system.

Table 3: Differences in livelihood responses to climate change

	Coping	Adaptation
Temporal scope	Short or medium term	Long-term
Timing	Reactive	Anticipatory
Goal	Recover, restore or maintain a previous state	Increase long-term adaptation
Change	Short-term adjustments to stress	Fundamental change in the system

Source: adapted from Gallopin 2006; Mertz et al. 200; Smit and Wandel 2006.

The IPCC (2007) further distinguishes between three types of adaptation: first, *anticipatory adaptation* (or proactive adaptation), which takes place before the impacts of climate change have been experienced; second, *autonomous adaptation* (or spontaneous adaptation), which implies an unconscious response to ecological changes in natural systems as well as market or welfare changes in human systems; and, third, *planned adaptation*, based on an awareness that conditions have changed or are about to change and that action is required to return to, maintain or achieve a desired state.

Thus, adaptation manifests itself in a number of forms, which makes characterising adaptation and adaptive capacity a challenging task (Jones et al. 2010). It can be undertaken by various social agents (e.g., a household, community, government or state actor) and occurs at multiple scales (e.g., the local, the regional and the national). In conclusion, it can be stated that *adaptation*, although it occurs through actions on a local scale, is framed by *adaptive capacity* or *adaptability*. Similarly, it is set in a wider context that either facilitates or constrains the ability to adapt.

3.2.1 Maladaptation

While some adaptive responses can help to minimise risk and increase a system's resilience, others may actually cause more problems. In this context, *maladaptation* denotes inappropriate responses to CC, for example, due to the large uncertainties about future CC or inadequate consideration of local circumstances, which instead of reducing vulnerability may inadvertently lead to increased vulnerability in the long term within the same community or between different communities (Jones et al. 2010, Agrawal 2008). If the impacts of climate change provoke responses that affect large parts of society, the consequences may also become an issue of national, international or global security, and contribute to the securitisation of the climate discourse. Some impacts may cause governments and the military to take action, for example, disaster management in response to massive refugee flows or in conflicts induced by environmental stress. Vulnerability and lack of adaptation to environmental change may contribute to human insecurity that in turn could create risks to national security.

3.2.2 Resilience

Resilience is another important concept that is increasingly common in the debates around coping with the effects of climate change, and it is often

interlinked with vulnerability. While the concept emerged from more ecological and natural science-driven perspectives, it is closely related to the concepts of vulnerability and adaptive capacity. Resilience research studies the disturbances that a system experiences and its responses to the impacts related to its coping capacity. In social terms, resilience speaks to the ability of actors in a social system to anticipate, absorb, accommodate or recover from disturbances in a timely manner, while ensuring the preservation, restoration or improvement of its basic structure and function (IPCC 2012). While a resilient system is by definition less vulnerable than a non-resilient one, it would be incorrect to understand *resilience* primarily as simply an antonym of *vulnerability* (Adger 2006; Gallopín 2006; Renaud et al. 2010).²

Since resilience is a property that arises from interactions between physical and social aspects of the environment, it is best explored in the context of a social-ecological systems approach in which ecosystems are integrated with, and interact, with social systems. These systems can be defined in terms of the ecosystem services provided: agricultural systems, hunting and harvesting systems, infrastructure systems (such as roads, water supply and energy access, etc.). Part of what makes such a systems approach interesting in the context of DRR is that it can help highlight specific areas of concern in which localized environmental effects driven by climate change may have severe consequences. This focus highlights questions such as “resilience of what?” and “resilience to what”, termed “specified resilience” (Carpenter et al 2001), which are perhaps most relevant to DRR efforts.

Among the approaches being employed to analyze sequences of change that cross from social to ecological or ecological to social systems, the Driver-Pressure-State-Impact-Response framework (DIPSIR) employed by the OECD (1993) and the European Environment Agency (1999) has been used in areas ranging from coastal zone management to aid programs. Approaches tracking the causal chain can help highlight multiple options for reducing vulnerabilities by helping identify both social and environmental types of measures that support strengthened resilience.

3.3 Disaster Risk Reduction

Until the 1970s, “disasters were largely seen as inevitable and emergency response and rehabilitation was seen as the way to deal with them. Over time, people started realising that it was possible to reduce the risk of disasters through structural, social and economic measures. Increasingly disasters were seen as the product of many factors that could be influenced in order to reduce risks” (Rottier 2011: 12). Hence, the approach to disasters – like that to climate

² For a detailed discussion of the relationship between vulnerability, adaptive capacity and resilience see Gallopín (2006). For an overview of the resilience concept see Folke (2006).

change vulnerability – evolved from being reactive to being proactive, where communities and the risks they face are looked at in a more holistic way (Rottier 2011). This approach is referred to as DRR.

The importance of DRR is being increasingly recognised in the international community (Rottier 2011). The founding of the United Nations International Strategy for Disaster Reduction (UNISDR) in 1999 was in response to the need to mainstream DRR into the development work and other areas of work of the UN. At the World Conference on Disaster Reduction in Kobe, 2005, 168 countries adopted the Hyogo Framework for Action (HFA) (UNISDR 2005). The HFA's overarching goal is a substantial reduction in disaster losses by 2015 by building resilience to disasters at the national and community levels. It provides a blueprint for global disaster reduction efforts (UNISDR 2005). The adoption of the HFA and subsequent work to implement its priorities for action demonstrate a growing international conviction that a reactive response to disasters is insufficient, and that proactive efforts are needed to reduce disaster risk (AusAID 2009, p.5). The HFA emphasises the importance of reducing the underlying risk factors that make people vulnerable in the first place, such as poverty, hunger and lack of income-generating activities. Furthermore, the Framework explicitly recognises the need to mainstream gender at all levels (UNISDR 2005, p.4). The UNISDR describes DRR as including “all the policies, strategies and measures that can make people, villages, cities and countries more resilient to hazards and reduce risk and vulnerability to disasters” (2011, p. 16). DRR includes efforts to prevent, mitigate the effects of, strengthen the preparedness for, recover from and reconstruct after a disaster (AusAid 2009; UNISDR 2011). In this context, prevention means the “outright avoidance of adverse impacts of hazards and related disasters” (UNISDR 2012), through action taken in advance (e.g. dams or embankments, land-use regulations or seismic engineering designs). In DRR terminology, mitigation refers to a “lessening or limitation of the adverse impacts of hazards and related disasters” (UNISDR 2012).³ Preparedness is the “knowledge and capacities developed by governments, professional response and recovery organisations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions” (UNISDR 2012). It can be achieved, for example, through early warning systems, and such activities as contingency planning, the stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises.^{4, 5}

As the world's climate changes, climate variability and climate-related extremes are likely to become even more prevalent. Climate change will introduce new

³ It should be noted that “mitigation” in relation to climate change is defined differently, being the term used for the reduction in greenhouse gas emissions that are the source of climate change.

⁴ The terms prevention and mitigation are often used interchangeably in casual use.

⁵ Here we refer only to the three core risk reduction measures. For the other phases of disaster risk management, in particular crisis management actions, see UNISDR 2012.

hazards to regions (e.g. the spread of pest-borne diseases such as malaria or the occurrence of storms in regions that were not affected previously) and change the characteristics of hazards (e.g. the intensity or frequency of storm or flood events). “The added pressure climate change will bring to livelihoods and society as a whole will also increase the vulnerability and decrease the capacity of communities with regard to dealing with disasters” (Rottier 2011, p. 14). Because climate change is a risk multiplier, it has to be taken into account for DRR to be fully effective. In practice, this implies that DRR approaches cannot look to history to identify disaster risk and the nature of impacts disasters have had on a society. Increasingly, DRR practitioners will need to look forward and integrate climate change projections into their planning. Already they are “increasingly adopting a more anticipatory and forward-looking approach, bringing it in-line with the longer-term perspective of the climate change community on future vulnerabilities” (Thomalla et al. 2006: 46).

3.4 Shared aims of and approaches to climate change adaptation and disaster risk reduction

In the long run, increased exposure to drought, more intense storms, and floods and environmental stress linked to CC threatens to stall or even reverse progress in human development, including reductions in extreme poverty, and progress with health, education and nutrition and the other ambitions referred to in the Millennium Development Goals and their targets. Although a global phenomenon, the effects of CC vary between regions, generations, ages, classes, income groups, occupations and gender. Scientists and practitioners alike agree that the most marginalised will be disproportionately affected. Vulnerabilities to disasters and CC are not isolated in time and they do not just appear. They are constructed over many years and through many social, cultural, economic and political processes. Both the root causes of disaster and CC vulnerabilities are socially constructed. CC and disasters affect all – but not all equally. In order to reduce these effects, longer-term development efforts need to be addressed.

Both DRR and CCA are policy goals. They are about reducing the underlying causes of social vulnerabilities to the on going problem of *disasters* and the emerging issue of *climate change* (UNISDR 2009). The policy goals of CCA and DRR have different origins but: “they overlap a great deal through the common factor of weather and climate and the similar tools used to monitor, analyse and address adverse consequences” (UNISDR 2009: 2). Poverty reduction is a key component of reducing vulnerability, because poverty is both a condition and a determinant of vulnerability. Both the DRR and the CCA communities also increasingly recognise the importance of sustainable resource management and biodiversity for ecological resilience and livelihood security (Thomalla et al. 2006).

Despite these commonalities, both communities have largely developed and operate independently of each other (see Table 4). One reason for this is that the CCA policy field has usually been the responsibility of the environment authorities, whereas DRR efforts have been undertaken by the authorities responsible for disaster management, civil defence and home affairs (UNISDR 2009). Countries are increasingly aware of the missed opportunities of such “silo” approaches: “Calls for better collaboration are increasing and there is an emerging perceived need to learn from one another and to identify opportunities to develop a joint agenda” (Thomalla et al. 2006: 39).

As is discussed above, there are many practical links and commonalities between DRR, CCA and sustainable development. According to UNISDR, “[t]hese links have not been fully internalised in the ways in which national government institutions, international development agencies and the United Nations system itself approaches disaster risk management. It is essential to continue to harmonise, integrate and embed disaster risk reduction within poverty eradication and sustainable development policies and programmes. Reducing disaster risk and re-enforcing resilience is increasingly seen as part of a new development paradigm where well-being and equity are core values and human and natural assets central to planning and decision-making” (UNISDR 2012: 3f). Increasingly, countries link CCA and DRR efforts, often as an element of their development planning: “In some cases governments have even combined the two into new national legislation or in a single ministerial responsibility” (UNISDR 2009: 2).

Table 4: Key commonalities and differences between CCA and DRR

	CCA	DRR
Approach	<ul style="list-style-type: none"> • risk management • strong scientific basis • environmental science perspective • highly interdisciplinary • vulnerability perspective • long-term perspective • global scale • top-down 	<ul style="list-style-type: none"> • risk management • engineering and natural science basis • traditional focus on event and exposure and on technological solutions • shift from response and recovery to awareness and preparedness • short term but increasingly longer term • local scale • community-based
Organisations and institutions	<ul style="list-style-type: none"> • United Nations Framework Convention on Climate Change (UNFCCC) • Intergovernmental Panel on Climate Change (IPCC) • Academic research • National environment and energy authorities 	<ul style="list-style-type: none"> • United Nations, e.g. Unicef, UNHCR, WFP, UNDP, UNISDR, OCHA, UNMAS • ProVention Consortium (World Bank) • International Federation of Red Cross and Red Crescent Societies (IFRC) • International, national and local civil society organisations

		<ul style="list-style-type: none"> • National civil defence authorities (e.g. MSB)
International conferences	<ul style="list-style-type: none"> • Conference of the Parties (COP) 	<ul style="list-style-type: none"> • World Conference on Disaster Reduction
Assessment	<ul style="list-style-type: none"> • IPCC Assessment Reports 	<ul style="list-style-type: none"> • IFRC Vulnerability and Capacity Assessment (VCA) • IFRC World Disasters Report • International disasters databases: <ul style="list-style-type: none"> * EM-DAT * NatCatSERVICE (Munich Re) * Sigma (Swiss Re)
Strategies	<ul style="list-style-type: none"> • National communications to the UNFCCC • National Adaptation Plans of Action (NAPA) for Least Developed Countries 	<ul style="list-style-type: none"> • UN International Decade for Natural Disaster Reduction (IDNDR) • Yokohama Strategy and Plan of Action for a Safer World • UN International Strategy for Disaster Reduction (ISDR) • Hyogo Framework for Action, 2005–15
Funding	<ul style="list-style-type: none"> • Special Climate Change Fund • Least Developed Countries Fund • Kyoto Protocol Adaptation Fund 	<ul style="list-style-type: none"> • National civil defence/emergency response • International humanitarian funding (for instance, UN Office for the Coordination of Humanitarian Affairs (OCHA)) • Multilateral banks • Bilateral aid

Source: Own table, based on Thomalla et al. (2006), p. 40

3.5 Interlinkages between gender, climate change and disaster risk reduction

The overarching focus in gender and CC is that CC is not gender-neutral, but has gender-differentiated effects that intersect with other social factors. The link between gender, CC and DRR has been increasingly recognised, inter alia, in the Manila Declaration for Global Action on Gender in Climate Change and Disaster Risk Reduction, which declares that

(a) Climate change and its negative impacts must be understood as a development issue with gender implications that cut across all sectors (social, cultural, economic, and political) from the community to the global level; and concerted efforts are required by all stakeholders to ensure that climate change and disaster risk reduction measures are gender responsive [...]; (b) Women and men must equally participate in climate change disaster risk reduction decision-making processes at community, national, regional and international levels” (UNISDR 2008).

The specific cases discussed below demonstrate such links.

3.5.1 Gendered impacts of climate change

One of the key gendered impacts of natural disasters is that natural disasters push ordinary gender disparities to the extreme, leaving the most marginalised and disadvantaged to deal with the consequences of climate change. Various studies have shown that gender is strongly correlated with economic status (Benelli, Mazurana and Walker 2012; Temesgen 2010). Unequal power relations between women and men also lead to their differential access to natural resources. This implies that women and men experience poverty differently and unequally. Empirical evidence shows that poorer and more marginalised groups of people (particularly women) are more severely affected by climate change impacts than other groups, such as men (MacGregor 2010).

The other gendered implications of natural catastrophes lie in the conditions that natural disasters create. The risks, vulnerabilities and challenges of post-disaster situations are different for different groups. Marginalised social groups, such as women, children, old and disable people, are disproportionately vulnerable to natural disasters and climate change. Levels of domestic violence as well as other forms of violence, such as acts of rape, and harassment against women and girls, have been well documented and analysed in war and human-induced disasters (*The Economist* 2011; Shanks and Schull 2000). Cultural and gender roles, such as women staying at home to take care of household work, and norms, such as modes of dress, are also important aspects of vulnerability. In Bangladesh, for example, women outnumbered men by 14:1 among the 140,000 people who died from the flood-related effects of Cyclone Gorky in 1991 (World Bank 2011b). Because women's roles are often confined to household work, nutrition, childcare, and so on, women are disproportionately vulnerable to the impacts of climate change in the case of a lack of sanitation and disease outbreaks (Lambrou and Nelson 2010). Similarly, post natural disaster situations also have health-related implications for women, children and elders, who are more vulnerable than able-bodied men.

The post-disaster status of children in general and girls in particular is also gaining attention. Plan International (2011), an international NGO focused on promoting children's rights and ending child poverty, states that the impacts of climate change are different for different populations. While children everywhere are inevitably badly affected, the report illustrates how girls, in particular, are bearing the greatest burden. The report describes how increased climate stresses are exposing a growing number of adolescent girls to specific risks:

- more girls and women are dying during disasters;
- an increasing number are enduring early and forced marriages;
- more girls are being exposed to sexual violence and the curtailment of their education.

It is clear that enhanced levels of education and increased skill levels will be a necessity in order to manage livelihoods, gender-inequalities, CCA and DRR in the light of increased levels of climate change (Plan International 2011, p. 44).

3.5.2 Gendered vulnerability of livelihoods

The livelihoods concept means the command an individual, family or other social group has over an income or bundles of resources that can be used or exchanged to satisfy its needs. This may involve information, cultural knowledge, social networks and legal rights as well as tools, land or other physical resources. Rural livelihoods, particularly in developing countries, are often based on natural resources – characterised by farming, forest-dependent pastoralists and fisheries. These livelihoods face a series of interrelated and rapid changes that include rapid population growth, the fragmentation of land holdings, the deteriorating fertility of the land, increasing climate variability, an inability to increase agricultural production and therefore incomes and health, and the inaccessibility of land due to previous and current loss of arable land.

While everyone in such contexts is hit hard, female and male livelihoods face different levels of risk and challenges. Numerous studies show that comparatively few women own arable land and even fewer effectively control any (e.g. World Bank 2011b). Securing effective and independent land rights for women and other marginalised social groups improves equality, the level of general welfare and women's power over their life chances. Empirical studies of the vulnerability of smallholder agriculture to climate change show significant differences among male- and female-headed households in farmers' adaptation strategies for coping with major environmental shocks such as drought, flood and hailstorms. Male-headed households demonstrated more successful adaptation to climate change (Temesgen 2010).

Formal and informal economic activities are also livelihood systems that are strongly related to gender. Formal economies, described as formal employment and monetary transactions declared to the state for tax and/or benefit purposes, have long been dominated by men (Shiva 1991). Formal economies are often favoured in the establishment of economic and legal frameworks and this, among other things, implies access to banks for credit facilities and collateral processes (ibid.). On the other hand, much of the informal economy is comprised of unskilled work conducted in poor working conditions for low levels of remuneration by marginalised populations or individuals. The informal sector usually has little or no access to formal institutions, such as credit or banks, legal advice and social security or insurance (Gurtoo and Williams, 2009). The informal sector operates in a high degree of vulnerability, making climate change impacts a major risk factor. For instance, when Hurricane Ivan (2004) destroyed some 90% of the houses in Grenada, most domestic workers, the majority of whom were women, lost their jobs (Kapoor 2007).

3.5.3 Agency: recognising local capacities

A major shortcoming and challenge for post-disaster operations is that the intervening agencies focus on victims and their most urgent needs, problems and suffering, making it more difficult to appreciate the capacities and knowledge of the beneficiaries and possible institutions (Scharffscher 2011).

People in disaster-affected areas often have extensive knowledge of how nature behaves in their area or how their ecosystems operate. These are important aspects in post-disaster recovery operations. Similarly, the local population will have knowledge about the specific impacts on their population. Perspectives on and decisions about acceptable levels of risk are also important dimensions that affected populations need to be consulted on during interventions.

Local and grassroots initiatives that coalesce around disasters are important factors in mitigating disasters. Juran (2012) indicates that initiatives organised around gender and disasters in many developing countries have demonstrated their capacity to operate in post-disaster situations ranging from natural disaster management to movements for peace and against violence. For fragile countries and communities living in precarious situations, the way forward requires a recognition and a mobilisation of the talents and capacities of all – moving beyond the conventional framework of stereotypes.

4. Future trends and climate change adaptation: Key issues and implications for gender

The Rockefeller Foundation's 2013 outlook on health trends lists climate change (CC) and disasters as the top factors expected to influence health over the next 100 years. Expected climate impacts include an increased frequency and severity of climate-related shocks, disasters and pandemics. Given such trends, an understanding of the health impacts of climate variability is critical to building more resilient social and health systems in order to prepare, respond and adapt.

The second key trend is a demographic revolution. Changes in the overall socioeconomic composition of societies are expected to include the growth of the middle class in proportion to the most economically disadvantaged. According to UN estimates, the population aged 60 years or over is likely to reach nearly 2 billion by 2050, at which point it will be as large as the population of children aged under 15. This shift is expected to be accompanied by changes in morbidity patterns, such as a growth in non-communicable diseases and age-related risk factors. To improve and maintain the quality of life, it will be essential to address aging populations and their accompanying epidemiological challenges.

The third key trend is the development of mega cities. More than half the world's population already lives in urban areas, and that proportion is expected to increase to 70% by 2050. According to the World Health Organisation, the majority of this urban growth will occur in the cities of developing countries. The fundamental challenge arising out of this trio of strong trends is how to make cities more resilient in the face of both growing populations and the increasing impacts of climate change, including on those at the margins in informal settlements and areas of poor quality housing (Rockefeller Foundation 2013)

This chapter provides an overview of some of the key issues on the climate change adaptation (CCA) agenda and how these relate to gender. It discusses the gender-related issues that arise from the MSB's operational activities and those most likely to arise when responding to climate-related developments.

4.1 Climate change impacts in different geographies

Water is the primary medium through which CC influences the Earth's ecosystems and thus the livelihoods and well-being of societies. It is projected that higher temperatures and more frequent extreme weather conditions will affect the availability and distribution of rainfall, snowmelt, river flows and groundwater, and lead to a further deterioration in water quality (UN Water 2010). The impacts of CC manifest themselves in different ways in different geographies, and it is useful to group them according to typologies based on similar types of impact: low lying countries, including river deltas and coastal areas (flooding); mountainous regions (retreating snowpack); and arid and semi-arid areas (drought).

Low-lying countries and deltaic regions are particularly vulnerable to the impacts of climate change as they are prone to flooding from both the sea and rivers. Most of the research on CC and water in low-lying areas to date deals with flood risk assessment, especially in heavily populated coastal areas. Drought-related risks are also recognised, particularly their effects on navigation, agriculture and energy production. Countries with coastlines face challenges connected to coastal infrastructure, for example, fishing docks and fish processing plants that are threatened by erosion and salt-water intrusion, and the protection of houses on the coast. Coastal urban areas are threatened by rising sea levels and increased ocean activity. The salinization of agricultural land is an important threat and sea defences will be necessary to prevent coastal erosion (UNFCCC 2007).

Countries with mountainous areas face challenges linked to significant impacts on the hydrology of basins characterised by glaciers, the annual accumulation of snowpack and snowmelt. Increases in temperature will reduce the amount of snowpack that accumulates in the mountains above system reservoirs, reducing water availability during warm and dry periods through a seasonal shift in stream flow, an increase in the ratio of winter to annual flows, and reductions in low flows in regions supplied by melt water from major mountain ranges – areas where more than one-sixth of the world's population currently lives. For example, in the Hindu Kush range, high-level discharge from these rivers historically lasted throughout the cropping season, from April to September. It has now shifted to shorter, more intense run-off in April and May, leaving increasingly long periods of the cropping season relatively dry (Eriksson and Jianchu 2008). Warmer temperatures may also affect the quality of the source water. The significance of these impacts can vary. Systems that have reservoirs rather than relying on the “run of the river” will experience a different degree of impact. Regions where reduced snowpack is supplanted by increases in precipitation are likely to face different impacts than those areas where reduced snowpack is accompanied by decreases in precipitation.

Countries with areas liable to drought and desertification are expecting increased temperatures, more extreme weather events, increased evaporation and sea level rises at an accelerating rate in the future. Many semi-arid and arid

areas are particularly vulnerable to the impacts of climate change and are projected to suffer a reduction in water resources. Decreases in precipitation have been observed in the Sahel region, the Mediterranean, Southern Africa and parts of South Asia since the 1950s (e.g. IPCC 2007; Bates et al. 2008). Changes in precipitation and evaporation have more or less direct impacts on both river and groundwater systems. Semi-arid areas are already vulnerable to small changes, and many such areas are expected to see reduced rainfall combined with increased evaporation linked to higher temperatures. In addition, extreme events are expected to occur with greater frequency so that surface catchments are likely to be eroded, water quality will be reduced and rivers will provide less reliable water supply. Increased evaporation through prolonged increases in temperatures will exacerbate water storage depletion. The potential ecosystem impacts of local changes in humidity levels will affect everyday life. Water quality will be affected by all these, including a degradation of fisheries and potential wetland habitat loss. The combined effect of these impacts will be significant, threatening entire communities and a broader impact on social integration in the most vulnerable drying climates (IWA, p.2ff).

Across all these types of development will be increased uncertainty and variability, including increased intensity and variability of precipitation, which is projected to increase the risk of flooding or drought – or both – in many areas. The frequency of heavy precipitation events (or the proportion of total rainfall from heavy falls) is highly likely to increase in most areas during the 21st century, with consequences for the risk of rain-generated floods. At the same time, the proportion of land surface suffering from extreme drought at any one time is projected to increase. This is in addition to a tendency for drying in continental interiors during the summer, especially in the sub-tropics, low and mid-latitudes. Higher water temperatures and changes in extremes, including floods and droughts, are projected to affect water quality and exacerbate many forms of water pollution – from sediments, nutrients, dissolved organic carbon, pathogens, pesticides and salt, as well as thermal pollution. This will have potentially negative impacts on ecosystems, human health and the reliability and operating costs of water system. In addition, rising sea levels are projected to extend the salinization of groundwater and estuaries, resulting in a decrease in available freshwater for human consumption and ecosystems in coastal areas.

4.2 The main issues on the climate change adaptation agenda, and how these relate to gender and MSB missions?

This section examines the sectors most likely to be affected by climate change and therefore most relevant from the perspective of this report to DRR. It describes the projected impacts of climate change, MSB's current role and gender-relevant issues, and discusses the role MSB might play in future, given these anticipated developments.

- The main sectors discussed are:
- General environmental vulnerability and management
- Agriculture and food
- Early warning systems
- Search and rescue
- Early Recovery
- Water, Sanitation and Hygiene (WASH)
- Shelter
- Construction (housing and infrastructure)
- Logistics and transport
- Information and communications technology.

4.2.1 General environmental vulnerability and management

MSB is currently pursuing the integration of environmental management into its operations. For example, an environmental handbook is forthcoming.

Gender aspects: Women are often subsistence producers and play roles as both users and managers of the local environment. There are important differences between women and men in access to and control over resources, including knowledge of the resource base. Women and men may use completely different resources in the same environmental context, or use the same resources in different ways. With the exception of a few areas, women's roles in natural resource management have generally been less well understood compared to men's. For example, women's roles in wetland development often totally ignore the fact that women and men alike use, and are dependent on, wetland resources. This can affect and limit women's livelihood strategies and can also have a negative impact on the sustainability of wetlands. Natural disasters – particularly erosion and other forms of soil degradation, pollution of freshwater, shoreline erosion, flooding, loss of wetlands, drought and desertification – affect women directly in their roles as key providers of food, water and fuel. Climate change can also affect women's productive roles, since the physical impacts of global warming – rising sea levels, flooding in low-lying delta areas and increased saltwater intrusion – can jeopardise the sustainable livelihood strategies employed primarily by women (UN 2002).

Women's considerable knowledge of natural resources and contributions to environmental management are often underutilised because culturally embedded norms and beliefs obscure both their capacity and their activities. For example, a case study of Bangladesh showed that women's indigenous knowledge and practice of environmental management play a crucial role in the management of charlands (pieces of land resulting from the accretion of silt in river channels, which are very flood-prone), but their contribution often goes unnoticed. Their technical capacity to cope with changing circumstances is

demonstrated as they implement a variety of innovations and adaptations, which are generally embedded in their daily lives (Chowdhury 2001). When women are not consulted on strategic land use decisions, or when women do not receive adequate information on hazards and risks and the links to natural resource use and environmental sustainability to the same extent as men, there is a risk of contributing both directly and indirectly to increased environmental vulnerability (UN 2002).

Large-scale natural disasters receive considerable coverage in the international press and external emergency support. Less visible, smaller-scale or slower-to-develop disasters often receive little media attention and thus less preventive and remedial effort. These include the smaller-impact disasters caused by recurrent floods or minor landslides, as well as slow-onset disasters such as the land degradation, deforestation, pollution, drought and desertification caused by the overexploitation of natural resources, and other unsustainable development practices and natural hazards. These natural disasters should be of equal concern. The losses and costs associated with these events are considerable and a succession of such smaller-scale disasters can increase vulnerability and eventually culminate in major disasters. Their cumulative impact may not be felt for decades, but the hazards they make more likely, such as flash floods and landslides, can contribute to sudden-onset events (UN 2002).

Promising practical solutions encompass natural infrastructure that reduces exposure and sensitivity, and flexible multi-stakeholder institutions that strengthen and widen adaptive capacity. Examples of ecosystem-based adaptation in river basins demonstrate important distinctions between investment in natural and engineered infrastructure. Engineered infrastructure, such as dams and reservoirs, or irrigation and inter-basin transfers, reduces exposure, for example, to water scarcity, flood and food insecurity. Such schemes typically use top-down approaches. Investing in natural infrastructure as a complement or alternative can also be justified by targeting specific vulnerabilities, such as those linked to gender, using a combination of capacity building and the development of governance that is multi-stakeholder, flexible and adaptive. The quality of institutions complements the quality of technology. Multiple benefits can then emerge, with vulnerabilities reduced as exposure and sensitivity are reduced (Smith and Barchiesi 2009). Solutions can also “live with floods”. For example, girls are generally more likely than boys to miss classes during floods due to their inability to wade or swim. One solution in Bangladesh has been to provide “boat education” to over 90,000 families cut off from schools by floods. This has increased the number of girls who attend classes during such events.

"Maladaptation" can include actions that cause or accelerate natural infrastructure degradation and weaken the ecosystem services needed to reduce exposure and sensitivities to climatic variability and change. Any rush to engineer infrastructure for adaptation, such as dams, levees, dykes and sea walls should be reconsidered. Instead, comprehensive and resilience-based strategies for infrastructure development are needed which combine

sustainable and appropriate investment in portfolios of both engineered and natural infrastructure (Smith and Barchiesi 2009).

4.2.2 Agriculture and food

MSB does not currently engage in agriculture practices per se, but does assist the World Food Programme with food distribution. In addition to water, Sida has identified agriculture and food security as major focus areas for their resilience work.

Gender issues: In many places, women have the primary responsibility for providing water, fuel and food for the family. To provide food, they often engage in small-scale subsistence farming. Women comprise, on average, 43 % of the agricultural labour force in developing countries, ranging from 20 % in Latin America to 50 % in eastern Asia and sub-Saharan Africa (FAO 2010).

Approximately 60% of global food production is derived from rain-fed farming systems vulnerable to climate change (the remaining 40% is derived from irrigated agriculture practiced on 20% of the world's arable land). The importance of rain-fed sources of food weighs disproportionately on women, who make up some 70% of the world's poor (WHO 2000). Melt-water changes represent a serious challenge to the one-sixth of the global population that relies on melt-water from glaciers and permanent snow-packs for part of the year, most notably in China and India (IPCC 2007). These changes will be most felt by women. In rural India, agriculture and allied industrial sectors employ almost 90% of the female labour force (FAO <http://www.fao.org/sd/Wpdirect/WPre0108.htm>). However, a reduction in the means of production (land, water) in communities often triggers a migration of men to urban centres in search of alternative employment, while women remain to intensify their efforts to provide food from the ever-dwindling rural farm production. Tension around resources has precipitated wars and clashes, causing male deaths and leaving women with huge family burdens.

Many socio-cultural factors create barriers for women's access to water and land. Formal and informal rights, including customary rights, shape the traditional, cultural role of women (Johannessen 2010). It is often the women who do the labour, but they lack access to key information about seeds and fertilisers. It is also typically part of the male domain to grow the cash crops, while women grow only for their families. In male-headed households, men are the predominant decision makers. This is changing, as the number of female-headed households is increasing in many countries in sub-Saharan Africa and Latin America – largely due to male migration, divorce, illness (especially AIDS) and conflict. However, unequal representation in the formal institutions at the communal level remains an issue. Even though a large proportion of women are farmers, they are not represented or recognised in farmers' unions, and they are not generally embraced as leaders. These factors contribute to women's roles remaining hidden (Johannessen 2010).

Women own significantly less land than men in every region of the world – on average, 19 % of holdings. In sub-Saharan Africa, the average is 15 %, ranging

from less than 5 % in Mali to just over 30 % in Botswana, Cape Verde and Malawi. In the countries of North Africa and West Asia for which data are available, women represent less than 5 % of all agricultural landholders (FAO 2010). Women's insecure land tenure can cause unsustainable practices and be a critical factor in constraining their potential for recovery in the aftermath of disasters. If a man dies in a disaster, for example, the rest of the family may suddenly be left landless and without a house or livelihood. Greater attention should be paid to shared land tenure in gender programming and sustainable development, and in relation to its impact on natural disasters. Empowerment can be achieved through access to education and credit, but women often find themselves stuck in the status quo. To access credit they need to own land, but in many places women cannot inherit land, and risk losing the land if they try to change its ownership (UN 2002).

According to the United Nations Food and Agriculture Organisation (FAO), the rapid modernisation of agriculture and the introduction of new technologies, such as those that characterised the green revolution, have benefited the wealthy more than the poor, and men more than women. This is supported by the International Labour Organisation, which has found that new techniques in agriculture, particularly those involving commercialisation, "often shift economic control, employment and profit from women to men". The diversion of income from women causes increased suffering for families because studies have found that income controlled by women generally benefits families more than income controlled by men. Technologies need to be affordable, have a practical relevance and be easy to use, as users are often illiterate. Many of the technologies mentioned above that help to alleviate the problems associated with water scarcity are greatly beneficial to women, but they may need adaptation to really benefit women. A successful case of adaptation was the changes to treadle pumps to make them better suited for women, who were physically exposed by the original model.

For upscaling to be possible we need to go deeper into the social issues. Women need access to information and training. For example, to prepare for a warmer world, women and men farmers both need information and access to drought- and heat-tolerant crops and varieties, as well as knowledge about rainwater harvesting, and multiple use systems and other suitable practices. Women also need to be consulted on the introduction of innovations, so that their cultivation or processing does not place an additional burden on them. Access to credit and education can in turn provide access to inputs: fertiliser, seeds and water rights as well as the ability to use mechanised tools. For example, it would be beneficial in general for women to receive more extension services, and it could be additionally beneficial if women were doing the agricultural extension services that reach out to women farmers. A recent FAO survey found that female farmers receive only 5% of all agricultural extension services worldwide. If women had the same access to productive resources as men, they could increase yields on their farms by 20–30 %. This could raise total agricultural output in developing countries by 2.5 to 4 %. Ensuring that women

have the same access to agricultural resources as their male counterparts could lift 100 to 150 million people out of hunger (FAO 2010).

4.2.3 Early warning systems

Part of MSBs international operations involves the establishment of early warning systems. One example is its work in Mozambique, where following an initial UN secondment, INGC became the primary MSB partner.

Gender aspects: Early Warning Systems depend on local populations having the proper means and skills to receive the alert, understand it and react appropriately. The main challenge is the gap between the technology and reaching the beneficiaries. Although there are clear indications of a positive shift from a purely technological response to early warning and information systems, there is still much to be done before the responses adequately incorporate relevant social issues, including gender perspectives. The social context needs much more attention if adequate early warning and prevention systems are to be developed, and the losses and costs to individuals, households and communities reduced. The differences in roles, responsibilities and needs of women and men need to be considered as this can provide valuable information for developing early warning and information systems.

Both women and men need to have access to timely information and warnings on risks or impending disasters. In some contexts, however, information alone will not be sufficient for women to be able to respond adequately. Gender-specific constraints, such as a lack of decision-making authority, a lack of capital in various forms (financial, physical, human, social) and socio-cultural norms on mobility, mean that women may need additional support to be able to effectively act on such information or warnings. To establish an effective early warning system requires understanding and knowledge of the reasons why some groups are worse affected than others in times of disasters, often linked to the fact that women and men and girls and boys from different cultures and religions have different areas of responsibility, tasks, degrees of freedom of movement, dress codes, education, and so on.

Early Warning is also relevant to slow onset disasters. These require standards, methodologies and dedicated management support tools to facilitate the establishment of more effective links between early warning activities and the decision-making processes. The Sahel has regularly been affected by food insecurity problems, and drought, poor harvests and rising food prices have left the region on the brink of humanitarian crisis. In 2010, the FAO forged links with UNISDR and the African Centre of Meteorological Applications for Development, the climate science community and disaster managers in Africa to establish a better understanding of early warning and a more rapid response at the local, national, regional and international levels. Furthermore, UNISDR wants to establish effective drought contingency planning for stakeholders and partners implementing drought risk reductions programmes in the Greater Horn of Africa. However, at first glance this project does not appear to include a gender aspect (Leuskat 2012).

4.2.4 Search and rescue

MSB's core activities include search and rescue operations (MFA 2010, p.22). MSB can send a search and rescue team within ten hours of a request. This Swedish International Fast Response Team (SWIFT) consists of 74 specially trained people and 12 rescue dogs. MSB's search and rescue missions also involve providing medical care for those rescued. A team is necessarily in a hurry to be deployed after a decision has been made, which affects preparation and the planning of the project. Access to relevant information can sometimes be limited. This places great demands on response managers and field staff alike. Of 110 MSB interventions in 2010, 75% were humanitarian interventions such as search and rescue.

Gender aspects: Because women are often less physically strong than men, they receive less training in search and rescue in recipient countries. However, women are known to take part in rescue operations anyway, and should therefore also receive training (Acharya 2012). The 2005 earthquake in Pakistan, for example, affected more women than men because of their roles in society. In search operations following the earthquake, gender-related information on where female and male victims could be found was of significant importance. To obtain this information it was important to talk to both women and men, because to a large extent they were in different places when the earthquake hit. Questions should always be asked about what relationships and contacts are like between women and men in the country in question, and how this affects the composition of the team or the recruitment of seconded experts. A search and rescue team should always ensure that a gender analysis is carried out while planning a project. This analysis involves finding out if there is gender-specific data on the people affected, reviewing where such information comes from, and identifying gender-defined roles, divisions of labour, access to resources, and other activities in the community. This information provides a basis for developing an assessment of women's and men's needs for assistance. If there are many women among the people affected, the team has to find out how this affects the rescue operation, and to ensure that both women and men are recruited.

Depending on the age of a child, they can be expected to behave in quite different ways in a search and rescue situation. For example, small children may hide from the rescue team thinking they have done something wrong. MSB has internal capacity on this (Hitta Vilse <http://www.civil.se/kurser/hitta-vilse/>), and has tested Bayesian tools adapted from Canada, (Lin and Goodrich 2009), which could be useful to draw on.

4.2.5 Early recovery

MSB defined DRR and early recovery as core areas as early as 2005 and initiated a number of projects in these areas in 2006–2008. MSB has since made efforts to expand its role in DRR and early recovery. MSB's work has developed into more long term-engagements. According to Anneli Bergholm Söder, head of the MSB's Coordination and Operations Department: "I realised that there is a need for enormous resources, not just during the acute phase, but for a long time to come. I

hope we can continue with our active support to long-term projects. It was obvious to me that the knowledge that MSB has amassed to prevent and limit [the effects of] natural disasters could also be used during the recovery phase” (MSB 2010). Of the 110 interventions in 2010, 7% were early recovery from disaster and crises – mainly urban WASH, disaster waste management and transport infrastructure. According to the stand-by agreement with OCHA and other partners, the response time is 72 hours. A gender adviser is available for humanitarian assistance, which is used solely for MSB’s own operations. In recent years this profile has been requested for one or two missions per year and resources have met demand. The personnel sent on early recovery missions by MSB should have expertise in monitoring and evaluation, needs-, risk- and conflict assessment and analysis, gender, the environment and CC.

Gender aspects: Women are often hardest hit by a disaster. For example, in many urban settlements, women headed households are located closest to the areas most prone to flooding. These areas also often lack adequate Infrastructure (transport, health, sanitation energy supply).

There are organisational barriers to the occupations and status of women that show up in early recovery activities. Only a small fraction of women are trained in emergency management, and those that are can often easily be excluded from the “old boys’ network”. Many case studies echo the fact that although women take part in relief and early recovery, they are not part of the decision-making and planning processes (Noel 1998, Khondker 1996), given fewer relief supplies and not trusted with response tasks (Begum 1993). The participation of women in relief work by international agencies is however very much appreciated. For example, relief workers in Bangladesh trying to get emergency food and clothing to women urged agencies to put more women in the field to circumvent cultural and other barriers to gender fair assistance (Begum 1993 in Enarson 1998). There are also barriers to women’s participation in relief operations. Australian practitioners have suggested that women responders need childcare services in the field (Dobson 1994 in Enarson 1998).

Needs assessments in early recovery need to include adequate assessment of the roles, responsibilities and relative access to resources of women and men in order to understand the extent of losses and costs to women and their potential for recovery. Recovery programmes and the allocation of resources (including credit and alternative employment programmes) must be based on this assessment. The needs and priorities at the household level for shelter, water, energy, food and care for the sick and injured – particularly those tasks which are the responsibility of women and girls – should be given adequate focus and resources. Consultation processes and efforts to increase community participation and ownership of recovery processes must make explicit efforts to find ways and means to ensure the full involvement of women as well as men. Furthermore, the specific health needs of women and girls, particularly reproductive health and access to sanitation, should be given particular consideration. However, counselling should be provided to both women and men, based on a recognition of the particular vulnerabilities of each sex in emergency situations. Furthermore the increased risk of violence against women and children, including sexual violence, must be taken into account,

particularly in situations where communities are forced to live in camps – where security can be a serious issue for women and girls. Women’s particular needs for dialogue and exchange with other women on their situations, priorities and constraints, and for specific support mechanisms, should also be recognised. The gender mainstreaming approach does not preclude the need for initiatives targeted at women. Capacity development initiatives should explicitly target women as well as men.

4.2.6 Water, Sanitation and Hygiene (WASH)

As part of its early recovery response, MSB provides WASH services in an emergency. MSB often supports different UN agencies with water treatment, water provision, transport, logistics and waste management.

Gender aspects: At the community level, men are often involved in the technical aspects of water supply (pumps, water treatment, etc.) while women are most often responsible for arranging water and sanitation for the family. Involving women in decision-making is likely to require an active effort as the people working on the WASH systems in the field are often men. Sanitation is in many places and cultures a topic that requires separate consultation and training for men, women and children.

Climate change trends influence water supply, increasing uncertainty. The scarcity of water and energy increases women’s burdens due to the additional time and energy required to secure these resources, and this can contribute to denying them opportunities to engage in other forms of capacity development such as education. Increasing incidences of waterborne disease means increased care for family members, typically the responsibility of women. Malaria in particular has compounded the health problems of children and pregnant women. The increased cost of health care creates resource pressures on both men and women. More extreme weather will also mean increasing challenges in preventing contamination by flooding of the sanitation service chain, which already faces many challenges. An increase in the resources invested in sanitation is desperately needed. A lack of priority for sustainable solutions disproportionately affects women and girls, given their greater need for privacy and safety.

The increasing number of urban disasters is exacerbated by inadequate human resources and capacity in humanitarian agencies to implement urban water and sanitation solutions (Heeger 2011). Upscaling the building capacity in the urban disaster risk reduction and response capacity of urban WASH schemes is therefore an important focus of MSB. Technologies have to be resilient to withstand increasing climatic challenges, including raised latrines and drainage to manage water flows. Improving these services will benefit women and children, especially girls (Johannessen 2011). Community mobilisation has proved to be an interesting avenue to explore. Community Health Clubs have been used for cholera mitigation in Zimbabwe (2008–09), for example. This approach, mostly offered by women, has used health education and changes in hygiene practices to prevent cholera epidemics. It has also been applied in refugee camps in Uganda (Waterkeyn et al., 2009).

WASH governance systems should be improved so they are better able to take account of the increased uncertainty generated by CC. This includes: strengthening capacity within the WASH sector, particularly at the intermediate and local levels; adopting and implementing integrated water resources management (IWRM), so that there is better alignment of plans across the whole water sector as well as other sectors that have an influence on the water supply (e.g. the power sector) and demand for WASH services (e.g. planning departments); and adopting the principles of adaptive management, which are based on the recognition that in a complex and rapidly changing situation there can never be sufficient information to reach a settled, optimum decision. MSB's support for these efforts could help attract women professionals to more than purely technologically oriented operations (Batchelor et al. 2009).

4.2.7 Shelter

MSB plans shelter camps as part of its early recovery missions, preparing the ground, and organising drainage and the building of shelters using the SPHERE standard. MSB places substantial emphasis on adapting to the needs of the local population, where cultural and religious considerations are often important.

Gender aspects: Shelter should be structured to ensure women's safety from the risk of sexual abuse. Facilities should be planned in such a way (including lighting) that they are accessible without personal risk. For example, close nighttime proximity to WASH facilities and sanitary solutions for women inside their tents reduces risk. A better gender balance is also supported by equal inclusion of women's and men's voices in camp management and food distribution, as well as appropriate health care and counselling. In the long term, temporary shelters may need access to childcare, transport to major work sites and affordable legal assistance (Enarson 1998).

The likelihood of more extreme weather means that shelters also need to be planned on higher ground and with good drainage. Contamination is likely to occur without adequate drainage, which affects the physically vulnerable, particularly children and the elderly, disproportionately.

4.2.8 Construction (housing and infrastructure)

Construction is part of the many capabilities of MSB's staff, who can be seconded on request.

The main threat to infrastructure assets presented by CC is damage or destruction by extreme weather-related events. CC may exacerbate coastal flooding and inundation linked to rises in sea levels. It could also change patterns of water availability. Higher temperatures could increase operating costs, including in temperate areas and areas currently characterised by permafrost conditions. CC also affects the function, operation and management practices of existing water infrastructure, including hydropower, structural flood defences, and drainage and irrigation systems.

Well-designed, appropriately located and affordably priced infrastructure can be a powerful tool in the pursuit of gender equality. There is clear evidence that demand-driven, participatory, inclusive approaches to infrastructure development that empower both women and men lead to more efficient and sustainable projects and programmes. Gender integrated approaches enhance productivity and incomes for families, and more equitable access to reliable infrastructure services contributes to poverty reduction, economic growth and positive impacts on health and empowerment. These approaches increase access to markets, education, skills training and economic opportunities, as well as business and other information. They also reduce the time required for domestic tasks, and can reduce maternal and child mortality by providing timely access to skilled health providers, potable water and improved sanitation. In most cases, poor infrastructure and lack of access are significant barriers and limit economic empowerment and productivity gains as well as access to health, education and other services for the poor, particularly women. Women are more negatively affected for socio-cultural and economic reasons, in particular time constraints caused by their heavy domestic workload carrying fuel, water and other goods as well as the health impacts of indoor air pollution from the use of biofuels.

4.2.9 Logistics and transport

The logistics field has been and remains the area in which MSB conducts the majority of its missions. Logistics expertise is an important part of an organisation's operations. It is an essential part of any response in a disaster area, including to transport the response team, equipment and supplies. Logistics expertise is in demand for many types of operation, such as mine action, DRR and construction projects. Within the framework of the EU Community Mechanism, MSB has registered a Technical Assistance Support Team (TAST), which includes logistics staff who support coordination, and needs assessment teams by arranging local transport and accommodation. MSB also coordinates specific contributions and is a partner in some food distribution projects. One example is the World Food Programme (WFP), which supplies more than one-third of the world's total food aid.

Gender aspects: The cost of logistics in humanitarian operations is estimated to account for 80–90% of the total expenditure of a humanitarian organisation. Logistics therefore need to deliver and demonstrate excellent value for money and strive to remain efficient. Gender considerations are an unknown factor in logistics, and the effects of the overwhelming portion of logistics workers being male have been little researched. Aid organisations that combine elements of social work and health care typically have a largely female workforce, but even in organisations where women are over 90 % of the workforce, the logisticians are typically men (e.g. Medicines Sans Frontiers). This places large demands on these men to have an excellent awareness of gender-related issues, that is, the differences in the circumstances of both fieldworkers and beneficiaries, in order to meet their needs properly. Such an understanding involves identifying different groups of beneficiaries, evaluating their needs, and developing an appropriate response. This has a direct bearing on the effectiveness of an aid

programme (Kovacs and Tatham 2009). Wouters and Wilderom (2008) show that different sets of skills can be linked to the logistics performance of an organisation. Such differences in skills have, in turn, been attributed to the sex of the logistician, highlighting the effects of gender in purchasing negotiations. In the humanitarian context it can, therefore, be seen that gender issues arise not only at the interface with the recipients of assistance, but also in respect of the gender of the logistician responsible for delivering the aid (Kovacs and Tatham 2009).

It would be useful to understand what attracts or prevents women from entering the logistics profession, particularly when they are present in many other areas of humanitarian organisations. For example, work-related travel in global supply chains has been shown to be an important barrier to women entering the logistics profession (Trunick, 2007).

Gender-insensitive purchasing

There are many examples of gender-insensitive purchasing decisions that lead to safety and hygiene problems. One such was the use of translucent tents in El Salvador, which showed when women were alone and thus exposed them to violence (ALNAP, 2005). Another is anecdotal evidence suggesting that a particular humanitarian organisation purchased only one size of female underwear for aid recipients in the aftermath of the Indian Ocean Tsunami.

Last mile problems: gendered access to aid

Women and men experience differences in gaining access to aid. First, women may have more difficulty articulating their needs – either because the needs assessment teams have no access to them, or because of their traditional role in society. The first point can include gendered differences in transport accessibility as well as the problems that arise from a lack of female logisticians in situations in which cultural factors inhibit men from investigating women's needs directly. Enarson (2002) criticises the distribution of relief items through male-headed households, which puts widows and single women at risk of not receiving aid. Even the timing of the distribution of relief items plays a role, as “wrong timing” can inhibit particular beneficiaries from attending an event (cf. Lutz and Gady 2004). In terms of food distribution, this puts pressure on agencies to identify the location and the number of beneficiaries, categorised by age and gender to allow WFP, for example, to determine the appropriate type and quantity of food aid needed.

Transport

Access to assistance is not only a matter of transport infrastructure and the availability of transport. The availability and affordability of transport has for example been linked to access to health care, infant mortality and poverty. In both needs assessments and educational programmes, even the timing of discussions can facilitate or inhibit different groups attending an event. A further aspect of access is the question of how the limited availability of relief items in both quantity and variety can affect the well-being of beneficiaries.

Access is seen in this way as the next step to welfare, contributing to the empowerment of recipients. In the context of humanitarian logistics, gender mainstreaming becomes a question of recognising and overcoming gendered differences in access to aid. In addition to the political agenda of gender mainstreaming, two further areas are of particular interest to humanitarian logistics: “gender-disaggregated needs” related to questions of health and sanitation, and issues of personal safety. Much of this concerns the items that need to be purchased and subsequently delivered to beneficiaries. Consequently, the SPHERE quality standards and procedures for humanitarian organisations have incorporated a gendered view (Kovacs and Tatham 2009).

4.2.10 Information and communications technology

MSB strives to have quality assured, trained response experts with a number of different competencies in the area of information and communications technology (ICT) in its personnel pool. Within a given competency, MSB can second a person to , for example, a United Nations agency as an individual expert or as part of a team for a specific assignment. This could be to build the infrastructure for radio or IT networks for a European Union mission, or an expert seconded to the UN to maintain radio and satellite equipment in a field office.

Increasing access to vast amounts of information and the development of individuals’ connectivity are major global trends. For example, in Africa there are 64 mobile phones for every 100 citizens (Green 2012). However, most of the owners of mobile phones are men; 21% fewer women than men own a mobile phone in low- to middle-income countries. The trend for differentiation in use starts early, as shown in the United States where boys are five times more likely than girls to use home computers and parents spend twice as much on ICT products for their sons as they do for their daughters (UNDP 1999). The barriers are mainly cultural (beliefs and expectations), educational and technical (skills and literacy), practical (lack of access to electricity) and economic (the cost of equipment and subscriptions). In some parts of the world, for example, husbands and fathers consider mobile phones to be inappropriate or unnecessary for their wives or daughters. In GSMA’s research, 64% of resource-poor women reported that their mobile phone makes their husband suspicious. Among married women who did not want a mobile phone, 74% said it was because their husband would not allow it (GSMA 2013). Changes in the access to information and modes of communication will, however, continue to challenge old modes and empower citizens. With a mobile phone, women feel more connected to their relatives, safer and more independent, and have better income opportunities. Mobile phones offer many other opportunities, such as making payments for school fees, participating in savings groups (which women are very active in) and pre-paid cards for commuters using local buses (Green 2012). Access to mobile phones for children can enable them to contact their families during a disaster.

There are limited studies on gender relations in the use of ICT (radio, mobile phones, the Internet, etc.) for DRR, but in general, women do not have as much

access to information and ICT as men. Information also tends to pass through male-dominated government disaster management, meteorological and agriculture agencies. For example, after the 2004 Indian Ocean Tsunami, gender stereotypes in relief aid were evidenced when mobile phones were distributed to men's self-help groups but not to women's groups. Women are more inclined towards ICT that is more audio in nature, such as the radio and even the mobile phone. This is because the level of literacy among women is generally lower and audio ICT allows women to multi-task, listening to the radio while doing their work. The selection of ICT and the crafting of messages for early warning as well as for public awareness campaigns must be gender sensitive and value women's knowledge (UN 2010).

ICT has been shown to be good at addressing socioeconomic and gender issues by being gender neutral. The Water Research Commission (WRC) in South Africa has just completed a project where farmers get a text message when it is time to irrigate. The ability to reach both sexes with technologies like ICT has a potentially enormous impact on access to information for women. ICTs have the potential to give women access to a new set of tools for empowerment and livelihoods. For example, economising on water for irrigation reduces the time and energy needed to fetch water, so in that way technology can reduce a woman's workload. Furthermore, when women are able to produce and access a market, this has been shown to make a tremendous impact as increasing household income is a powerful tool for self-help. Women often reinvest in water and food production systems for the household (Johannessen 2010).

5. Analysis: MSB's role as an actor in relation to its mission and partner organizations

Chapters 1–3 provide background and an overview of the key analytical concepts. Chapter 4 outlines of the key areas of overlap between gender issues and climate change in MSB's areas of interest, and identifies the some of the most important stakeholders associated with those changes. This chapter analyses MSB's role and the implications for its continued development, the key strategic areas that can fruitfully be addressed and how they can be translated into action. Annex 2 contains the stakeholder analysis as a complement to this chapter.

As discussed previously, effective mainstreaming of gender into disaster risk reduction (DRR) requires gender to be regarded as an integral component and not as an “add on.” In addition to being an important normative goal, strengthening gender equality is an important tool for reducing vulnerabilities and more effectively engaging in DRR operations. Significant efforts have been directed at institutionalising a gender perspective in the work carried out by MSB. However, this process has reached deeper in some areas than others and the interviews conducted suggest that a gender perspective has yet to become a fully integrated element in all parts of operations. MSB is not alone in experiencing such challenges.

Nevertheless, we feel it is important to note that the vast majority of the practices and analyses pointed to in this chapter are being employed somewhere within MSB's operations. In some instances, the evidence gathered in the course of preparing this report suggests gender aware practices are quite widespread, and carried out by thoughtful and dedicated staff for whom a gender perspective is relevant, but not a primary concern. In other instances, particular individuals are clearly pushing the envelope, engaging in problem solving and using creative approaches that are breaking new ground. Some of those creative approaches are being adapted from partner organizations such as Oxfam, which appear to be among the leaders in integrating a gender perspective in DRR work

5.1 General challenges of mainstreaming gender

One general challenge in successfully institutionalising policies that promote gender equality and women's empowerment is that resistance to embracing such policies in day-to-day routines may come from a variety of sources.

Gendered practices are embedded in organizational culture, in its formal rules and procedures, and in the relationships within an organisation and with its partners. Social and organisational change processes such as mainstreaming gender require not only knowledge, but also attention and effort on all of these fronts. The default position is to follow previously stable rules and norms.

Partial explanation lies in what can be described as organizational culture (see chapter 2) - the existing collection of taken-for-granted values and ways of thinking and working that underlie decision-making and action. These “deep structures” of societies and organisations are often taken for granted and therefore unconscious, making them more difficult to address (Rao et al. 1999). As a case in point, women emergency managers describe how leading disaster agencies have been shaped by a historically male workforce and work culture, are grounded in the masculine traditions of civil defense, the military and engineering, and reflect an overreliance on technological solutions to human problems (Enarson 1998). In such a context, mainstreaming gender is not likely to be quickly and easily achieved, although it is notable that the British army tops the public sector top ten for gender in the UK according to Business in the Community 2012.

While change processes such as gender mainstreaming typically entail revision of formal rules and procedures, it may not be immediately obvious exactly where many of those changes need to be made. Some potentially important reforms, such as including a gender component for review and discussion in weekly reporting, may not appear at all obvious. There are also circumstances in which formal rules run ahead of actual practice, as illustrated by insights from MSB staff:

...In Central Asia, for example, and the former Soviet republics, there are considerable social barriers related to gender equity awareness. However, the political sphere in post-Soviet locations gives formal legal space to women and women fill that space. One can therefore see that the legal framework and society work have to be developed in tandem. ... In India, for example, the situation is the reverse from the situation in Central Asia. The number and quality of laws, including Supreme Court rulings, is quite high. However, due to the diversity of population, tradition, culture, religion, and so on, society lags behind formal institutions such as law in providing women and girls with adequate space and rights. There are also substantial gender-related differences between Indian States such as Kerala, on the one hand, and Haryana and Bihar, on the other, in areas such as education levels, literacy, and women's and men's participation in societal matters. (Interview with MSB staff)

The value of a framework such as the one used above (and discussed in chapter 2) is that it draws attention to elements of the larger picture that together constitute a coherent whole, and which interact with and mutually reinforce

one another. These elements are often easier to identify and engage with when analytically separated from the rest

There are other useful ways to divide and categorize the important elements involved in promoting change such as mainstreaming gender. On the basis of research, for example, Rao and Kelleher (2013) have developed a checklist approach to several key challenges for gender mainstreaming that they argue must be addressed:

- *Clarity:* A number of analysts have recently highlighted how a lack of clarity endangers implementation of gender mainstreaming strategies. Guidelines for mainstreaming are often long and cumbersome, difficult to read and understand, and do not make specific suggestions about what needs to be implemented.
- *Organisational change:* Evaluations of organisations working to mainstream gender often highlight the lack of senior management support, accountability, and knowledge and skills among senior staff on gender issues as well as marginalised, under-qualified and under-resourced theme groups and specialists
- *Metrics:* At one level, there are often difficulties with obtaining sex-disaggregated data. At another level, tracking mechanisms are insufficient. For example, in a sanitation project, how much of the project budget can be said to be responding to the needs of women? Answering this would require a social impact analysis at the design stage of the project and a sophisticated tracking mechanism. At a deeper level, however, is the problem of measuring the intangibles that are at the root of social change of any sort. This is the change in consciousness of women and men, the change in community norms or the change in attitudes. Incremental changes must be perceived and accepted as valuable results, realising that gender equality is a long-term goal.
- *Social change:* On the ground, programme and project evaluations highlight the difficulty of moving from individual change and learning to social change. They describe the problem of socio-cultural acceptance of ideas of gender equality, the lack of capacity of implementing partners, and the difficulty of attitudinal and behavioral change at the individual and institutional levels.

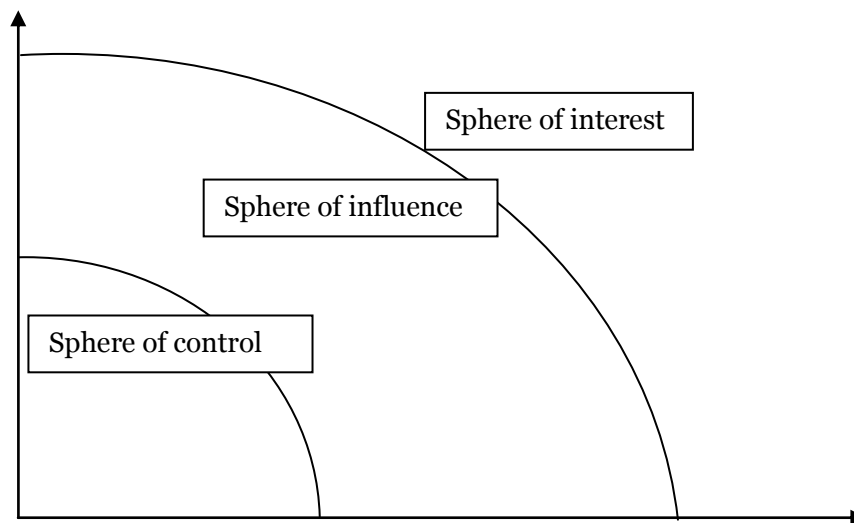
5.1.1 Spheres of control, influence and interest

Another kind of useful framework for guiding the process of mainstreaming gender can be drawn from work by Covey (1989) distinguishes between different "spheres" of activity and concern. These spheres are based on the kinds of tools available for exercising that influence: the sphere of control, the sphere of influence, and a sphere of interest (see Figure 5 below). This framework is especially suitable for organizations such as MSB that carry out a great deal of their work in collaborative settings.

Sphere of control: An organization's sphere of control is defined to a large extent by organizational boundaries and by relationships in which partner organizations are dependent in some way that leads them to behave as if they

were part of the chain of command. While there is a wide range of “hard” and “soft” approaches to exercising authority, the key distinction here is that organizational hierarchies are present to pass along and enforce “what to do” decisions about priorities and actions to be taken, as well as the “how” aspects incorporated into organizational culture and codes of conduct. Within this sphere, influence can be considered strong.

Figure 5: Spheres of control, influence and interest



(adapted from Covey, 1989)

Sphere of influence: The area is one in which the organization exerts influence over the actions of others, but absent the formal lines of authority typically present within an organization. MSB collaborates with a number of organizations running different types of projects. While it lacks formal decision making authority within these organizations, it can exert influence through a variety of means ranging from conditionality of assistance, to providing resources for desired types or approaches to operational activities, to providing an example to emulate. For example MSB’s involvement in many projects includes training and capacity building around gender, mainly to the staff of the collaborating organizations. However this collaboration is not without limitations. As indicated by one of the MSB experts interviewed, there are numerous challenges in including gender in projects:

...MSB is operating in partnership with others and does not have full control or ownership over the projects...there are a lot of compromises both in practice and in theory (as the approaches have to be adapted to the organizational needs and capabilities) (MSB expert interview 2012-11-29).

MSB efforts are perhaps most often carried out in this "sphere of influence", where MSB's gender-related goals and activities must be coordinated and meshed with the collaborating organizations' gender practices. To address

these, it is important to explore the collaborating organizations' understanding and prioritization of gender, and their follow up on gender.

Sphere of interest: this category includes areas where the organization is concerned about developments around its priority goals, but exerts only weak or very indirect influence. The status of gender equality or disaster preparedness at a global level, or within particular priority regions would be an example. Although gender and CCA mainstreaming within DRR are clear priorities for MSB, not all organizations concerned with DRR have come equally far in integrating these goals – and not all organizations are equally committed to those goals. In some instances, the commitment may be there in principle, but the organization's core effort is directed toward other types of priorities.

The focus of this report is the sphere of influence, in which MSB does not exercise direct control, but can exert influence with a variety of partner organizations. Although the intention of this report was not an analysis of MSB's internal efforts and practices to strengthen gender perspective, some more general comments are appropriate because the ways in which MSB carries out its work internally have potentially great impact in its collaborative efforts.

5.2 Implications for MSB's ongoing internal development and partnerships

Gender mainstreaming is a long-term process of organisational and institutional learning and transformation (Rao and Kelleher 2013). To be effective it must address itself to the root causes of imbalances (UNISDR, IUCN and UNDP 2009), not least in the different types of social/organizational structures in which inequalities are embedded. These can manifest themselves in a variety of different domains.

We highlight below some key strategic areas where attention is likely to be fruitful, and suggest ways they could be translated into action for gender mainstreaming – where applicable within MSB, and also within collaborative arrangements with partner organizations. A stakeholder analysis, provided in Annex 2, provides additional concrete detail on the various organisations and networks with which MSB might collaborate in various ways.

5.2.1 Political support at the highest level of management

All approaches to bringing about gender equality must have a political component. This is because gender relations exist within a field of power relations, and power is used to maintain both predictability and existing privilege. Gender mainstreaming requires changes in underlying values, norms and implicit roles. These institutional change processes require a firm commitment from management teams, first and foremost from the senior directors.

Activities

- Ensure leaders (within MSB and external partners) have the necessary tools to support work with gender. People in leadership positions should participate in some minimum amount of training/workshops on gender mainstreaming.
- Promote gender awareness through the use of internal and external communications to illustrate how gender blind approaches actually perpetuate already established gender-biased understandings and practices. patterns. Involving /quoting high level management signals the importance given to gender.
- Ensure that gender awareness is strengthened with support for examining not only how women's roles and responsibilities have been constrained, but also how men's roles and opportunities have been limited in particular ways.

5.2.2 Institutional culture

Although the surface structure of organisations has become more accepting of women in recent years, much of the deep structure of valued characteristics and behavioral style has often remained dominated by masculine characteristics. Consequently, when workplace policies to accommodate women's needs are put in place, they are often framed within the context of pre-existing organisational culture rather than fundamentally re-examining the organisational cultural model. Where women are compared with their male counterparts the onus is often on women to "fit in" and adjust to the status quo. Organisations are likely to encourage women to develop their masculine skills, such as adopting a more assertive attitude or changing their managerial. A variety of studies have shown that the women who progress most easily in organisations are those who learn to fit into the existing cultural milieu, demonstrate a hard-nosed approach and are seen as having the characteristics, attitudes and temperament associated with men (Gale and Cartwright 1995). Stereotypes about women and men, like other stereotypes of social groups, appear to be easily and automatically activated (Fiske, 1998). For example, women have "perceived" domestic commitments and responsibilities, and therefore are often assumed to be less mobile, less committed to the organisational mission and more inclined to be absent from work than men – despite research evidence to the contrary (Stewart et al. 2007). Women's competence as leaders may also be challenged, and male-dominated environments can be especially difficult for women. Women tend more often to be overlooked in the promotion stakes, are more likely to be regarded as "non-progressional" and receive fewer training opportunities than their male colleagues. However, techniques exist for coping with the challenges of leadership, increasing likableness and influence, and gaining support for female leadership (Eagly and Carli 2003).

Many cues from our immediate environment can signal our "cultural fit" in subtle and not so subtle ways. "Stereotype threat" is then triggered, which can

influence performance in multiple ways by inducing distracting thoughts and worries, affecting working memory and complex cognitive activities. Stereotype threat is accompanied by explicit concerns about how one is perceived, doubts about one's own ability, and thoughts about the stereotype. For example, women performing difficult mathematical problems after being told that gender differences exist in math had more negative math-related thoughts and performed less well than women who were not given this information (Inzlicht and Schmader 2011).

There are two broad categories of remedies: those that decrease the activation of threat in the first place and those that increase the ability to cope with the threat after it has been perceived.

- 1) Most obviously, as stereotypes change and become less gender biased in a culture, the ability for situations to cue those beliefs is diminished. Many students report a belief that stereotypes (at least as they pertain to gender roles) will diminish in the coming years, giving us some reason for optimism. The presence of role models or affirmations of other good qualities in a group can dull the threatening sting that a stereotype might normally have (Inzlicht and Schmader 2011).
- 2) When women were made aware of stereotype threat and its ability to induce anxiety and impair performance, they performed at the same level as their male counterparts and significantly better than women merely expecting to take a diagnostic math test (Johns, Schmader and Martens 2005). Knowing that anxiety is an indication of cultural stereotypes rather than an indication of ability seems to enable people to distance themselves from these negative feelings and perform better as a result. Having knowledge of these effects really does grant the power to overcome them (Inzlicht and Schmader 2011).

Activities

- Implement structural changes to help balance the representation of men and women in different occupations and roles within MSB and MSB-guided projects.
- Encourage women role models and provide positive affirmations for women's and men's non-conventional roles within MSB and MSB-guided projects.
- Take measures to attempt to remedy automatic perceptions and stereotypical cultures. For example, provide training for women and men to increase awareness of these phenomena, supported by research findings of the kind highlighted above.
- Promote rights within the organisation and within MSB-guided projects for lesbian, gay, bisexual and transgender stakeholders.

5.2.3 Organisational approaches: merging agendas of sustainability and risk

Especially since Rio +20, it is evident that the global agendas of emergency response and DRR are becoming integrated into the sustainable development

agenda. There is also mounting evidence that sustainable development cannot happen without DRR or climate change adaptation (CCA). The outcomes of Rio +20 included the decision to deliberate on Sustainable Development Goals to follow on from the Millennium Development Goals (MDGs), which reach their target date in 2015.

The latest report by the IPCC also stresses that addressing the underlying causes of vulnerability is a prerequisite for sustainability in the context of climate change. This includes addressing the structural inequalities that produce and sustain poverty and constrain access to resources, creating vulnerability. Integrating DRR and CC adaptation into all social, economic and environmental policy domains is an important strategy for pursuing future sustainable development goals (IPCC 2012).

Addressing the underlying causes of vulnerabilities is a key strategy that will promote gender equality and support empowerment in general. The gender dimension links the vulnerabilities seen in disaster response with the vulnerabilities present in development. These connections are already understood by MSB staff who work on a day-to-day basis with these issues:

...While there is a clear gender angle to emergencies and disasters, there are also day-to-day social development issues that are gender-related. For example, girls stop going to school when they reach puberty, because there are no toilets or sanitation facilities and no place for menstruation hygiene management. There are many hazards related to womanhood/girlhood not just in the domain of sanitation or lack thereof. It is an issue within entire societal frameworks. Thus, gender-based vulnerability is an issue in both the development sphere and in humanitarian interventions. Gender is cross-cutting in both arenas and there is therefore a strong need to bridge the gap between the two. Likewise, climate change comes into the picture in both development and emergency efforts.

(Informant interview)

Much of the attention to women and gender perspectives to date has been focused on the differential impacts of emergencies on women and men and the gender inequality in the composition of teams. CCA, however, stresses the growing need to focus on specific topics and new approaches that address environmental vulnerability and food security. It puts the spotlight on the critical role poor women play in natural resource management and the priorities they are juggling as agricultural workers, ensurers of family food security, water supply providers and environmental managers. For example, agriculture is one of the areas affected by slow-onset disasters, where drought is a typical hazard. It can take months or sometimes years for the results of drought to become disastrous, in the form of severe water and food shortages and, ultimately, famine. Addressing drought and its effects on agriculture will become increasingly important, especially targeting the empowerment of women smallholders and subsistence farmers. MSB operations are expected to increasingly emphasise long-term sustainable development, including addressing those mechanisms which make women, men, girls and boys vulnerable during extreme weather and slow onset disasters. This is also likely

to entail a redefinition of MSB's activities and job descriptions to respond to integrated natural resource management challenges. Such updating can be carried out in ways that are a better match with more women's CVs and attract more women to apply for such jobs.

Activities

- **Mitigate environmental degradation:** Work with tools that integrate different pressures and highlight add-on vulnerabilities, but also open up for analysis areas to strengthen resilience. GIS can provide such integrated tools, which combine socioeconomic data with physical and environmental data. Furthermore, MSB could work to promote practices which use ecosystem approaches and green infrastructures to a higher degree as a complement to structural measures, and that also provide multiple functions that are beneficial to local communities. New approaches such as "living with floods" capitalise on the natural ecological resilience to which humans need to adapt rather than try to shut out or control. In general, MSB should investigate with different partners the topic areas such as deforestation, where there is a potential window of opportunity for change, and which are at the nexus between natural resource management and DRR. This includes strengthening understanding of the underlying pressures on a system and the other socio-political dynamics that drive environmental degradation.
- **Support the development of new tools to support both gender equality and reduce vulnerability in agriculture: ICT and gender-sensitive technologies** which can easily be learned by poor women can help to reduce risks in times of drought, flood and general climate variability. One area of intervention is the creation of community and culturally accessible communications systems that reach out to rural and urban indigenous groups in their local languages, such as community radio. MSB is already involved in ICT projects which have the potential to give women access to a new set of tools for DRR, empowerment and livelihoods. By receiving information on the radio or by mobile phone, they have a better chance of finding, for example, safe shelter. Current efforts should be assessed for their gender component, which can complement ICT activities still further.
- **Support the development of policy and transparency mechanisms to monitor the impact of global institutions on national and local contexts:** Global trade regimes have altered the nature of women's participation in local labour markets. Where threats to human livelihoods and potential famine and conflict originate from today is not entirely transparent. By clarifying relationships at the international level, Sweden could actively engage with the larger forces at work, which do not seem to present a threat at first glance but can be underlying or indirect drivers of disaster.
- **Encourage the development of financial mechanisms:** Investigate different insurance and livelihood credit schemes, which could benefit women before, during and after a disaster.
- **Promote the implementation of joint land rights for housing and agricultural lands:** Ensuring land rights for both spouses makes the

family less vulnerable if one of the partners dies. Work done following the Indian Ocean Tsunami provides some initial inspiration.

- Promote community drainage, waste management and better sanitation practices suitable for extreme weather especially in slum areas: The three go together in providing the basis for functional sanitation. There are also significant challenges in providing the full sanitation service chain, including maintenance and planning for the disposal of waste.

5.2.4 New partnerships

As a government agency, MSB is in an influential position and has an obviously central role to play, with responsibility for providing leadership on its own or in collaboration with partners. The time is right for creatively forging “outside of the box” partnerships and working on other similarly creative collaborative efforts. To build local resilience and support national capacities, MSB needs to seek out new categories of partners. The data gathered in the course of preparing this report suggest that MSB has so far largely remained within its comfort zone, seeking to expand its relationship with the UN family to augment its interventions in DRR and early recovery.

- Learn from partners with strong gender expertise: Some development and humanitarian agencies have developed a great deal of expert knowledge in the areas of gender and disaster risk management. These include Oxfam GB and the Global Gender and Climate Alliance. By increasing collaboration with such organizations, lessons learned can be picked up at the tacit, practice-oriented/silent level between practitioners in the field. Other interesting partnerships include networks specifically oriented towards gender, covering sectors such as the Gender and Water Alliance.
- ICT, transparency and anti-corruption: There are several partnerships, both in Sweden and abroad, which MSB could work in or gain inspiration from. For example, Sida is part of the new initiative MakingAllVoicesCount – a Grand Challenge for Development project (translate, MAVC) that brings together Sweden, the British Department for International Development (DFID), the U.S. Agency for International Development (USAID) and Omidyar Network (ON). The initiative will create a fund to support innovation, scaling up and research that will deepen existing innovations and help harness new technologies to enable citizen engagement and government responsiveness. This is essentially an anti-corruption and transparency initiative, and – as Transparency International (TI) has long claimed – the most damaging impact of corruption is the diversion of basic resources from poor people.
- Resource management oriented partnerships: Work with FAO, UNEP and UNDP, among others, to reduce deforestation and food insecurity.
- Link up with UNISDR, FAO and Regional centres (e.g. African Centre of Meteorological Applications for Development): The organizations offer important opportunities for collaborating on early warning on

drought and Drought Contingency Planning with stakeholders and partners implementing drought risk reductions programmes in the Greater Horn of Africa.

- Link up with private sanitation suppliers in the Nordic countries: These suppliers can help contribute to developing innovative and sustainable sanitation solutions which can better withstand extreme weather events and be used in both early recovery and development. Sweden has a long history of dry-toilet and composting solutions, which could benefit areas affected by either drought or floods. Attention is needed to the whole service chain, however, especially on treatment and disposal and all the issues surrounding them.

5.2.5 Pooling of Swedish expertise in CCA and DRR

The MSB roster of experts plays an important role in the pooling of Swedish expertise. However, many Swedish initiatives and efforts do not fit this model. Nevertheless, Sweden has the potential to support strong actors in DRR on the international scene. One of the conclusions of the cluster group on DRR held at the Swedish Water House (Johannessen 2013) was that Sweden has a great deal of expertise in different areas of DRR, but the entities involved often work along parallel lines, yet with no common system of feedback. MSB has the potential provide a long-term coordinating mechanism for pooling Swedish initiatives and resources in international DRR. This could provide a platform for interaction between Swedish actors and international processes, as well as an entry point for engagement. These processes do not always have straightforward and transparent openings. Making the relationship between MSB and other Swedish actors in international DRR more systematic and strategic on these questions would be an important contribution for such collective efforts. This is also among the messages to Sida in the recommendations developed from the 2010 evaluation of its Humanitarian assistance programme:

Mowjee and Randel (2010: 26) argue that Sida should work to become a leading donor on disaster preparedness and risk reduction (DPRR), 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. They further argue that Sida should ensure that DRR is mainstreamed in its funding decisions to deliver more effective humanitarian assistance to disaster-prone countries, and that it addresses the challenge of climate change across the humanitarian and development parts of its programme.) This segment of the report is especially relevant to MSB, as it even spells out (under quick win number #5) that Sida should increase its support for MSB's disaster preparedness work.

Activities:

- Set up a Swedish clearinghouse and pool of experts on resilience and DRR: This could be done in partnership with a small number of key institutions, such as Sida and SEI.

5.2.6 Institutional and individual capacity building

Increased capacity from the institutional to the individual levels opens up potential for building self-organised resilience, self-help and enabling others to self-help. Capacity building is sometimes needed to trigger a chain reaction of social learning within a wider community of practice, through new research findings or new knowledge for decision makers and beneficiaries.

Activities

- Support research on targeted topics relevant to gender and climate (see chapter 4): One area which stands out for its lack of research is logistics, and the importance of this topic is further emphasised by its high proportion of the total cost of humanitarian actions (80–90%). Any savings in this area will free up resources for use in action on the ground – for example, on CCA.
- Strengthen capacity internally at MSB on the gender aspects of different DRR activities: This can be facilitated by producing training with associated material on the gender aspects of, for example, early warning systems, logistics, early recovery, WASH, construction, ICT and communications, targeted to different groups, and by expanding the scope and number of staff with a gender focus.
- Provide specially targeted training for search and rescue for women: Women are known to take part in rescue operations but often do not receive formal training. Internal education (through a handbook, seminars or a short course) to the gender aspects of search and rescue, including children, should also be provided.
- Promote Swedish best practices, such as the VAKA network managed by the National Food Agency: Different municipalities supporting each other in times of crisis is an effective and important mechanism to ensure adequate resources and capacity when they are needed.
- Support women's self-help groups: There are many examples of where women's self-help groups have been able to build resilience through community projects in areas such as school boats, household solar energy, construction, tree planting, traditional farming, land management, and more. There is, however, a need to invest in, strengthen and scale up such activities. Capacity development of grassroots women's networks enables them to engage in community research and risk mapping, and to propose action plans and collaborate with governments to reduce potential damage through a process that strengthens both preparedness and capacity to do more.
- Education on the threats of CC is key: Sharing knowledge and innovative practices, for example, through community exchanges and learning can also help scale-up. MSB could strengthen preparedness by promoting the demonstrable ability of grassroots women's groups to mobilise the community to respond to emergencies created by CC. Such efforts should acknowledge the need to reward and formalise the role of grassroots women's groups in short- and long-term planning to anticipate and cope with disasters. They should also recognise that women's labour burdens often grow more than men's due to CC due to

their reliance on the natural environment for their economic and household-based responsibilities (Mwauira-Muiro 2008).

- Support women's capacity building on the doorstep: Many of the world's most impoverished women are confined to their households. They lack mobility, may be denied freedom of association, and have little opportunity to learn their rights or take action to improve their lives and those of their family members. One successful strategy implemented by The Hunger Project in Bangladesh involved "court yard meetings" led by "barefoot lawyers". In this programme, at least two of the most dynamic women volunteers in each village received intensive training in the legal and reproductive rights of women. Given the trust and respect they already enjoyed in their respective villages, they were able to take rights awareness to the doorsteps of women currently confined to their homes. The barefoot lawyers become a critical link between impoverished women and resources and educational opportunities – and to the worldwide movement for social justice. Such efforts to devise training for women should, however, acknowledge that capacity building is only appropriate if it is perceived as saving time and providing a tangible benefit. Investment in daycare centres, grain mills, wheeled carts, local water supplies and sustainable woodlots can free up women's time for training, leadership and involvement in new enterprises such as DRR (The Hunger Project website 2013).

5.2.7 Adapting existing tools and practices

MSB's existing practices could easily adopt a gender approach by having the gender experts at MSB scrutinise existing practices as listed below. The modifications should be minimal and need only acknowledge the fact that the actors in questions could be men, women, boys or girls, and differentiate between them.

Activities

- Integrate gender aspects into evaluations/assessments: All the work that identifies, assesses and monitors disaster risks, vulnerabilities, needs and capacities for DRR should have a gender component, and such assessments provide an excellent training opportunity.
- Ensure that there is a gender component in planning/coordination: The work to support organisations and institutions in preparing, organising and planning for effective prevention, preparation, management and reconstruction after disasters should incorporate gender considerations. As with the previous point, this kind of activity is an excellent opportunity to practice "doing gender" with practical, meaningful exercises.
- Ensure that there is a gender component to education/training: Adapt education/training to integrate gender, and its importance in preventing, preparing for, managing and rebuilding communities after disaster situations and strengthening DRR capacities.
- Ensure that there is a gender component to capacity development MSB works to define actions aimed at strengthening and developing

organisations' capacity to prevent, prepare for, manage and rebuild communities after disaster situations.

- Upgrade the quality assurance of projects to consider work incorporating gender: As part of its routines, MSB carries out quality assurance of projects, which includes assessments and evaluation. Gender must be included in the evaluation routines. Reporting on gender in the weekly MSB internal report structure would be one way to do this, identifying in a concrete way how quantitative and qualitative information about how men, women, boys and girls were affected by a specific intervention.
- Disaggregated data on population by sex, age and economic status are needed to identify differences in vulnerability and capacity for recovery, and to improve targeting of intervention efforts in DRR projects. From this data, high quality empirical research can be carried out and feedback provided on programmatic development.
- Institutionalisation of gender in staffing practices: Organisational practices, the recruitment of staff, and identification and approval of DRR projects need to be aware of their gender impact.
- Guidelines and handbooks: MSB has already published a handbook on gender equality. This handbook aims to help people working in international assistance at the MSB to be aware of the significance of gender and to consider not only men's circumstances and needs but also women's in the event of a conflict or crisis – and to adjust the project accordingly. We also recommend compiling an indexed collection of best practice in gender issues, in which staff can look up examples of and advice on different situations that they may encounter. This could be organised following a structure similar to that used for chapter 4, but include more detail.
- Strengthening the feedback systems that foster learning: Interviewees also expressed the need for better information and feedback to better identify and evaluate what is working or falling short. MSB's gender staff are located at its headquarters offices and in the field. Although the size and coverage of these structures is crucial to effectively promoting gender issues across the different levels of the organisation, the overall communication and networking structure of the organisation is also central to mainstreaming gender into DRR projects. The field staff (secondees as well as permanent DRR project members) are engaged in training, coaching, mentoring and advisory roles. These rich practices can be central to strengthening MSB's gender practices both in current projects and future strategies. Currently, MSB uses personal evaluation forms and online surveys to obtain feedback. Depending on the need, there are practices for deep debriefing and feedback delivery in the form of meetings among the gender staff. In these processes, the feedback mechanisms should include evaluations and comparisons between the work of internal, external, and joint venture teams in executing DRR projects. Critical and reflective processes that address evaluation and impact need to be included as a cycle of learning to amend the policies and practices of MSB and further develop the gender mainstreaming strategy.

5.2.8 Concluding observations

As the interdependencies between development, climate change adaptation and disaster risk reduction become increasingly clear, it is equally apparent that gender contributes to an array of avoidable vulnerabilities – as well as sometimes unexpected capabilities. Incorporating a gender perspective in DRR operations provides important support for gender equality, yet is at the same time an important tool for identifying and responding to vulnerability. While there remains much work to do to fully mainstream a gender perspective in MSB's operations, there are many important examples of good practice, creative problem solving, and deep commitment to gender equality goals within MSB to build and expand upon.

Table 6 Summary of strategic areas for intervention and action for gender mainstreaming

Strategic area of intervention	Related activities
1. Political support from the highest level of management	<ul style="list-style-type: none"> • Ensure leaders (within MSB and external partners) support the work on gender. If this is not a clear commitment, pursue them with the facts and evidence of its importance. • Promote gender through the use of the media to illustrate the prevailing gender blindness, and at the same time involve /quote senior managers.
2. Institutional culture	<ul style="list-style-type: none"> • Address structural changes that balance representation of men and women in different occupations and roles in MSB • Encourage female role models and provide positive affirmation for women’s roles within MSB • Put in place measures to try to remedy stereotypical and automatic perceptions and cultures. For example, provide training for women supported by research findings • Promote rights in the organisation for lesbian, gay, bisexual and transgender stakeholders.
3. Organisational approaches: merging the agendas of sustainability and risk	<ul style="list-style-type: none"> • Mitigate environmental degradation by working with tools such as GIS, which integrate different data, use ecosystem approaches and explore approaches such as living with floods • Support the development of key tools which support gender equality and reduce vulnerability in agriculture • Support the development of policy and transparency mechanisms to monitor the impact of global institutions on national and local contexts • Financial mechanisms – Investigate insurance and credit schemes which could benefit women before, during and after a disaster. • Promote better sanitation practices suitable for extreme weather • Promote the implementation of joint land rights
4. New partnerships	<ul style="list-style-type: none"> • Engage in innovative partnerships with groups that have expert knowledge on gender and DRR and pursue projects on an experimental basis • ICT, transparency and anti-corruption

	<ul style="list-style-type: none"> • Pursue resource management-oriented partnerships • Link up with partners on early warning on drought and drought contingency planning • Link up with private sanitation suppliers
5. Pooling of Swedish resources	<ul style="list-style-type: none"> • Widen the roster model to include new topics in the interface with sustainable development; pool Swedish expertise for projects and research
6. Institutional and individual capacity	<ul style="list-style-type: none"> • Support additional research on topics relevant to gender and climate • Strengthen internal capacity in MSB on the gender aspects of different DRR activities. • Promote Swedish best practices • Support women's self-help groups • Provide training specially targeted to search and rescue for women • Support women's capacity building on the doorstep
7. Adapting existing tools and practices	<ul style="list-style-type: none"> • Integrate gender aspects into evaluations/assessments • Integrate gender aspects into planning / coordination • Integrate gender aspects into education/exercise • Integrate gender aspects into capacity development • Upgrade quality assurance on projects to capture gender • Disaggregate population data by sex, age and economic status • Institutionalise gender practices • Develop guidelines and handbooks • Strengthen the feedback systems that foster learning

Annex 1: Informant interviews

Interview #	Interviewee	Role and Organization
1	Marielle Pettersson	Program Officer within operations, MSB
2	Carolina Wennerholm	Gender advisor, Sida
3	Olivia Forsberg	Programme Officer for DRR, MSB
4	Susanne Risser	National Gender Adviser, MSB, Mozambique
5	Ines Smyth	Gender Adviser, Oxfam, Oxford, UK
6	Frederik Frisell	MSB
7	Leif Jönsson	MSB
8	Rahul Pandit	Expert, seconded by MSB to UNDP with posting in Montenegro
9	Carl-Johan Bäckström	MSB

Annex 2: Stakeholder analysis (Sweden)

In terms of MSBs work on gender mainstreaming, there is essentially four types of target groups for MSB's work at the intersection of gender mainstreaming, climate change adaptation, and DRR:

1. Internal MSB, including gender advisors are active in internal training and awareness raising on important issues relevant for gender. This also includes the on-going organization's effort in and trying to find gender equal representation in field teams.
2. External partners which MSB collaborates with, including local staff.
3. Actors that operate in the same interest area as MSB but which MSB is not collaborating with. This could be for many reasons, but mainly due to priorities and the lack of capacity in engaging with all the multitude of projects, organizations and initiatives. This group is important to at least try to monitor i.e. read the published reports and main news, to share information with and invite to meetings and trainings.
4. Communities and other beneficiaries – both direct and indirect, where addressing numerical gender equality may go some way, but where the biggest impact will be felt indirectly in developing programmes and activities which address underlying vulnerabilities, and benefit women, e.g. WASH.

Categories one and four, internal stakeholders and beneficiaries are not included in the stakeholder analysis below. Internal MSB actors are already known to MSB and category four will be largely different depending on disaster events and opportunity. This overview/analysis focuses on categories two and three, which both provides a pool of resources to monitor and in some cases engage with if there is opportunity and a strategic reason. If MSB engages with these stakeholders in closer cooperation, it requires organisational skills in addition to gender and cultural considerations.

Governmental agencies

The National Food Agency (Livsmedelsverket)

The National Food Agency is the central administrative authority for matters concerning food (which in Sweden includes drinking water).

How to engage: MSB could work to promote the network VAKA which is managed by the National Food Agency and could provide an interesting model for other countries to adopt a sharing and preparedness option for drinking

water crises. Such a network could be adapted to fit the context in low and middle-income countries and receive special training on gender issues.

Further information: <http://www.slv.se>

Swedish International Development Cooperation Agency (Sida)

Sida works according to directives of the Swedish Parliament and Government to reduce poverty in the world. The overall goal of Swedish development cooperation is to contribute to making it possible for poor people to improve their living conditions. Sida is a government organization under the Swedish Foreign Ministry, which administer approximately half of Sweden's budget for development aid. During 2012, The Humanitarian department deals mostly with DRR. Sida is standing out as the largest funder of UNISDR and the second largest donor of GFDRR after the EU institutions (GHA 2012). DRR also features in initiatives emanating from links to humanitarian programming. There are also many small risk reduction components (primarily addressing food security) within other humanitarian programming, but it is difficult to get an overview of these initiatives. Some DRR programmes are supported through regional transboundary water initiatives and national programmes funded through the Special Climate Change Initiative. But Sida could do more says an evaluation from 2010: "Review of Sida's humanitarian work relevant for DRR". In 2012 Sida had a DRR and resilience working group focusing on water and agriculture. A study was commissioned which was finalized in 2012. (Christoplos et al. 2012).

How to engage: Work closely with Sida to develop the international DRR, climate and resilience agenda for Sweden sensitive to gender.

Further information: www.sida.se

Sida's Helpdesk for Environment and Climate Change

Sida's Helpdesk for Environment and Climate Change is commissioned by Sida – the Swedish International Development Cooperation Agency – to assist Sida staff in integrating environmental (including climate change and disaster risk reduction) perspectives into Swedish development cooperation. The Helpdesk gives support, on demand, by providing advice and strategic guidance on environmental integration at policy, program and project level. It also supports capacity building, development of tools and methods for environmental integration and dialogue concerning environmental issues.

How to engage: Sida may want to involve the helpdesk as experts in outlining DRR strategies with MSB (aiming at agricultural or any other environmental issues).

Further information: www.sidaenvironmenthelpdesk.se

The Swedish Board of Agriculture (Jordbruksverket - SJV)

The Board of Agriculture is the Government's expert authority in matters of agri-food policy, and is responsible for the agricultural and horticultural sectors.

How to engage: Work in close collaboration with SJV to find a Swedish international strategy for DRR sensitive to gender issues and agriculture.

Further information: <http://www.jordbruksverket.se/>

Women's NGOs

Forum – Women and disability – Kvinnor och Funktionshinder (FQ)

FQ works against all kinds of sex-discrimination, violence against women and girls with disability. FQ will work through information, attitude change and cooperation with authorities and other organisations to act for women with disability, their right to power over their own lives and influence in society. The association also manages its own projects within prioritised thematic areas.

How to engage: Consult them on guidelines including aspects of disabled gendered issues

More information : <http://www.kvinnor-funktionshinder.se/web/page.aspx?refid=24>

Gröna Kvinnor Sverige

Green women (*Gröna kvinnor*) are a unique feminist organisation with a holistic view and with equality, environment and economy as main interest areas. Gröna Kvinnor is member of Gender CC.

How to engage: Monitor, disseminate information to and invite to meetings and trainings

Further information: www.grona kvinnor.se

Internationella Kvinnoförbundet (IKF)

IKF founded in 1987 by a group of foreign born and Swedish women who together wanted to meet and exchange experiences from activities around Sweden. It works to mitigate racism and all form of discrimination. It works for equality in the home, at work and in society. It drives project to facilitate for women to enter the job market, is religiously and politically independent.

How to engage: Monitor, disseminate information to and invite to meetings and trainings

Further information: <http://www.ikf.nu>

Internationella Kvinnoförbundet för Fred och Frihet, IKFF (Women's International League for Peace and Freedom - WILPF)

IKFF is the Swedish section of the international peace organization Women's International League for Peace and Freedom (WILPF). They work to forward the role of women as actors in the peace and security issues. Concrete examples of what WILPF and IKFF have achieved are to be the strong forces behind the adoption of the UN resolution 1325 about women, peace and security. This is the first resolution that has addressed women's situation in war and conflicts and as a preventive agent and resolver of conflicts. Civil society has also not

before stood behind a resolution from the UN Security Council. WILPF has today an advisory role at UN's organizations: ECOSOC, UNCTAD, UNESCO, FAO, ILO and UNICEF.

How to engage: Monitor, disseminate information to and invite to meetings and trainings

Further information: <http://www.ikff.se>

Kvinna till Kvinna Foundation

Kvinna till Kvinna provides support to women's organisations, does advocacy work and provides education on issues regarding women, peace and security. With a broad agenda that focuses on women's rights and peace, its efforts target five regions that are torn by conflict, including Central and Western Africa, the Middle East, the Western Balkans and the South Caucasus. The organization carries out its work through support for women's participation and decision-making, at various levels and in different sectors of society. The organization has also begun work with research development with cooperation with individual researchers and research institutes.

How to engage: With its headquarters based in Stockholm and funding provided by a wide range of civil society organizations across the political spectrum, there is a wide range of opportunities to engage with Kvinna till Kvinna through collaboration around training in Stockholm and in its target regions.

Further information: <http://kvinnatillkvinna.se/en/>

UN Women Sverige (former Swedish UNIFEM-committee)

In 2010 the UN general assembly decided to create UN Women – United Nations Entity for Gender Equality and the Empowerment of Women, (*FN:s enhet för jämställdhet och stärkandet av kvinnors rättigheter*) which was started in 2011. UN Women is an operative unit with field projects in developing countries and at the same time work with long term strategies for global equality. UN Women also has a global mandate and will over the long term be able to support industrial countries with assistance in terms of equality. UN Women's international work is oriented towards five thematic areas:

1. Increase women's participation in leading positions
2. Reduce violence against women
3. Increase women's participation in conflict solving and peacekeeping
4. Strengthen women's participation as economic actors
5. Increase prioritisation of equality at national and local level in terms of budget planning.

How to engage: Monitor, disseminate information to and invite to meetings and trainings

Further information: <http://unwomen.se>

Development and Humanitarian NGOs

Forum Syd

Forum Syd is an umbrella organization in Sweden for development NGOs and is knowledgeable of both gender and climate issues. It managed the Joint Climate Change Initiative (2011-2012) with funding from Sida. The main aim is to increase the capacity on climate change issues in local NGOs and to facilitate a mainstreaming of climate change perspectives into their existing programmes. Forum Syd has successfully implemented gender mainstreaming in various projects.

How to engage: MSB can work with Forum Syd push for the integration of DRR in development projects. Forum Syd can provide valuable lessons learnt to MSB on how to gender mainstream in community projects. Furthermore, monitor, disseminate information to and invite to meetings and trainings.

Further information: www.forumsyd.org

The Swedish Red Cross (Svenska Röda Korset)

The Red Cross is the world's largest humanitarian network and is available in 186 countries. The goal is to prevent and alleviate human suffering. In Muslim countries, Red Crescent, are both parts of the same organization. The Red Cross is politically and religiously independent. With nearly 100 million volunteers and members in 186 countries, the Red Cross movement the world's largest human safety net.

How to engage: Continue to provide a link to local partners for MSB. Engage with the Red Cross expertise on water and sanitation and hygiene, dry land agriculture expertise, community early warning systems etc.

Further information: www.redcross.se

Church of Sweden

The Church of Sweden is a national church, open to everyone living in Sweden regardless of nationality, with up to 7 million people as members. The Church of Sweden is a member of the ACT Alliance. It is involved in comprehensive humanitarian aid and advocacy for global justice. It engages in long-term development, including fair trade, improvement of farming, reconciliation and dialogue and climate issues and other key areas. It has more than 100 years of cooperation with churches in Africa, Asia, and more recently in Latin America.

How to engage: MSB can learn from their disaster risk reduction experts in the interlinkage with sustainable development. Monitor, disseminate information to and invite to meetings and trainings.

Further information: www.svenskakyrkan.se

Diakonia

Diakonia is a Swedish organisation for international development co-operation linked to the Catholic Church. Diakonia does not carry out any projects of its own, but supports more than 400 partner organisations in about 30 countries. Diakonia's goal is a fair and sustainable development in which living standards for the most vulnerable people are improved, and democracy, human rights and gender equality are respected. This includes rights based approaches to resource issues, land grabbing, land distribution, capacity building of institutions.

How to engage: Monitor, disseminate information to and invite to meetings and trainings

Further information: www.diakonia.se

ActionAid (Sweden)

ActionAid is an international organisation and engages in climate adaptation and DRR activities at the different country offices. There is however no climate or DRR focus or projects managed from the Swedish Office.

How to engage: The international arm of Action aid has a lot of experience of DRR and gender, and this may be useful to monitor.

Further information: www.actionaid.org

Plan Sweden

Plan (International) is one of the world's largest and oldest international children's rights organizations making sure children's rights are recognized, respected and enforced. Plan is a religiously and politically independent organization, founded in Britain in 1937 and is today active in 68 countries. The work is based on the UN Convention on the Rights of the Child. The Plan office in Stockholm has about 50 employees and has over 70,000 mentors across Sweden. Each year, Plan invests around three billion SEK in various development programs around the world - programs that increase access to quality health and education, creates a safe environment and fight against all forms of discrimination, violence and abuse. Plan is part of the coalition Children in a changing climate - where one activity resulted in a research report from Cambodia and Kenya. DRR activities are very developed for example in Plan Philippines. Plan furthermore cooperates with Unicef on economic arguments for a child centred approach to climate adaptation.

- Child Centred Disaster risk reduction. Building Resilience through participation. Lessons from Plan International. 2010. Children in a changing climate and Plan http://www.plan-uk.org/assets/Documents/pdf/planuk_drr_building-resilience-through-participation.pdf
- Child-centred DRR Toolkit: <http://plan-international.org/files/global/publications/emergencies/DRR-toolkit-English.pdf>

How to engage: Engage with Plan to develop MSBs child centred approaches. Furthermore, monitor, disseminate information to and invite to meetings and trainings.

Further information: www.plan-international.org or <http://plansverige.org/>

WaterAid Sweden

WaterAid can contribute with knowledge and perspectives from work with developing sustainable approaches to safe water, sanitation and hygiene education. In their perspective, WASH is key in reducing vulnerability and increasing long-term resilience to disasters. WaterAid works in 27 countries in Africa, Asia and the Pacific Region. While WaterAid is not a humanitarian/disaster response agency, they respond to natural disasters and emergencies if/when the areas that we work in are affected. Many of the countries in which they work have highly variable climates, occupy seismically active zones, or are at times politically unstable and/or prone to conflicts. They are currently developing a global framework for DRR in their work. Water Aid Sweden has limited field presence apart from a few exceptions. The head office in the UK produces from time to time highly insightful policy documentation.

How to engage: Monitor WaterAid at international level for insights in WASH related policy.

Further information: www.wateraid.org

Swedish Private actors

We do not want to forward any particular private actors, but for example sanitation actors can be found at *Avloppsguiden*:

<http://bransch.avloppsguiden.se/s%C3%B6k-f%C3%B6retagprodukt.html>

Institutes / educational agencies

Stockholm Environment Institute (SEI)

SEI is an independent international research institute, formally established in 1989 by the Swedish Government. SEI has been engaged in environment and development issues at local, national, regional and global policy levels for more than 20 years. SEI is ranked number 6 among Global Environmental Think Tanks (after five U.S.A based think tanks). SEI is specializing in integrating a diversity of disciplines into real-time policy processes and development situations through complex analyses. SEI has a robust and in-depth research tradition of looking at social-ecological resilience. SEI has a strong research profile in risk and vulnerability built up since 1999. Research is conducted on topics such as: Climate adaptation, agricultural management, environmental management, integrated coastal management (ICM); disaster recovery, risk reduction and resilience; risk analysis and hazard management, reducing

vulnerability; flooding and nutrient management; stakeholder agency; watershed management; pollution control; livelihoods and poverty, WASH systems, urban planning. SEI is engaging in policy processes and local management efforts through: participatory action planning processes, multi-stakeholder platforms; facilitating dialogue between policy planners and local climate change adaptation professionals, translation of resilience and vulnerability research into policy and operational management. SEI is a partner of UNISDR and the coordinator of SIANI. Specific projects being funded by MSB: WASH & RESCUE research project -, 2012-2014, Water, Sanitation and Hygiene in RESilient Cities and Urban areas adapting to Extreme waters.

How to engage: MSB can collaborate with SEI in efforts that aim to bridge the humanitarian and sustainable development agenda and bridge science and policy.

Further information: <http://www.sei-international.org/about-sei>

Stockholm Resilience Centre

The Stockholm Resilience Centre is an international centre that advances trans-disciplinary research for governance of social-ecological systems with a special emphasis on resilience - the ability to deal with change and continue to develop. The centre is a joint initiative between Stockholm University, the Stockholm Environment Institute and the Beijer International Institute of Ecological Economics at The Royal Swedish Academy of Sciences. The centre is funded by the Foundation for Strategic Environmental Research, Mistra. The Centre for Transdisciplinary Environmental Research (CTM) at Stockholm University and The Baltic Nest Institute (former MARE) are also part of the Stockholm Resilience Centre. The FORMAS-provided project Resilience and Sustainability: Integrated Research on Social-Ecological Systems, is an acknowledgement of Stockholm Resilience Centre also being a Swedish Centre of Excellence.

How to engage: Monitor the Resilience Centre for academic insights on resilience of social ecological systems.

Further information: www.stockholmresilience.org

Swedish Geotechnical Institute (SGI)

SGI works with risk, vulnerability, and consequence analysis from a land use perspective and has a close cooperation with MSB in terms of natural hazards. They have developed risk assessment methodologies on e.g. pollution during flooding (cf Report SGI Varia no 576 and Varia 577) and decision Support for evaluation of Environmental, Social and Economic Aspects of Land Use (See Varia no 613).

How to engage: Collaborate on risk assessments and how gender can be integrated in those.

Further information: www.swedgeo.se

The Swedish Defense Research Agency - FOI

FOI is one of Europe's leading research institutes in the areas of defense and security with 950 employees. FOI is an assignment-based authority under the Ministry of Defense. FOI has many international contacts, customers and cooperation partners amongst foreign authorities, research institutes and companies. FOI cooperate with many foreign partners, through bilateral as well as multilateral agreements. Some of the most important are the European Defence Agency, EDA and NATO/PFP, as well as bilateral cooperation with the Nordic countries, USA, Canada and the Netherlands. FOI developed climate tools for Swedish municipalities but it is unclear how demand driven this initiative was or informed by similar international tools (e.g. for water safety).

How to engage: Collaborate on developing gender sensitive risk analysis, scenario planning and conflict assessment

Further information: www.foi.se

Lund University

Founded in 1666, Lund University is today one of the largest, oldest and broadest universities in Scandinavia and is consistently ranked among the world's top 100 universities. With eight faculties, the University's activities cover education and research in engineering, science, law, social sciences, economics, medicine, humanities, theology, fine arts, music and drama. Lund University has two centres, which are relevant for this report: Centre for Risk Assessment (LUCRAM) and Management and Center for sustainability studies (LUCSUS).

How to engage: On capacity building and research for DRR at community level and urban areas.

Further information: <http://www.lunduniversity.lu.se>

Swedish International Agriculture Network Initiative (SIANI)

SIANI is a free membership-network whose mission it is to lay the knowledge foundation for more informed debate and policy-making in the Swedish agriculture and international development sector. Current focus is now food security issues.

How to engage: Use the forum to raise the discussion on how MSB could work with DRR to address the link between the humanitarian response to famines and the development work.

Further information: <http://www.siani.se/>

Swedbio

The Resilience and Development programme - SwedBio - is a knowledge interface working for resilient ecosystem management and governance through policy and methods development, facilitation of dialogues, contributions to strategic programmes in developing countries and learning from the international partners for later dissemination.

How to engage: MSB can here find capacity for integration of green economy, natural resource management and resilience issues in an international context

Further information:

<http://www.stockholmresilience.org/21/research/research-programmes/swedbio-programme.html>

Centre for Natural Disaster Science (CNDS)

In September 2009, the Swedish Government decided to commission CNDS (Centre for Natural Disaster Science; see Background) as a national centre with Uppsala University as responsible authority in collaboration with the Swedish National Defense College and Karlstad University. CNDS will collaborate with other projects within the natural disaster field, nationally and internationally. CNDS objectives are to: 1) Develop tools for conducting negotiations and formulating treaties, which can help prevent natural disasters 2) Improve management of natural disasters by an increased understanding of e.g. socio-cultural and human behaviour. 3) Improve information handling and know-how on warning, decision, and other support systems in natural-disaster management. 4) Develop infrastructure that is robust in case of natural disasters, e.g., autonomous, secure, and robust energy generation, and information and communication technology. The CNDS Academy is a meeting place to bring together CNDS's students, researchers, supervisors and PIs.

How to engage: Work together on common research agendas and engage researchers in training and educational material production. The centres second objective resonates well with gender issues, which they may integrate in their analyses.

Further information: <http://www.cnds.se>

Uppsala University

Uppsala University is one of northern Europe's most highly ranked universities and is also the oldest university in the Nordic countries—founded in 1477. Three Disciplinary Domains: Arts and Social Sciences, Medicine and Pharmacy, and Science and Technology. It has a Centre for Gender Research that also orientated itself towards DRR issues and the human factor, looking at the historical perspective, bridging technology and society.

How to engage: Exchange and collaborate for in depth knowledge development and research on gender in relation to bridging the human and technological dimension.

Further information: www.uu.se

The Swedish National Defense College – SNDC (Försvvarshögskolan - FHS)

The College's task is to contribute towards national and international security through research and development. The College trains and educates military and civilian personnel, and has the right to issue academic degrees.

How to engage: MSB could link up to its interdisciplinary expertise combining GIS, geography, hydromodelling, and socio-political perspectives. As such build capacity in how to improve integrated DRR and environmental management for security and avoid problems, and reduce damaging impact.

Further information: www.fhs.se

Stockholm International Water Institute (SIWI)

SIWI is a policy institute that contributes to international efforts to find solutions to the world's escalating water crisis. SIWI advocates future-oriented, knowledge-integrated water views in decision making, nationally and internationally, that lead to sustainable use of the world's water resources and sustainable development of societies.

How to engage: Joint activities can be planned for capacity building relevant for water. Good to observe opportunities as a dissemination platform to the policy and scientific audiences.

Further information: <http://www.sivi.org/about/>

Annex 3: Stakeholder analysis (international level)

Governmental agencies / Multilateral Organizations

UNDP

UNDP has development and governance as focus. Recently UNDP has broadened its mandate, to include activities related to prevention and early recovery; protecting the environment; empowering women; and building democratic societies. UNDP has a gender equality strategy and a gender Action Plan, which underlines operational and institutional priorities. To focus specifically on gender issues in disaster contexts, the organization has adopted an Eight Point Agenda. However, UNDP still faces many challenges in promoting gender equality and women's empowerment at country level. UNDP aims to strengthen national capacity in this regard, such as in crisis-related gender analysis, including gender statistics into disaster risk, impact and need assessments. UNDP also aims to ensure women's participation in all dialogues on generating solutions for disaster risk management. As part of the Cluster Working Group on Early Recovery, the United Nations Population Fund (UNFPA) and UNDP are leading a project to develop gender-aware profiles for countries at risk of disaster and conflict. UNDP has advocated for and facilitated technical support for mainstreaming gender sensitive disaster risk reduction in climate change adaptation, UNDAF, PRSP and national policies in many countries.

- UNDP has published a resource guide on gender and climate change which also takes into account potential climate change adaptation measures impact on gender:
http://www.un.org/womenwatch/downloads/Resource_Guide_English_FINAL.pdf
- There is also a Climate Change Website:
<http://www.undp.org/climatechange/>
- Adaptation to Climate Change Website UNDP-GEF
<http://www.undp.org/gef/adaptation/index.htm> This presents the most up-to-date information about the three GEF financing modalities to carry out adaptation activities. It also provides links to resources on climate change and adaptation and a general summary of UNDP's adaptation portfolio that includes examples of projects now being executed and of guides to prepare proposals.

How to engage: Engage more profoundly in the early recovery which is UNDPs mandate as a cluster lead and on the climate and gender topics. Monitor the other outputs in terms of gender and climate from UNDP.

Further information: www.undp.org

UNICEF

UNICEF pays special attention to the focus areas child survival and gender equity. UNICEF is also a recent recipient of financial support donated by the EU and its Nobel Peace Prize award for the Partnership for Education and Gender Equality, which will strengthen its efforts in this arena. In 2006-2007, UNICEF undertook a major evaluation of the implementation of its 1994 Policy on Gender Equality and Women's Empowerment. The evaluation found that the strategies advocated by the original policy remain sound, but that it required updating to respond to new programme priorities and to improve the priority and resourcing given to gender equality programming by the organization. UNICEF is a member of the Inter-Agency Standing Committee (IASC) on humanitarian assistance, and the related IASC Sub-Working Group on Gender and Humanitarian Action. UNICEF is also the coordinator of the WASH cluster and therefore has a key role in water and sanitation and hygiene implementation and has many projects on the ground often well integrated with local authorities.

In 2011 the Middle East and North African Regional Office (MENARO) developed Gender Equality Profiles for all the countries in the MENA Region. The objective of the MENA gender equality profiles is to provide user-friendly, summary information on the status and situation of girls and women for all countries in the Middle East and North Africa Region.

http://www.unicef.org/gender/gender_62215.html

UNICEF. 2010. Policy on Gender Equality and the Empowerment of Girls and Women:

http://www.unicef.org/gender/files/UNICEF_Gender_Policy_2010.pdf

How to engage: Continue the work with UNICEF on WASH and child centred approaches

Further information: www.unicef.org/emerg/index_33578.html.

UNHCR - The UN Refugee Agency

UNHCR (or the Office of the United Nations High Commissioner for Refugees) is mandated to lead and co-ordinate international action to protect refugees and resolve refugee problems worldwide. Its primary purpose is to safeguard the rights and well-being of refugees. It strives to ensure that everyone can exercise the right to seek asylum and find safe refuge in another State, with the option to return home voluntarily, integrate locally or to resettle in a third country. It also has a mandate to help stateless people. UNHCR has published guidelines on women and guidelines offering practical advice on how to design strategies and carry out activities aimed at preventing and responding to sexual and gender-based violence. UNHCR has staged a series of dialogues around the

world with more than 500 forcibly displaced women and girls, as well as some refugee men. UNHCR promotes the participation of children in the design and delivery of protection and assistance measures. They also consider adult men and boys who are often neglected in discussions of forced displacement. And through its Age, Gender and Diversity Mainstreaming (AGDM) approach, UNHCR works with the refugee community to identify and address issues faced by people with disabilities and to develop targeted actions. When the Convention on the Rights of Persons with Disabilities entered into force in 2008, UNHCR included the covenant's principles in its operations. The refugee agency is also a member of the UN working group on disabilities.

Age, Gender and Diversity Mainstreaming Forward Plan 2011- 2016:
<http://www.unhcr.org/4e7762f19.html>

Women, Girls, Boys and men - different needs – equal opportunities
<http://www.unhcr.org/50f91c999.html> by the Inter-agency Standing committee, IASC Gender Handbook in Humanitarian Action, December 2006

How to engage: Continue the long-standing partnership with UNHCR where MSB has committed to maintain a ready-to- deploy standby roster of personnel with expertise in needs assessment, training, logistics, ICT/telecom, WASH, medical, mine action, planning and management of refugee camps, and support for base camps for UNHCR staff. Learn from their gender approaches, e.g. approaches of involving children in planning assistance and the intersectoral aspects of gender (disability age etc.).

Further information: www.unhcr.org

UNISDR

UNISDR was created in December 1999 as part of the UN Secretariat with the purpose of ensuring the implementation of the International Strategy for Disaster Reduction. This strategy reflects a major shift from the traditional emphasis on disaster response to disaster reduction, and in effect seeks to promote a "culture of prevention". UNISDR addresses the gender-based gaps and imbalances by advocating the importance and necessity of the integrating gender perspectives in disaster risk reduction to achieve the overarching goal of the Hyogo Framework: building resilience of nations and communities to disasters, and builds partnerships for mainstreaming gender perspectives into disaster risk reduction. The organization also develops practical tools and provides good practices to increase women's voice and visibility of their roles and contributions in the disaster risk reduction process at global, national and local levels. UNISDR's has a focal point for Gender.

In 2009 it UNISDR facilitated the report on “The Disaster Risk Reduction Process: A Gender Perspective”, which was a contribution to the 2009 ISDR Global Assessment Report on Disaster Risk Reduction with input from the Gender and Disasters Network. February 2009. 15 pp.

In 2007, a best practice handbook was published: Gender Perspective: Working Together for Disaster Risk Reduction - Good Practices and Lessons Learned http://www.unisdr.org/files/547_gendergoodpractices.pdf

A joint effort was: “Making Disaster Risk Reduction Gender-Sensitive; Policy and Practical Guidelines.” IUCN, UNDP and UNISDR
http://www.unisdr.org/files/9922_MakingDisasterRiskReductionGenderSe.pdf

They published “Gender perspectives: integrating disaster risk reduction into climate change adaptation” which points out the vital nexus between women’s experiences of natural resource management, climate change adaptation and disaster risk reduction, and how they can come together to make whole communities strong and sustainable. It also provides inspirational case studies of grassroots women’s leadership, and of ways to support and encourage women’s full participation as citizens in risk reduction, climate change adaptation, development, and disaster preparedness.

http://www.unisdr.org/files/3391_GenderPerspectivesIntegratingDRRCCGood20Practices.pdf

How to engage: MSB could work with UNISDR to establish an effective Drought Contingency Planning (DCP) for stakeholders and partners implementing drought risk reductions programmes in the Greater Horn of Africa (GHA) (Baker et al 2012). Furthermore collaboration can be initiated to work on capacity building on specific gender and DRR considerations, for example in the UNISDR resilient city campaign.

Further information: www.unisdr.org/

FAO - Food and Agricultural Organisation of the United Nations

Achieving food security for all is at the heart of FAO's efforts - to make sure people have regular access to enough high-quality food to lead active, healthy lives. FAO's mandate is to raise levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy. Climate change and gender issues cut across all of the work of FAO. Working with farmers and policymakers, FAO aims to ensure that climate-smart practices clearly recognize and address the different needs of men and women, in order to make a clear contribution to reducing food insecurity, reducing greenhouse gas emissions and increasing the adaptability of farming systems. FAO has produced a number of publications relevant to gender and climate on topics such as livestock, energy, biofuels, rural employment, food security, and a number of gender and climate adaptation

FAO has published the training guide “Gender and climate change research in agriculture and food security for rural development”

<http://www.fao.org/docrep/015/md280e/md280e.pdf>

How to engage: MSB could work with FAO, UNISDR and other regional partners (for example the African Centre of Meteorological Applications) for development of better understanding of early warnings for famine and the

following decision making processes. This work with FAO could include improving the linkages between humanitarian actions and reducing vulnerability and increasing food security especially focusing on empowering women in a development context.

Further information: http://www.fao.org/index_en.htm

UN-HABITAT

The United Nations Human Settlements Programme (UN-HABITAT) is the United Nations agency for human settlements to promote socially and environmentally sustainable towns and cities with the goal of providing adequate shelter for all. The Gender Mainstreaming Unit of UN-HABITAT strives to broaden gender equality and women's rights into all of UN-HABITAT's activities by supporting and strengthening gender awareness. Some of the relevant publications include:

A smaller feature on climate change and gender

http://www.unhabitat.org/downloads/docs/6716_63597_ClimateChangeandGenderFeatureArticleinUrbanWorldMar09.pdf

A key publication is "Gender Equality for Smarter Cities: Challenges and Progress", 2009. UN Habitat:

<http://www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=2887>

Gendering land tools, achieving secure tenure for men and women:

<http://www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=2837>

How to engage: Collaborate and monitor for knowledge and activities on gender and urban areas.

For more information: <http://www.unhabitat.org/>

The World Food Programme WFP

The World Food Programme (WFP) which is a UN agency pursues the vision of the world in which every man, woman and child has access at all times to the food needed for an active and healthy life. The interventions are made during emergencies, to save the lives of victims of war, civil conflict and natural disasters, and in the reconstruction phase, to use food to help communities rebuild their shattered lives.

WFP brings its experience in building networks of scientific partners and designing comprehensive early warning systems.

How to engage: MSB could work on slow onset disasters with WFP in cooperation with the UNISDR. In turn there are potential other partnerships. For example in Africa these partners work with the African Union (AU) in a joint project to enhance the AU Commission's corporate preparedness and response capacity. The project should help develop an early warning platform for AU countries.

Further information: More details regarding the WFP are found under www.wfp.org and www.wfp.org/about;
<http://www.unisdr.org/2006/ppew/news/compendium-ewp.pdf>;

CADRI

CADRI is an inter-agency initiative whose mission is to expand existing efforts to develop robust and sustainable capacity for disaster risk reduction worldwide. CADRI cooperate with national and local governments, UN entities, NGOs and other international organizations to advance the five priorities of the Hyogo Framework for Action. Within CADRI, the mission is to advance knowledge of, and expand existing efforts to develop robust and sustainable capacity development for disaster risk reduction (DRR) worldwide. At headquarters, regional and country levels, the three CADRI core organizations (UNISDR secretariat, UNDP and OCHA) collaborate to: incorporate gender issues within all DRR planning. CADRI works both with governments and on the ground – to ensure that capacity development is made central to all national and local strategies for disaster risk reduction. CADRI is guided by the five priorities of the Hyogo Framework for Action.

How to engage: Monitor and engage in collaboration if there is opportunity within the scope of MSBs gender and climate activities. Good platform to disseminate relevant information produced by MSB.

Further information: <http://www.cadri.net>

World Bank

The World Bank is a vital source of financial and technical assistance to developing countries around the world. The WB comprises two institutions managed by 188 member countries: the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). The IBRD aims to reduce poverty in middle-income and creditworthy poorer countries, while IDA focuses exclusively on the world's poorest countries. These institutions are part of a larger body known as the World Bank Group. Established in 1944, the World Bank is headquartered in Washington, D.C.

How to engage: Engage through GFDRR (see below) or through the different departments with expertise in gender in agriculture and gender in water management, water and sanitation, using the gender, or gender equality database on <http://datatopics.worldbank.org/gender/> or the little data book on gender 2011 <http://data.worldbank.org/products/data-books/little-data-book-on-gender> .

Further information: www.worldbank.org

Global Facility for Disaster Reduction and Recovery (GFDRR)

Established in 2006, the Global Facility for Disaster Reduction and Recovery (GFDRR) is a partnership of 41 countries and 8 international organizations committed to helping developing countries reduce their vulnerability to natural

hazards and adapt to climate change. The partnership's mission is to mainstream disaster risk reduction (DRR) and climate change adaptation (CCA) in country development strategies by supporting a country-led and managed implementation of the Hyogo Framework for Action (HFA). GFDRR's Partnership Charter, revised in April 2010, sets its original mission, rationale, and governance structure. The GFDRR is managed by the World Bank on behalf of the participating donors and other partnering stakeholders. GFDRR has prepared comprehensive programs of support in disaster risk management for 20 priority countries and 11 donor earmarked countries. These programs are being developed in close consultation with governments, United Nations agencies, bilateral donors and other partners. GFDRR expects to scale up technical and financial assistance to each country over the next three to five years. The programs are tailored to each country and identify a wide range of activities, for example to assess disaster risks, mainstream disaster risk reduction into policies and national strategies, reduce underlying risk factors, enhance early warning systems, strengthen disaster response preparedness and build a culture of safety and disaster resilience.

How to engage: This is the main entry point to collaboration with the WB, especially since Sweden (Sida) is the second largest donor of GFDRR after the EU institutions. MSB could enter into a dialogue about how the institutions could complement each other.

Further information: www.gfdr.org

European Commission's Humanitarian Aid and Civil Protection Department (ECHO)

The European Union is the world's biggest donor of humanitarian aid, providing more than 50% of humanitarian aid worldwide. Its European Community Humanitarian Office (ECHO) was created in 1992 as an expression of the European solidarity with people in need all around the world. In 2004 it became the Directorate-General for Humanitarian Aid before integrating Civil Protection in 2010 for a better coordination and disaster response inside and outside Europe.

How to engage: Monitor its policy on gender in humanitarian operations

Further information: http://ec.europa.eu/echo/index_en.htm

Non-governmental Organizations

IUCN - The International Union for the Conservation of Nature

The International Union for the conservation of nature engages in conservation and natural systems management. Since 1984, IUCN has been committed to gender equality and equity, its efforts are Union-wide and an integral part of all policies, programmes and projects. Gender equality and equity are matters of fundamental human rights and social justice and a precondition for sustainable development. In the use, management and conservation of natural resources women and men have different roles and responsibilities, which vary greatly

from region to region. Women often make their contributions to the family, community and society with unequal access to, control over, and benefits from resources and resource use. This inequality often exists in a context of discrimination and unequal power relationships. Understanding the linkages between gender relationships and the environment mean achieving a better analysis of pattern use, knowledge and skills regarding conservation and sustainable use of natural resources. IUCN has an appointed Senior Gender Adviser who works with e.g. policy and programmatic work within the Union on the linkages between gender and climate change and disaster risk reduction.

IUCN has recently published a report outlining action plans for women to help them adapt to climate change and minimize its impact has been launched today at the 18th Conference of the Parties to the United Nations Framework Convention on Climate Change in Doha, Qatar.

http://www.iucn.org/news_homepage/events/unfccc2/events/2012_doha/?11542/Women-take-action-in-the-face-of-climate-change

Training manual on Gender and Climate Change manual, GGCA, UNDP, IUCN
http://cmsdata.iucn.org/downloads/eng_version_web_final_1.pdf

IUCN, 2007. Gender Aspects of Climate Change Details ways in which climate change affects women and how they are underrepresented in decision-making processes and in policymaking. It also states there is a gender bias when carbon emissions are calculated.

http://cmsdata.iucn.org/downloads/gender_factsheet_climatechange.pdf

How to engage: Monitor and if relevant engage in cooperation on environmental resources as DRR

Further information: www.iucn.org

Oxfam International

In regard to INGOs, Oxfam is in the forefront with a strong gender-focus while addressing issues that are induced by climate change. Oxfam is a confederation of 17 like-minded organizations networked together in more than 90 countries, working together to find lasting solutions to poverty and injustice and to build capacity to respond to crises when they strike. Thus, Oxfam's programmes aims at crossing the development-emergency barrier that appears to relate to the funding frameworks practiced by donors. Disaster Risk Reduction and Climate Change Adaptation are corporate priorities for Oxfam GB. Oxfam GB also has considerable knowledge and experimenting with sustainable WASH in emergencies as they chair the inter-agency group on Water and Sanitation.

- Oxfam has published the Gender and the Green Climate Fund report, in which Oxfam calls for effective and legitimate tools in the fight against climate change which have centrally built-in concerns of women.
Oxfam issue briefing. 2011
<http://www.oxfam.org/en/grow/policy/gender-and-green-climate-fund>

- They have published useful “Learning Companions” which are a set of articles which provide accessible and practical guidance to Oxfam staff wishing to integrate DRR and Climate Change Adaptation approaches into programming. Oxfam GB – Bangladesh has also published a very good handbook with NIRAPAD on women leadership in DRR.
- Adapting to climate change: What’s needed in poor countries, and who should pay? 2007. Oxfam Briefing papers no 104.
<http://www.oxfam.org/sites/www.oxfam.org/files/adapting%20to%20climate%20change.pdf>
- Oxfam, 2005. The Tsunami’s Impact on Women. Briefing Note.
http://www.oxfam.org.uk/what_we_do/issues/conflict_disasters/downloads/bn_tsunami_women.pdf
- Masika, R. (ed.), 2002. Gender, Development, and Climate Change. Oxfam.
http://publications.oxfam.org.uk/oxfam/display.asp?K=9780855984793&sf_01 This book considers the dimensions of gender in climate change. It suggests that neither the analysis of gender, nor the close connection of this theme with poverty, has been considered in international debates.

How to engage: Learn from Oxfam approaches of how to integrate DRR and climate change adaptation into programming.

Further information: <http://www.oxfam.org/en/about>; Oxfam GB
<http://www.oxfam.org.uk/>

Gender and Disaster Network (GDN)

The Gender and Disaster Network is an educational project initiated by women and men interested in gender relations in disaster contexts in 1997. The Agenda items included: 1) How to network more effectively; 2) How to promote young women professionals; 3) How to promote women and gender issues as legitimate research topics; and 4) Using web-based resources for communication. The Gender and Disaster Network List (GDNet-L) is an initiative of the Gender and Disaster Network (www.gdnonline.org) and serves as an international forum for discussion, networking, and information exchange amongst researchers and practitioners working on gender relations in Disaster Risk Reduction. GDNet-L has more than 500 subscribers from 93 countries. Broadly stated, the goals are to:

- document and analyze women's and men's experiences before, during, and after disaster, situating gender relations in broad political, economic, historical, and cultural context
- work across disciplinary and organizational boundaries in support of collaborative research and applied projects

- foster information sharing and resource building among network members build and sustain an active international community of scholars and activists"

Among its wealth of resource material is “The Gender and Disaster Sourcebook” describing the link between gender equality and disaster risk; the lessons that have been learnt in the field and through scientific analysis; and the application of the acquired knowledge, i.e. from practice and research, to reduce risk and respond equitably to disaster events.

The reference to this source-rich publication is www.gdnonline.org/sourcebook/.

How to engage: To be a reference of knowledge for MSB, where a lot of information is available on gender and disasters in one location.

Further information: <http://www.gdnonline.org/>

Gender CC

Gender CC is a global network of women and gender activists and experts from all world regions working for gender and climate justice. Gender cc works in change processes of women’s rights, gender justice and climate justice, where fundamental changes are necessary to overcome the existing systems of power, politics, and economics. The challenges of climate change and gender injustice resemble each other - they require whole system change: not just gender mainstreaming but transforming gender relations and societal structures. Gender CC believes that linking women’s rights, gender justice and climate justice is key to achieving these fundamental changes. This is a question of justice and equity as much as a matter of quality and effectiveness of decisions. Given the diversity and different contexts of work within Gender CC, the network is used to make context specific work in country and region, and the context of policy, research, or implementation, and coordinate for optimum impact. Gender CC thinks there is no climate justice without gender justice. Stockholm Environment Institute, Kenya and Gröna Kvinnor are for example members of Gender cc. The wider network of Gender CC is represented by the list serve (currently over 450 members), which also includes individuals and organisations that are not formally Gender CC members. Beyond that group, there are others who are serviced with information and networking via the website, phone conversations, meetings at UNFCCC conferences, etc. The gender_cc list serve is dedicated to information exchange and networking among those committed to gender justice in climate change, on topics relating to gender and climate change issues, women's rights, gender relations and gender justice in the context of climate change and climate related policy making.

How to engage: Good for MSB to monitor as there are consolidated information from the network, e.g. be in the email listserv to keep track of progress. Also a good place for dissemination to several organizations.

Further information: <http://www.gendercc.net/about-gendercc.html>

Global Gender and Climate Alliance (GGCA)

Within the UNFCCC COP-13 framework, and in an unprecedented effort, UNDP, UNEP, IUCN and WEDO launched the Global Gender and Climate Alliance (GGCA). The principal objective of this Alliance is to ensure that policies, initiatives and decision-making processes on climate change include the gender approach at global, regional and national levels. The fundamental principle is to guarantee the inclusion of women's voices in decision-making and in policy-making.

The GGCA's objectives and strategies aim to:

1. Integrate the gender approach in world policies and decision-making to ensure full compliance with United Nations mandates on gender equality;
2. Ensure that mitigation and adaptation financing mechanisms take equal account of the needs of poor men and women;
3. Build capacities at global, regional and local levels to design policies, strategies and programmes on climate change that recognize gender equity.

To reach these objectives, the Alliance will: establish a global policy on climate change and gender equity; collaborate with the Secretariat to prepare a plan to incorporate a gender perspective in the UNFCCC; develop gender guidelines for financing mechanisms associated with climate change; and attempt to advise UNFCCC delegates about gender and climate change.

How to engage: Collaborate to look at gender mainstreaming and considerations in international DRR activities. Produce a joint publication relevant for national application of various agencies with similar mandate like MSB.

Further information: <http://www.gender-climate.org>

GROOTS international

GROOTS aims to develop, over time, a movement giving voice and power to grassroots women's local visions and initiatives attracting long-term partners, and creating new policies, to expand and strengthen their leadership. GROOTS operates as a flexible network linking leaders and groups in poor rural and urban areas in the South and the North. To nurture relationships of mutual support and solidarity among women engaged in redeveloping their communities, the network is open to grassroots groups and their partners who share a commitment to four basic goals:

- To strengthen women's participation in the development of communities and the approaches to problem solving;
- To help urban and rural grassroots women's groups identify and share their successful development approaches and methods globally;

- To focus international attention on grassroots women's needs and capabilities;
- To increase the opportunities for local women's groups and leaders to network directly across national boundaries."

How to engage: Good for MSB to monitor

Further information: <http://www.groots.org/about.html>

WOCAN - Women Organizing for Change in Agriculture & Natural Resource Management

WOCAN's Vision is of a world where gender equality has been achieved within agriculture and natural resource management organizations, policies, programs and markets to achieve food security and sustainable development.

WOCAN's Mission is to build women's leadership in agriculture and natural resource management through organizational and individual transformation. WOCAN has a Secretariat in Bangkok, regional offices in Asia and Africa, and the establishment of Women's Leadership Circles in six countries within Asia and Africa. Liaison staff will continue to work from their strategic locations in Rome, Italy and Washington, DC. *Focus is women's leadership development and policy advocacy.*

How to engage: Monitor and if engaging in agricultural and environmental issues they are a good knowledgeable partner.

Further information: <http://www.wocan.org/>

WEDO - Women's Environment and Development Organization

As a global women's advocacy organization, WEDO envisions a just world that promotes and protects human rights, gender equality and the integrity of the environment. To contribute toward its vision for the world, WEDO's mission is to ensure that women's rights; social, economic and environmental justice; and sustainable development principles-as well as the linkages between them-are at the heart of global and national policies, programs and practices. WEDO's expertise is in high-level advocacy in international arenas, building bridges among a range of stakeholders – especially the tripartite of government, UN and non-governmental actors. WEDO has especially mobilizing women's participation to advance women's perspectives at the UN and other fora. Throughout the 1990s, WEDO played a key role in ensuring that gender was included in the outcomes of major UN conferences. In the 2000s, WEDO elaborated thematic expertise in areas such as water, corporate accountability and women's political participation.

- Published: *Untapped Connections: Gender, Water and Poverty*.
<http://www.wedo.org/learn/library/media-type/pdf/untappedconnections-2003>
- Dunkelman, I., Alam, K., Bashir Ahmed, W., Diagne Gueye, Y., Fatema, N., & Mensah-Kutin, R. 2008. *Gender, Climate Change and Human*

Security Lessons from Bangladesh, Ghana and Senegal. WEDO, ABANTU for Development in Ghana, ActionAid Bangladesh and ENDA in Senegal. This report consists of a review of general literature on gender, climate change and human security, and it gives examples of various case studies in Senegal, Ghana and Bangladesh.

How to engage: Good for MSB to monitor

Further information: <http://www.wedo.org/>

Asian Disaster Preparedness Center (ADPC)

As a leading regional resource center, Asian Disaster Preparedness Center (ADPC) works towards the realization of disaster reduction for safer communities and sustainable development in Asia and the Pacific. Since its inception in 1986, ADPC has been recognized as the major independent center in the region for promoting disaster awareness and the development of local capabilities to foster institutionalized disaster management and mitigation policies. ADPC was originally established as an outreach center of the Asian Institute of Technology after a feasibility study conducted jointly by two agencies of the United Nations, the Office of the United Nations Disaster Relief Coordinator (current the UN Office for the Coordination of Humanitarian Affairs) and the World Meteorological Organization in January 1986. Funding for the study was provided by the United Nations Development Program in response to requests from countries in the region for international assistance to strengthen their national disaster management systems. Thus, the initial role conceived for the center was mandated by an expressed need to assist countries of the Asia and the Pacific region in formulating their policies and developing their capabilities in all aspects of disaster management.

How to engage: Monitor and engage for initiatives in Asia

Further information: www.adpc.net

Christian Aid

Christian Aid is a Christian organization that insists the world can and must be swiftly changed to one where everyone can live a life free from poverty. They provide emergency assistance where there is need, addressing the effects of poverty as well as its root causes. For Christian Aid, unequal distribution of power and unfair abuses of power are at the heart of poverty. And the greatest, most pervasive inequality in the world is that between women and men. The root causes of gender inequality therefore remain an issue to address to combat poverty, working at many levels: social, economic and political.

How to engage: Monitor

Further information: www.christian-aid.org.uk

Tear fund

Tear Fund is working in more than fifty countries around the world, responding to disasters, campaigning for justice, helping churches do whatever

it takes to get close and stay close to the people who need them. Tearfund work with local churches to unlock communities potential. Tearfund has a vision to see 50 million people released from material and spiritual poverty through a worldwide network of 100,000 local churches. Tearfund adheres to internationally recognised standards of humanitarian accountability. We are a certified member of the Humanitarian Accountability Partnership (HAP) a signatory of the Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief. In line with these standards, we give aid on the basis of need alone, regardless of race, creed, or nationality and without adverse distinction of any kind

How to engage: Monitor their outputs. Some offices can be very active in quality guidelines from the field and policy making.

Further information: www.tearfund.org

BRIDGE, Institute of Development Studies (IDS), UK.

BRIDGE supports gender advocacy and mainstreaming efforts by bridging the gaps between theory, policy and practice. BRIDGE is a research and information programme located within Institute of Development Studies (IDS) Knowledge Services.

BRIDGE has published: Gender and climate change: mapping the linkages http://www.bridge.ids.ac.uk/reports/Climate_Change_DFID_draft.pdf This publication maps the gender impacts of climate change and the implications for gender equality; outlines the gender perspective in adaptation and gender inequality in mitigation; and gives recommendations for future research.

How to engage: Good for MSB to monitor.

Further information: www.bridge.ids.ac.uk

Foundations

The Mary Robinson Foundation – Climate Justice (MRFCJ)

MRFCJ is a centre for thought leadership, education and advocacy on the struggle to secure global justice for those people vulnerable to the impacts of climate change. It is a platform for solidarity, partnership and shared engagement. MRFCJ provides a space for facilitating action on climate justice to empower the poorest people and countries in their efforts to achieve sustainable and people-centred development.

How to engage: Good for MSB to monitor

Further information: <http://www.mrfcj.org/about>

Ford Foundation

The Foundation is on the frontlines of social change around the world, working with visionary leaders and organizations to change social structures and institutions—so that everyone has the opportunity to achieve their full potential and have a voice in decisions that affect them. They are working to address flawed policies that can limit poor people's access to the natural resources they depend on and can foster land speculation and conflict. They do this by making grants to support research, advocacy, networking among organizations and communications to increase awareness and training activities. The work also focuses on promoting socially just climate change policies that meet the needs of the rural poor.

<http://www.fordfoundation.org/issues/sustainable-development/climate-change-responses-that-strengthen-rural-communities>

Further information: <http://www.fordfoundation.org>;

Rockefeller Foundation

Throughout its 100 year history, the Rockefeller Foundation has supported the ingenuity of innovative thinkers and actors by providing the resources, networks, convening power, and technologies to move innovation from idea to impact. The Rockefeller Foundation, view women as innovators and change agents, from the community to the global level, in building more resilient and equitable communities. They support the centrality of women's participation, agency, and leadership in achieving all pillars of sustainable development. The Rockefeller Foundation's Developing Climate Change Resilience Initiative aims to catalyze attention, funding and action to promote resilience to climate change on several levels. We focus on three pivotal areas: Asian urban environments, African agriculture and US policy. They are creating models for action on climate change in cities—models that can be replicated and expanded in other regions. They are helping adapt African agriculture to cope with environmental changes. They are promoting awareness and guiding funders and policymakers to support broader action on climate change resilience, nationally and internationally, to help poor and vulnerable people around the world. Specifically, the Foundation partners with governments, other foundations, donors, NGOs and groups from the private sector, to work in the following areas: Piloting urban-based resilience strategies through the Asian Cities Climate Change Resilience Network. Adapting African agriculture for climate change resilience; Promoting policies and funding to build climate change resilience for poor and vulnerable people; Building new constituencies for climate change resilience policies; Communicating with policymakers about climate change resilience-building tactics; Building capacity and networks and developing new funding streams for resilience strategies"

How to engage: Monitor and if there is an opportunity for an innovative initiative good to involve Rockefeller foundation

Further information: <http://www.rockefellerfoundation.org/our-work/current-work/developing-climate-change-resilience>

Heinrich-Böll Stiftung

They work with 160 project partners in over 60 countries and currently maintain 29 international offices. About half of the funds are dedicated to international projects. Depending on the region and the political situation, the work has a range of thematic priorities, such as: globalisation and sustainable; development; climate and energy policy; strengthening civil society; gender policy; promotion of democracy; European policy; transatlantic dialogue; political consulting; arts and culture; promoting young talent.

How to engage: Good for MSB to monitor

Further information: <http://www.boell.de/foundation/about-us.html>

Networks / associations / partnerships**ACT Alliance**

ACT Alliance is a coalition of more than 130 churches and affiliated organisations working together in (see <http://www.actalliance.org/where-we-work>) to create positive and sustainable change in the lives of poor and marginalised people regardless of their religion, politics, gender, sexual orientation, race or nationality in keeping with the highest international codes and standards. ACT Alliance is supported by 25,000 staff and mobilises about \$1.5 billion for its work each year in its targeted areas of: humanitarian assistance (see <http://www.actalliance.org/what-we-do/development>) and advocacy.

How to engage: MSB can monitor and learn from their members work on gender

Further information: <http://www.actalliance.org/about>

Africa Adapt

AfricaAdapt is an independent bilingual network (French/English) focused exclusively on Africa. The Network's aim is to facilitate the flow of climate change adaptation knowledge for sustainable livelihoods between researchers, policy makers, civil society organisations and communities who are vulnerable to climate variability and change across the continent AfricaAdapt is currently hosted by four partner institutions, each of whom has a dedicated Knowledge Sharing Officer (KSO) working for the network.

[http://www.africa-adapt.net/media/resources/461/Gender%20Climate%20Change%20and%20Community%20Based%20Adaptation%20\(2\).pdf](http://www.africa-adapt.net/media/resources/461/Gender%20Climate%20Change%20and%20Community%20Based%20Adaptation%20(2).pdf);

How to engage: Good to monitor and a good platform for dissemination of MSBs gender and climate activities relevant for Africa

Further information: <http://www.africa-adapt.net>

AWID

The Association for Women's Rights in Development (AWID) is an international, feminist, membership organization committed to achieving gender equality, sustainable development and women's human rights. A dynamic network of women and men around the world, AWID members are researchers, academics, students, educators, activists, business people, policy-makers, development practitioners, funders, and more. AWID's mission is to strengthen the voice, impact and influence of women's rights advocates, organizations and movements internationally to effectively advance the rights of women.

How to engage: Good to monitor

Further information: www.awid.org

Climate for Change - Gender Equality and Climate Policy

This European project attempts to improve women's participation in decision-making on climate change, with emphasis on the local level. The work undertaken with experts is reflected in the publication *Climate for Change Toolkit*.

How to engage: Good for MSB to monitor.

Further information: <http://www.climateforchange.net/>

The Gender and Water Alliance (GWA)

The Gender and Water Alliance (GWA) was established at the Second World Water Forum (WWF) in March 2000. The mission of GWA is to promote women's and men's equitable access to and management of safe and adequate water, for domestic supply, sanitation, food security and environmental sustainability. The provision of sustainable water and sanitation services that incorporate an integrated water resources management approach requires a special emphasis and focus on gender, social justice and human rights. GWA believes that equitable access to and control over water is a basic right for all, as well as a critical factor in promoting poverty eradication and sustainability.

GWA is a global network dedicated to mainstream gender in water resources management. It is registered as an Association under Dutch law and has almost 2100 members in over 120 countries worldwide. Its membership is diverse and represents a wide range of capacities and expertise across all water sectors as well as from different stakeholder groups including government, grassroots organisations, NGOs, universities and research institutes, international agencies and individual consultants. More than eighty percent of the membership comes from a diversity of countries in Asia, Africa, Latin America and the Middle East.

How to engage: To monitor for thematic issues on WASH, water management and gender

Further information: <http://www.genderandwater.org>

The Gender Force Network

Genderforce cooperation started in 2008 and is a continuation of the EU funded project Genderforce which concluded in 2007. Like its predecessor, the goal is to increase the skills and effectiveness of Sweden's international work in accordance with the the UNSCR 1325 and the National Action Plan so that the equal value of men and women, their sometimes different needs and unique experiences, are prioritized and taken into account and that the human rights of women as well as men are defended. Concrete examples of how this can be achieved are to increasingly work with gender equality and gender mainstreaming, and the deployment of gender advisers in the field.

Within Genderforce cooperation there are continuous exchanges of experience and various joint activities. Among other things, there are regular training courses in gender analysis and gender mainstreaming in the field (GAFO- Gender Advising in the Field and in Operations). The host for these training courses rotates annually between members and all member organisations are involved in course planning and implementation. This year the training course was organized by MSB, the Swedish Armed Forces, the Folke Bernadotte Academy (FBA) and the Police. Support and training of managers, gender equality mainstreaming and the implementation of the National Action Plan on UNSCR 1325 and gender equality, through the Gender Coach Program, is a cooperative project.

The EU project that forms the basis of current cooperation had eight sub-projects that worked towards:

visibility of obstacles in the recruitment of women to overseas service and through new recruitment methods to increase the number of women serving overseas, including in management positions,

influence operational mandates to contain clear directives on gender equality and the active participation of women in recovery operations,

develop tools to enable Swedish personnel serving overseas to respect women's needs and rights,

clarify the forms of civil-military cooperation in the field and the roles of the various stakeholders, develop the working methods of gender advisers in operations and implement coaching programmes for managers, increase awareness of human trafficking and what operational personnel can do to prevent it,

train Swedish personnel on gender equality and women's human rights and spread our experience and tools to EU and UN nations.

How to engage: MSB is part of Gender Force.

Further information: <https://www.msb.se/en/Operations/International-operations/This-is-how-the-MSB-works/Gender/Genderforce-cooperation/>

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